City of Palm Beach Gardens

10-Year Water Supply Facilities Work Plan

November 2019

TABLE OF CONTENTS

LIST OF MAPS

LIST OF PHOTOS

LIST OF TABLES

LIST OF ACRONYMS

DRC – Development Review Committee
SUA – Seacoast Utility Authority (Seacoast)
SFWMD – South Florida Water Management District
LEC – Lower East Coast
MGD – Million Gallons per Day
CUP – Consumptive Use Permit
WTP – Water Treatment Plant
GPCD – Gallons Per Capita Per Day
BEBR – Bureau of Economic and Business Research

1.0 INTRODUCTION

The purpose of the City of Palm Beach Gardens (City) Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, Section 163.3177(6)(c)3, *Florida Statutes* (F.S.), requires local governments to prepare and adopt Water Plans into their comprehensive plans within 18 months after the South Florida Water Management District (SFWMD or District) approves a regional water supply plan or its update. The Lower East Coast Water Supply Plan (LECWSP) Update was approved by the District's Governing Board on November 8, 2018; therefore, the deadline for local governments within the Lower East Coast (LEC) region to amend their comprehensive plans to update the Work Plan is May 8, 2020. The LECWSP examines local and regional water supply efforts completed since the previous 2013 plan update, and describes water resource and water supply development projects for 2016 to 2040.

Residents of the City obtain their water from the Seacoast Utility Authority (Seacoast). The City coordinates with Seacoast through the Development Review Committee (DRC) process to ensure that sufficient capacity is available, and Seacoast ensures that supporting infrastructure, such as water lines, are adequately planned for and maintained.

The Work Plan references Seacoast's water projections and the initiatives identified in the LECWSP Update to ensure adequate water supply for the City. According to State guidelines, the Work Plan and the City's Comprehensive Plan must address the development of traditional and alternative water supplies, service delivery, bulk sales agreements, and conservation and reuse programs that are necessary to serve existing and new development for at least a 10-year planning period. The City's Work Plan has a planning time schedule consistent with the Comprehensive Plan and LECWSP Update.

The City's Work Plan is divided into five sections:

- Section 1 - Introduction
- Section 2 - Background Information
- Section 3 - Data and Analysis
- Section 4 - Capital Improvements
- Section 5 - Comprehensive Plan Goals, Objectives, and Policies

1.1 Statutory History

The Florida Legislature enacted bills during the 2002, 2004, 2005, 2011, 2012, 2015, and 2016 sessions to address the state's water supply needs. These bills, particularly Senate Bills 360 and 444 enacted during the 2005 legislative session, strengthened the statutory links between the regional water supply plans (RWSPs) prepared by water management districts and the Comprehensive Plans prepared by local governments through changes to Chapters 163 and 373, Florida Statutes (F.S.). These changes improved coordination between local land use planning and regional water supply planning.

1.2 Statutory Requirements

The following summary highlights the statutory requirements the City has considered when updating the Work Plan:

1. Coordinate appropriate aspects of its comprehensive plan with the District's Regional Water Supply Plan [163.3177(4)(a), F.S.].

2. Ensure the Future Land Use plan is based on availability of water supplies, public facilities, and services. [s.163.3177(6)(a), F.S.]. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map amendments submitted for review. The submitted package must also include an amendment to the Capital Improvements Element, if necessary, to demonstrate that adequate public facilities will be available to serve the proposed Future Land Use Map modification.

3. Ensure that water supplies and 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, and prior to approval of a building permit or its functional equivalent, consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the development no later than the anticipated date of issuance of a certificate of occupancy [s.163.3180(2), F.S.].

4. For local government subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the "Infrastructure Element") within 18 months after the District approves an update to the regional water supply plan to:

    a. Identify and incorporate the alternative water supply project(s) selected by the local government from those identified in the updated District Regional Water

Supply Plan or proposed by the local government under s. 373.709(8)(b), F.S. [s. 163.3177(6)(c), F.S.]; and

b. Identify the traditional and alternative water supply projects, and conservation and reuse necessary to meet the water needs identified in the local government government's jurisdiction and included in the District Regional Water Supply Plan [s. 163.3177(6)(c)3, F.S.]; and

c. Update the Work Plan within 18 months after the governing board of a water management district approves an updated regional water supply plan. [s.163.3177(6)(c)(3), F.S.].

5. Revise the Five-Year Schedule of Capital Improvements to include any water supply, reuse, and conservation projects and programs to be implemented during the five-year period [s. 163.3177(3)(a)(4), F.S.].

6. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Conservation Element to assess projected water needs and sources for at least a 10-year planning period, considering the District Regional Water Supply Plan, as well as applicable consumptive use permit(s) [s.163.3177(6)(d), F.S.]. The plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for the established planning period, considering the applicable regional water supply plan [s.163.3167(9), F.S.].

7. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Intergovernmental Coordination Element to ensure coordination of the comprehensive plan with the District Regional Water Supply Plan [s.163.3177(6)(h)1., F.S.].

8. Local governments are encouraged to comprehensively evaluate and, as necessary, update comprehensive plans to reflect changes in local conditions. [s.163.3191(3), F.S.].

2.0 BACKGROUND INFORMATION

2.1 Overview

On March 20, 1959, John D. MacArthur, multimillionaire insurance magnate and landowner, announced plans to develop approximately 4,200 acres and provide homes for 55,000 people in a new community bounded by Plat 4 (Garden Woods) to the north, Northlake Boulevard (Lake Park West Road) to the south, Prosperity Farms Road to the

east, and the Florida Turnpike (Sunshine State Parkway) to the west in the north end of Palm Beach County, Florida. Subsequently, a City Charter was approved by the State of Florida on June 20, 1959, and the land was developed under his supervision until his death in 1978.

Mr. MacArthur's original name for the city was Palm Beach City. Permission to use that name was denied; therefore MacArthur, in keeping with his "garden city" plan, decided to name the city Palm Beach Gardens. Mr. MacArthur wanted this new city to be a place to raise a family and earn a living – in essence, to realize the American dream. With this in mind, he set to work designing a garden city from miles of dairy cattle grazing and vacant land.

The City has grown steadily during its sixty years in existence. Between 1990 and 2000, the population grew from 22,990 to an estimated 35,058, an increase of approximately three percent annually. In 1999, the John D. and Catherine T. MacArthur Foundation sold approximately 14,000 acres of land in the area, including approximately 5,000 acres within the City. The City Council, entrusted with the responsibility of ensuring quality development, reached an agreement with the purchasers to manage the anticipated new growth. With the sudden land sale by the MacArthur Foundation, the City experienced an increased rate of growth in population from an estimated 35,058 in 2000 to an estimated 49,387 in 2007. Since that time, the City has grown to an estimated population of 53,800 in 2018 (Source: BEBR, 2018), and has annexed approximately 1,798 acres into the City's municipal boundary since the 2015 10-Year Work Plan Update.

2.2 Relevant Regional Issues

A brief description of the overarching regional issues impacting water supply planning as identified in the LECWSP are summarized below:

- Fresh surface water and groundwater are limited; further withdrawals could have impacts on the regional system, wetlands, existing legal uses, and saltwater intrusion. As a result, additional alternative water supplies need to be developed.

- Surface water allocations from Lake Okeechobee and the Water Conservation Areas are limited in accordance with the Lake Okeechobee Service Area Restricted Allocation Area (RAA) criteria.

- Construction of additional storage systems (e.g., reservoirs, aquifer storage and recovery systems) to capture wet season flow volumes will be necessary to increase water availability during dry conditions and attenuate damaging peak flow events from Lake Okeechobee.

- Expanded use of reclaimed water is necessary to meet future water supply demands and the Ocean Outfall Law.

- Expanded use of brackish groundwater from the Floridan aquifer system requires careful planning and wellfield management to prevent undesirable changes in water quality.

