COMPREHENSIVE PLAN AMENDMENT STAFF REPORT AMENDMENT ROUND 26-A

STATE REVIEW TRANSMITTAL REPORT, NOVEMBER 5, 2025

I. General Data

Project Name:	**Water Supply Facilities Work Plan**
Element:	**Utility and Capital Improvement Elements**
Project Manager:	David Wiloch, Senior Planner, Planning Division Krystin Berntsen, Deputy Director, PBC Water Utilities Department Diana Pelc, Environmental Program Supervisor, PBC WUD
Staff Recommendation:	Staff recommends ***approval*** based on the findings and conclusions presented in this report.

II. Item Summary

Summary:	This amendment is proposed to revise the Utility and Capital Improvement Elements and to adopt the County's updated Water Supply Facilities Work Plan by reference into the Comprehensive Plan as required by Section 163.3177(6)(c), Florida Statutes (F.S.).
Assessment:	The proposed amendment would adopt the County's 10 Year Water Supply Facilities Work Plan by reference for consistency with the Florida Statutes and the South Florida Water Management District 2024 Lower East Coast Regional Water Supply Plan. There are no consistency issues with the Comprehensive Plan and no impact on the Unified Land Development Code.

III. Hearing History

Local Planning Agency: ***Approval,*** motion by Rick Stopek, seconded by Varissa Lall Dass, passed in a 10 to 0 vote at the October 10, 2025 public hearing. There was minimal discussion and no public comment.

Board of County Commissioners Transmittal Public Hearing: ***Transmit,*** motion by Commissioner Woodward, seconded by Commissioner Sachs, passed in a 6 to 0 vote (with Commissioner Powell absent) at the November 5, 2025, public hearing. There was minimal discussion and no public comment.

Receive and File Business Impact Estimate, motion by Commissioner Woodward, seconded by Commissioner Sachs, passed in a 6 to 0 vote (with Commissioner Powell absent) at the November 5, 2025, public hearing.

State Review Agencies:

Board of County Commissioners Adoption Public Hearing:

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IV. Intent

The purpose of this amendment is to adopt the County's updated Water Supply Facilities Work Plan by reference into the Comprehensive Plan as required by Section 163.3177(6)(c)4. Florida Statutes. This amendment was initiated by the BCC on May 13, 2025. A summary of the changes is provided below and specific strike out and underline revisions are provided in Exhibit 1.

V. Background

The purpose of water supply planning is to develop strategies to meet future water demands of urban and agricultural uses, while meeting the needs of the environment. This process identifies areas where historically used sources of water will not be adequate to meet future demands, and evaluates several water source options to meet those demands.

Section 163.3177(6)(c)4 F.S. requires Palm Beach County to revise our Comprehensive Plan within 18 months after the South Florida Water Management District (SFWMD) approves a regional water supply plan or its update. Specifically with regard to the Palm Beach County (PBC) Water Supply Facilities Work Plan (Work Plan), the County must:

- Coordinate local government comprehensive planning with water management districts' regional water supply plans;
- Establish a closer link between development decisions and the availability of water; and
- Provide for more comprehensive regional water supply plans, permitting incentives for development of alternative water supplies.

Each regional water supply plan is based on at least a 20-year future planning horizon, and a complete update is required every five years. The South Florida Water Management District adopted its most recent update to the Lower East Coast Water Supply Plan in September 2024. The document is titled *The 2024 Lower East Coast Water Supply Plan Update* (2024 LEC Plan Update) and has a planning horizon of 2045.. The 2024 LEC Plan Update is one of four long-term comprehensive regional water supply plan updates the SFWMD undertakes approximately every five years. Previous water supply plans for the Lower East Coast Planning Area include the *1998 Interim Plan for Lower East Coast Regional Water Supply*, which provided recommendations to improve water resource management and benefit water users until the long-term regional water supply plan was completed. The long term plan, known as the *2000 Lower East Coast Regional Water Supply Plan* (2000 LEC Plan), was completed in May 2000 and subsequently updated by the 2006 LEC Plan Update, the 2013 LEC Plan Update and the 2018 LEC Plan Update. The County is required to update the Water Supply Facilities Work Plan within 18 months of the completion of the 2024 LEC Plan Update, or by March of 2026

VI. Data and Analysis

This section provides data and analysis, including an examination of consistency with the Comprehensive Plan.

A. Consistency with the Comprehensive Plan

Data and Analysis for incorporation of new Work Plan: The new Work Plan and this Plan amendment address the development of traditional and alternative water supplies, bulk sales agreements, and conservation and reuse programs that are necessary to serve

existing and new development. Per Florida Statutes, the County must prepare a minimum 10-year Work Plan for building public, private, and regional water supply facilities to serve existing and new development within the County's jurisdiction and adopt the Work Plan into its Comprehensive Plan. Specifically, the County Comprehensive Plan and Work Plan must be revised to incorporate the alternative water supply project or projects selected by the County from those identified in the 2024 LEC Plan update. Section 163.3177(6)(c) F.S requires an update to the Work Plan every 5 years, at a minimum, and within 18 months after the SFWMD approves an updated regional water supply plan. The updated Work Plan has a planning horizon of 2035, so tables, project lists, Comprehensive Plan language, and population projections have been updated to reflect current information and the 2035 planning horizon.

Data and Analysis for changes to CIE Table 10-A: Capital Improvement Element (CIE) Table 10-A was added to the 2008 PBC Water Supply Work Plan and CIE for consistency with § 373.709, F.S. The Table is being updated as part of this amendment for consistency with the revised Work Plan and may also be updated periodically as part the regular budget cycle. Table 10-A, which is also depicted as Table 8.5 in the Work Plan, identifies alternative water supply projects, traditional water supply projects and conservation and reuse within the County's jurisdiction to meet the water needs identified in § 373.709(2)(a), F.S.. This includes a Work Plan, covering a minimum 10 year planning period, for building public, private, and regional water supply facilities, including development of alternative water supplies which are identified as necessary to serve existing and new development. These requirements are addressed in the alternative water supply components of the County's Work Plan and in Table 10-A of the Capital Improvement Element. Palm Beach County is one the State's leading suppliers of reclaimed water and the table shows examples of current water reclamation projects.

