

OFFICE OF THE MAYOR

Lynn Stoner
Mayor



CITY COUNCIL
Nick Sortal, *President*
Denise Horland, *President Pro Tem*
Erik Anderson
Ron Jacobs

June 4, 2020

Department of Economic Opportunity
Attn: Ray Eubanks, Plan Processing Administrator
State Land Planning Agency
Caldwell Building
107 East Madison – MSC 160
Tallahassee, FL 32399

Subject: Water Supply Facilities Workplan Update - Amendments to the City of Plantation Comprehensive Plan

Dear Mr. Eubanks:

As per the requirements of Section 163.3193(10), Florida Statutes, enclosed for your review are one (1) hard copy and two (2) electronic copies of the proposed Water Supply Facilities Workplan Update amendments to the City of Plantation Comprehensive Plan.

On March 3, 2020, the City of Plantation Local Planning Agency (Planning and Zoning Board) made a recommendation of approval of the Water Supply Facilities Workplan Update amendments at a public hearing. On May 27, 2020 the City of Plantation City Council approved on first reading an Ordinance to transmit the Water Supply Plan amendments to the Department of Economic Opportunity (DEO). The City anticipates adoption of the proposed amendments August 2020.

The City of Plantation requests DEO review the proposed amendments pursuant to Section 163.3184(6)(a), Florida Statutes. A copy of the Ordinance and related documents, including action minutes of the City Council, are included. The related Goals, Objectives, and Policies (Volume I) have been unaffected by this update to the Water Supply Plan.

Concurrent with this submittal, copies of the proposed amendments, are being submitted to the review agencies (See Attachment A) as required by Rule 9J-11.009(8)(a)-(h), F.A.C. In accordance with Section 163.3184(8) (b), Florida Statutes, this letter confirms that the City announced the availability of a “Comprehensive Plan Citizen Courtesy Information List” at these public hearings and did not receive any request from citizens interested in receiving direct notification from the DEO.

The proposed amendments do not affect an area of critical state concern (Rule 9J-11.006(1)(a)5., F.A.C.) and are not subject to the Wekiva River Protection Area (Rule 9J-11.006(1)(a)6., F.A.C.). These amendments do not qualify for any exemptions. These amendments are not subject to joint planning agreements.

Please contact either Dan Holmes, AICP, Director of Planning, Zoning, and Economic Development, or Peter Dokuchitz, Principal Planner, at 400 NW 73 Avenue, Plantation, FL 33317, phone number: 954.797.2225, or fax number: 954.797.2793, or e-mail: pdokuchitz@plantation.org, if you have any questions.

Sincerely,



Lynn Stoner
Mayor

Enclosures

LS/dh/pd

Cc: Dan Holmes, Director Planning, Zoning, & Economic Development (without attachments)
Peter Dokuchitz, Principal Planner (without attachments)

ATTACHMENT A

Department of Education

Attn: Mark Weigly, Director
Office of Educational Facilities
325 West Gaines Street, Suite 1014
Tallahassee, Florida 32399-0400
Email: Mark.Weigly@fldoe.org

Department of Environmental Protection

Attn: Plan Review
Office of Intergovernmental Programs
3900 Commonwealth Boulevard, Mail Station 47
Tallahassee, FL 32399-3000
Email: Plan.Review@dep.state.fl.us

Department of State

Attn: Robin Jackson, Historic Preservation Planner
Bureau of Historic Preservation
500 South Bronough Street
Tallahassee, FL 32399-0250
Email: Robin.Jackson@DOS.MyFlorida.com

Department of Transportation, District Four

Attn: Steven C. Braun, P.E., Director of Transportation Development
3400 West Commercial Boulevard
Fort Lauderdale, FL 33309
Email: steve.braun@dot.state.fl.us

South Florida Regional Planning Council

Attn: Isabel Cosio Carballo, Executive Director
3440 Hollywood Boulevard, Suite 140
Hollywood, FL 33021
Email: isabelc@sfrpc.com

South Florida Water Management District

Attn: Terry Manning, AICP, Policy and Planning Analyst
Water Supply Coordination Unit
3301 Gun Club Road, MSC 4223
West Palm Beach, FL 33406
Email: tmanning@sfwmd.gov

Broward County Planning Council

Attn: Barbara Blake Boy, Executive Director
Governmental Center, Room 307
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Email: bblakeboy@broward.org

CITY OF PLANTATION
CITY COUNCIL MEETING
ACTION MINUTES

COUNCIL CHAMBERS
CITY HALL

5:00 P.M.

WEDNESDAY
May 27, 2020

Councilmember Anderson via Zoom
Councilmember Horland via Zoom
Councilmember Jacobs via Zoom
Councilmember Sortal via Zoom
Mayor Stoner
City Attorney Ezrol

1. Roll Call
2. Opening Remarks/Invocation/Pledge of Allegiance – Councilmember Anderson
3. Approval of Minutes of Meetings- April 22, 2020 & May 13, 2020

ACTION: April 22, 2020 minutes approved, May 13, 2020 minutes deferred to June 3, 2020

ITEMS SUBMITTED BY THE MAYOR

4. Resolution #12786 of appreciation to Ricky Federici for 33 years of dedicated service to the City of Plantation

ACTION: Approved

PUBLIC REQUESTS OF THE COUNCIL CONCERNING MUNICIPAL AFFAIRS

Carl Buehler comments about COVID-19 read into record

Dennis Conklin comments on Independence Day

CONSENT AGENDA

5. Request for approval and authorization to execute an agreement with Recreational Design and Construction, Inc., for the "Removal and Installation of Pool Liner" in accordance with ITB No. 011-20
6. Request for approval of a "competitive procurement exemption" pursuant to City Code Sec. 2-226(g)(13) and authorization to issue a purchase order to Dell Corporation, for the purchase of (41) Dell Personal Computers (PC's) in the amount not to exceed \$52,470.57.

**CITY OF PLANTATION
CITY COUNCIL AGENDA
May 27, 2020**

- 7. Request for authorization and approval of change order #1 with Gray Quarter, Inc for customized payment adapter to add our current credit card processor Payments to online services via Accela Citizen Access for an amount not to exceed \$21,564.00.**
- 8. Motion to receive and file the expenditures and appropriations reflected in the Weekly Expenditure Report for the period May 7, 2020 through May 20, 2020 for the City of Plantation's Gateway Development District.**
- 9. Motion to receive and file the expenditures and appropriations reflected in the Weekly Expenditure Report for the period May 7, 2020 through May 20, 2020 for the City of Plantation's Midtown Development District.**
- 10. Motion to receive and file the expenditures and appropriations reflected in the Weekly Expenditure Report for the period May 7, 2020 through May 20, 2020 for the City of Plantation.**
- 11. Motion to approve and file the legal expenditures and appropriations reflected in the Weekly Expenditure Report for the period May 21, 2020 through May 21, 2020 for the City of Plantation.**

ACTION: All items approved

ADMINISTRATIVE ITEM

9. Discussion and Update regarding COVID-19

LEGISLATIVE ITEMS

- 13. TEXT AMENDMENT TO POTABLE WATER SUB-ELEMENT OF THE INFRASTRUCTURE ELEMENT AND RELATED ELEMENT(S) OF THE COMPREHENSIVE PLAN SUPPORTING THE WATER SUPPLY FACILITIES WORK PLAN UPDATE**

ACTION: APPROVED ON FIRST READING

- 14. PUBLIC HEARING AND FIRST READING OF AN ORDINANCE PERTAINING TO THE SUBJECT OF COMPREHENSIVE PLANNING ASSIGNING UP TO 1.05 COMMERCIAL FLEX ACRES. PROPERTY GENERALLY LOCATED AT THE EAST SIDE OF UNIVERSITY DRIVE APPROXIMATELY 1/4 MILE SOUTH OF SUNRISE BOULEVARD. (PP19-0039)**

ACTION: APPROVED ON FIRST READING

- 15. PUBLIC HEARING AND FIRST READING OF AN ORDINANCE PERTAINING TO THE SUBJECT OF ZONING.**

ACTION: APPROVED ON FIRST READING

QUASI-JUDICIAL CONSENT AGENDA-NONE

QUASI-JUDICIAL ITEMS

**CITY OF PLANTATION
CITY COUNCIL AGENDA
May 27, 2020**

- 16. REQUEST TO APPROVE ASSIGNMENT OF FLEXIBILITY ACRES, SITE PLAN, ELEVATION, AND LANDSCAPE PLAN FOR PLANTATION POINTE - LOT D. PROPERTY LOCATED AT 1710 N. UNIVERSITY DRIVE AND ZONED I-L2P(LARGE-LIGHT INDUSTRIAL). PP19-0039**

ACTION: APPROVED SUBJECT TO STAFF COMMENTS, INCLUDING WAIVERS

COMMENTS BY COUNCIL MEMBERS:

ADJOURNED: 6:37 pm

ORDINANCE NO. _____

AN ORDINANCE PERTAINING TO THE SUBJECT OF COMPREHENSIVE PLANNING; AMENDING THE CITY OF PLANTATION COMPREHENSIVE PLAN; REVISING THE POTABLE WATER SUB-ELEMENT OF THE INFRASTRUCTURE ELEMENT AND RELATED ELEMENTS REGARDING WATER SUPPLY FACILITIES PLANNING; PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE THEREFOR.

WHEREAS, the City of Plantation, pursuant to the Local Government Comprehensive Planning Act, and in accordance with all of its terms and provisions, has prepared and adopted a Comprehensive Plan which has been submitted to and reviewed by the Broward County Planning Council, the South Florida Regional Planning Council, and the State Land Planning Agency; and

WHEREAS, the Department of Economic Opportunity has found the City of Plantation Comprehensive Plan in compliance with the Local Government Comprehensive Planning and Land Development Regulations Act; and

WHEREAS, the 2002 Florida Legislature expanded local government comprehensive plan requirements to strengthen coordination of water supply planning and local land use planning; and

WHEREAS, the City of Plantation now wishes to amend the Plan directly related to the Comprehensive Planning and Water Supply Planning in Florida; and

WHEREAS, the City of Plantation City Council has assessed projected water needs and sources for at least a 10-year planning period, and has determined that there is a sufficient supply of potable water in the Plantation Water Distribution System to meet customer demand for at least a 10-year period; and

WHEREAS, the Local Planning Agency for the City of Plantation (the City's Planning and Zoning Board) has held a duly advertised public hearing on March 3, 2020, and recommended approval of text changes to the City's Comprehensive Plan; and

WHEREAS, the City Council of the City of Plantation has conducted duly advertised public hearings on May 27, 2020 and on the date of adoption of this Ordinance regarding proposed text changes to the Comprehensive Plan, and has considered all comments received concerning the proposed amendment to the Plan as required by state law and local ordinance; and

WHEREAS, the City Council finds that the proposed amendments are consistent with the City's Comprehensive Plan; and

WHEREAS, the City Council of the City of Plantation further finds that the proposed amendments to the text of the City's Comprehensive Plan is in the best interest of the citizens of the City of Plantation.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Plantation, Florida:

Section 1. That the Mayor or designee is authorized to transmit the amendment to the Florida Department of Economic Opportunity for review.

Section 2. That the Director of Planning is authorized to make the necessary text changes to the City of Plantation Comprehensive Plan as more particularly described in Exhibit 1, with said Exhibit attached hereto and incorporated herein.

PASSED ON FIRST READING this _____ day of _____, 2020.

PASSED AND ADOPTED ON SECOND READING this _____ day of _____, 2020.

SIGNED by the Mayor this _____ day of _____, 2020.

Mayor

ATTEST:

City Clerk

Exhibit 1

INFRASTRUCTURE ELEMENT

- Policy 6.1.4** The City shall ~~implement~~ continue to evaluate the need for a high level disinfection water reuse project at the wastewater treatment plant, as outlined in the City's 10-Year Water Supply Plan, to irrigate the City's golf course (Plantation Preserve) and the Jacaranda Golf Club.
- OBJECTIVE 7.3** Projected demands through ~~2010-2030~~ will be met by undertaking the following potable water projects:
- Policy 7.2.3 A** The City ~~will~~ continues to evaluate the need to construct a high level disinfection water reuse project at the wastewater treatment plant to irrigate the City's golf course (Plantation Preserve) and to the privately owned Jacaranda Golf Club to obtain the consumptive use permit rights of these two golf courses, as outlined in the City's 10-Year Water Supply Plan.
- Policy 7.5.4** The City ~~shall implemented~~ a water conservation ordinance ~~by in~~ June 2009. The ~~purpose of this ordinance is City to reduced~~ the per capita water usage by a minimum of ~~10%-27%~~, within ~~5-10~~ years of adopting the ordinance, utilizing the 158 GPD as published in the SFWMD Lower East Coast Water Supply Plan Update 2005-2006.
- 1) The City shall continue to record water usage and compare data to previous years for one method of measurability.
 - 2) The City shall ~~also~~ continue to track the water usage through the SFWMD Conservation Audit. The next audit is June 10, ~~2009~~ 2020 with audits scheduled every five years following June 10, ~~2009-2020~~.
 - 3) The City will continue to replace water meters with "smart meters" for better tracking of water use and tracking of possible leaks.
- Policy 7.5.5** The City shall continue to research water conservation strategies and implement new water conservation projects as required to assist in reducing the per capita water consumption as laid out in the City's 10-Year Water Supply Plan.
- OBJECTIVE 7.6** The City will maintain a Water Supply Plan for a minimum ten year planning period addressing water supply facilities necessary to serve existing and future development within the City's water service area.
- Policy 7.6.6** The City hereby adopts the ~~2015-2020~~ *10-Year Water Supply Facilities Workplan* by reference.