Although not all of these overarching regional issues are applicable to the Seacoast service areas, many of these issues are addressed at the local Seacoast service area level as noted throughout this Work Plan.

3.0 DATA AND ANALYSIS

3.1 Overview

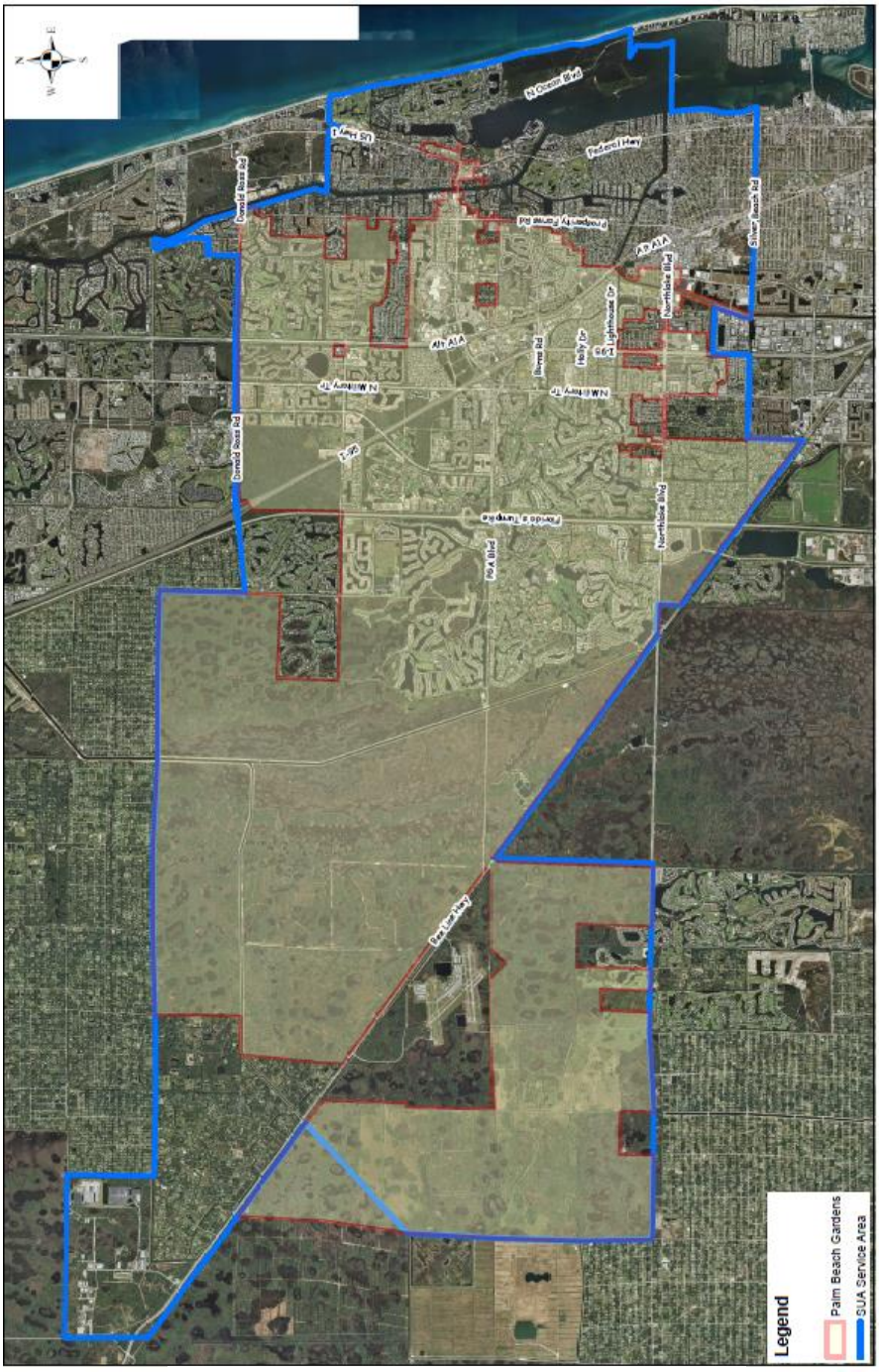
The City of Palm Beach Gardens does not own or operate its own potable water supply system. Rather, potable water facilities and services are provided by the Seacoast Utility Authority (Seacoast). Seacoast provides potable water to the City of Palm Beach Gardens, as well as unincorporated areas of Palm Beach County and the municipalities of Juno Beach, Lake Park, and the Village of North Palm Beach. Potable water supplies are obtained from four Surficial Aquifer System (SAS) wellfields, and one Floridan Aquifer System (FAS) wellfield. Water is treated at a reverse osmosis (RO) Water Treatment Plant (WTP), and at a nanofiltration WTP that replaced the lime softening WTP in 2013. Seacoast's water use permit includes an overlap in allocations from SAS and FAS sources to provide operational flexibility on a seasonal basis. However, the permit has a maximum annual allocation from the two sources combined, along with specific wellfield withdrawal limitations. The utility maintains interconnections with the Town of Jupiter and City of Riviera Beach.

Photo 1: Seacoast Water Tower Hood Road Facility

The western portion of the service area is maintained by Seacoast; however, water is sourced from Palm Beach County Utilities Department. An emergency interconnect is planned with the City of West Palm Beach.

All five entities that receive water and services are members of the Seacoast Governing Board. All responsibilities for the withdrawal, treatment, bulk purchase, and distribution of potable water to the residents and businesses of Palm Beach Gardens are assumed

by Seacoast, including the direct billing of customers. Seacoast requires developers to upgrade the capacity of existing systems, and/or build new systems to meet their needs through the coordinated DRC process. In most cases, upon completion, Seacoast assumes ownership, operation, and maintenance responsibilities of all related systems.



Map 1. Seacoast Utility Authority Service Area

3.2 Existing Conditions

Seacoast has a 30.5 million gallons per day (MGD) membrane Water Treatment Plant, built in 2006, located at their Hood Road facility in Palm Beach Gardens. The facility utilizes nanofiltration and low pressure reverse osmosis membrane technology. The plant can treat up to 26 MGD of surficial aquifer water, and 3.5 MGD of Floridan Aquifer water, and 1.0 MGD blend capacity.

After construction of the Hood Road membrane water treatment plant, Seacoast further expanded its water supply capacity by adding three more Floridan Aquifer wells and one surficial aquifer well with associated Floridan raw water main.

Seacoast's existing water storage and transmission include seven 2-million-gallon ground storage tanks at the Hood Road facility, two 1-million-gallon ground storage tanks at the Lilac Street facility, two 2-million gallon tanks at the Richard Road facility, a finished water transmission main connecting Richard Road and Hood Road facilities, and miscellaneous pumping and control systems at Richard Road and Lilac Street facilities.

Seacoast began feasibility work that will lead to construction of two new low pressure reverse osmosis skids adding 3.5 MGD of Floridan Aquifer brackish water treatment capacity.

Seacoast also purchased a 6.12-acre parcel of surficial aquifer wellfield property located on Park Lane, immediately south of the Richard Road facility, securing permanent rights to construct a replacement well at this location.

Photos 2 and 3: Aerial view of Richard Road and Hood Road Water Plants. 2018

3.3 Water Source

In 2018, Seacoast withdrew an average of 18.70 MGD of total raw water from the Surficial Aquifer System (SAS), plus 2.72 MGD from the brackish Floridan Aquifer System (FAS), for a total of 20.42 MGD of raw water for all customers, including Palm Beach Gardens.