Data and Analysis for changes to UE Table 6.1 (rename to Table 3.1-b-1), Table 6.2 (rename to Table 3.1-b-2) and Policy 3.1-b: Utility Element Policy 3.1-b and Facility Capacity Analysis Table 3.1-b-1 were added to the Comprehensive Plan in 2008 to address statutory requirements for Work Plan updates. Policy 3.1-b references the time requirements of § 163.3177(6)(c) F.S. and referenced Table 3.1-b-1 for demand projections in five year increments out to the planning horizon. Changes made during the adoption of the 2018 PBC WSP included the division of the County into two distinct service areas, east and west, with two Facility Capacity Analysis Tables, UE Tables 6.1 and 6.2, which replaced Table 3.1-b-1. Palm Beach County's facility expansion strategy has been designed to have a surplus condition for both raw water and finished water facilities throughout the 10-year planning period. The County's operating strategy is to divide the system-wide demand as equally as possible among the treatment plants. This strategy optimizes facility operations and provides a level of equilibrium for operations. In this amendment, UE Tables 6.1 and 6.2 are being renamed to Tables 3.1-b-1 and 3.1-b-2 for consistency with formatting into the Utility Element. The new Tables 3.1-b-1 and 3.1-b-2 correspond to Tables 6.1 and 6.2 of the Water Supply Plan, respectively.

Data and Analysis for Coordination Efforts: The County and other local governments participated in the development of the 2024 LEC Water Supply Update. The County also coordinated with SFWMD and other local government in the development of the County's Work Plan, specifically for population and service area boundaries.

This proposed amendment is consistent with the Comprehensive Plan, which has multiple policies regarding water supply planning, specifically coordination during the planning process and

adoption of the Work Plan after the adoption of the LEC Water Supply Plan update. Therefore, there are no inconsistencies with the Comprehensive Plan.

B. Palm Beach County's Water Supply Work Plan Coordination

Per requirements of §163.3177(6)(c), F.S., the County coordinated with the SFWMD during the development of the plan. The County hosted a meeting with South Florida Water Management District on August 29, 2024, to discuss the population projections and water planning area boundaries, local governments and water utility providers. The County also coordinated with local municipalities through the Intergovernmental Plan Amendment Review Committee (IPARC) process.

C. Unified Land Development Code Implications

This proposed amendment will not require revisions to the Unified Land Development Code.

VII. Public and Municipal Review

A. Intergovernmental Coordination: Notification of this amendment was sent to the Palm Beach County Intergovernmental Plan Amendment Review Committee (IPARC) for review on September 18, 2025. At the time of the printing of this report, no calls or written requests for information or objections to the amendment had been received.

B. Other Notice: The County coordinated with the SFWMD during the development of the plan. The County hosted a meeting with South Florida Water Management District on August 29, 2024, to discuss the population projections and water planning area boundaries, local governments and water utility providers. Correspondence received is added to the Exhibits during the amendment process upon receipt.

VIII. Assessment and Conclusions

The proposed amendments would adopt the updated County 10 Year Water Supply Facilities Work Plan by reference for consistency with Florida Statutes and the SFWMD's 2024 Lower East Coast Regional Water Supply Plan. The County's updated Water Supply Work Plan meets the minimum 10-year planning requirement linking water supply and land use planning. The proposed text changes to Capital Improvement Element Table 10-A and Utility Element Tables 6.1 (renamed to Table 3.1-b-1) and 6.2 (renamed to Table 3.1-b-2) fulfill statutory requirements to incorporate water supply projects into the Comprehensive Plan.

As such, staff recommends ***approval*** of this amendment.

Attachments

Exhibit 1
Proposed Text Changes

A. Utility Element, Water Supply Facilities Work Plan

REVISIONS: To revise to reflect the latest Water Supply Facilities Work Plan and to adopt by reference. The added text is underlined, and the deleted text ~~struck out~~.

1. REVISE B. Assessments & Conclusions

[text omitted for brevity]

2. The SFWMD Governing Board adopted the updated ~~2018~~ 2024 Lower East Coast (LEC) Water Supply Plan, which includes recommendations for water supply and water resource development projects to help meet the needs of the region through ~~2040~~ 2045. The Updated Plan also lays out a map to develop a 20-year water supply plan for the region.

[text omitted for brevity]

2. REVISE Policy 3.1-b: The County's 10-Year Water Supply Work Plan dated ~~February 25, 2020~~ September 24, 2025, is adopted by reference and established to meet current and projected potable water needs based on the availability and appropriate use of regional water resources and the combined use of alternative water supplies. The County shall initiate revisions to the Work Plan and Comprehensive Plan for consistency with the County's Water Use Permit renewals at a minimum every 5 years or within 18 months after the SFWMD approves an updated regional water supply plan. The raw water supplies that will be needed during the 10-Year period to satisfy projected needs are depicted in Table~~s 6.1 and 6.2~~ ~~6.1 and 6.2~~ 3.1-b-1 and 3.1-b-2 (corresponding to Tables 6.1 and 6.2, respectively, in the Water Supply Facilities Work Plan).

3. REVISE by replacing Utility Element Table 6.1 with New Table 3.1-b-1

Table 3.1-b-1- Eastern Region Facility Capacity Analysis

Facility Capacity Analyses	2025	2030	2035
PBCWUD East Region Population	610,350	637,753	666,709
Cumulative Self-Served Conversions (Wells)	23,632	23,757	23,882
Total Eastern Region Population Served[1]	633,982	661,510	690,591
Demand per Capita (gpd)[2]	103	103	103
Contracted Finished Water Bulk Demand (mgd)	6.90	6.90	6.90
Total Finished Water Average Daily Demand (mgd)	75	78	81
Total Raw Water Average Daily Demand (mgd)[3]	**86**	**89**	**93**
Available Raw Water Facility Capacity (mgd)[4]	135	135	135
Raw Water Facility Capacity Surplus[5]	49	46	42

Permitted Raw Water Allocation (mgd annual average)[6]	104	104	104
Total Raw Water Average Daily Demand (mgd)	86	89	93
Permitted Surplus (Deficit)[7] (mgd)	**18**	**15**	**11**

[1] Population Served represents projected retail customers and self-served conversions, Table 5-4.

[2] Demand per Capita based upon population served.

*[3] ADF raw water = 1.14 * ADF FW (per historical and capacity based analyses)*

[4] Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

[5] Calculated by subtracting average daily demand from available facility capacity.

[6] Permitted groundwater withdrawal allocation from Permit #50-00135-W.

[7] Values do NOT reflect offsets from alternative water supplies as further documented in Section 8.

[8] PBCWUD is projecting to meet and exceed the AWS requirements contained in Permit #50-00135-W as presented in Tables 8.2 and 8.4.