CONSERVATION ELEMENT

Policy 1.6.5

The City ~~shall implemented~~ a water conservation ordinance ~~by-in~~ June 2009. The ~~purpose of this ordinance is City to reduced~~ the per capita water usage by a minimum of ~~10%-27%~~, within ~~5-10~~ years of adopting the ordinance, utilizing the 158 GPD as published in the SFWMD Lower East Coast Water Supply Plan Update 2005-2006.

- 1) The City shall continue to record water usage and compare data to previous years for one method of measurability.
- 2) The City shall ~~also continue to~~ track the water usage through the SFWMD Conservation Audit. The next audit is June 10, ~~2009~~ 2020 with audits scheduled every five years following June 10, ~~2009-2020~~.
- 3) The City will continue to replace water meters with “smart meters” for better tracking of water use and tracking of possible leaks.

Policy 1.6.8

The City shall ~~implement-continue to evaluate the need for~~ a high-level disinfection and reuse water project to irrigate the City owned golf course (Plantation Preserve) and Jacaranda Golf Club.



Hazen



Plantation
the grass is greener*

Water Supply Facilities Work Plan 2019 Update

November 21, 2019

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1. Introduction

1.1 Scope of This Report

The City of Plantation's (City's) 10-Year Water Supply Facilities Work Plan Update (Work Plan) identifies water supply sources, availability and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, Florida Statutes (F.S.), requires local governments to prepare and adopt 10-Year Water Supply Facilities Work Plans into their comprehensive plans within 18 months after the South Florida Water Management District (District) approves a regional water supply plan or its update.

The 2018 Lower East Coast Water Supply Plan Update (2018 LECWSP Update) was adopted by the District's Governing Board on November 9, 2018. Therefore, local governments within the Lower East Coast Region are required to amend their comprehensive plans and include an updated 10-year Water Supply Facilities Work Plan and related planning elements by May 9, 2020.

The State of Florida requires that the Work Plan update address the development of traditional and alternative water supplies and management strategies, including conservation and reuse projects needed to meet the City's projected future demands. The data and analyses, including population projections, water demands and service areas must cover at least a 10-year planning period and be consistent to the LECWSP and the updated comprehensive plan amendment.

The City's 10-year Water Supply Facilities Work Plan 2019 Update is divided into five sections:

- 1.0 – Introduction
- 2.0 – Background Information
- 3.0 – Data and Analyses
- 4.0 – Capital Improvements
- 5.0 – Goals, Objectives, and Policies

1.2 Location Map

The City of Plantation (City) is located on the southeastern coast of Florida within the geographic center of Broward County. The City's municipal land area is 22.8 square miles. The City is generally bounded by West Sunrise Boulevard to the north, State Road 7 (U.S. 441) to the east, Interstate 595 to the south, and NW 136th Avenue and North Flamingo Road to the west. The City is bordered to the north by the City of Sunrise and the City of Lauderhill, to the east by the City of Lauderhill and the City of Fort Lauderdale, to the south by the Town of Davie, and to the west by the City Sunrise. **Figure 1** illustrates a location map of the City.



Figure 1: City of Plantation Location Map

1.3 Statutory History

The Florida Legislature enacted bills in the 2002, 2004, 2005, 2011, 2012, 2015 and 2016 sessions to address the state's water supply needs. These bills, in particular Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapters 163 and 373, F.S., by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between local land use and water supply planning.

1.4 Statutory Requirements

The City has considered the following statutory provisions in updates to this 10-year Water Supply Facilities Work Plan.

1. Coordinate appropriate aspects of its comprehensive plan with the 2018 LECWSP [Section 163.3177(4) (a), F.S.].
2. Ensure the future land use plan is based upon availability of adequate water supplies and public facilities and services [Section 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.
3. Ensure that 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 and consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [Section 163.3180 (2), F.S.].

4. Revision of the related comprehensive planning elements within 18 months after the water management district approves an updated regional water supply plan, to:
 - a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the 2018 LECWSP, or alternative project(s) proposed by the local government under Section 373.709(8)(b), F.S. [Section 163.3177(6)(c), F.S.];
 - b. Identify the traditional and alternative water supply projects and the conservation and reuse programs necessary to meet water needs identified in the 2018 LECWSP [Section 163.3177(6)(c)3, F.S.]; and
 - c. Update the Work Plan for at least a 10-year planning period for constructing the public, private, and regional water supply facilities identified in the element as necessary to serve existing and new development [Section 163.3177(6)(c)3, F.S.].
5. Revise the Five-Year Schedule of Capital Improvements to include 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 Paragraph 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 2018 LECWSP, 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 2013 LECWSP [s.163.3177 (6) (h) 1., F.S.].
8. An Evaluation and Appraisal Report is required every seven years. Local governments are encouraged to comprehensively evaluate, and as necessary, update comprehensive plans to reflect changes in local conditions. The evaluation could address the extent to which the local government needs to update their 10-year Water Supply Facilities Work Plan, including the development of alternative water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, and conservation and reuse programs are meeting local water use demands [s.163.3191 (3), F.S.].

2. Background Information

2.1 Introduction

This section includes the following:

- An overview of the City of Plantation’s water service area; and
- A description of regional water supply planning issues that impact or could potentially impact the City of Plantation, including the following:
 - Climate Change
 - Regional Water Availability Rule
 - C-51 Reservoir Project
 - Lake Okeechobee Surface Water Allocation Limitations
 - Lowering Lake Okeechobee Level
 - Infrastructure planned to attenuate damaging peak flow events from Lake Okeechobee

2.2 Service Area

The City of Plantation, located in Broward County, was founded in 1953. The City is a full-service community offering police service, fire/rescue protection, public works, water and sewer utilities, community development, code enforcement, and parks and recreation services.

The City owns, operates and maintains water facilities that primarily serve retail customers (multifamily, single family, commercial and irrigation accounts), through individual retail water customer meters. In 2018, the City supplied potable water to a population of approximately 89,595. The City sells neither raw nor finished water to other public water systems. Currently, the City has no plans to provide raw or finished water to any other municipality or area outside of its jurisdiction. However, emergency potable water interconnects are maintained with the City of Fort Lauderdale, the City of Sunrise, the City of Lauderdale and Broward County. It is noted that there are no areas of the City served by private domestic self-supply systems or potable water wells.

The City of Plantation's service area encompasses a total of approximately 22.8 square miles (14,592 acres). **Figure 2** depicts the City's service area and the location of the City's principal water infrastructure including the following: 1) East and Central Wellfields; 2) East and Central Water Treatment Plants; 3) Distribution System Piping including, Emergency Interconnects.

Almost one-half of the total gross acreage in the City is dedicated to residential use (48.5%). The remaining gross acreage is allocated to nonresidential uses such as commercial and office (9%), industrial (1%), parks (3%), golf course/commercial recreation (6.5%), community facility (3.5%), utilities (0.5%), vacant (3%), water (7%) and transportation (18%). The City does not anticipate any increase in size of the service area in the near future and expects that water demand growth over the next 20 years will be guided by existing land use designations for residential development, including some commercial areas, as illustrated in

Figure 3.



Figure 2: City of Plantation Water Service Area

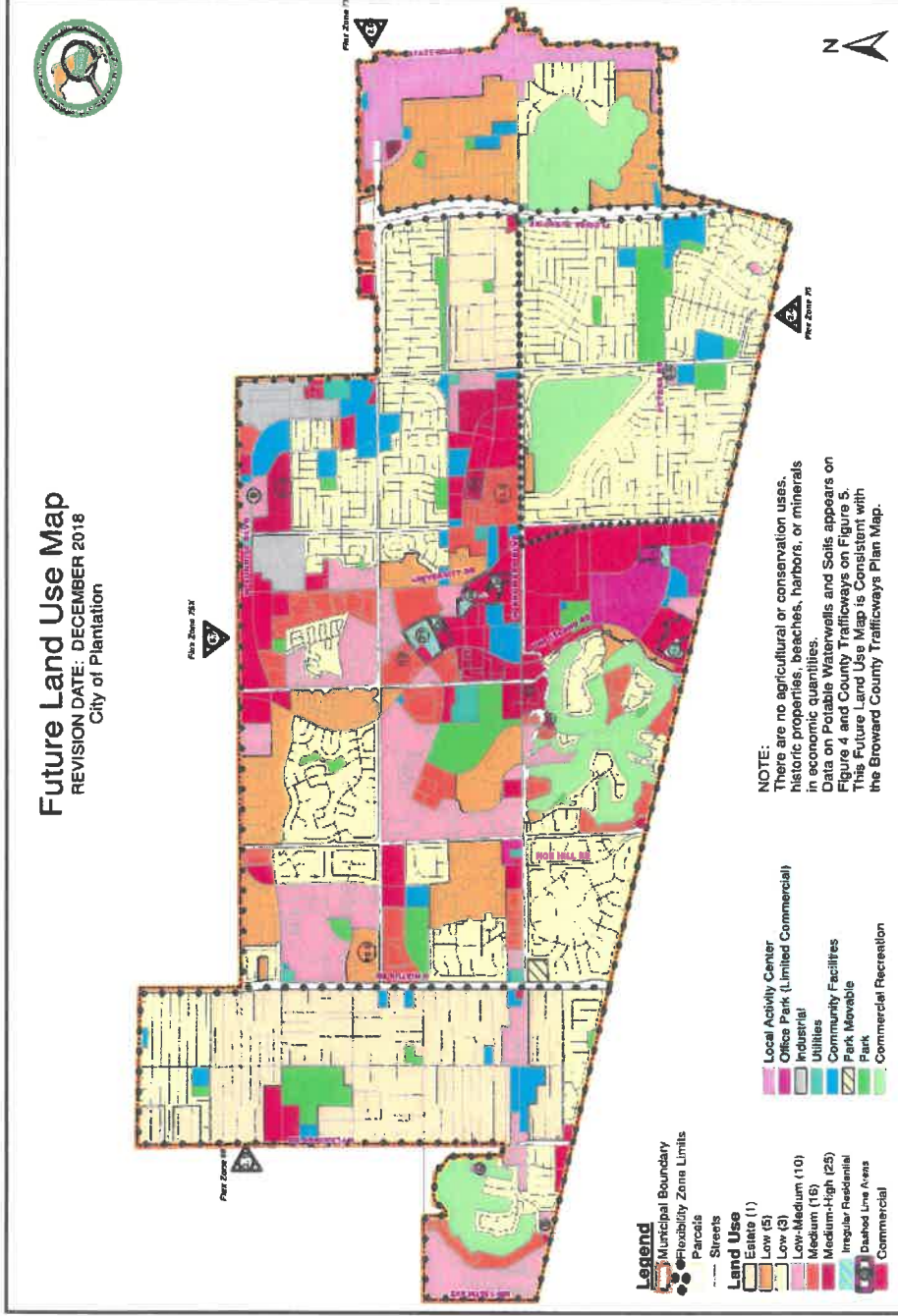


Figure 3: City of Plantation Future Land Use Map

2.3 LEC Regional Water Supply Planning Issues

Meeting future water demands without impacting the regional natural water system will require water supply and water resource planning, and coordination among Broward County, the District and the local governments. Water supply source options in the Lower East Coast (LEC) Planning Area primarily include, traditional fresh groundwater from the Biscayne Aquifer and, surface water from canals, lakes and water conservation areas. Over the years, increasing population and water demands within the LEC Planning area have resulted in the need for development of alternative water supply (AWS) options including, desalination of water from the Floridan Aquifer, use of reclaimed water, and systems that store and recover seawater and excess freshwater storage. A brief description of the regional water supply planning issues that impact the LECWSP area are as follows:

1. Fresh surface water and groundwater quantities 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 will need to be developed.
2. Surface water allocations from Lake Okeechobee and the Water Conservation Areas are limited in accordance with the Lake Okeechobee Service Area Restricted Allocation Area criteria.
3. 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 to attenuate peak flow events from Lake Okeechobee that damage coastal systems.
4. Expanded use of reclaimed water may be necessary to meet future water supply demands and comply with the Ocean Outfall Program.
5. Expanded use of brackish groundwater from the Floridan Aquifer system requires careful planning and wellfield management to prevent undesirable changes in water quality.

Additional information on the regional water supply issues is presented in the following subsections.

2.3.1 Surface Water Control Districts

Surface water is not a primary potable water source within the LEC Planning Area. However, water control districts established under Chapter 298, Florida Statutes, are operated for flood control and water supply. Water control districts within the LEC planning area are used to divert regional water to recharge public water supply wellfields in the area. The City of Plantation's surface water system is managed by the Old Plantation Water Control District (OPWCD), an independent special-purpose local government. The OPWCD provides water management for approximately 10,000 acres within the City's service area. The OPWCD boundary is the City of Sunrise to the north, on the west the Old Hiatus Road adjacent to the SFWMD C-42 waterway, on the south by State Road 84 adjacent to the SFWMD N. River Canal and to the east by the Florida Turnpike.

The OPWCD maintains the integrity of the canal source water by continuously removing excess aquatic vegetation and debris from the approximately 36 miles of canals located within the City's service area.