Projections of raw water supply and finished water demand from Seacoast's 2012 SFWMD water use permit, as currently used today, are presented in **Table 1**. Projections of finished water demand by expected supply component are presented in **Table 2,** and includes the Scripps Florida Phase II/Briger Development of Regional Impact (DRI) future water demand. This DRI is currently known as the Alton Planned Community Development (PCD)

Table 1

Total Seacoast Current and Projected Water Supply and Demand*

Year	Raw Water Withdrawal (MGD)	Finished Water Demand (MGD)
2015	21.88	17.50
2020	23.33	18.62
2025	24.77	19.69
2030	26.30	20.69
2032	26.63	21.09

*Demand under average conditions
Source: Seacoast Utility Authority (May 2019)

(The remainder of this page intentionally left blank.)

Table 2

Total Seacoast Current and Projected Water Supply by Source (MGD)

Year	Biscayne/Surficial Aquifer	Floridan Aquifer	Total
2015	18.21	0.00	18.21
2020	22.30	1.03	23.33
2025	22.30	2.47	24.77
2030	22.30	3.53	25.83
2032	22.30	4.33	26.63

Source: Seacoast Utility Authority (May, 2019)

The current 20-year duration Seacoast Public Water Supply consumptive use permit (CUP-50-00365-W) was issued by the SFWMD in September 2012. This permit authorizes an average-day surficial aquifer allocation of 22.3 MGD, a Floridan aquifer allocation of 8.9 MGD, and expires in 2032.

Raw water is presently drawn from four surficial aquifer wellfields (Hood Road, North Palm Beach, Burma Road, Palm Beach Gardens), with North Palm Beach and Burma Road wellfields possibly being combined, and six Floridan aquifer wells with three located on Seacoast's 40-acre Hood Road administration/water plant site, pursuant to the current CUP. Each of the wellfields has permitted average and maximum daily withdrawal rates established by CUP conditions.

Each wellfield also has protection zones mapped by the Palm Beach County Department of Environmental Resources Management and are protected by the Palm Beach County Wellfield Protection Ordinance. Zones of protection are developed, and zone requirements are enforced by the Palm Beach County Department of Environmental Resources Management. The City's Comprehensive Plan map series also contains Map A.11-Waterwells and Wellfield Zones.

The CUP further states that the potential for induced movement of contaminants from known sources of pollution to occur as a result of the withdrawal of the recommended allocation is considered minimal.

Photo 4: Surficial Aquifer Well

3.4 Population Information

Population projections have been obtained from the Palm Beach County Planning Division and the U.S. Census and indicate significant growth potential within the planning horizon as the City continues to attract new residential and non-residential development within its corporate limits. **Table 3** presents population projections for the City within the Seacoast Service Area.

Table 3

Population Projections

Year	Resident Population Projections		Palm Beach Gardens Share of Service Area
	Seacoast Service Area[1]	Palm Beach Gardens[2]	
2016	90,703	54,709[3]	60.3%
2020	94,330	54,738	58.0%
2025	98,320	58,384	59.3%
2030	101,276	59,839	59.0%

1. Source: LECWSP, Appendices 2018. Table B-1.
2. Source: Palm Beach County Planning Division, Population Allocation Model, 2015, unless otherwise noted. Retrieved from: http://discover.pbcgov.org/pzb/planning/Projects-Programs/Population-Demographics.aspx
3. Source: US Census. Retrieved from: https://www.census.gov/data/datasets/time-series/demo/popest/2010s-total-cities-and-towns.html#tables

For planning purposes, Seacoast's service area may be divided into two areas: those east of the east leg of the C-18 Canal and those areas west of the C-18 Canal. The east leg of the C-18 Canal runs north-south from the intersection of the Beeline Highway and Northlake Boulevard from the south, along the western boundaries of Mirasol (within Palm Beach Gardens) and Old Marsh (within unincorporated Palm Beach County) developments through the Loxahatchee Slough.

Area East of C-18 Canal

Since the City's 2015 Work Plan Update, this eastern service area continues to be developed and contains the Scripps Florida Phase II/Briger DRI (Alton PCD). Construction within the Alton PCD is fully underway. The PCD is located south of Donald Ross Road, north of Hood Road, east and west of Interstate 95, and east of Florida's Turnpike. The Alton PCD development currently includes approval for 2,632,000 square feet of Industrial/R&D/Biotech use, 1,200,000 square feet of Office use, a 300-room hotel, 450,000 square feet of retail use, 1,018 single-family units, 681 multi-family units, 353 apartments, and a 256-bed assisted living facility.

The Scripps Florida Phase II/Briger DRI (Alton PCD) has a current build-out date of April 15, 2037, unless otherwise amended pursuant to the conditions of the Development Order and Section 380.06, Florida Statutes. The phasing schedule and the projected potable water flow are shown in **Tables 4 and 5**. The Seacoast demand and water supply projections, shown in previous **Tables 1 and 2**, consider the Briger DRI/Alton PCD long-term water demand.

Table 4

Scripps Florida Phase II / Briger DRI
Proposed Phasing Plan
January 2015

		Phase 2009-2013		Phase 2014-2018		Phase 2019-2023		Phase 2024-2028		Phase 2029-2033		Phase 2034-2039		Total	
Land Use	Gross Acres	Intensity	Density	Intensity	Density	Intensity	Density	Intensity	Density	Intensity	Density	Intensity	Density	Intensity	Density
Biotech R&D (Scripps	70	150,000		250,000		250,000		250,000		250,000		450,000		1,600,000	0
Biotech R&D and Ancillary Uses	100														
Biotech R&D		150,000		150,000		150,000		150,000		150,000		250,000		1,000,000	0
Office		100,000		200,000		200,000		200,000		200,000		300,000		1,200,000	0
Hotel		200,000	300											200,000	300
Residential	452		800		700		700		500					0	2,700
Retail Land Use	56	500,000												500,000	0
Utilities	5													0	0
Total	683	1,100,000	1,100	600,000	700	600,000	700	600,000	500	600,000	0	1,000,000	0	4,500,000	2,700

Table 5

Projected Potable Water Flow Calculations

Potable Water:							
Use	Gross Acreage	Units	x	Flow Rate	=	Total Flow	
Scripps - Biotech	70	1,600,000	S.F.	0.30	gpd/S.F. =	480000	gpd
Briger -Biotech/Ancillary:	100	2,400,000	S.F.				
Office		1,200,000	S.F.	0.15	gpd/S.F. =	180000	gpd
Biotech		1,000,000	S.F.	0.30	gpd/S.F. =	300000	gpd
Hotel		200,000	S.F.	0.15	gpd/S.F. =	30000	gpd
Apartment Site	30	700	Unit	250.00	gpd/Unit =	175000	gpd
FPL Site	3	3,000	S.F.	0.05	gpd/S.F. =	150	gpd
Commercial/Retail	50	500,000	S.F.	0.15	gpd/S.F. =	75000	gpd
Residential Multi-Family	150	1,400	Unit	250.00	gpd/Unit =	350000	gpd
Residential Single Family	100	600	Unit	300.00	gpd/Unit =	180000	gpd
Total Average Daily Flow					=	1770150	gpd
					=	1229.27	gpm
Peak Daily Flow (x 2.50)					=	4425375	gpd
					=	3073.18	gpm

There are also 31 units in this eastern service area that are located on Sunset Drive, 8 units located on 40th Trail North, and 6 units located on Brena Lane. These units have recently installed water mains.

This eastern service area also includes some residential units that are not presently served by Seacoast. There are 62 single-family units located on North Mary Circle, South Mary Circle, and Dania Drive with private wells. Installation of water mains to serve these homes are not anticipated by the SUA within this 10-year planning horizon. The current Palm Beach County Work Plan addresses these self-served wells and indicates that all have the potential to request utility service from the Palm Beach County Water Utilities Department (PBCWUD) at any given time. However, for facility planning purposes, the County plants are sized to serve all the self-served population. (Source: Palm Beach County Water Supply Facilities Work Plan, Table 5.2, October 1, 2019.)