DELETE current UE Table 6.1

Table 6.1 Eastern Region Facility Capacity Analysis

Facility Capacity Analyses	2018	2020	2025	2030
PBCWUD East Region Population	519,505	530,964	561,670	595,462
Cumulative Self-Served Conversions (Wells)	21,649	22,165	22,497	23,134
Total Eastern Region Population Served[1]	541,154	553,129	584,167	618,596
Demand per Capita (gpd)[2]	111	111	111	111
Contracted Finished Water Bulk Demand (mgd)	4.94	5.25	5.25	5.25
Total Finished Water Average Daily Demand (mgd)	65	67	70	74
Total Raw Water Average Daily Demand (mgd)[3] = Finished Water x 1.11	**72**	**74**	**78**	**82**
Available Raw Water Facility Capacity (mgd)[4]	122	122	122	122
Raw Water Facility Capacity Surplus[5]	50	48	44	40
Permitted Raw Water Allocation (mgd annual average)[6]	87	87	87	87
Total Raw Water Average Daily Demand (mgd)	72	74	78	82
Permitted Water Available[7]	**15**	**13**	**9**	**5**

1. Population Served represents projected retail customers and self-served conversions, Table 5-4.

2. Demand per Capita based upon population served.

3. ADF raw water = 1.11 * ADF FW (per historical and capacity-based analyses)

4. Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

5. Calculated by subtracting average daily demand from available facility capacity.

6. Permitted allocation from Permit #50-00135-W..

7. PBCWUD is projecting to meet and exceed the AWS requirements contained in Permit #50-00135 as presented in Tables 8.2 and 8.4.

4. REVISE by replacing Utility Element Table 6.2 with New Table 3.1-b-2

Table 3.1-b-2 - Western Region Facility Capacity Analysis

Facility Capacity Analyses	2025	2030	2035
Population Served[1]	35,520	37,885	39,809
Demand per Capita (gpd)[2]	176	176	176
Total Finished Water Average Daily Demand (mgd)	6	7	7
Total Raw Water Average Daily Demand (mgd)[3]	**8**	**8**	**8**
Available Raw Water Facility Capacity (mgd)[4]	10	10	10
Raw Water Facility Capacity Surplus (mgd Deficit)[5]	2	2	2
Permitted Raw Water Allocation (mgd annual average)[6]	10	10	10
Floridan Aquifer ADF Withdrawal (mgd)[7]	8	8	8
Water Available[8] (mgd)	**2**	**2**	**2**

[1] Population Served represents projected retail customers and self-served conversions, Table 5-4.

[2] Demand per Capita based upon population served.

*[3] ADF raw water = 1.21 * ADF FW (per historical and capacity based analyses)*

[4] Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

[5] Calculated by subtracting average daily demand from available facility capacity.

[6] Permitted groundwater withdrawal allocation from Permit #50-06857-W.

[7] Values do NOT reflect offsets from alternative water supplies as further documented in Section 8.

[8] PBCWUD is projecting to meet and exceed the AWS requirements contained in Permit #50-00135-W as presented in Tables 8.2 and 8.4.

DELETE Current UE Table 6.2

Table 6.2 Western Region Facility Capacity Analysis

Facility Capacity Analyses	2018	2020	2025	2030
Western Region Population Served[1]	34,018	34,856	36,500	38,020
Demand per Capita (gpd)[2]	157	157	157	157
Total Finished Water Average Daily Demand (mgd)	5	5	6	6
Total Raw Water Average Daily Demand (mgd)[3] = Finished Water x 1.31	**7**	**7**	**8**	**8**
Available Raw Water Facility Capacity (mgd)[4]	8	8	8	8
Raw Water Facility Capacity Surplus[5]	1	1	0	0
Permitted Raw Water Allocation (mgd annual average)[6]	10	10	10	10
Total Raw Water Average Daily Demand	7	7	8	8
Permitted Water Available	**3**	**3**	**2**	**2**

1. Population Served represents projected retail customers and self-served conversions, Table 5-4.

2. Demand per Capita based upon population served.

3. ADF raw water = 1.31* ADF FW (per historical and capacity-based analyses)

4. Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

5. Calculated by subtracting average daily demand from available facility capacity.

6. Permitted allocation from Permit #50-06857-W.

B. Capital Improvement Element, Water Supply Facilities Work Plan

REVISIONS: To update Table 10-A which documents capital costs associated with the Lower East Coast Water Supply Plan, specifically alternative water supply projects.

1. REVISE by replacing New CIE Table 10-A

Table 10-A – Proposed Long-term Lower East Coast Water Supply Projects ($millions)

Project	Capacity (MGD)	Estimated Cost ($ millions)[2]	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
WTP 11 Expansion	10	$65.0						$9.40	$6.00	$20.00	$10.00	$10.00	$10.00					
Reclaimed Water Piping Program	22	$6.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50										
Southern Region AWT Expansion	15	TBD																
Green Cay Phase II	2	$98.45			$4.93	$2.10	$14.24	$30.00	$47.18									
Broward County Reclaimed	7	$55[1]	$1.00	$0.10	$0.85	$8.50	$0.50	$2.00	$8.55	$15.00	$15.00	$3.50						
ECR Capacity Expansion	TBD	TBD																
TOTAL PROGRAM	**56**	**$169.95**	**$1.50**	**$0.60**	**$6.28**	**$11.10**	**$15.24**	**$41.90**	**$61.73**	**$35.00**	**$25.00**	**$13.50**	**$10.00**					

[1] Project Cost to be financed by Broward County

[2] Projects with estimated costs listed as "TBD" are outside the current 10-year planning horizon.

DELETE Current CIE Table 10-A

~~Table 10-A – Long-term Lower East Coast Water Supply Projects ($millions)~~

~~Project~~	~~Capacity (MGD)~~	~~Estimated Cost ($ millions)(3)~~	~~2015~~	~~2016~~	~~2017~~	~~2018~~	~~2019~~	~~2020~~	~~2021~~	~~2022~~	~~2023~~	~~2024~~	~~2025~~
~~Central Region Phase 2~~	~~3~~	~~TBD~~											
~~Reclaimed Water Piping Program~~	~~20~~	~~$6.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$0.50~~	~~$1.0~~	~~$1.0~~
~~Southern Region AWT Expansion~~	~~15~~	~~TBD~~											
~~WTP 2 Wellfield/Plant Expansion to Floridan Aquifer~~	~~15~~												
~~Northern Plant/Floridan Wellfield Project~~	~~10~~												
~~Lake Region WTP~~	~~10~~	~~TBD~~											
~~**Broward County Reclaimed**~~	~~2/10.5 (1)~~	~~$46 (2)~~						~~**$11.00**~~	~~**$14.00**~~		~~**$11.00**~~		~~**$10.00**~~
~~Lake Region Water Plant Phase II~~	~~10~~												
~~**TOTAL PROGRAM**~~	~~**93**~~	~~**$6.50**~~	~~**$.50**~~	~~**$.50**~~	~~**$.50**~~	~~**$.50**~~	~~**$.50**~~	~~**$11.50**~~	~~**$14.50**~~	~~**$.50**~~	~~**$11.50**~~	~~**$1.00**~~	~~**$11.00**~~