Disposing of hazardous materials into the City’s canals is strictly forbidden. This ensures that a consistent uncontaminated source will be available for replenishing the public water supply wellfields within the LEC Planning Area.

2.3.2 Climate Change

Investigations and evaluations conducted at the national, regional, and local levels have reinforced the need to plan for the predicted impacts of more frequent and severe drought, increases in tidal and storm-related flooding. The City recognizes that future planning efforts should be flexible and adaptable to ensure a sustainable water supply infrastructure.

The City of Plantation, together with its municipal and regional partners, understands that it is imperative that local governments and water utilities begin to formalize the integration of water supply and climate change considerations as part of coordinated planning efforts and work to provide relevant updates to the 10-year Water Supply Facilities Work Plan and enhance the Goals, Objectives and Policies (GOPs) of its comprehensive plan.

The City is a leader in developing planning tools and identifying achievable and cost-effective goals that meet the needs of its community. The City’s Mayor recently signed Resolution 10481 which identifies the City’s commitment to combating climate change. The City launched a global climate change initiative to reduce greenhouse gas emissions, a significant contributor to global climate change. In 2015, the City was recognized as a bronze-certified “Greenhouse Government” by the Florida Green Building coalition. This signifies that the City is making significant and measurable progress towards becoming a ‘Green Local Government’. Through its continued efforts to become “green”, the City is affirming support for the Southeast Florida Regional Climate Change Compact and agreeing to consider implementation of the Regional Climate Action Plan (2012) in whole or in part as appropriate for the City.

Key considerations relative to climate change include:

- sea level rise; and,
- saltwater intrusion.

2.3.2.1 Sea Level Rise

The Southeast Florida Regional Climate Change Compact outlines an ongoing collaborative effort among the Compact participants to foster sustainability and climate resilience on a regional scale. The participants include local communities, regulatory agencies, and Broward, Miami-Dade, Monroe and Palm Beach counties.

Development of cost-effective sea level rise adaptation strategies to ensure the sustainability of the City’s water supply is critical to all ongoing planning efforts. To facilitate planning, the Southeast Florida Regional Climate Change Compact developed the sea level rise graphic illustrated in **Figure 4**. This sea level rise projection is now being used as the basis for planning throughout the region.

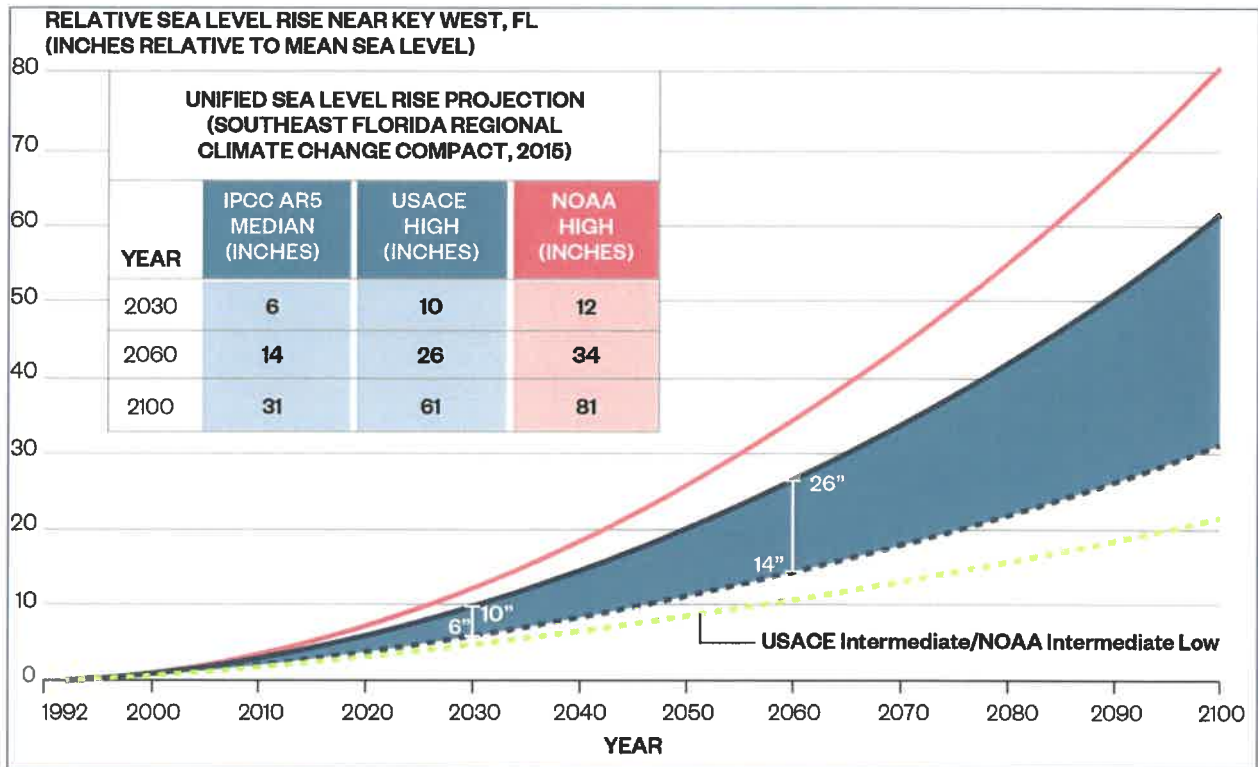


Figure 4: Sea Level Rise

2.3.2.2 *Saltwater Intrusion*

The Biscayne Aquifer, which serves as the City’s primary water supply, is a shallow, surficial aquifer characterized by highly porous and transmissive limestone karst geology. Coastal saltwater intrusion of the aquifer has occurred in eastern parts of Broward County. The mapping of the saltwater intrusion front (i.e., the depth and location of the 250 mg/L chloride concentration toe) is supported by local governments throughout the region, USGS, and the District. The current Saltwater Intrusion Line for Broward County is illustrated in **Figure 5**.

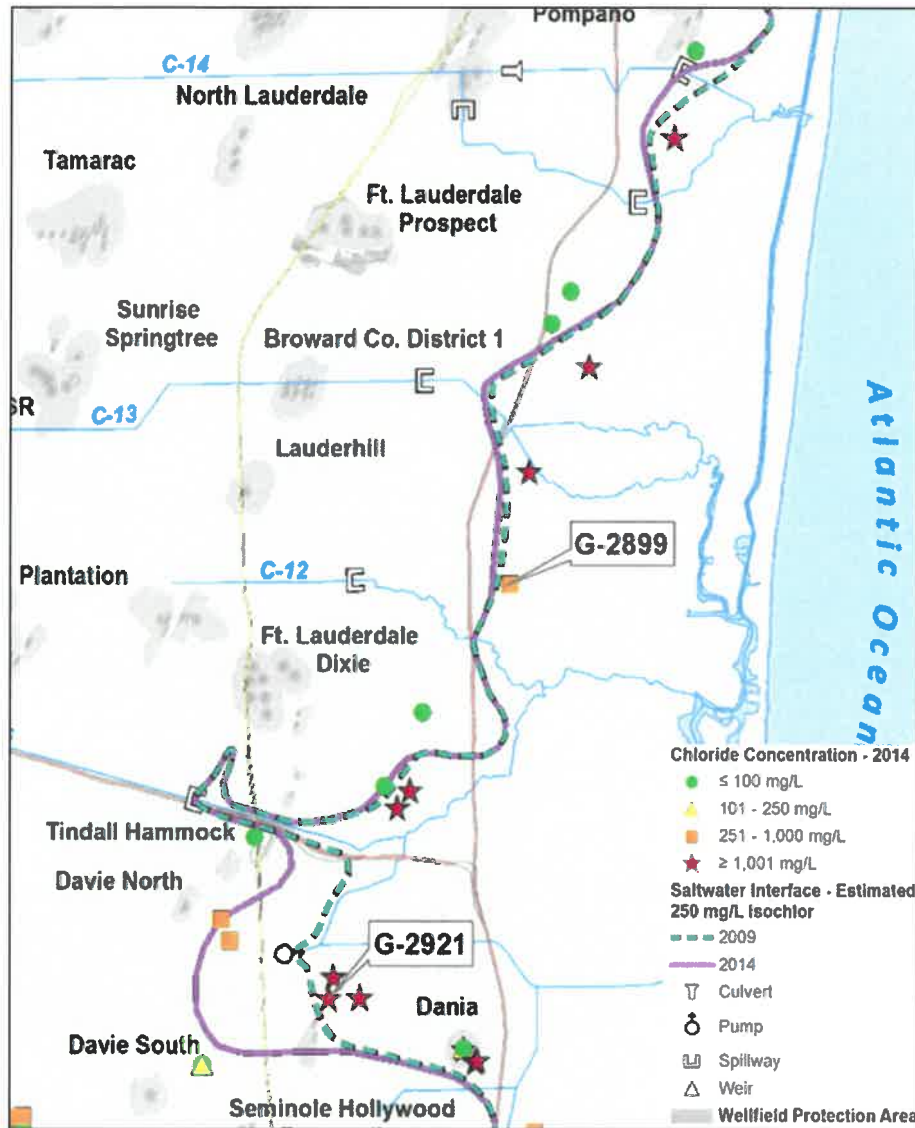


Figure 5: 250 mg/L Isochlor

At the toe of the saltwater front, chloride concentrations exceed drinking water standards of 250 mg/l and thus restrict and/or require abandonment of wellheads located east of the saltwater intrusion line. Saltwater intrusion into the City’s Biscayne Aquifer wells is not considered to be a problem now or within the planning period.

2.3.3 Regional Water Availability (RWA) Rule

The Biscayne Aquifer is the primary source of potable water to residents of Broward County, Miami-Dade and southeastern Palm Beach County. In 1979, it was designated a Sole Source Aquifer by the United States Environmental Protection Agency (EPA), under the Safe Drinking Water Act. Stringent protection of the Biscayne Aquifer is necessary because it is a principal source of drinking water and highly susceptible to contamination and saltwater intrusion. Inland movement of the saltwater interface can occur during prolonged droughts. Withdrawals from the Biscayne Aquifer are managed by the District through the issuance of Water Use Permits (WUP).

The Regional Water Availability (RWA) Rule was adopted by the District Governing Board on February 16, 2007. The RWA Rule encourages the development of AWS projects in the wake of uncertainty concerning water availability from the regional system. The RWA Rule limits usage of the Biscayne Aquifer to the maximum quantity during any consecutive five years preceding April 2006. Cities needing additional water supplies are required to seek sources that are not dependent upon the Everglades for recharge. These alternative water supply solutions include recycling water, using reclaimed water to recharge the Biscayne Aquifer, or drawing water from the deeper Floridan Aquifer (which requires high energy consumption treatment methods). The RWA Rule limited the City of Plantation's Biscayne Aquifer withdrawal to 17.24 million gallons per day (MGD) on an annual average day basis, to minimize the potential impacts due to concerns regarding saltwater intrusion. The City's WUP also restricts the maximum monthly withdrawal to 569 MG. The peaking factor established in the WUP to convert annual average daily flow to maximum monthly flow is 1.15.

The City's currently permitted raw water withdrawal from the City's East and Central Wellfields is sufficient to meet forecasted raw water demand through the year 2024. The City's existing withdrawal from the Biscayne Aquifer is sufficient to meet projected demands through the year 2040. Additional water demand information is presented in Section 3.0.

2.3.4 C-51 Reservoir Project

The capture of excess stormwater is considered an AWS project as defined in Section 373.707, F.S. One such project, the proposed C-51 reservoir, was evaluated in 2009 by a group of seven utilities located in Broward and Palm Beach Counties. The location of this proposed reservoir is adjacent to the District's existing L-8 Reservoir in Palm Beach County and is expected to share the same impermeable geologic formation that facilitates storage.

The C-51 reservoir would capture stormwater in the wet season and release it during the dry season to recharge the Biscayne Aquifer. To benefit from this recharge, a utility must execute an agreement with the owner of the C-51 reservoir to pay for the capital cost and operations and maintenance costs of the reservoir and conveyance infrastructure. Upon execution of a C-51 capacity allocation agreement, the utility's Biscayne Aquifer allocation could be increased through issuance of a water use permit by the District (with allocation dependent upon groundwater modeling results).

The C-51 reservoir, owned and operated by Palm Beach Aggregates (PBA), is planned for development in two phases. Phase 1 would consist of 14,000 acre-feet of storage capacity; equivalent to approximately 35-

mgd. Phase 2, if developed, would consist of an additional 46,000 acre-feet of storage capacity. Media reports indicate environmental group opposition to utilizing Phase 2 for water supply benefit.

Phase 1 has been designed and permitted. PBA has executed agreements with the following utilities:

- Broward County: 6-mgd
- Sunrise: 5-mgd
- Dania Beach: 1-mgd
- Hallandale Beach: 1-mgd

Construction of Phase 1 is currently on hold. PBA indicates construction of Phase 1 will not begin until it executes agreements for 31.5-mgd of the available capacity. Construction is estimated to take two years. PBA has reportedly expressed a desire to begin construction in 2019. PBA is currently in negotiation with Miami-Dade to purchase the remaining Phase 1 capacity. The ongoing negotiation between PBA and Miami-Dade does not preclude any City from purchasing C-51 reservoir allocation.

As of the preparation of this document, the City is not considering purchasing water from the C-51 reservoir, as the City does not require AWS.