Since the 2015 Work Plan Update, there have been approximately 21 acres of land annexed into this eastern service area. These properties are located as follows:

- 1.89 acres for the existing Crunch Fitness building located at I-95 and Northlake Boulevard.
- 0.85 acres for the existing gas station located on Alt. A1A , south of Hood Road.
- 14.15 acres for the Seacoast parcel west of Alt. A1A on Park Lane.
- 5.74 acres for the Carl's Plaza property on US-1.

Area West of C-18 Canal

This western area has seen the most growth in the City since the 2015 Work Plan Update. The 4,763-acre Avenir project is located on the north side of Northlake Boulevard, east of Grapeview Boulevard, west of Bay Hill Drive, and south of Beeline Highway. This project received approval in May of 2016. This project was in the early development review stage at the time of the 2015 Work Plan Update and the Rural Residential (RR-10) and Rural Residential (RR-20) land uses were still in place. The project is currently approved for 3,900 units, 2,400,000 square feet of non-residential, a 300-room hotel, 55 acres of park, 15 acres of police/fire/city annex, 60 acres of civic, a 600-student elementary school, 20 acres of agricultural, and 2,407 acres of conservation lands. A portion of this project is currently in the clearing and infrastructure development stage. Potable water for the Avenir development will be from Seacoast through its 2006 Bulk Service Agreement with Palm Beach County Utilities, and capacity to serve will be purchased by Seacoast from the Palm Beach County Water Utilities system. Seacoast has the availability to purchase 5.0 MGD of water and sewer through this permanent agreement. Through this agreement, Seacoast purchased 0.56 MGD of water, and 0.24 MGD of sewer in May of 2019.

In addition, approximately 1,775 acres have been annexed into the City west of the C-18 Canal, as follows:

- 96.80 acres for the proposed Ancient Tree project, a 97 single-family unit development. It is located on the north side of Northlake Boulevard, approximately three-quarters of a mile east of Coconut Boulevard. This project is currently under construction. Service for this development is provided through the existing Interlocal Agreement between Palm Beach County and Seacoast for the Purchase and Sale of Bulk Potable Water and Wastewater Service.

- 284.02 acres containing the existing built-out residential communities of Carlton Oaks and Osprey Isles. This acreage includes the vacant commercial property along Northlake Boulevard with an existing Palm Beach County approval for a Multiple Use Planned Development for a Congregate Living Facility, self-storage building, and medical/dental offices. Also included in this acreage is the Star of David Cemetery

and the West Palm Beach Fire Station #8. These areas are within the water service boundaries of Seacoast, however not currently served by Seacoast at the time of construction. The extension of off-site water lines connecting to Seacoast facilities would be cost-prohibitive, therefore Seacoast has authorized temporary connection to the City of West Palm Beach utility facilities. Seacoast is planning to assume ownership of these internal water/sewer improvements and commence service to the parcels in May of 2020 with the extension of water and sewer mains from the Palm Beach County interconnections at the Ancient Tree project to these parcels. There are sufficient water mains in place to meet the current needs of the residences, and the bulk water agreement with Palm Beach County Water Utilities Department will provide for water and sewer treatment.

- 1,371 acres containing the existing built-out communities of Bay Hill Estates, the Preserve at Bay Hill Estates, Rustic Lakes, vacant commercial parcels, and a Comcast utility parcel abutting Northlake Boulevard. These areas are within the water service area boundaries for the Palm Beach County Water Utilities Department. Potable water service for Rustic Lakes, a large-lot agricultural residential community, is provided through private water wells located on the individual residential lots. The two commercial lots along the northern boundaries of the Rustic Lakes subdivision will receive potable water service via the existing water main located on nearby Northlake Boulevard adjacent to the parcels. The Bay Hill Estates community installed a Palm Beach County Water Utilities Department potable water main service line in 2011. Homeowners presently have the option of continuing to use their existing well water or to connect to the newly installed potable water system. The water main was installed per Palm Beach County Municipal Service Taxing Units and the cost is assessed on resident's property tax each year whether they make the connection to the water service line or not. All three residential communities contain a total of 542 dwelling units, as identified on the Palm Beach County Property Appraiser's database. For those units that currently have self-serve wells in Bay Hill Estates and Rustic Lakes, the current Palm Beach County Work Plan addresses these self-served wells and indicates that all have the potential to request utility service from PBCWUD at any given time. However, for facility planning purposes, the County plants are sized to serve all the self-served population. (Source: Palm Beach County Water Supply Facilities Work Plan, Table 5.2, October 1, 2019.)

- 23.48 acres of right-of-way for Northlake Boulevard between Grapeview Boulevard and Avocado Boulevard, and between 120th Avenue North, and 130th Avenue North.

3.5 Public Water Supply Demand Projections and Level of Service Standard

Palm Beach Gardens uses Seacoast's average daily generation rate of 189 gallons per capita per day (gpcd) for planning purposes. Seacoast also uses this average daily generation rate for planning purposes, which is consistent with the current system-wide usage (i.e., CUP 50-00365-W). Seacoast does not employ a non-residential generation rate; rather, all consumption for planning purposes is expressed on a per capita basis. For the purpose of the City's Work Plan, the Seacoast generation rate of 189 gpcd is used to forecast the City's water demands.

Projections of finished water demand for the City are presented in **Table 6**. Seasonal adjustments were not considered in the 2012 SFWMD Water Use Permit projections and are not included in the table. Current (2015) finished potable water demand is estimated at 9.55 MGD (i.e., resident population of 50,532 residents x 189 gallons per capita per day, converted to million gallons per day-MGD), representing approximately 55% of the total within the Seacoast service area.

It is projected that the City's potable water demand for 2030, using population projections obtained from the Palm Beach County Planning Division (i.e., resident population of 59,839 residents per Table 6) will attain a level of 11.31 MGD by 2030, or approximately 59% of the total demand within the Seacoast Service Area. The City will continue coordinating with Seacoast through the DRC process to estimate and project potable water use and needs throughout the entire service area.

Table 6

Palm Beach Gardens Projected Finished Water Demand

Year	Palm Beach Gardens Population Projections	Potable Water Demand (MGD)[2]
	Residents[1]	
2015	50,532	9.55
2020	54,738	10.35
2025	58,384	11.03
2030	59,839	11.31

1. Source: Palm Beach County Planning Division, Population Allocation Model, 2015, unless otherwise noted. Retrieved from: http://www.co.palm-beach.fl.us/pzb/Planning/population/populationproj.htm
2. Residents x 189 gpcd, converted to MGD.

3.6 Conservation and Reuse

Seacoast has included an extensive conservation program as part of its CUP, including the following components:

- Water and Irrigation Conservation Ordinance - Palm Beach County adopted a Water and Irrigation Conservation Ordinance on January 19, 1993, which is included in the County's Code of Ordinances, Article VI. – Water and Irrigation Conservation. This Ordinance limits lawn irrigation to the hours of 5 p.m. to 9 a.m., which is in effect countywide unless municipalities adopt an irrigation ordinance of their own.

- Palm Beach County's Unified Land Development Code, Article 7, Section 3.C. encourages the installation of native and drought tolerant plan materials in appropriate areas; the use of water conservation irrigation practices; and the adherence to landscape installation standards and maintenance procedures that promote water conservation. (PBC Ordinance 2018-002)

- Ultra-Low Volume Plumbing Fixtures - All five participating governments within Seacoast have adopted the Standard Plumbing Code, 1994 Edition, as amended, which provides for maximum flow of volumes for various plumbing fixtures in all new construction.

- Water Conservation Rate Structure - on June 1, 1994, Seacoast implanted a rate structure that incorporated inclining block commodity rates. Seacoast has indicated that the rate structure has been successful in encouraging water conservation.

- Automated Radio Read (AMR) with high use notification to Seacoast and customer.

- Leak Detection - Seacoast field personnel area trained to identify leaks using leak detection equipment and techniques. In addition, all accounts are metered, and Seacoast has an active meter testing and change-out program that test all large meters annually for accuracy, and replaces smaller meters on either a "fixed service life" or "maximum mileage" basis.