~~1) Years 1 through 7following the initiation date the capacity will be 2 MGD, Year 8 and forward the capacity will Increase to 10.5 MGD~~
~~2) Project Cost to be financed by Broward County~~
~~3) Projects with estimated costs listed as "TBD" are outside the current 10-year planning horizon.~~

Exhibit 2
Correspondence

Exhibit 3
Business Impact Estimate

BUSINESS IMPACT ESTIMATE

Meeting Date: 11/05/2025 – BCC Comprehensive Plan Public Hearing

Proposed Ordinance Title/Reference:

THE UTILITY AND CAPITAL IMPROVEMENT ELEMENTS (TO REVISE TO REFLECT THE LATEST **WATER SUPPLY FACILITIES WORK PLAN** AND TO ADOPT BY REFERENCE)

Summary of Proposed Ordinance and Statement of Public Purpose to be Served:

The proposed amendment would adopt the County's 10 Year Water Supply Facilities Work Plan by reference for consistency with the Florida Statutes and the South Florida Water Management District 2024 Lower East Coast Regional Water Supply Plan. Per Florida Statutes, the County must prepare a minimum 10-year work plan for building public, private, and regional water supply facilities to serve existing and new development within the County's jurisdiction and adopt the work plan into its Comprehensive Plan. The County is required to revise its Water Supply Facilities Work Plan (Work Plan) within 18 months after approval of the Lower East Coast (LEC) Water Supply Plan Update by the South Florida Water Management District's Governing Board. The District's Governing Board approved the LEC Water Supply Plan Update on September 24, 2024. Therefore, the County's Work Plan needs to be updated and adopted by March 24, 2026. On May 13, 2025 the BCC, initiated this text amendment to the Comprehensive Plan. It is anticipated that the Board will hear this item during the November 2025 transmittal public hearing with an adoption hearing to follow in late January or early February of 2026, in order to meet the statutory deadline.

Estimate of Direct Economic Impact on Private/For Profit Businesses:

a. Estimate of Direct Business Compliance Costs: There are no business compliance costs associated with this amendment.

b. New Charges/Fees on Businesses Impacted: There are no new charges or fees associated with this amendment.

c. Estimate of Regulatory Costs: This amendment will not impose any regulatory fees.

Good Faith Estimate of Number of Businesses Likely Impacted: No businesses are expected to be impacted.

Any Additional Information: None

Exhibit 4
Water Supply Plan

Palm Beach County

10-Year Water Supply Facilities Work Plan

Palm Beach County, Florida
Water Utilities Department

September 24, 2025

Contents

WATER SUPPLY FACILITIES WORK PLAN

1.0 INTRODUCTION

The purpose of water supply planning is to develop strategies to meet the future water demands of urban and agricultural uses, while also meeting the needs of the environment. The water supply planning process identifies current and future water supply demands, and evaluates several water source options to meet those demands. As mandated by Florida law, regional water supply plans are developed by the five Water Management Districts and associated Water Supply Facilities Work Plans are developed based on the regional plans with a minimum 10-year future planning horizon. A complete update of each regional water supply plan is required every five years. Local governments subject to a regional water supply plan are required by Florida law to identify water supply projects necessary to meet identified existing and future development needs for inclusion in the plan or plan update. By working with the South Florida Water Management District (SFWMD or District) during updates of the Lower East Coast (LEC) Regional Water Supply Plan (LEC Plan), Palm Beach County provides input on those water supply projects that are included in the LEC Plan.

2.0 BACKGROUND

The 2023-2024 Lower East Coast Water Supply Plan Update is one of five long-term comprehensive regional water supply plan updates the SFWMD undertakes approximately every five years. For the 2023-2024 Lower East Coast Water Supply Plan Update, the fourth update of the 2000 Lower East Coast Plan, the planning horizon is 2045.

The plan update consists of a single-volume planning document, a secondary volume of appendices, and an additional support document. These documents provide a common set of data, such as current and future water demands, assumptions and potential water source options.

Local governments, water users, and utilities use water supply plan updates to modify and update their local comprehensive plans, ordinances, and individual or utility plans. SFWMD will consider updating portions of this plan update more frequently, including the update of water supply project lists, population projections, etc., as circumstances require.

3.0 COUNTY'S WATER SUPPLY FACILITIES WORK PLAN

This 10-year Water Supply Facilities Work Plan (Plan) includes cartographic documents that fully describe the water and wastewater service providers within Palm Beach County. Because of the complexity of the water supply in Palm Beach County, the Plan includes an extensive description of the service area and existing facilities and programs, a map depicting all the municipal service providers, water utility authorities including special districts, the County's service area, and unincorporated areas served by other providers.

The information contained in the Plan is presented in accordance with the State-mandated "Water Supply Facilities Work Plan," as required by Section 163.3177(6)(c)3, Florida Statutes (F.S.):

- "The element must identify such alternative water supply projects and traditional water supply projects conservation and reuse necessary to meet water needs identified in s.

373.709(2)(a) within the local government's jurisdiction and include a work plan, covering at least a 10-year planning period, for building public, private, and regional water supply facilities, including development of alternative water supplies, which are identified in the element as necessary to serve existing and new development. The work plan shall be updated, at a minimum, every 5 years within 18 months after the governing board of a water management district approves an updated regional water supply plan."

Regional issues with potential impacts to water supply planning in Palm Beach County are as follows:

- 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.
    - Palm Beach County Water Utilities Department (PBCWUD) has a consumptive use permit (50-00135-W) through December 2053. Palm Beach County has an extensive reclaimed water system and will continue to aggressively expand its reclaimed water program. Reclaimed water may be used to replace existing consumptive use permits or act as an offset to increased consumptive use withdrawals. Additional identified sources include the Floridan aquifer system for either direct withdrawals, blending, or aquifer storage and recovery (ASR), and the C-51 Reservoir (Chapter 9).
- Surface water allocations from Lake Okeechobee and the Water Conservation Areas are limited in accordance with the Lake Okeechobee Service Area RAA criteria.
    - PBCWUD is not located within the Lake Okeechobee Service Area. It does not currently withdraw water from Lake Okeechobee or the Water Conservation Areas and is not planning on seeking an allocation from these sources in the future.
- 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.
    - The County is an active participant in Everglades restoration efforts as well as the completed U.S. Army Corps of Engineers' Lake Okeechobee System Operating Manual (LOSOM) update.
- Expanded use of reclaimed water is necessary to meet future water supply demands and the State of Florida Ocean Outfall Law.
    - As discussed in Chapter 8, PBCWUD has an extensive reclaimed water program and has aggressively sought to expand it. A planned Regional Reclaimed Water System Project with Broward County will help Broward eliminate ocean outfalls and provide reclaimed water to users in South Palm Beach County. PBCWUD has no ocean outfalls.