2.3.5 Lake Okeechobee Surface Water Allocation Limitations

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. In 2008, the District adopted RAA criteria for the Lake Okeechobee Service Area as part of the Minimum Flow and Minimum Water Level (MFL) recovery strategy for Lake Okeechobee. The criteria limit allocations from Lake Okeechobee and integrated conveyance systems hydraulically connected to the lake to base condition water uses that occurred from April 1, 2001 to January 1, 2008. After adoption of the RAA, all irrigation users in the Lake Okeechobee Service Area were required to renew their water use permits (South Florida Water Management District, 2018).

In 2007, the District adopted the LEC Regional Water Availability criteria to prohibit increases in surface water and groundwater withdrawn from the North Palm Beach County/Loxahatchee River Watershed Waterbodies and Lower East Coast Everglades Waterbodies above base condition water uses permitted as of April 1, 2006. This also includes canals that are connected to and receive water from these water bodies. New direct surface water withdrawals are prohibited from the Everglades and Loxahatchee River watersheds and from the integrated conveyance systems. These criteria are components of the MFL recovery strategies for the Everglades and the Northwest Fork of the Loxahatchee River (South Florida Water Management District, 2018).

While the City is not directly impacted by the Lake Okeechobee surface water allocation limitations, the City is directly impacted by the LEC Regional Water Availability criteria as it applies to the Lower East Coast Everglades Waterbodies. These criteria impact the amount of permitted water quantities available to the City from the Biscayne Aquifer. The City's Biscayne Aquifer water consumption was limited to 17.24 -mgd on an annual average day basis by this rule.

2.3.6 Lowering Lake Okeechobee Level

In January 2019, Florida's Governor announced his promotion of a plan to lower the minimum level of the Lake Okeechobee Regulation Schedule to 10.5 feet. The current Lake Okeechobee Regulation Schedule (LORS) ranges from a minimum level of 12.5 feet to a maximum of 15.5 feet. (Elsken, 2019).

While lowering Lake levels could provide environmental benefits to the Lake and the coastal estuaries, dropping the minimum level to 10.5 feet would reduce the amount of water stored in Lake Okeechobee, potentially reducing the amount of water available to recharge the Biscayne Aquifer. Should this happen, the risk of water shortages in the LEC, including the City of Plantation, would increase. The City continues to monitor this issue and, when appropriate, will develop a policy to address any potential impacts to its water utility.

2.3.7 Infrastructure Planned to Attenuate Damaging Peak Flow Events from Lake Okeechobee

Construction of additional storage systems (e.g., reservoirs, aquifer storage and recovery systems) to capture wet season flow volumes may be needed to increase water availability during dry conditions and attenuate damaging peak flow events from Lake Okeechobee. The C-51 Reservoir project located in southwestern Palm Beach County is one such project and was described in Section 2.3.4.

The infrastructure planned to attenuate damaging peak flows to surface water bodies and coastal ecosystems located near the City are those underway in Broward County by the District and the US Army Corps of Engineers under the Comprehensive Everglades Restoration Project (CERP) (South Florida Water Management District, 2018).

The CERP Broward County Water Preserve Areas project was designed to perform three primary functions:

1. Reduce seepage loss from WCA-3A/3B to developed areas (i.e., the C-11 and C-9 basins).
2. Capture, store, and distribute surface water runoff from the western C-11 Basin.
3. Restore wetlands, recharge groundwater, improve hydroperiods in WCA-3A/3B, and maintain flood protection.

The following major infrastructure features will be constructed as part of the project.

C-11 Impoundment – A 1,168-acre impoundment to capture and store runoff from the C-11 Basin, reduce pumping of surface water into the WCAs, and provide releases for other regional uses.

WCA-3A/3B Seepage Management Area – A 4,353-acre seepage management area that would establish a buffer to reduce seepage from WCA-3A/3B, connect the C-11 and C-9 impoundments via conveyance canal, and maintain flood protection.

C-9 Impoundment – A 1,641-acre impoundment to capture and store surface runoff from the C-9 Basin, store C-11 Impoundment overflow, manage seepage, and provide releases for regional benefit.

These infrastructure features will provide various functions such as reducing seepage from WCA-3A, reducing phosphorus loading to WCA-3A, capturing stormwater otherwise lost to tide, and providing

conveyance features for urban and natural system water deliveries. The preserve areas will benefit federally listed threatened and endangered species and many wading birds. This project provides water supplies identified in the Everglades MFL recovery strategy. The project received congressional authorization in 2014. Design efforts are under way for the C-11 Impoundment, and construction began in October 2017 on a portion of the mitigation area. Construction of the C-11 Impoundment is expected to be completed in 2027. The WCA-3A/3B Seepage Management Area is anticipated to begin construction in 2027. Construction of the C-9 Impoundment is expected to begin in 2030.

The City continues to monitor the status of environment restoration projects in the LEC.

3. Data and Analyses

3.1 Introduction

This section provides the following data and analyses:

- Summary of Existing Water Treatment Facilities
- Population Forecast
- Historical Raw and Finished Water Demand Data
- Forecast of Raw and Finished Water Demand through the Year 2040

3.2 Summary of Existing Water Treatment Facilities

3.2.1 Water Use Permit

The City of Plantation obtains all of its raw water supply from the surficial Biscayne Aquifer system via two active wellfields. These wellfields, which are commonly known as the East Wellfield and Central Wellfield, operate independently of each other. The East Wellfield serves the East Water Treatment Plant and the Central Wellfield serves the Central Water Treatment Plant. Both wellfields are permitted by the District under Water Use Permit No. 06-00103-W. The permit was issued by the District on June 10, 2004 and expires on May 13, 2024.

3.2.2 Raw Water Allocation

The WUP limits annual overall (i.e., both wellfields) raw water withdrawal to 6,291 million gallons which is equivalent to 17.24 million gallons per day (mgd) on an annual average day basis. Individual wellfield annual withdrawals are not restricted. The WUP also limits the maximum monthly overall withdrawal (i.e., both wellfields) to 569 million gallons per month (equivalent to 18.96 mgd). The WUP does not include a limitation on maximum day raw water withdrawals. **Table 1** summarizes the Biscayne Aquifer withdrawal limits as described in the WUP.

Table 1: Biscayne Aquifer Withdrawal WUP Limits from Combined East and Central Wellfields

Category	Limitation – Million Gallons		
	Per Year	Per Month	Average per Day
Annual Biscayne Aquifer Withdrawal	6,291	--	17.24
Maximum Month Biscayne Aquifer Withdrawal	--	569	18.96

3.2.3 Raw Water Supply System

3.2.3.1 East Wellfield

The East Wellfield includes eight existing water supply wells. **Table 2** summarizes the construction details of the existing East Wellfield water supply wells. This table is based primarily upon data contained in the City’s WUP. **Figure 6** illustrates the locations of the East Wellfield water supply wells.

Table 2: East Wellfield Water Supply Wells

City Well ID	District Well ID	Casing Diameter (inches)	Casing Depth (feet)	Total Depth (feet)	Year Drilled	Nominal Flow (GPM)	Drive Horsepower (HP)
East#1 (AAL5197)	28219	24	110	160	1995	1670	100
East#2 (AAL5198)	28220	24	110	160	1995	1670	100
East#3 (AAL5199)	28221	24	110	160	1995	1670	100
East#4 (AAN6771)	28225	24	110	160	1995	1670	100
East#5 (AAN6767)	28222	24	110	160	1995	1670	100
East#6 (AAN6769)	28226	24	110	160	1995	1670	60'
East#7 (AA6768)	28227	24	110	160	1995	1670	100
East#8 (AAN6770)	28228	24	110	160	1995	1670	100

3.2.3.2 *Central Wellfield*

The Central Wellfield includes eight existing water supply wells. **Table 3** summarizes the construction details of the existing Central Wellfield water supply wells. This table is based primarily upon data contained in the City’s WUP. **Figure 7** illustrate the locations of the Central Wellfield water supply wells.

Table 3: Central Wellfield Water Supply System

City Well ID	District Well ID	Casing Diameter (inches)	Casing Depth (feet)	Total Depth (feet)	Year Drilled	Nominal Flow (GPM)	Pump Horsepower (Hp)
Central#1	28213	14	75	140	1987	1400	40
Central#2	28214	14	75	140	1987	1400	40
Central#3	28216	14	75	140	1987	1400	40
Central#4	28215	14	75	140	1987	1400	40
Central#5	28223	14	75	140	1987	1400	40
Central#6	28224	14	75	140	1987	1400	40
Central#7	28217	14	75	140	1987	1400	40
Central#8	28218	14	75	140	1987	1400	40

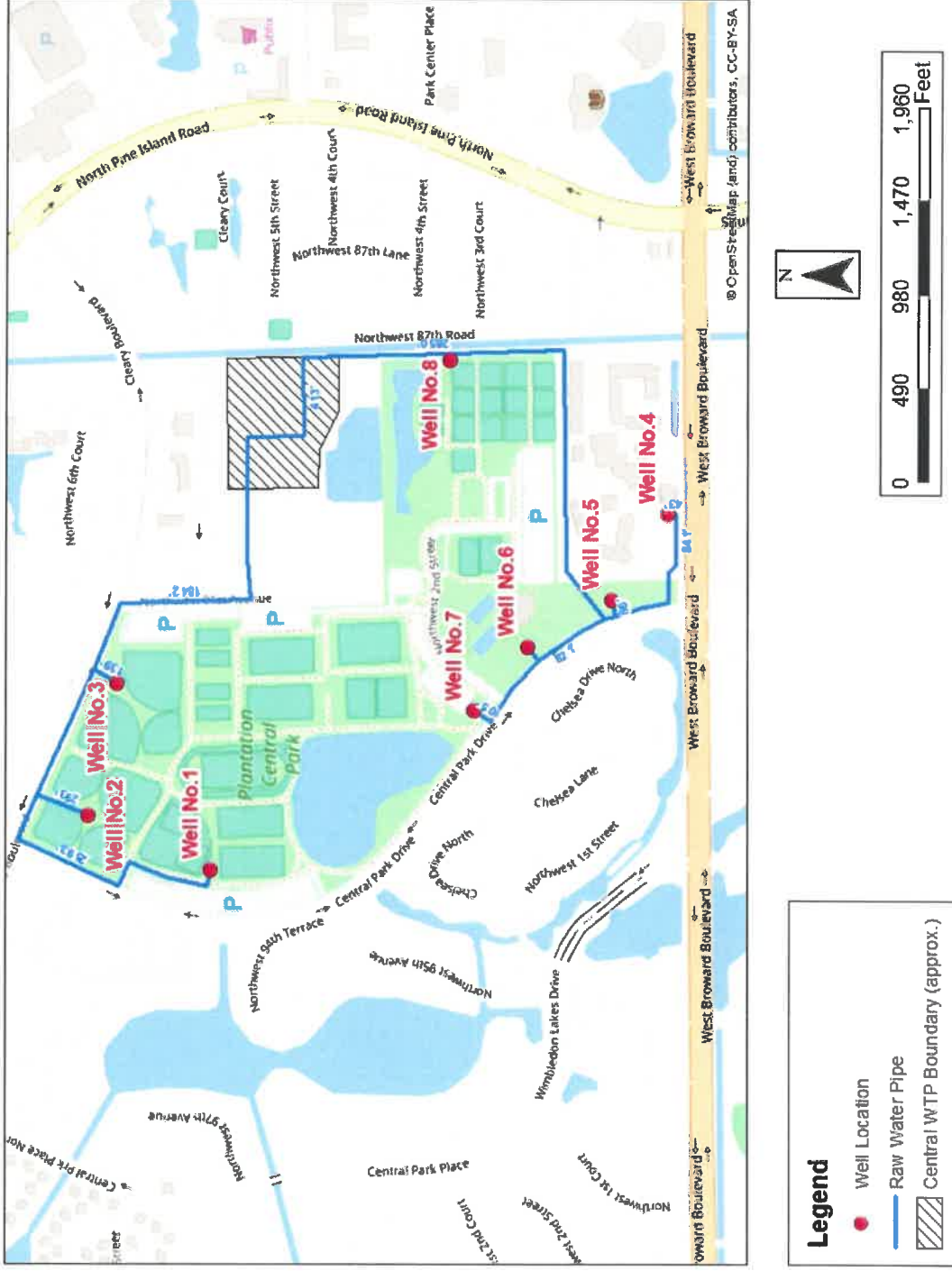


Figure 7: Central Wellfield Location Map

3.2.4 Water Treatment Facilities

The Central and East Water Treatment Plants (WTPs) utilize Nanofiltration (NF) membrane softening technology to treat raw groundwater from the Biscayne Aquifer. The NF membrane softening process reduces hardness, salt, color, total organic carbon (TOC) and disinfection byproduct (DBP) precursors in the raw groundwater.

Each WTP includes a dedicated raw water supply wellfield, finished water storage and pumping facilities and a Class I deep injection well for concentrate disposal. The East WTP and Central WTP are permitted by the FDEP as a community type Public Water System with FDEP identification number of 4061121.

3.2.4.1 East Water Treatment Plant

The East WTP was originally constructed in 1955 as a lime softening facility. In 1997, a NF membrane softening facility was constructed with an initial capacity of 6 MGD. The lime-softening plant was subsequently taken out of service. The membrane softening facility was expanded from 6 MGD to 12 MGD, in the year 2004. The East WTP consists of four cartridge filters, three membrane feed booster pumps, six membrane softening skids, two packed degasification towers, one clearwell, three vertical turbine pumps used for transferring water to two above-ground storage tanks, and three vertical turbine high service pumps to convey treated water from storage to the distribution system. The plant produces potable water which complies with current regulations. A process flow diagram of the existing treatment facility is depicted on **Figure 8**.