- Rain Sensor Devices - Currently, all five member governments within Seacoast have code requirements for the installation of rain sensor overrides for new lawn irrigation systems.

- Water Conservation Education Program - Seacoast has an extensive public conservation education program and provides conservation-related pamphlets in its customer lobby.

- Reclaimed Water - Seacoast has been providing wastewater effluent for irrigation purposes since 1978. At present, Seacoast's entire average daily wastewater flow is committed to active on-line reclaimed water consumers. An inventory of contracts for reclaimed water in the Seacoast service area is presented in **Table 7**.

In addition, the City of Palm Beach Gardens implements water conservation through its Code of Ordinances, Article II. Water Conservation, Section 74-36 through 74-43, and Article IV. Water Shortage Regulations, Sections 74-71 through 74-77. These code sections address the restriction of irrigation to the hours of 5:00 p.m. to 9:00 a.m.; requires water sensing devices on new irrigation systems; and assists the South Florida Water Management District (SFWMD) in the implementation of its water shortage plan. The City will evaluate its Code of Ordinances related to water conservation and shortages to include any necessary best management practices for water conservation. In addition, the City will review its operations related irrigation and address any potential updates that may be necessary for compliance with Rule 40E-24.201 by 2025.

(The remainder of this page intentionally left blank)

Table 7

SEACOAST UTILITY AUTHORITY
RECLAIMED WATER COMMITMENTS
February 6, 2019

SITE	ALLOCATION		
CLASS A GUARANTEED COMMITMENTS			
Eastpointe Country Club	0.300		208
Eastpointe Golf and Racquet	0.300		208
Eastpointe Homeowners (Briar Lake)	0.100		69
Frenchmans Creek	0.500		347
Mirasol	1.750		1,215
Mariners Cove	0.100		69
Oak Harbour	0.080		56
Old Port Cove	0.200		139
Frenchmans Reserve	0.800		556
The Isles	0.300		208
PGA Boulevard Streetscape	0.020		14
MacArthur (Regional) Center	0.700		486
Old Palm Golf Club (Through same meter as MacArthur allocation below, total 1.8 MGD)	0.800		556
Royale Harbour Condominium	0.040		28
North Palm Beach Country Club	0.300		208
Mirasol Walk	0.055		38
Governors Pointe	0.050		35
Paloma	0.300		208
Waterway Terrace Condominium	0.031		22
Gemini Condominium	0.034		24
Seasons 52 Restaurant	0.055		38
FPL Administrative Complex	0.055		38
FPL Monet Substation	0.004		3
Southampton	0.039		27
Bent Tree	0.060		42
Seamark Condominium	0.010		7
Juno Bay Colony	0.080		56
Cimarron Cove	0.050		35
Old Palm Residential	0.430		299
Palm Beach Gardens City Park Sports Complex	0.062		43
Alton	0.225		156
Subtotal, Class A Agreements	**7.830**		**5438**
MACARTHUR SITES			
Abacoa (through ENCON interconnect)	1.000		694
BallenIsles East	0.750		521
BallenIsles West	0.750		521
The Bears Club (through ENCON interconnect)	0.500		347
Old Palm	1.000		694
Subtotal, MacArthur Sites	**4.000**		**2,778**
TOTAL, ACTIVE CLASS A GUARANTEED COMMITMENTS	**11.830**		**8,215**
CLASS A COMMITMENTS, CONTRACTED BUT NOT ON LINE			
TOTAL CLASS A COMMITMENTS, CONTRACTED BUT NOT ON LINE	**0.000**		**0.000**
GRAND TOTAL, SEACOAST RECLAIMED WATER CONTRACTS	**11.830**		**8215**

Source: SUA, 2019

Photo 5: PGA Regional Reclamation Facility

Seacoast's PGA Regional Water Reclamation Facility is located adjacent to the Mirasol community, within the City limits. The facility has a 12.0 MGD capacity and has a current flow of 8.0 MGD. 100% of the daily flow is recycled to 36 large volume uses, supplementing its 8.0 MGD wastewater flow. Seacoast recycles up to 2.5 MGD of nanofiltration concentrate from its membrane water treatment process, 1.5 MGD from SFWMD's permitted ground and surface water resources, and 0.5 MGD from a former potable water supply that is no longer suited for that purpose. The use of rain sensor devices is imposed through the City's DRC process. Additionally, reclaimed water use is strongly encouraged by the City and is often imposed as a condition of development order approval.

The City's Comprehensive Plan contains Goals, Objectives, and Policies that promote conservation, use of water conservation best management practices, and the use of reclaimed water as an alternative water supply.

In addition, the City's Code of Ordinances, includes *Article IX.-Reclaimed Water,* implementing the Palm Beach County Reclaimed Water Ordinance, and the City's Land Development Regulations promote and encourage water conservation measures, such as;

- Use of Florida-friendly landscaping and drought tolerant landscape materials
- Use of Mulch
- Less use of sod
- Water efficient irrigation systems
- Water conserving irrigation practices
- Rain sensors on irrigation systems

The City also incorporates water conservation measures and best management practices as conditions of approval in development orders as new projects are approved.

4.0 CAPITAL IMPROVEMENTS

4.1 Service Area Initiatives

In September 2006, Seacoast entered into a Service Area Agreement (R2005-1769) with Palm Beach County defining the service area boundary between the two providers. Delineation of the service area boundary was intended to eliminate or minimize duplication of facilities, and to provide for the orderly growth, expansion, and extension of respective water, wastewater, and reclaimed water utility systems. The Agreement benefited existing and future Seacoast customers by ensuring the most efficient delivery of public utility services.

The current Seacoast Consumptive Use Permit issued by the SFWMD 2012 ensures adequate water supply throughout the service area through 2032, along with the various improvements completed by Seacoast since the City's 2015 Work Plan Update, Seacoast has ensured adequate water supply for its service area through 2030, provided that there are no unforeseen impacts on existing and planned supplies.

In addition, the Seacoast system is interconnected with the Town of Jupiter and City of Riviera Beach water utility systems in the event of an emergency shortage. Interconnections are detailed in **Table 8** and shown in Map 2. Further, Seacoast has a Utility Bulk Service Agreement (R2017-0444) with Palm Beach County to provide Seacoast with up to 5 MGD of bulk potable water and bulk wastewater service. The Bulk Agreement's initial term is 30 years with 5-year automatic extensions.

(The remainder of this page intentionally left blank.)