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

    - PBCWUD has modified its current Eastern Region consumptive use permit (50-00135-W) to utilize the Floridan aquifer system for blending with its surficial withdrawals and supplement its allocation. The Western Region wellfield (50-06857-W) is managed to rotate wells in order to maintain relatively consistent water quality. Additionally, the distance between wells has been increased and flows from each well have been decreased to reduce aquifer stress.

4.0 SERVICE AREA DESCRIPTION

Historically, Palm Beach County Water Utility Department (PBCWUD) service areas were identified by the original areas served by acquired utilities. Each of the acquired utilities, known then as systems, was numbered. As the County grew, the system designation was dropped in favor of a more descriptive identification by Water Treatment Plant (WTP). The County now consists of a regional operation. PBCWUD'S Eastern Region (50-00135-W) is served by an interconnected distribution system among the existing Wellfields (2, 3, 8, and 9), thereby creating a unified service area. The County's Western Region Distribution System (50-06857-W) is served by Wellfield 11 and provides potable water to the Cities of Belle Glade, Pahokee, and South Bay.

The County's utility service area encompasses approximately 1,800 square miles (832,000 acres) of unincorporated land in Palm Beach County and is shown in **Figure 4.1**. This map also identifies the service area boundaries of all the water providers in the County. Including the County Water Utilities Department, a total of 14 service providers serve the residents of unincorporated County, as shown in **Figure 4.2**. Further information regarding utilities serving unincorporated Palm Beach County including water sources, per capita rates and water supply and infrastructure projects can be found in **Table 4.1**. Palm Beach County has made a concerted effort to coordinate the data used to prepare this Plan with the other utility service providers throughout the County, including those serving in incorporated areas. **Figure 4.3** shows the location of domestic self-supply, areas where customers are served by private wells.

Table 4.1 - Utilities Serving Unincorporated Palm Beach County

Utility Name	Consumptive Use Permit No.	Per Capita Finished Water (2017-2021)	Water Source	Projects & Infrastructure
Boca Raton	50-00367-W	290	SAS	No projects
Boynton Beach	50-00499-W	119	FAS; SAS	New reverse osmosis water treatment plant and installation of three FAS well. Reclaimed water expansion.
Delray Beach	50-00177-W	204	FAS; SAS	Reclaimed water expansion.
Golf	50-00612-W	145	SAS	No projects
Jupiter	50-00010-W	211	FAS; SAS	Five additional FAS wells.
Lake Worth Beach	50-00234-W	106	FAS; SAS	No projects
Maralago Cay	50-01283-W	205	SAS	No projects
PBCWUD Eastern Region	50-00135-W	103	FAS; SAS	Membrane softening plant expansion. Indirect potable reuse expansion. Reclaimed water interconnect with Broward County.
PBCWUD Western Region	50-06857-W	176	FAS	Installation of new FAS production wells, RO plant expansion.
Palm Springs	50-00036-W	75	SAS	R.L. Pratt Washwater Recovery Basin - Construct a washwater recovery basin to recycle; Purchase up to 0.30 mgd of bulk water from PBCWUD
Riviera Beach	50-00460-W	192	SAS	New FAS wells and reverse osmosis treatment plant. New membrane softening plant for SAS and two new wells.
Seacoast	50-00365-W	188	FAS; SAS	No projects
Tequesta	50-00046-W	253	FAS; SAS	No projects
Wellington	50-00464-W	104	SAS	Reclaimed water expansion and membrane softening treatment expansion.
West Palm Beach	50-00615-W	243	SAS	C-17 Pump Station - Withdraw from the Congress Avenue Canal and pumping it into the City's adjacent M-Canal (Lake Mangonia); Grassy Waters Preserve Water Quality, Diversion, and Storage Improvements New FAS wells and reverse osmosis treatment plant.

Source: ***2023-2024 Lower East Coast Water Supply Plan Update, Chapter 8 and Appendix E***

Acronyms

SAS = surficial aquifer system
FAS = Floridan aquifer system
BCWWS = Broward County Water and Wastewater Services
ASR = aquifer storage and recovery
PBCWUD = Palm Beach County Water Utilities Department
WTP = water treatment plant