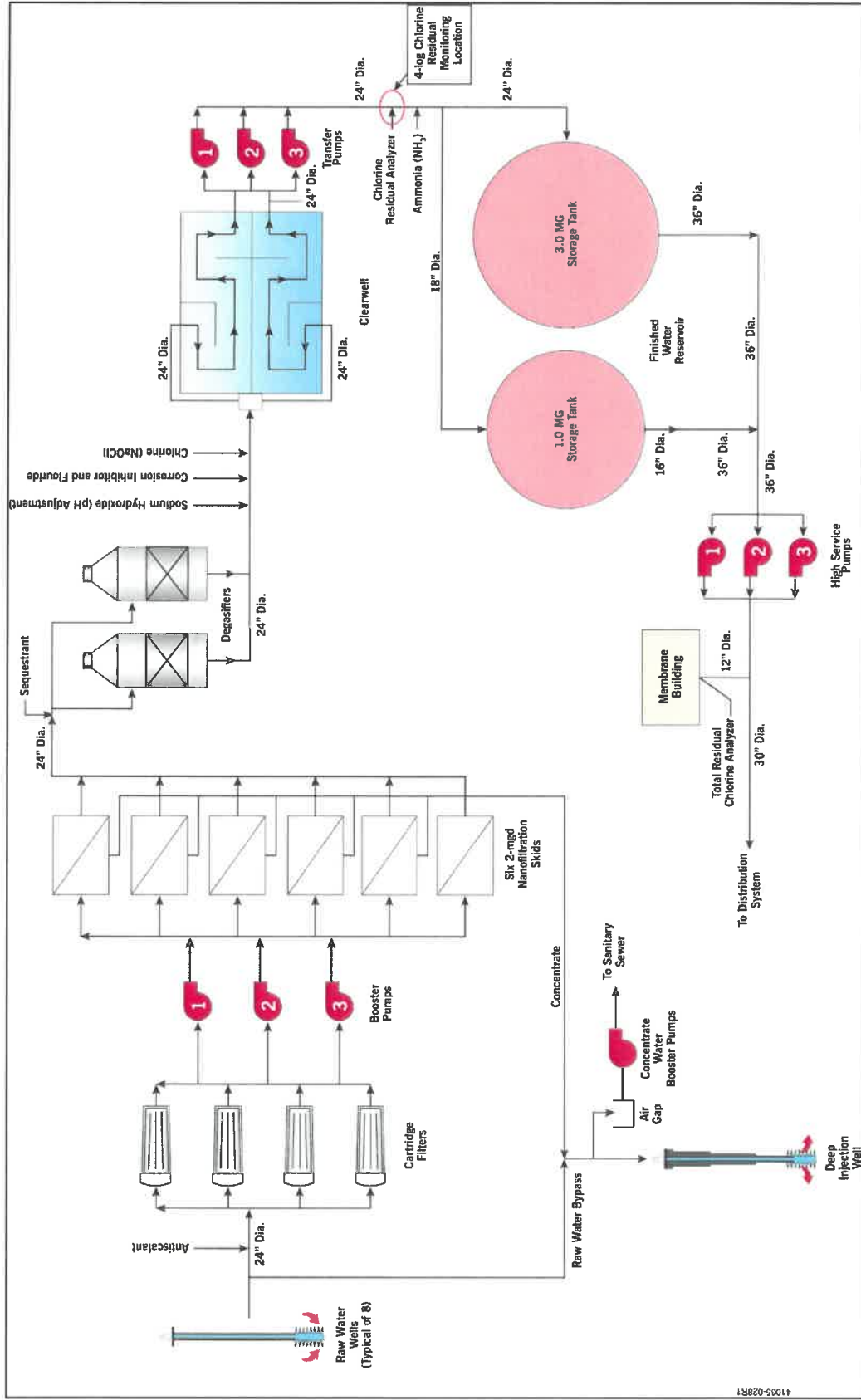


Figure 8: East WTP Process Flow Schematic

3.2.4.2 *Central Water Treatment Plant*

The Central WTP was converted from a lime softening plant to a membrane plant in 1989, followed by a major capacity expansion to 12 MGD in the early 1990s. The Central WTP consists of five membrane feed booster pumps, five cartridge filters, four membrane softening skids, two packed tower degasification towers, one clearwell, five vertical turbine pumps used for transferring water to two above ground storage tanks, and seven vertical turbine high service pumps to convey treated water from storage to the distribution system. The plant produces potable water which complies with current regulations. A process flow diagram of the existing treatment facility is depicted on **Figure 9**.

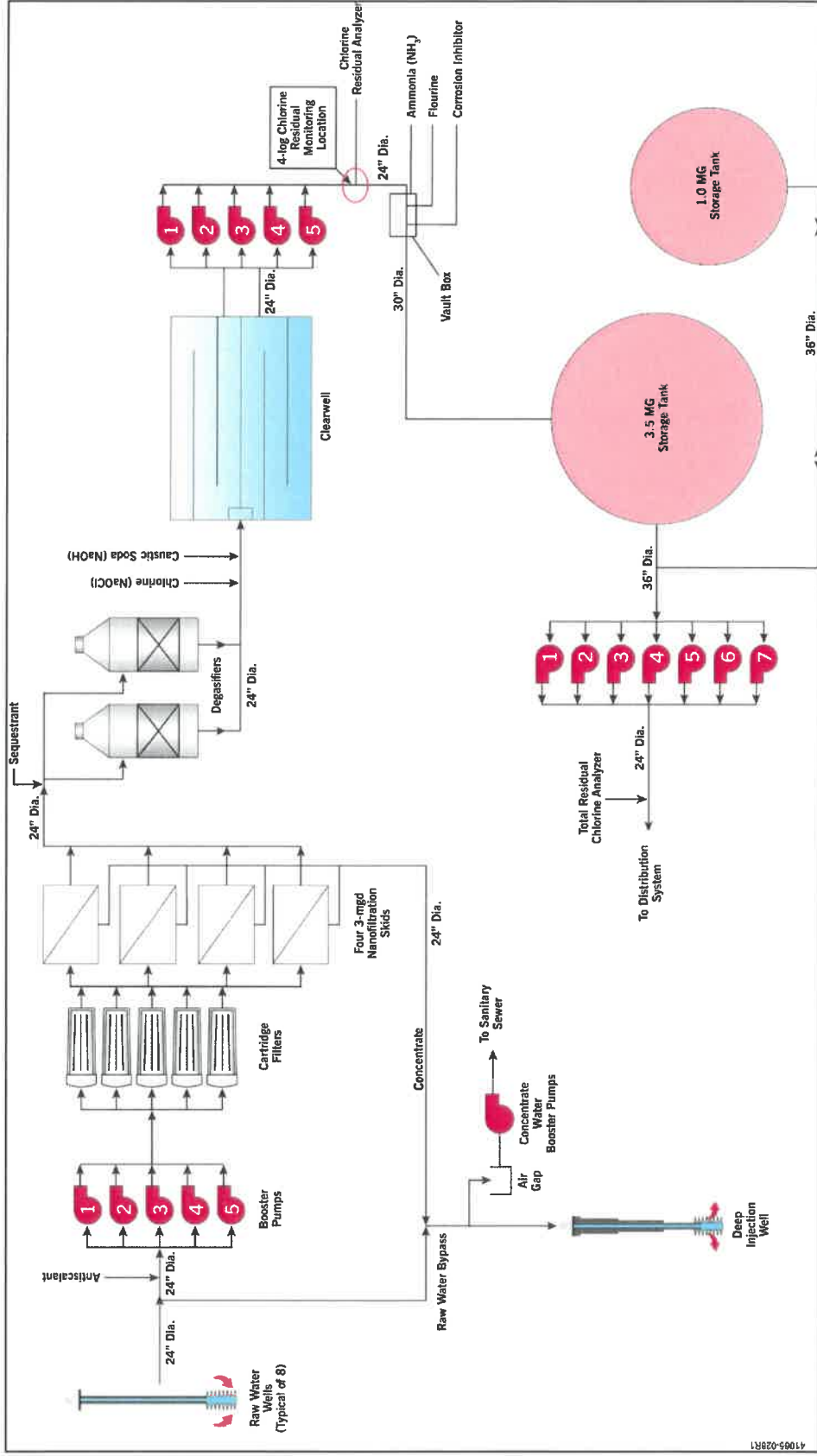


Figure 9: Central WTP Process Flow Schematic

3.2.5 Finished Water Distribution System

The City's water distribution system consists of approximately 392 miles of 2 to 30-inch diameter water mains that convey the finished water from the treatment plant to the individual customers. In general, the larger diameter transmission mains radiate from the treatment plant and decrease in size as they extend throughout the service area. The piping is comprised of a variety of materials, including cast iron, ductile iron, galvanized steel, asbestos cement, HDPE, and PVC.

3.2.6 Distribution System Interconnects

The City's water distribution system has seven emergency interconnections with four adjacent utilities. The interconnects are as follows:

- 30-inch diameter interconnect with the City of Fort Lauderdale
- Two, 12-inch diameter, 8-inch diameter and 6-inch diameter interconnects with the City of Sunrise
- 6-inch diameter interconnect with the City of Lauderhill
- 12-inch diameter interconnect with Broward County
- These interconnects are closed under normal operations.

The City neither buys nor sells raw water to adjacent utilities.

3.2.7 Outstanding Compliance Issues

There are no outstanding compliance issues related to the City's water facilities.

3.2.8 Planned Upgrades or Expansions

The City has planned the following major improvements at its water treatment plants:

- East Water Treatment Plant Chemical Storage Facility: This project includes replacing the existing fluoride chemical storage facility with a new chemical storage facility including, bulk storage tank, day tanks, chemical metering pumps, transfer pumps, electrical and instrumentation and control upgrades to facilitate operation of new fluoride system. This project will begin in late 2019 and will likely be completed in 2020.
- Water Master Plan Projects: The City completed its Water Master Plan in 2019. This document identified a series of water supply, treatment and distribution system improvements. The City will continuously evaluate the efficacy of the projects recommended in the Water Master Plan when making investment decisions.

3.3 Population and Water Demand Forecasts

3.3.1 Population Forecast

This 10-year Water Supply Facilities Work Plan - 2019 Update estimates the future water supply needs for the City’s water service area, through the year 2040. Population and water demand forecasts, developed by Hazen and Sawyer for the City of Plantation Water Master Plan (2019), were utilized in preparing the Water Supply Plan Update. The population forecast was developed based upon data in the November 2017 Update of the Broward County and Municipal Population Forecast and Allocation Model (PFAM) published by the Broward County Planning and Redevelopment Division. The PFAM utilizes data prepared by the Bureau of Economic and Business Research (BEBR) at the University of Florida along with information regarding planned developments collected from the municipalities. Water demand forecasts are based upon these population projections and historical consumptive use patterns.

The PFAM provides population forecasts by Traffic Analysis Zone (TAZ). Population projections are provided for every TAZ within the County at five-year intervals beginning in 2015 and ending in 2040. TAZs are geographical areas within the County. Fifty-three of those TAZs are located within the City of Plantation’s water distribution system service area.

Several of the TAZs allocated to the City of Plantation are also being shared with an adjoining City. For these TAZs that straddle the City of Plantation boundary, the County provided information indicating the percentage distribution of the TAZ between the different Cities. Based on this information, the published TAZ population data was adjusted to determine the actual population within the City’s service area. Underlying the distribution process are land development characteristics and the Broward County Land Use Plan. **Table 4** presents the population forecast for the City of Plantation’s water service area from 2020 through the year 2040. Historical population estimate for the year 2015 is also included.

Table 4: City of Plantation Population Forecast

Year	Population ¹
2015	87,229
2020	89,836
2025	92,215
2030	93,782
2035	97,986
2040	101,020

Notes:

1. Calculated from TAZ information (PFAM)

As indicated in **Table 4**, the population in the year 2015 was 87, 229 and is forecasted to grow to 101,020 by the year 2040. The population growth is estimated at an average of approximately 552 persons per year.

3.3.2 Comparison With 2018 LECWSP Update Population Forecast

Figure 10 compares the population forecast presented above with the population forecast in the 2018 LECWSP Update.