Table 8

Seacoast Interconnections

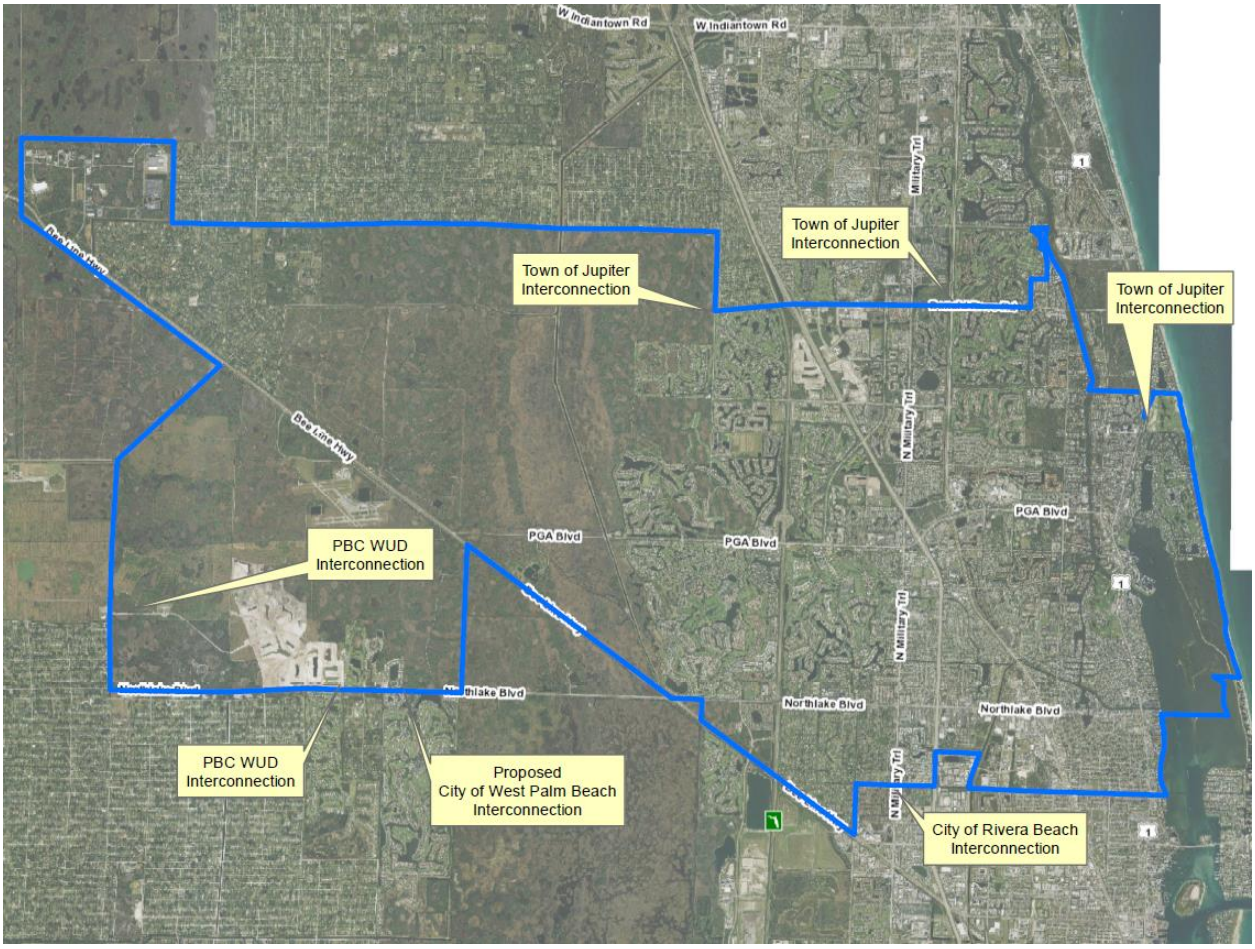
Entity	Size (inches)	Capacity (gpm)	Location
Jupiter	16	4,000	SR 811 and Donald Ross Road
Jupiter	10	2,500	US 1 and Ocean Drive
Jupiter	12	3,500	Jog Road and Donald Ross Road
Riviera Beach	12	3,500	Military Trail and Leo Lane
Palm Beach County [1]			Northlake Boulevard at Palm Beach Gardens municipal golf course
Palm Beach County [1]			Northern terminus at Grapevine Boulevard and Royal Palm Beach Acreage

Source: Seacoast Utility Authority, 2019.
1. Western service area meters are not interconnected with the rest of Seacoast's system.

Finally, as an emergency back-up to the Palm Beach County interconnect discussed in Section 3.4, Seacoast plans to construct a water system interconnect with the City of West Palm Beach in 2020.

(The remainder of this page intentionally left blank.)

INTERCONNECTIONS



Map 2. Seacoast Utility Authority Interconnections

4.2 Work Plan Projects

The LECWSP 2018 Water Supply Plan, Table 8.1 *Proposed potable and nonpotable Public Water Supply development projects in the LEC Planning Area (2016 to 2040*) identifies two Public Water Supply projects for Seacoast, as shown below.

County	Implementing Agency or Entity	Project Name	Project Description	Project Capacity (mgd)	Total Capital ($M)	Estimated Completion Date
Potable – FAS						
Palm Beach	Seacoast Utility Authority	FAS Well F-6	Construct FAS water supply well and connecting raw water transmission main.	2.00	4.00	2018
Palm Beach	Seacoast Utility Authority	FAS Well F-9	Construct FAS water supply well and connecting raw water transmission main.	2.00	4.00	2020

Source: LECWSP 2018, Table 8-1

The FAS Well F-6 was completed August 2019. The FAS Well F-9 is currently under construction, with completion estimated in March of 2020. These wells support Low Pressure Reverse Osmosis (LPRO) expansion from 3.5 MGD to 20 MGD.

(The remainder of this page intentionally left blank.)

4.3 Capital Improvements Schedule

Current and projected water supply by Seacoast are summarized in **Table 9**. Since these projects are part of the Seacoast Capital Improvement Plan, they are not included in the City's Five-Year Schedule of Improvements.

Table 9

CURRENT AND PROJECTED WATER SUPPLY IN MGD*				
Item	Actual	Projected		
	2016	2020	2025	2030
Population[1]	90,703	94,330	98,320	101,276
Per Capita (gallons per day finished water)	188	189	189	189
Potable Water Demands (daily average annual)	17.08	18.29	19.05	19.52
Water Source: Volume from Biscayne/Surficial	17.54	22.30[5]	22.30	22.30
Volume from Floridan[2]	2.72	01.03	2.47	3.80
Volume from Other	0.00	0.00	0.00	0.00
Volume from Reclaimed[3]	0.00	0.00	0.00	0.00
Additional Potable Water Needed	0.00	0.00	0.00	0.00

* Total Seacoast Service Area, including Palm Beach Gardens.
1. Source: LECWSP, Appendices 2018. Table B-1.
2. Source: Seacoast Utility Authority, 2019. All potable volumes finished water. All water source volumes raw water.
3. Seacoast recycles 90% annual wastewater flow as irrigation water sold to customers in Table 7.
4. Higher differential between finished and raw water (compared to 2010) because Seacoast converted to nanofiltration membrane treatment in May 2014.
5. Maximum daily allocation from Biscayne/Surficial aquifer allowed by SFWMD permit.

(The remainder of this page intentionally left blank.)

5.0 COMPREHENSIVE PLAN GOALS, OBJECTIVES, AND POLICIES

The City's Comprehensive Plan policies were amended accordingly with the 2015 Work Plan Update, and also with the City's Evaluation, Appraisal and Report (EAR) in 2016. In addition, the Work Plan is incorporated into the related Comprehensive Plan policies by reference. Based upon this current Work Plan Update, there is a need to update Policy 8.1.4.7 in the Intergovernmental Coordination Element, and Policy 4.D.1.1.10 in the Infrastructure Element refer to the current date of the Work Plan. These policies are shown in a strike-through and underline format below on pages 30 and 35 of this document. All other existing related Goals, Objectives, or Policies (GOPs) in the Comprehensive Plan related to water supply planning and intergovernmental coordination are sufficient to support this current Work Plan as shown below. For brevity, some policies may only contain the applicable portions.

5.1. Future Land Use

Policy 1.1.3.1.: The City shall continue to maintain land development regulations to ensure that they contain specific and detailed provisions intended to implement the adopted Comprehensive Plan, and which as a minimum:

d. Minimize the impacts of land use on water quality and quantity and regulate development which has a potential to contaminate water, soil, or crops;

f. Protect potable water wellfields and aquifer recharge areas;

k. Provide that development orders and permits shall not be issued which result in a reduction of the levels of service for the affected public facilities below the level of service standards adopted in this Comprehensive Plan;

m. Cooperate with Seacoast Utility Authority through cooperation on the Seacoast Utility Board to insure the maximum utilization of their water and wastewater transport plan so as to implement the economic expansion of facilities within definitive service boundaries.