Figure 4.1 – Utility Service Providers Located Throughout Palm Beach County

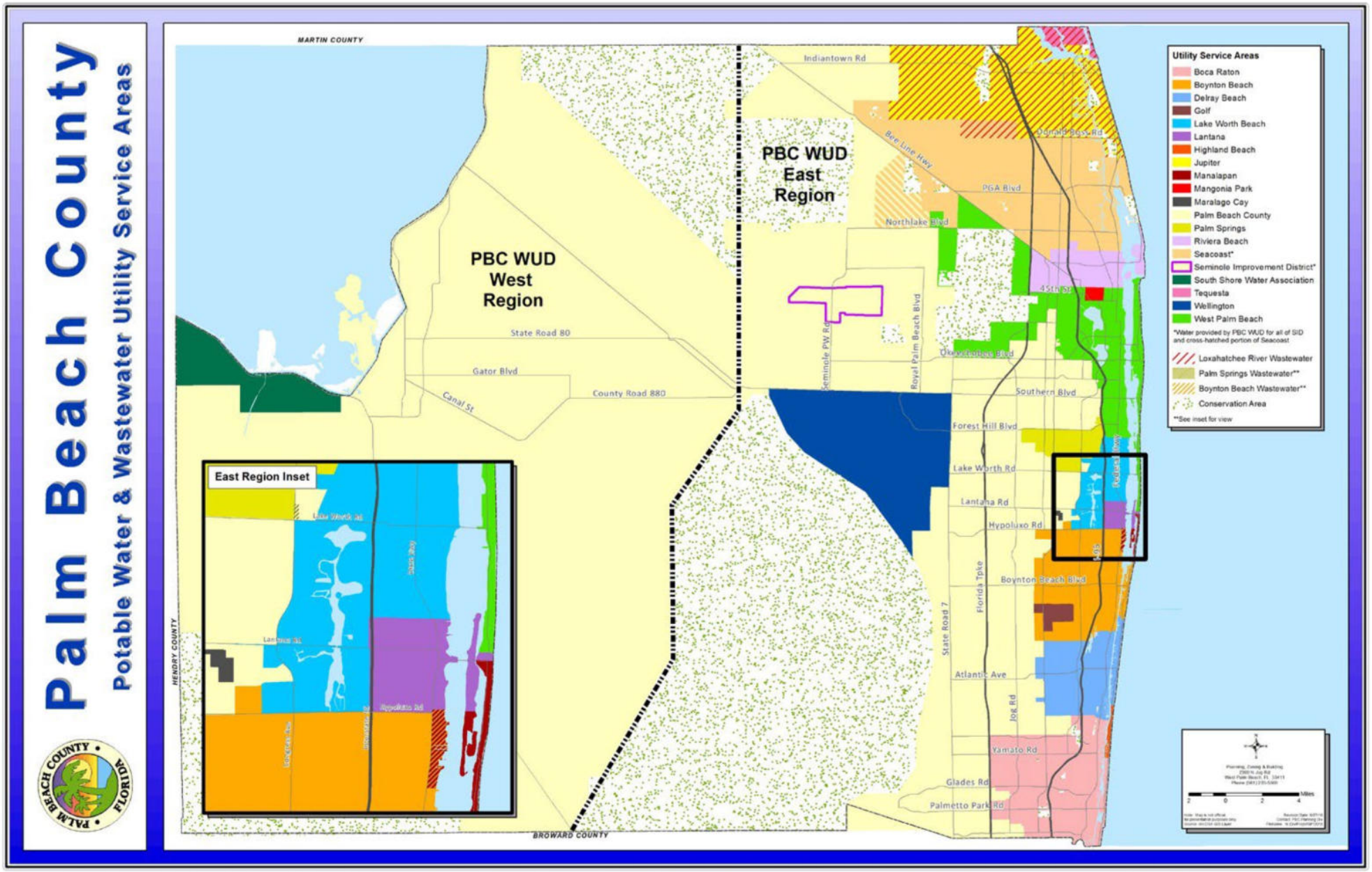


Figure 4.2 – Utility Service Providers Serving Unincorporated Palm Beach County

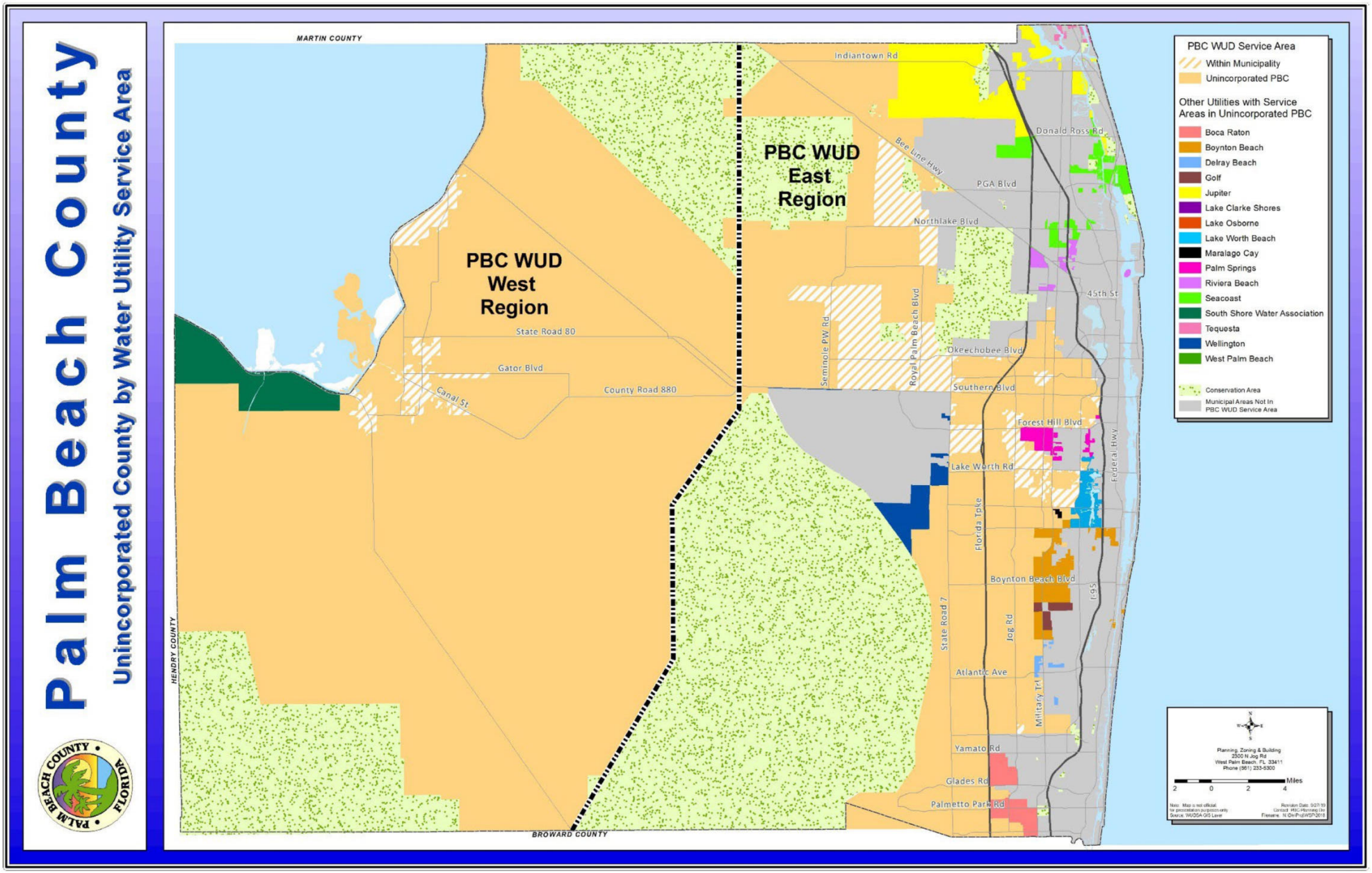
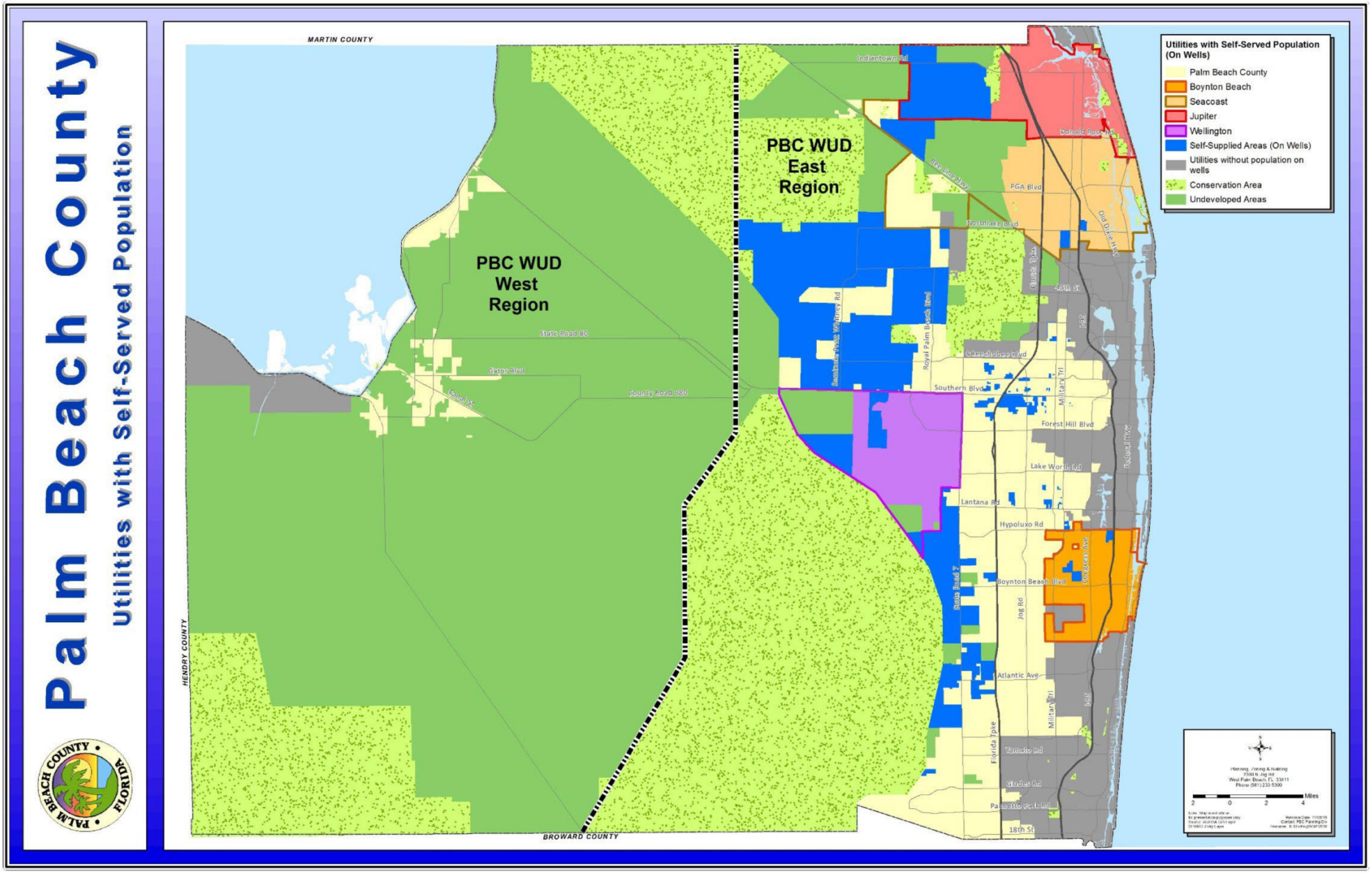