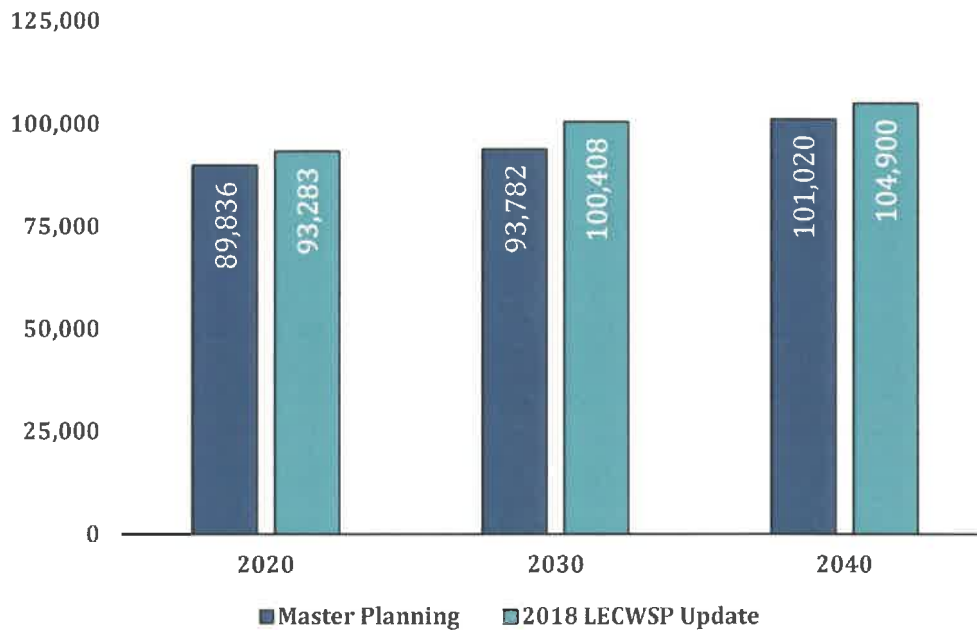


Figure 10: Population Forecast Comparison

The population forecast used in the 2019 Water Master Plan is 3,880 persons lower (less than 4%) in the year 2040 than was presented in the 2018 LECWSP Update. This difference does not have a significant impact (less than 2% impact) on the finished water demand for the year 2040. As such, the Water Master Plan population forecast was used to develop the water demand forecast presented in this report.

3.3.3 Potable Water Level of Service Standard

The City of Plantation has set level-of-service standards for its water system as summarized in **Table 5**.

Table 5: Water System Level of Service Standards

Component	Level of Service Standard / Goal	Does the City meet this LOS Goal?
Treatment Capacity	Maximum Day with all units in service	Yes
System Pressure	Maintain a pressure of 71 psi at the East plant trunk line and 72 psi at the Central plant trunk line	Yes
Minimum system pressure during maximum day demand plus fire flow	Maintain a minimum of 20 psi in the distribution system	Yes
Finished Water Pumped Per Capita – City Goal	Maintain the finished water pumped level of service of 140 gallons per capita per day (or a 10% reduction from current average) through conservation through the year 2040	Yes
Developments – 2008 Comprehensive Plan Volume 1, Infrastructure Element	Policy 6.1.1 of the Comprehensive Plan Volume 1, Infrastructure Element indicates that the level of service for developments is 350 gpd per Equivalent Residential Connections demand and 50 psi pressure (or as per SFWMD).	Yes
Finished Water Storage	Comply with FAC 62-555.320(19): minimum requirement of 25 percent of maximum day demand plus maximum fire flow volume with all tanks in service. Maximum fire flow storage based upon a 5,000 gallons per minute (gpm) fire over a four-hour period	Yes
Minimum commercial / industrial fire flow	2,000 gpm	Yes

Minimum fire flow for multi-family residential (medium to high density)	2,500 gpm	Yes
Minimum fire flow for single family residential (irregular residential)	1,000 gpm	Yes
Minimum distribution system pressure during peak hour demand periods	35 psi	Yes
Minimum distribution system pressure during fire flow occurrences	20 psi	Yes

3.3.4 Historical Potable Water Demand

Table 6 presents historical Annual Average Daily Flow (AADF) pumping data from the City’s East and Central WTPs and East and Central Wellfield along with the historical populations, from January 2013 to December 2017. The historical per capita water demand during this time frame is also presented. The historical plant treatment process efficiency is 78.5%.

Table 6: Historical AADF Finished and Raw Water Pumping Data

Year	Water Service Area Population ¹	Finished Water Pumped		Raw Water Pumped	
		Pumping Rate AADF (mgd) ²	Per Capita (Gallons per person per day)	Pumping Rate AADF (mgd) ²	Per Capita (Gallons per person per day)
2013	85,496	9.89	116	12.56	147
2014	86,782	9.77	113	12.43	143
2015	87,229	10.04	115	12.93	148
2016	88,328	10.36	117	13.19	149
2017	88,619	10.08	114	12.75	144
Average:		10.03	115	12.77	146

Notes:

1. BEBR published populations.
2. WTP production data and raw water supply data obtained from the City’s East and Central WTPs Monthly Operating Reports.

The above data represent the overall water consumption rate within the City’s water service area including: 1) residential; 2) commercial; and 3) industrial. These data indicate the following:

- 2013 to 2017 average raw water per capita demand: 146 gallons per person per day
- 2013 to 2017 average finished water per capita demand: 115 gallons per person per day

The above 5-year per capita averages for raw water and finished water demands were used to assess future forecasts based upon the forecast of water service area population. For water demand forecasting purposes, the year 2015 was used as the base year for determining changes in population for each time step. The overall increase in finished water demand for each five-year forecasted time step was determined based on the sum of individual TAZ population changes for that time step, multiplied by the historical WTP production per capita demand of 115 gpd/person. The change in water demand was then added to the year 2017 WTP finished water production, to determine the overall water demand forecast for that time step. This approach resulted in a slightly more conservative estimate than would be obtained using the year 2015 WTP production.

3.3.5 Potable Water Demand Forecast

Table 7 presents water demand forecast for the City of Plantation’s water service area through the year 2040. Forecasts are presented for the raw water and finished water demands on an AADF basis. Additionally, the maximum day finished water demand is provided based upon the historical maximum day to annual average day ratio of 1.26 for the years 2013 through 2017. The data in the table assumes that the City maintains its finished water per capita goal of 115 gallons per person per day to the year 2040.

Table 7: Water Demand Forecast

Year	Population ¹	Overall Raw Water Per Capita (gpcd)	Overall Finished Water Per Capita (gpcd)	Biscayne Aquifer Raw Water Demand AADF (mgd)	AADF Finished Water Demand (mgd) ²	Max Day Finished Water Demand (mgd) ³
2020	89,836	147	115	13.22	10.38	13.08
2025	92,215	147	115	13.57	10.66	13.43
2030	93,782	147	115	13.80	10.83	13.64
2035	97,986	147	115	14.42	11.32	14.26
2040	101,020	147	115	14.86	11.67	14.70

Notes:

1. Calculated from TAZ information
2. Data based on 78.5% treatment efficiency for membrane treatment.
3. A historical Max Day Factor of 1.26 was used.
4. The finished water max day per capita demand in the year 2040 is projected to be 145 gallons per person per day based on the historical Max Day Factor of 1.26.

For perspective, the WUP limits the raw water demand withdrawal to 17.24 mgd on an annual average day basis. The maximum day finished water demand is presented in the table, because it is critical to assessing the timing of treatment capacity expansion to meet future demand. **Figure 11** graphs the raw water demand forecast on an annual average day basis. **Figure 12** graphs the finished water demand forecast on a maximum day basis.

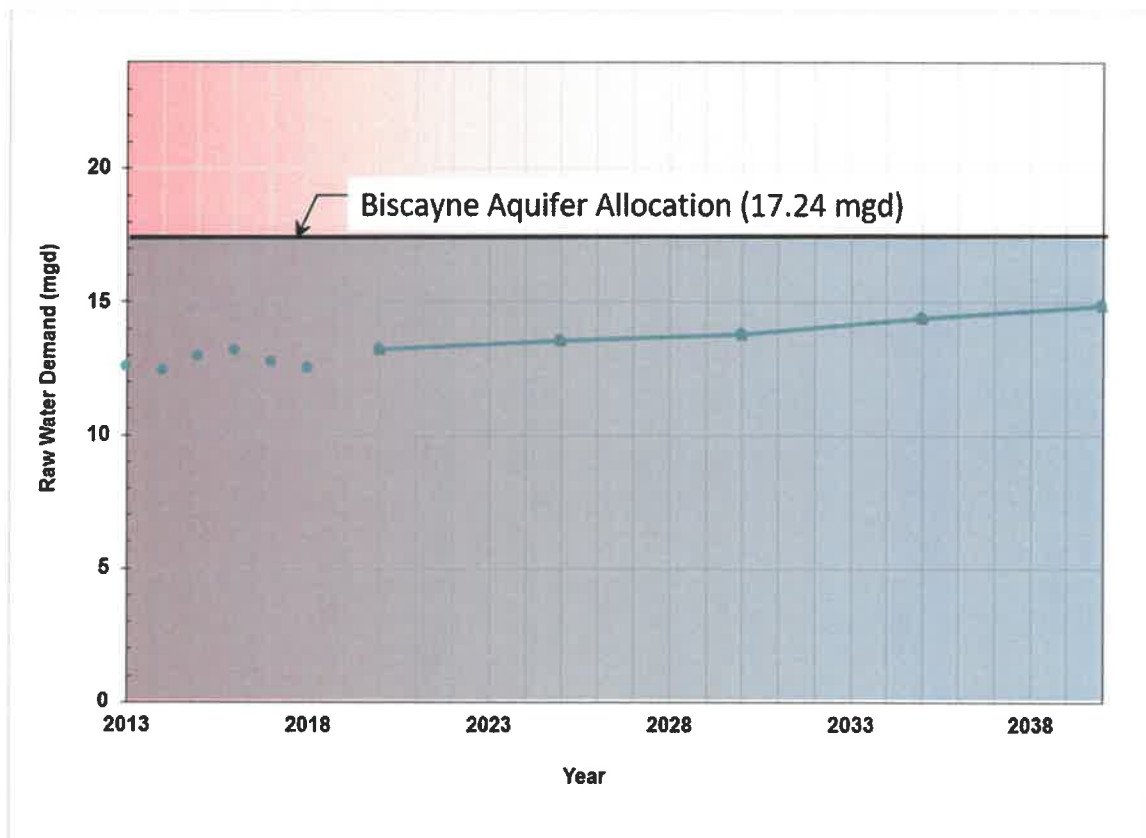


Figure 11: Projected Combined Annual Average Day Raw Water Demand

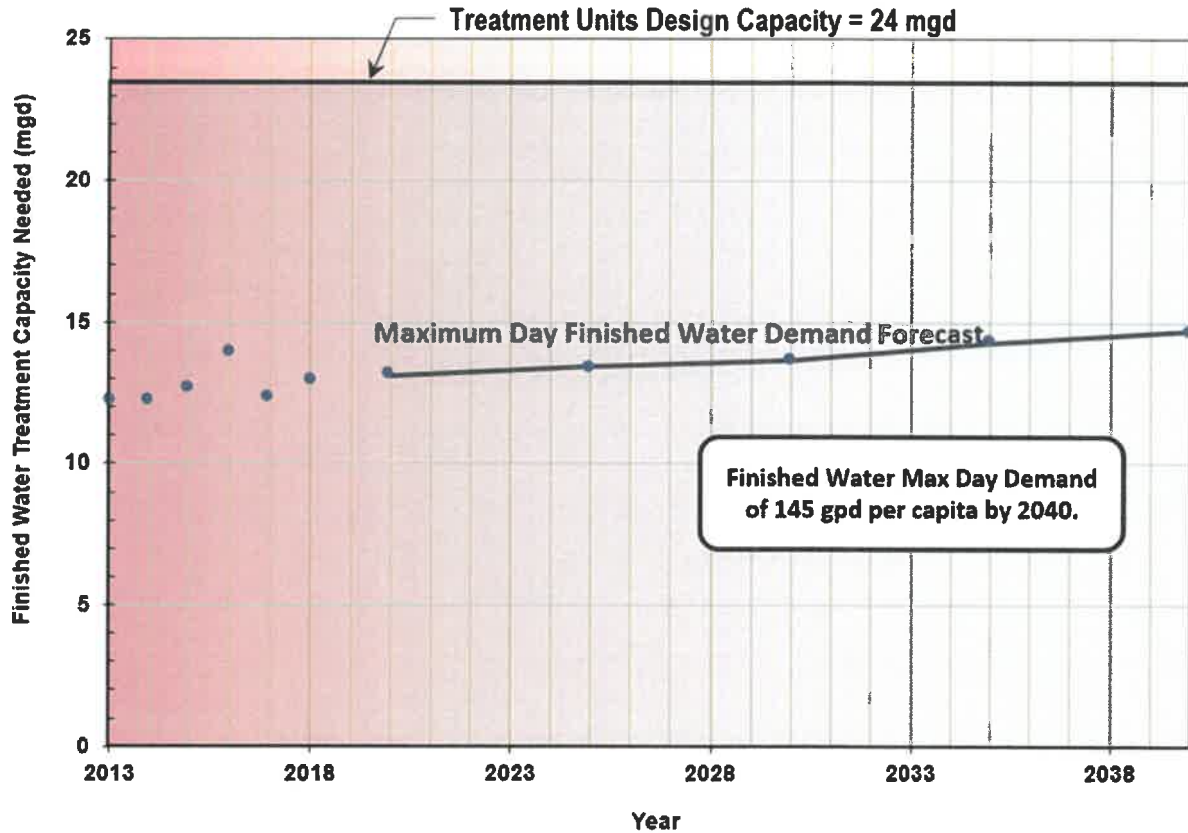


Figure 12: Finished Water Demand Forecast – MDF

3.3.6 Needs Assessment

The annual average raw water demand for the City is anticipated to reach 14.86 mgd by the year 2040. **Figure 11** demonstrates that the City’s annual average day raw water demand does not exceed the annual average day Biscayne Aquifer allocation of 17.24 mgd. Assuming no changes to the withdrawal limits of the existing WUP, the City has enough permitted water withdrawal to meet its average day demand forecast through the year 2040. It is noted that the WUP does not include a maximum day limitation.