Policy 1.1.3.6.: The City shall ensure the availability of suitable land for public and institutional uses necessary to support development by:

2. Allowing public uses in certain land use categories subject to limitations and location-criteria as identified in this Plan. Such location criteria shall include the following standards:

    (a) Public buildings shall be specifically prohibited in areas designated as Conservation and other environmentally sensitive lands, including wetlands, 100-year floodplains, groundwater aquifer recharge areas, areas set aside by development to meet the 25 percent preservation of native ecological communities and wildlife habitats. New or Expanded Public Facilities shall not be encouraged within the coastal area and shall meet the requirements of the Coastal Management Element.

Policy 1.1.3.6.: The City shall ensure the availability of suitable land for public and institutional uses necessary to support development by:

2. Allowing public uses in certain land use categories subject to limitations and location-criteria as identified in this Plan. Such location criteria shall include the following standards:

    (a) Public buildings shall be specifically prohibited in areas designated as Conservation and other environmentally sensitive lands, including wetlands, 100-year floodplains, groundwater aquifer recharge areas, areas set aside by development to meet the 25 percent preservation of native ecological communities and wildlife habitats. New or Expanded Public Facilities shall not be encouraged within the coastal area and shall meet the requirements of the Coastal Management Element.

Policy 1.2.1.3.: The City shall protect potable water wellfields and prime aquifer recharge areas through the implementation of the Palm Beach County Wellfield Protection Ordinance.

Policy 1.2.1.11.: The City shall coordinate the review of all land use change applications with Seacoast Utility Authority to ensure the availability of adequate water supplies.

Policy 1.2.1.12.: The City shall update the 10-Year Water Supply Facilities Work Plan at the time required by Chapter 163, Part II, Section 163.3177(6)(c)3, Florida Statutes, as may be amended.

Objective 1.2.3.: Issue development orders and permits for development and redevelopment activities only in areas where public facilities necessary to meet level of service standards (which are adopted as part of the Capital Improvements Element of this Comprehensive Plan) are available concurrent with the impacts of development.

Policy 1.2.3.1.: The City shall maintain development regulations to provide that public facilities and services be available concurrent with the impacts of development to meet the level of service standards established in the Capital Improvements Element of the City's Comprehensive Plan. Concurrency Management System requirements shall include the following:

1) Demonstration that the impacts from a proposed development comply with the adopted level of service standards in the City.

Objective 1.2.3.: Issue development orders and permits for development and redevelopment activities only in areas where public facilities necessary to meet level of service standards (which are adopted as part of the Capital Improvements Element of this Comprehensive Plan) are available concurrent with the impacts of development.

Policy 1.2.3.4.: The City shall encourage partnership between the private and public sector in the provision of public facilities.

Policy 1.3.2.3.: Requests for development orders or permits shall be coordinated, as required, with Palm Beach County, adjacent municipalities, the Countywide Intergovernmental Coordination Program, Treasure Coast Regional Planning Council, South Florida Water Management District, and state and federal agencies.

Objective 1.3.7.: Coordinate the annexation of unincorporated enclaves within the City's future annexation area and ensure the provision of City services prior to their annexation.

Policy 1.3.7.2.: Prior to annexation of unincorporated property, a facilities and services extension plan shall be prepared and adopted. This plan shall:

a. Establish and ensure the location, level of service standards and phasing for each facility and service to be extended by the City;

b. Require all development or redevelopment activities to occur in conjunction with the provision of the community facilities and services without exceeding the level of service standards established in the Capital Improvements Element of the Plan;

In addition, most residential and non-residential land use categories include the provision that these categories should be located where water supply and wastewater collection services are to be provided, if services can be provided economically.

5.2. Housing Element

Objective 3.1.1.: Strive to fulfill the City housing needs while promoting sustainable and energy efficient standards.

Policy 3.1.1.1.: The City shall continue to promote conservation programs and energy efficient practices that reduce housing operation costs for energy, sewer and water usage, within the structure and for landscaping, in new residential developments and redevelopment housing areas.

5.3. Infrastructure Element

POTABLE WATER

GOAL 4.D.1.: PROVIDE A SAFE, HEALTHY, DEPENDABLE, AND SUSTAINABLE POTABLE WATER SUPPLY TO ALL RESIDENTS AND BUSINESSES IN THE CITY.

Objective 4.D.1.1.: The potable water facilities levels of service standards established in this element shall be maintained throughout the City, until such time as they are revised by the Seacoast Utility Authority.

Policy 4.D.1.1.1.: The City shall adopt an average annual daily potable water consumption level of service standard of 189 gallons per capita per day (gpcd). This shall serve as the level of service standard for the urban area. The rural area shall utilize water wells, unless alternative service provision is approved by the City Council consistent with Policy 9.1.4.2.(a).

Policy 4.D.1.1.2.: The City shall adopt a peak 24-hour potable water consumption level of service standard of 258 gallons per City resident per day.

Policy 4.D.1.1.3.: The City shall adopt a minimum potable water treatment plant capacity level of service standard of 258 gallons per City resident per day.

Policy 4.D.1.1.4.: The City shall adopt a minimum potable water storage capacity level of service standard of 34.4 gallons per City resident per day.

Policy 4.D.1.1.5.: The City shall adopt a minimum water pressure level of service standard of 20 pounds per square inch.

Policy 4.D.1.1.6.: The City shall not approve development permits which, if approved, would cause potable water facilities servicing the City to operate at levels below the levels of service standards established in Policies 4.D.1.1.1.- 4.D.1.1.5. of this element.

Policy 4.D.1.1.7.: The City shall coordinate with Seacoast Utility Authority to adjust potable water service provision plans and to establish policies preventing urban sprawl, consistent with the Urban Growth Boundary concept.

Policy 4.D.1.1.8.: The City shall coordinate with Seacoast Utility Authority and Palm Beach County in the preparation of their 10-Year Water Supply Facilities Work Plans, consistent with the directives of the Lower East Coast Water Supply Plan Update.

Policy 4.D.1.1.9.: At the time required by the applicable statute, the City shall incorporate necessary 10-Year Water Supply Facilities Work Plan directives enacted by its water supplier and the regional water supply plan.

Policy 4.D.1.1.10.: The 10-Year Water Supply Facilities Work Plan Update, prepared by the City of Palm Beach Gardens, dated November 2019 is hereby adopted by reference in the City's Comprehensive Plan and implemented by Seacoast Utility Authority, as the local water provider.

Objective 4.D.1.2.: In accordance with section 163.3202, F.S., the City, via the Seacoast Utility Authority, will have a cross-connection control program.

Policy 4.D.1.2.1.: The City, through its membership in the Seacoast Utility Authority (SUA) consortium, will encourage SUA to continue its aggressive cross-connection program.

Objective 4.D.1.3.: The City, will continue to coordinate with Seacoast Utility Authority and the Palm Beach County Department of Environmental Resource Management, in the identification of future wellfields and the City will modify proposed land uses to protect the wellfields.

Policy 4.D.1.3.1.: As new wellfields are identified, land uses will be evaluated and, if incompatibility is determined, compatible land uses or restrictions on activities will be identified in future Comprehensive Plan amendments.

Objective 4.D.1.4.: The City will continue to monitor County Health Department reports regarding the facilities using on-site domestic wells that do not comply with state statutes. The City will contact the County Health Department and Seacoast Utility Authority on a quarterly basis to inquire about recently identified failing systems. Identified, the City will assist the Health Department and Seacoast Utility Authority

implement a plan to provide approved water supplies to these parcels of non-compliance.

Policy 4.D.1.4.1.: The potential for well contamination will be examined as the County Health Department determines who is using on-site domestic wells that do not comply with state statutes.

Policy 4.D.1.4.2.: The City will encourage, via its status as a member of the SUA consortium, that the SUA adopt a policy requiring connection to an approved public water supply within ninety (90) days of that supply being available.

Objective 4.D.1.5.: The City, through its membership on the Board, shall establish procedures to coordinate the extension and increase in the capacity of potable water facilities to meet future needs.