Figure 4.3 – Utilities with Self-Served Populations (Wells)



4.1 History of Service Area Expansions

Comprehensive Plan Amendments:

On March 26, 2020, the County adopted the previous Water Supply Facilities Work Plan to direct the provision of water, reclaimed water, and sewer service to unincorporated areas of Palm Beach County. To address inconsistencies in the county Comprehensive Plan and promote intergovernmental coordination among utility service providers in unincorporated Palm Beach County, the Comprehensive Plan Amendments (Policy 3.1-c) names the County as the default service provider such that,

- *"The Palm Beach County Water Utilities Department shall provide potable water, reclaimed water and wastewater service to all unincorporated areas of the County except those unincorporated areas where the Palm Beach County Board of County Commissioners has entered or enters into a written agreement that provides utility service area rights to a public or privately owned potable water, reclaimed water, and/or wastewater utility, or in areas where the Palm Beach County Water Utilities Department is specifically excluded from providing utility service by Florida law. Palm Beach County Water Utilities Department shall continue to provide utility services to incorporated areas where service is already being provided by the County, or as provided for under utility service area agreements or as allowed for by law."*

Village of Royal Palm Beach: The County encourages the use of cooperative agreements with other public utilities to ensure the most efficient delivery of public potable water, reclaimed water and wastewater services. In August 2004, the County and the Village of Royal Palm Beach entered into a Utility Franchise and Service Area Agreement (R2004-1802 and R2006-0411). The Utility Franchise Agreement returned portions of the Village's utility service area back to the County in exchange for a 10% franchise fee on future revenues generated in the returned area. The Utility Franchise Agreement required the County to install backbone potable water and wastewater pipelines within the returned area to provide utility service to a new public park, library, and fire rescue station in the vicinity of Seminole Pratt Whitney Road, and also to provide utility service to additional public and private developments in the returned area to the extent that they have been or will be approved by the Palm Beach County Board of County Commissioners in the future. In April 2006, the County purchased the Village's water and wastewater utility (R2006-0410). With this acquisition, the service area retained by the Village under the 2004 Franchise Agreement was purchased and became part of the County's exclusive service area.

Beeline Community Development District: In 2004 the Beeline Community Development District (Beeline) expressed a desire to divest its Utility to the County. An Acquisition Agreement was executed between Beeline and the County in February 2005 (R2005-0366). The County acquired the Beeline's exclusive utility service area, utility water and wastewater system assets, customer base, and assumed the exclusive authority, duty, and obligation to provide retail and wholesale potable water, wastewater, and reclaimed water service within the Beeline's utility service area.

Seacoast Utility Authority: In September 2005, the County entered into a Service Area Agreement (R2005-1769) with Seacoast Utility Authority (Seacoast) defining the service area boundary between Seacoast and the County. The boundaries agreed to were intended to

eliminate or minimize duplication of facilities; provide for orderly growth, expansion and extension of respective water, wastewater, and reclaimed water utility systems. The Agreement benefited existing and future Seacoast and County utility customers by ensuring the most efficient delivery of public utility services. In June 2006, the County entered into a Utility Bulk Service Agreement (R2006-0687) to provide Seacoast with up to five (5) million gallons per day (mgd) of bulk potable water and bulk wastewater service during an initial term of five (5) years. Seacoast has the option to extend the Bulk Agreement for a long-term period of twenty-five (25) years at the same capacity levels. The Bulk Agreement requires that the County install the necessary potable water pipeline improvements. By entering into the Agreement, the Seacoast customers will benefit from the competitively priced bulk water, and existing County utility customers will benefit from the increased revenue.