Additionally, assessing the available treatment capacity versus the maximum day finished water demand is critical for determining the timing of treatment capacity expansion to meet future demand. As shown in **Figure 12**, the City’s design treatment capacity of 24 million gallons per day is sufficient through the year 2040 to meet the forecasted maximum day demand with all treatment units in service. At this time, no additional infrastructure is required to meet future water demand projections.

3.4 Alternative Water Supply

Currently, the City of Plantation is not projecting a deficit in raw water supply through 2040. Therefore, the City does not plan to expand either of its water treatment facilities or wellfields.

Although a deficit is not presently projected for the City, future updates/ revisions to population projections and/or per capita water use could result in a future need for alternative water supply projects. Furthermore, the City may desire to partner with other utilities to develop alternative water supplies. These utilities would be those that project a raw water supply deficit or that have other regulatory drivers for implementing a reclaimed water project. Potentially, the Project's cost would be shared with the other utilities. For these reasons, the City maintains a conceptual AWS project, Spray Irrigation to Jacaranda Golf Course and Plantation Preserve, for future consideration.

3.5 Conservation

Conservation is a proven strategy for delaying implementation of expensive alternative water supply technologies. The City will be able to provide the necessary water to meet future demands simply by continuing its current water conservation measures.

The City of Plantation has a formal water conservation program that has been submitted as part of the City's WUP with the District. A typical water conservation program is composed of five elements: (1) Develop/maintain an accurate database of water consumption to reduce municipal water waste; (2) A retro-fit program; (3) Modification of relevant City Codes (plumbing, irrigation, landscaping); (4) The promotion of Florida Friendly landscaping; and (5) Public information and education programs. The following subsections summarize the City's ongoing conservation initiatives.

3.5.1 Broward Water Partnerships

The City of Plantation is a member of the Broward Water Partnership, a government service consisting of 18 municipalities and water utilities that collaborate on water conservation implementation. This partnership has the goal of saving a total of 30 mgd countywide. Through the Broward Water Partnership, the City educates residents about water conservation and resources.

3.5.2 Conservation Pay\$ Program

The City of Plantation participates in a water conservation incentive program through an interlocal agreement (ILA) with Broward County marketed under the program name "Conservation Pay\$".

The program provides rebates and free water-conserving devices to qualifying water customers, and it has a focused outreach and education component. Rebate dollars are used for the replacement of older toilets with more water efficient ones and to install other water efficient fixtures and devices such as aerators and commercial pre-rinse spray valves. The program goal is to reach a sustained minimum 10% reduction in water use County-wide over 20 years.

Through this program, the City of Plantation offers a rebate to qualifying customers to replace a pre-1994 toilet with a 1.28-gallon high efficiency toilet.

3.5.3 NatureScape Irrigation Services

Broward County's NatureScape Irrigation Service (NIS) is a water conservation program offered in partnership with 18 local water utilities including, the City of Plantation. The goal is to reduce urban water consumption and improve the quality of surface waters through efficient irrigation and environmentally friendly landscape practices. The NIS program targets large properties, such as government facilities, parks, schools, and multi-family residential complexes, where water conservation efforts can produce the greatest water savings.

3.5.4 Landscape Irrigation Restrictions

The City of Plantation has implemented progressive landscape irrigation restrictions that meet the requirements of the District and enforces Broward County Ordinance No. 2010-01. These restrictions apply to all individuals who use the City's water. Landscape irrigation is limited to two days per week for all property types and sizes. It further recommends that irrigation occur during the early morning hours when temperatures and wind speed are the lowest. In 2008, the City Council passed Ordinance No. 2405 giving authority to its code enforcement officers to issue tickets to customers who do not comply with the District's water restriction requirements.

3.5.5 WaterSense Partnership

The City of Plantation participates in the WaterSense program sponsored by the U.S. Environmental Protection Agency (EPA). As part of the program the City promotes water efficiency through the use of water-efficient products in the new homes.

3.5.6 Plumbing Code Changes

An essential part of the City's conservation program is the implementation of high efficiency plumbing requirements. On March 15, 2012, the Broward County Board of Rules and Appeals adopted changes to Chapter 6, Section 604.4, of the Florida Building Code which contains standards for ultra-low volume plumbing fixtures to be used in all new construction (e.g., 1.28 gallon per flush toilets, 1.5 gallon per minute shower heads and sink faucets, 0.5 gallon per flush urinals, 6.5 gallons per cycle residential dishwashers, etc.). Chapter 9, Section 908.5, of the Florida Building Code requires a minimum of 8 cycles of concentration for cooling towers. It also requires that concentrate be reused for cooling tower make-up water in air handling systems with a 4-ton British Thermal Unit (BTU) capacity or greater as a condition for the receipt of Certificate of Occupancy.

3.5.7 Meter Replacement Program

As part of its ongoing conservation measures, the City of Plantation continues to replace old water meters with more efficient meters that have Automatic Meter Reading (AMR) and "data profiling"

capabilities. The new meters are more accurate and better account for water used. The data profiling will assist with conservation efforts by providing detailed water use data. Additionally, the City performs an ongoing water meter review and testing program which allows the City to locate inconsistencies and identify accuracy problems resulting from meter age or incorrect application.

3.5.8 Water Conservation Rate Structure

In 2005, the City implemented a “tiered” water rate structure to encourage customers to conserve water. A conservation rate structure provides progressively higher rates as water usage increases. Additionally, to further encourage conservation, the City continues to assess sewer charges based on the metered water use rather than on the number of bathrooms.

3.5.9 Water Conservation Education Program

The City has maintained a continuous water conservation informational program for its residents, wherein the City periodically issues water conservation messages through newsletters, such as the annual Water Quality Report, and other means available to convey the need and importance of water conservation. In addition, the City maintains a website (<http://www.plantation.org>) that includes water conservation information.

3.6 Reuse

3.6.1 Introduction

Florida law supports reuse efforts. Florida’s utilities, local governments, and water management districts have led the nation in the quantity of reclaimed water reused. According to Section 373.250(1) F.S. “the encouragement and promotion of water conservation and reuse of reclaimed water, as defined by the department, are state objectives and considered to be in the public interest.” In addition, Section 403.064(1), F.S., states “reuse is a critical component of meeting the state’s existing and future water supply needs while sustaining natural systems.”

3.6.2 Local Government Specific Action, Programs, Regulations or Opportunities

The City’s Regional Wastewater Treatment facility reuses about 1 MGD, on an annual average day basis (AADF), of the treated secondary effluent on site for landscape irrigation and maintenance equipment washdown water. Additionally, the treatment facility is permitted to reuse about 1 MGD AADF of treated wastewater for off-site plant irrigation (roadway median strips, landscaping at City entry features and at restricted access public parks) via tanker truck irrigation within the City’s corporate limits and adjacent areas that are served by the utilities department. The treated effluent is filtered and chlorinated before being reused.

The City continues to assess water reuse opportunities to identify and assess cost-effective alternative water supply opportunities. It is noted that indirect potable reuse systems have been evaluated by the City; though none have emerged as economically feasible. However, due to the dual benefits of

providing more disposal capacity and augmenting local water supplies, the City continues to contemplate indirect potable reuse opportunities when assessing alternative water supply investment decisions.

The City continues to assess opportunities for expanding the existing reuse system to include irrigation of golf courses.

3.6.3 Identify any Local Financial Responsibilities

The City of Plantation does not have any financial responsibilities relative to reuse. Hence, this section is not applicable to the City of Plantation.

3.7 Sector Plans

This section is not applicable to the City of Plantation.

4. Capital Improvements

Table 8 presents the City of Plantation’s Five-Year (Fiscal Year 2019 – 2023) Schedule of Capital Improvements for traditional water supply, treatment, storage and distribution system infrastructure.

The City’s Water Master Plan, issued by Hazen and Sawyer as a Final Report in September 2019, is a planning document that evaluated the City’s water system and recommended investments to maintain or improve the levels of service over a twenty-two-year period ending in 2040. The City continues to evaluate the recommendations of the Water Master Plan and prioritize the recommended projects for inclusion in its CIP.

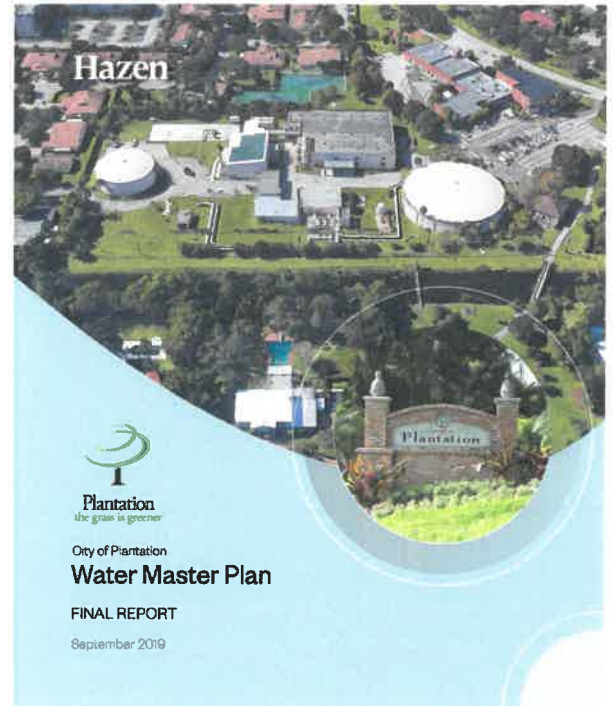


Table 8: City of Plantation 5-Year (FY2019 to FY 2023) Water Related Projects

Project Title	2019	2020	2021	2022	2023	Total	Funding Source
CWTP/EWTP – Membrane Replacement	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$2,000,000	Utilities O&M
EWTP Production Well #6 Redevelopment	\$270,000					\$270,000	Utilities O&M
Watermain Rehab	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$3,000,000	R&R
EWTP Chemical Storage Facility	\$2,000,000					\$2,000,000	Utilities O&M
EWTP/CWTP Operation and Maintenance	\$571,650					\$571,650	R&R

5. Goals, Objectives and Policies

The City of Plantation Comprehensive Plan addresses the needs and aspirations of the community. This has tremendous implications regarding the importance of community input in the development and implementation of the Comprehensive Plan.

The Comprehensive Plan also plays a significant role within Florida's growth management system. The Comprehensive Plan is required to be consistent with the State Comprehensive Plan (Chapter 187, Florida Statutes), and to be consistent with the Regional and County Comprehensive Plans. In short, the Comprehensive Plan provides a critical link between the City of Plantation, State of Florida, Regional, and Broward County plans. The Comprehensive Plan focuses on those issues facing the City of Plantation over a twenty-year time horizon. The Comprehensive Plan establishes the long-term direction of goals as well as short-term objectives and policies to guide implementation efforts

The following comprehensive plan goals, objectives, and policies (GOPs) have been reviewed for consistency with the 10-year Water Supply Facilities Work Plan 2019 Update. The GOPs include:

Policy 6.1.4 The City shall ~~implement~~ continue to evaluate the need for a high level disinfection water reuse project at the wastewater treatment plant, as outlined in the City's 10-Year Water Supply Plan, to irrigate the City's golf course (Plantation Preserve) and the Jacaranda Golf Club.

OBJECTIVE 7.3 Projected demands through ~~2010-2030~~ will be met by undertaking the following potable water projects:

Policy 7.2.3 A The City ~~will~~ continues to evaluate the need to construct a high level disinfection water reuse project at the wastewater treatment plant to irrigate the City's golf course (Plantation Preserve) and to the privately owned Jacaranda Golf Club to obtain the consumptive use permit rights of these two golf courses, as outlined in the City's 10-Year Water Supply Plan.

Policy 7.5.4 The City ~~shall implemented~~ a water conservation ordinance ~~by-in~~ June 2009. The ~~purpose of this ordinance is City-to reduced~~ the per capita water usage by a minimum of ~~10%-27%~~, within ~~5-10~~ years of adopting the ordinance, utilizing the 158 GPD as published in the SFWMD Lower East Coast Water Supply Plan Update 2005-2006.

- 1) The City shall continue to record water usage and compare data to previous years for one method of measurability.
- 2) The City shall ~~also~~ continue to track the water usage through the SFWMD Conservation Audit. The next audit is June 10, ~~2009~~ 2020 with audits scheduled every five years following June 10, ~~2009-2020~~.

- 3) The City will continue to replace water meters with “smart meters” for better tracking of water use and tracking of possible leaks.

Policy 7.5.5 The City shall continue to research water conservation strategies and implement new water conservation projects as required to assist in reducing the per capita water consumption as laid out in the City’s 10-Year Water Supply Plan.

OBJECTIVE 7.6 The City will maintain a Water Supply Plan for a minimum ten year planning period addressing water supply facilities necessary to serve existing and future development within the City’s water service area.

Policy 7.6.6 The City hereby adopts the ~~2015-2020~~ *10-Year Water Supply Facilities Workplan* by reference.

Policy 1.6.5 The City ~~shall implemented~~ a water conservation ordinance ~~by-in~~ June 2009. The ~~purpose of this ordinance is City to reduced~~ the per capita water usage by a minimum of ~~10%-27%~~, within ~~5-10~~ years of adopting the ordinance, utilizing the 158 GPD as published in the SFWMD Lower East Coast Water Supply Plan Update 2005-2006.