Policy 4.D.1.5.1.: The City will require all submittals for development to obtain a statement of available capacity from Seacoast Utility Authority prior to site plan approval.

Policy 4.D.1.5.2.: The City will not issue a building permit in the urban area without an executed agreement for service between the developer and Seacoast Utility Authority, or alternate provider.

Policy 4.D.1.5.3.: The City will not issue a certificate of occupancy in the urban area without written acceptance of the water facilities by Seacoast Utility Authority, or alternate provider.

Policy 4.D.1.5.4.: A development order shall be issued based on written confirmation of potable water capacity from Seacoast. Further, prior to the approval of a building permit, the applicant shall provide to the City a written documentation of potable water service reservation issued by Seacoast to determine whether adequate water supply to serve the new development will be available no later than the anticipated date of issuance of a certificate of occupancy.

GOAL 4.D.2.: THE CONSERVATION AND PROTECTION OF PUBLIC DRINKING WATER SUPPLIES.

Objective 4.D.2.1.: The City will continue to encourage new development and redevelopment to reduce the per capita consumption of drinking water and encourage the switch to water conserving plumbing fixtures and green building standards in existing and new structures through education of the consumer.

Policy 4.D.2.1.1.: The City shall continue to require water conserving plumbing fixtures in new and existing construction through its land development regulations.

Policy 4.D.2.1.2.: The City shall discourage the use of potable water and encourage reclaimed water for irrigation in new developments through the review process and will work with the regional utility to define methods to discourage potable use for irrigation in existing developments.

Objective 4.D.2.2.: The City, as a member of the SUA consortium, shall encourage the utility to continue to evaluate the feasibility of implementing various alternative water treatment and reuse systems.

Policy 4.D.2.2.1.: The City shall continue, in its land development regulations, to require golf courses to investigate methods to conserve irrigation water and shall establish the use of treated wastewater effluent as the first priority source of irrigation water for golf courses, if reclaimed water is available.

Policy 4.D.2.2.2.: The City shall continue to encourage via its membership in the SUA consortium, the Seacoast Utility Authority to investigate additional sources of potable water and to develop alternative treatment systems (including reverse osmosis) where necessary to maintain a potable water supply sufficient to serve the projected population of the service area of the level of service adopted by this and other municipal comprehensive plans having jurisdiction in the service area.

AQUIFER RECHARGE

GOAL 4.E.1.: INCREASE GROUNDWATER RECHARGE WHERE PRACTICABLE.

Objective 4.E.1.1.: Within 18 months after approval by SFWMD, the City shall use the recommendations of the Lower East Coast Water Supply Plan Update to evaluate and amend the comprehensive plan to address its groundwater recharge policies.

Policy 4.E.1.1.1.: The City shall continue to regulate land use and development activities so as to minimize impacts on the quality of aquifer resources and wellfield zones, especially those activities which may affect natural recharge areas or surface waters.

Policy 4.E.1.1.2.: The City shall continue its coordination with Seacoast Utility Authority on groundwater recharge policies and plans.

5.4. Conservation Element

Policy 6.1.1.2.: The City shall continue to maintain land development regulations to ensure that:

d. Land alteration or development within the Loxahatchee Slough restoration area (ecosite) or the adjacent lands within the Loxahatchee watershed are consistent with South Florida Water Management District (SFWMD) policies for water quality and quantity and SFWMD plans for modifying the hydroperiod and water levels in the area;

e. Proposed developments comply with the Wellfield Protection Program adopted by the county.

Policy 6.1.1.4.: Through the continued implementation of land development regulations, the City shall ensure that new developments and redevelopments are designed in such a manner as to minimize the impact of such developments on the quality of surface and ground water resources, and to further ensure that new developments and redevelopments do not exceed the capacity levels for potable water and/or sanitary sewer services.

Policy 6.1.1.5.: The City shall continue to encourage the placement of a salinity dam in the tidal ditches along RCA Boulevard to prevent saltwater intrusion into the shallow aquifer.

Policy 6.1.1.6.: The City shall continue to maintain land development regulations to ensure such regulations are consistent with and implement the county Wellfield Protection Program.

Policy 6.1.1.9.: The City shall actively participate in the formulation and implementation of water supply conservation programs developed by Seacoast Utility Authority considering the most recently adopted SFWMD's Lower East Coast Regional Water Supply Plan.

Policy 6.1.1.10.: The City shall coordinate with Seacoast Utility Authority to implement potable water conservation programs established as part of its current 10-Year Water Supply Facilities Work Plan and Consumptive Use Permit.

Policy 6.1.1.11.: The City shall continue to cooperate with Seacoast Utility Authority in the development and implementation of water reuse programs, to the extent that they may apply to Palm Beach Gardens.

5.5. Intergovernmental Element

Objective 8.1.1.: Maintain formal, specific means of coordination with adjacent municipalities, the county, state, and federal agencies who have permitting and regulating authority and quasi-public entities which provide services but lack regulatory authority in Palm Beach Gardens.

Policy 8.1.1.1.: The City shall encourage the implementation of the Conceptual Master Plan for the U. S. 1 Corridor in Northern Palm Beach County known as the "seven-cities plan." Potential developments along U. S. 1 within the City's jurisdiction will be encouraged to conform with said plan. The City shall also provide support and assistance to nearby jurisdictions in obtaining funding for the implementation of the plan from regional, state, and federal agencies.

Policy 8.1.1.2.: The City, through its involvement with Seacoast Utility Authority and in conjunction with the City Engineer, shall review all plans for water and sewage systems when these improvements are to be maintained by the city after construction.

Policy 8.1.3.2.: The City shall request the School Board of Palm Beach County, Northern Palm Beach Chamber of Commerce, Palm Beach County Planning Council, South Florida Water Management District, Treasure Coast Regional Planning Council, Seacoast Utility Authority, Northern Palm Beach County Improvement District, and Florida Power and Light Company to designate a specific liaison to provide expertise from their various disciplines into planning and development related activities.

Policy 8.1.4.5.: The City shall forward copies of the City's proposed Comprehensive Plan or plan amendment to each adjacent city, Palm Beach County, the School Board of Palm Beach County, Palm Beach Countywide Intergovernmental Coordination Process, South Florida Water Management District, Seacoast Utilities Authority, the Treasure Coast Regional Planning Council, and the Department of Community Affairs for their review and comments. The City shall take into consideration comments received from the above entities prior to the adoption of the Plan or plan amendment.

Policy 8.1.4.6.: The City shall continue requiring that all applicants for development approval procure written confirmation of potable water capacity from Seacoast prior to the issuance of a development order.

Policy 8.1.4.7.: The City shall update the 10-Year Water Supply Facilities Work Plan prepared by the City of Palm Beach Gardens, dated ~~February 2015~~November 2019, and confirm the availability of water for existing, new development and redevelopment at the time required by the applicable statute; this should be consistent with the SFWMD's Lower East Coast Regional Water Supply Plan, and the 10-Year Water Supply Facility Plans of Seacoast Utility Authority and Palm Beach County.

Policy 8.1.4.8.: The City shall ensure a meaningful process for collaborative planning and intergovernmental coordination on a continuing and ongoing basis on water supply issues with Seacoast Utility Authority. Coordination could include sharing of information regarding water supply needs, updating bulk sales projections, implementing alternative water supply projects, and establishing level of service standards.

5.6. Capital Improvements Element

Policy 9.1.1.4.: A development order shall be issued based on written confirmation of potable water capacity from Seacoast. Further, prior to the approval of a building permit, the applicant shall provide to the City a written documentation of potable water service reservation issued by Seacoast to determine whether adequate water supply will be available.

Policy 9.1.1.5.: The City shall coordinate on a continuing and ongoing basis with Seacoast Utility Authority on Capital Improvement Planning related to water supply to ensure water supply availability.

Policy 9.1.4.1.(a) provides the level of service for Water Service at 189 gallons per day per capita.