- 1) The City shall continue to record water usage and compare data to previous years for one method of measurability.
- 2) The City shall ~~also continue to~~ track the water usage through the SFWMD Conservation Audit. The next audit is June 10, ~~2009~~ 2020 with audits scheduled every five years following June 10, ~~2009-2020~~.
- 3) The City will continue to replace water meters with “smart meters” for better tracking of water use and tracking of possible leaks.

Policy 1.6.8 The City shall ~~implement~~ continue to evaluate the need for a high-level disinfection and reuse water project to irrigate the City owned golf course (Plantation Preserve) and Jacaranda Golf Club.

The GOPs listed below were adopted in the original Water Supply Facilities Work Plan. The City’s planning department has reviewed and updated the GOPs as necessary for coordination with this 10-year Water Supply Facilities Work Plan 2019 Update.

1. Coordination of existing land uses and future land use changes with the availability of water supplies and water supply facilities;
2. Revision of potable water level of service standards for residential and non-residential users;

3. Provision for the protection of water quality in traditional and new alternative water supply sources;
4. Revision of priorities for the replacement of facilities, correction of existing water supply and facility deficiencies, and provision for future water supply and facility needs;
5. Provision for conserving potable water resources, including the implementation of reuse programs and potable water conservation strategies and techniques;
6. Provisions for improved or additional coordination between a water supply provider and the recipient local government concerning the sharing and updating of information to meet ongoing water supply needs;
7. Coordination between local governments and the water supply provider in the implementation of alternative water supply projects, establishment of level of service standards and resource allocations, changes in service areas, and potential for annexation;
8. Coordination of land uses with available and projected fiscal resources and a financially feasible schedule of capital improvements for water supply and facility projects;
9. Additional revenue sources to fund water supply and facility projects;
10. Coordination with the respective regional water supply plan;
11. Update the Water Supply Facilities Work Plan within 18 months following the approval of a regional water supply plan; and
12. Concurrency requiring water supplies at the building permit stage.

The City intends to adopt the Work Plan updates into its Comprehensive Plan using Option 1.

References

South Florida Water Management District. (2008). *Water Use Permit No. 06-00123-W Staff Report*.

South Florida Water Management District. (2018). *2018 Lower East Coast Water Supply Plan Update*.

Southeast Florida Climate Compact. (2019, June 19). Retrieved from <http://southeastfloridaclimatecompact.org/regional-climate-action-plan/>



FORM 6026
Rev. 6/93

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
WATER USE PERMIT NO. RE-ISSUE 06-00103-W**

(NON - ASSIGNABLE)

Date Issued: 10-JUN-2004

Expiration Date: May 13, 2024

Authorizing: THE CONTINUATION OF AN EXISTING USE OF GROUNDWATER FROM THE BISCAYNE
AQUIFER FOR PUBLIC WATER SUPPLY USE WITH AN ANNUAL ALLOCATION OF 7121
MILLION GALLONS.

Located In: Broward County,

S36/T49S/R40E
S31-36/T49S/R41E
S31/T49S/R42E
S1, 12/T50S/R40E
S1-17, 24/T50S/R41E
S6/T50S/R42E

Issued To PLANTATION CITY OF
(CITY OF PLANTATION PUBLIC WATER SUPPLY)
400 NORTHWEST 73RD AVENUE
PLANTATION , FL 33317

This Permit is issued pursuant to Application No. 030603-12 , dated June 2, 2003, for the Use of Water as specified above and subject to the Special Conditions set forth below. Permittee agrees to hold and save the South Florida Water Management District and its successors harmless from any and all damages, claims or liabilities which may arise by reason of the construction, maintenance or use of activities authorized by this permit. Said application, including all plan and specifications attached thereto, is by reference made a part hereof.

Upon written notice to the permittee, this permit may be temporarily modified, or restricted under a Declaration of Water Shortage or a Declaration of Emergency due to Water Shortage in accordance with provisions of Chapter 373, Fla. Statutes, and applicable rules and regulations of the South Florida Water Management District.

This Permit may be permanently or temporarily revoked, in whole or in part, for the violation of the conditions of the permit or for the violation of any provision of the Water Resources Act and regulations thereunder.

This Permit does not convey to the permittee any property rights nor any privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation, or requirement affecting the rights of other bodies or agencies.

Limiting Conditions are as follows:

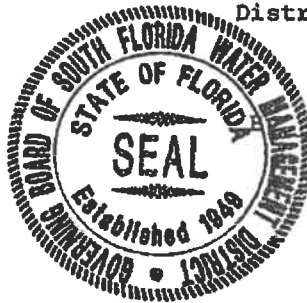
SEE PAGES 2 - 7 OF 7 (26 LIMITING CONDITIONS).

Filed with the Clerk of the South
Florida Water Management District

South Florida Water Management
District, by its Governing Board

On June 11, 2004

By *Dezavote Vequille*
Deputy Clerk



Lori Djala
Secretary

LIMITING CONDITIONS

- 1 . This permit shall expire on May 13, 2024.
- 2 . Application for a permit modification may be made at any time.
- 3 . Water use classification:
Public water supply
- 4 . Source classification:
Ground Water from:
Biscayne Aquifer
- 5 . Annual allocation shall not exceed 6291 MG. The allocation after May 13, 2009 shall not exceed this amount unless the permit is modified.

Maximum monthly allocation shall not exceed 569 MG. The allocation after May 13, 2009 shall not exceed this amount unless this permit is modified.

The 5 year annual allocation (through May 13, 2009) shall not exceed 7121 MG.

The 5 year maximum monthly allocation (through May 13, 2009) shall not exceed 684 MG.
- 6 . In the event of a declared water shortage, water withdrawal reductions will be ordered by the District in accordance with the Water Shortage Plan, Chapter 40E-21, F.A.C. The Permittee is advised that during a water shortage, pumpage reports shall be submitted as required by Chapter 40E-21, F.A.C.
- 7 . Withdrawal Facilities:
Ground Water - Existing:

8 - 14" X 140' X 1400 GPM Wells Cased To 75 Feet
8 - 24" X 160' X 1670 GPM Wells Cased To 110 Feet
- 8 . Permittee shall mitigate interference with existing legal uses that was caused in whole or in part by the permittee's withdrawals, consistent with the approved mitigation plan. As necessary to offset the interference, mitigation will include pumpage reduction, replacement of the impacted individual's equipment, relocation of wells, change in withdrawal source, or other means.

Interference to an existing legal use is defined as an impact that occurs under hydrologic conditions equal to or less severe than a 1 in 10 year drought event that results in the:

(1) Inability to withdraw water consistent with provisions of the permit, such as when remedial structural or operational actions not materially authorized by existing permits must be taken to address the interference; or

(2) Change in the quality of water pursuant to primary State Drinking Water Standards to the extent that the water can no longer be used for its authorized purpose, or such change is imminent.

- 9 . Permittee shall mitigate harm to existing off-site land uses caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm as determined through reference to the conditions for permit issuance, includes:
- (1) Significant reduction in water levels on the property to the extent that the designed function of the water body and related surface water management improvements are damaged, not including aesthetic values. The designed function of a water body is identified in the original permit or other governmental authorization issued for the construction of the water body. In cases where a permit was not required, the designed function shall be determined based on the purpose for the original construction of the water body (e.g. fill for construction, mining, drainage canal, etc.)
 - (2) Damage to agriculture, including damage resulting from reduction in soil moisture resulting from consumptive use; or
 - (3) Land collapse or subsidence caused by reduction in water levels associated with consumptive use.
10. Permittee shall mitigate harm to the natural resources caused by the permittee's withdrawals, as determined through reference to the conditions for permit issuance. When harm occurs, or is imminent, the District will require the permittee to modify withdrawal rates or mitigate the harm. Harm, as determined through reference to the conditions for permit issuance includes:
- (1) Reduction in ground or surface water levels that results in harmful lateral movement of the fresh water/salt water interface,
 - (2) Reduction in water levels that harm the hydroperiod of wetlands,
 - (3) Significant reduction in water levels or hydroperiod in a naturally occurring water body such as a lake or pond,
 - (4) Harmful movement of contaminants in violation of state water quality standards, or
 - (5) Harm to the natural system including damage to habitat for rare or endangered species.
11. If any condition of the permit is violated, the permit shall be subject to review and possible modification, enforcement action, or revocation.
12. Authorized representatives of the District shall be permitted to enter, inspect, and observe the permitted system to determine compliance with special conditions.
13. The Permittee is advised that this permit does not relieve any person from the requirement to obtain all necessary federal, state, local and special district authorizations.
14. The permit does not convey any property right to the Permittee, nor any rights and privileges other than those specified in the Permit and Chapter 40E-2, Florida Administrative Code.

15. Permittee shall submit all data as required by the implementation schedule for each of the limiting conditions to: S.F.W.M.D., Supervising Hydrogeologist - Post-Permit Compliance, Water Use Regulation Dept. (4320), P.O. Box 24680, West Palm Beach, FL 33416-4680.
16. Every five years from the date of Permit issuance, the Permittee shall submit re-calibration data on each water pumping accounting facility, for those Permittees whose accounting method(s) require re-calibration.
17. Monthly withdrawals for each withdrawal facility shall be submitted to the District quarterly. The water accounting method and means of calibration shall be stated on each report.
18. The Permittee shall notify the District within 30 days of any change in service area boundary. If the Permittee will not serve a new demand within the service area for which the annual allocation was calculated, the annual allocation may then be subject to modification and reduction.
19. Permittee shall determine unaccounted-for distribution system losses. Losses shall be determined for the entire distribution system on a monthly basis. Permittee shall define the manner in which unaccounted-for losses are calculated. Data collection shall begin within six months of Permit issuance. Loss reporting shall be submitted to the District on a yearly basis from the date of Permit issuance.
20. Permittee shall implement the wellfield operating plan described in District staff report prepared in support of recommendation for permit issuance.
21. Permittee shall maintain an accurate flow meter at the intake of the water treatment plant for the purpose of measuring daily inflow of water.
22. Prior to withdrawing water as authorized by this Permit, the Permittee shall provide the results of the calibration testing of the identified water accounting method(s) and equip all existing and proposed withdrawal facilities with approved water use accounting method(s) pursuant to Section 4.1 of the Basis of Review for Water Use Permit Applications.
23. Every five years from the date of permit issuance, the permittee shall submit a water use compliance report for review and approval by District Staff, which addresses the following:
 1. The results of a water conservation audit that documents the efficiency of water use on the project site using data produced from an onsite evaluation conducted. In the event that the audit indicates additional water conservation is appropriate or the per capita use rate authorized in the permit is exceeded, the permittee shall propose and implement specific actions to reduce the water use to acceptable levels within timeframes proposed by the permittee and approved by the District.
 2. A comparison of the permitted allocation and the allocation that would apply to the project based on current District allocation rules and updated population and per capita use rates. In the event the permit allocation is greater than the allocation provided for under District rule, the permittee shall apply for a letter modification to

reduce the allocation consistent with District rules and the updated population and per capita use rates to the extent they are considered by the District to be indicative of long term trends in the population and per capita use rates over the permit duration. In the event that the permit allocation is less than allowable under District rule, the permittee shall apply for a modification of the permit to increase the allocation if the permittee intends to utilize an additional allocation, or modify its operation to comply with the existing conditions of the permit.

24. The Water Conservation Plan required by Section 2.6.1 of the Basis of Review for Water Use Permit Applications within the South Florida Water Management District, must be implemented in accordance with the approved implementation schedule.
25. It has been determined that this project relies, in part on the waters from the Central and Southern Project, and as such is considered to be an indirect withdrawal from an MFL water body under recovery (Everglades). The Lower East Coast Regional Water Supply Plan (May 2000), which is the recovery plan for the Everglades, incorporates a series of water resource development projects and operational changes that are to be completed over the duration of the permit and beyond. If the recovery plan is modified and it is determined that this project is inconsistent with the approved recovery plan, the Permittee shall be required to modify the permit consistent with the provisions of Chapter 373, Florida Statutes.
26. In the event that the Old Plantation Water Control District permit (06-00185-W) is not renewed for a duration of 20 years, the permittee shall file for a modification of their permit within 90 days of written notice from the District. The modification shall identify how conditions of permit issuance will continue to be met over the remaining life of the permit including implementation of other approved alternative sources and/or additional demand management approaches. Failure to provide reasonable assurances that the conditions of issuance will continue to be met will result in an automatic reduction in the permit duration to 5 years.



South Florida Water Management District Quarterly Pumpage Report

Form 0188b
Rev. 12/01

This report must be completed and submitted to the South Florida Water Management District as required by your Permit.

Permitted System:	Permit No:
Address:	Phone No:
City:	State: Zip:

Gallons Used, (MG)

Month/Year	Ground Water		Surface Water		Reclaimed	
	Total Pumped	Max Daily	Total Pumped	Max Daily	Total Pumped	Max Daily
1						
2						
3						

(Please choose one of the following.)

Accounting method: flow meter, time clock, fuel, other (Please specify on next line.)

Date of last bi-annual calibration (as required by permit):

Name of Person Completing Form:

Signature: _____ Date: _____

SEND TO:
 South Florida Water Management District
 Attn: Water Use 4320
 Post Office Box 24680
 West Palm Beach, FL 33416-4680