City of West Palm Beach: The County and City of West Palm Beach are parties to a 1989 Agreement (R-89-1657D), along with the Seacoast Utility Authority, which had become contentious due to disagreements among the parties on how the utility service area boundaries should be interpreted. In December 2005, the County and the City of West Palm Beach entered into a Service Area Agreement (R2005-2445) resolving the dispute by defining respective retail utility service areas between the City and the County. The Agreement also defined bulk utility service areas as related to portions of western Palm Beach County. In the Agreement, the City of West Palm Beach is named as sole provider of bulk (not retail) water and wastewater service to a portion of the Acreage. The boundaries agreed to were intended to eliminate or minimize duplication of facilities; provide for orderly growth, expansion and extension of respective water, wastewater, and reclaimed water utility systems. The City further agreed not to provide utility service, retail, bulk or otherwise, within the Everglades Agricultural Area and Loxahatchee Groves Water Control District.

Seminole Improvement District (City of Westlake): In June 2006 an Interlocal Agreement was executed between the County and Seminole Improvement District (R2006-0732) (SID). The Agreement resolved the service area disputes by defining clear utility service area boundaries between SID and the County. Pursuant to Chapter 298, F.S., SID has the exclusive right to provide utility services within SID's legislative boundaries. Under the Agreement, SID will continue serving all of its existing customers but will be precluded from connecting any new customers outside of its legislative boundaries. Existing pipelines and customers located outside SID's boundaries will be transferred to the County over time. In addition to delineating service area territories, the Agreement named the County as SID's exclusive bulk utility service provider. The Agreement allows SID to reserve and purchase up to five (5) million gallons per day of bulk water and wastewater capacity over thirty (30) years. Other considerations afforded the County with this Agreement include: 1) the right of first refusal to acquire SID's retail Utility System, based upon a pre-determined valuation formula; and 2) the right to utilize existing road right-of-way along Seminole Pratt-Whitney Road for construction, operation, maintenance, and replacement of potable water, waste-water, and reclaimed water pipelines. In May 2016, Seminole Improvement District abandoned their water treatment facilities and have continued to purchase bulk water from Palm Beach County Water Utilities Department.

Developer Agreements: In July and August 2005, the County entered into Development Agreements for three properties located in central Palm Beach County. The Development Agreements defined oversizing fees to be paid to the County related to its Northern Region Pipeline Improvement Project (WUD Nos. 04-125, 04-227, 05-018, 05-061, and 06-050). Palm Beach Aggregates (R2005-1392), Inc., Indian Trail Groves, L.P. (R2005-1391), and Delray Linton Associates, LLC & Exodus 613 LLC (R2005-1608) desire to develop properties in central Palm

Beach County and had a need to utilize the County's transmission pipelines for potable water and wastewater service. These portions of the County's utility service area were acquired through the Palm Beach County/Village of Royal Palm Beach Amended Potable Water, Reclaimed Water and Wastewater Utilities Franchise and Service Area Agreement (R-2004-1802). These Agreements did not grant development approvals nor increase densities for the Property Owners. Potable water and wastewater service will only be provided to the Properties in the future in a manner consistent with any development approvals that may be granted by the Board of County Commissioners.

Glades Utility Authority: On May 1, 2013, Palm Beach County formally absorbed the assets of the Glades Utility Authority (GUA) into those of the County. The County acquired the GUAs exclusive utility service area, utility water and wastewater system assets, customer base, and assumed the exclusive authority, duty, and obligation to provide retail and wholesale potable water, wastewater, and reclaimed water service within the GUA's utility service area. The County additionally committed to spend a minimum of $5 million a year for five years towards the repair and replacement of aged and deteriorated water and wastewater infrastructure in the Glades Region.

The Lake Region Water Treatment Plant in the Glades Region is a 100-percent alternative water source (brackish groundwater) that utilizes reverse osmosis to produce high quality potable water from the Floridan aquifer and does not impact surficial water supplies. The 10 mgd facility retains adequate capacity to serve the existing populations of the Cities of Belle Glade, Pahokee and South Bay, the surrounding unincorporated County, as well as the future additional population increases and development projected to occur in the area, including the anticipated development of an inland logistics center and associated infrastructure.

5.0 FINISHED WATER DEMAND PROJECTIONS

As required by the statute, the County has based its population projections on the mid-range population projections prepared by the University of Florida, Bureau of Economic and Business Research (BEBR). However, the LEC Plan Update utilized the population projections issued by BEBR in 2021 as these projections represent the 'best available data'.

During the preparation of this Plan, the County Planning Division developed population forecasts for each utility's service area based on the 2023 Palm Beach County Population Allocation Model. Since BEBR issues only a single countywide figure for each county, the County's Allocation model then allocates these figures to smaller geographies for localized planning efforts (Traffic Analysis Zones, or TAZs) utilizing existing land use data and potential future growth based on each local government's adopted future land use maps.

The projected population by utility service area in the County was generated utilizing GIS technology. Using GIS, a layer of the service areas was compared against a layer containing population segregated into the TAZs. Each utility service region was assigned those TAZs that lie within its boundaries, and projections for each service area were obtained. The results of this effort are presented in **Table 5.1**. This exercise ensured the TAZ population data was allocated to the appropriate utility. The information in **Table 5.1** represents the methodology used to balance water supply plans throughout the Lower East Coast Region and is not binding for any entity. The base GIS map layers utilized to generate this table are graphically depicted in **Figure 4.2.** Through coordination with the utility providers during the preparation of this Water Supply Plan, the County Planning and Water Utilities Department staff worked with utility providers to

verify their service area boundaries with each entity, and incorporated information and feedback received into **Table 5.1**.

The self-served population or population served by private potable wells for PBCWUD was estimated using connection data and GIS potable water line data. Population on wells for other service areas was estimated using a GIS layer from SWFMD regarding the utility areas (where there is water line infrastructure in place).

5.1 Data and Analysis Requirement

This Water Supply Plan provides an inventory of potable water and wastewater service providers and their associated service areas throughout Palm Beach County. As previously indicated, utility service areas do not follow municipal boundaries. Fourteen municipal and other providers serve the unincorporated areas of the County, as shown in **Figure 4.2**. The utility service areas are developed with the prevailing goal of eliminating duplication of pipelines and infrastructure.

Table 5.1 provides the population projections for each of the service providers in the County. PBCWUD includes Seminole Improvement District, Atlantis, and part of Seacoast service areas. Lake Worth Beach includes Lake Osborne service area. Palm Springs includes the Lake Clarke Shores service area. Delray Beach includes Gulfstream service area. West Palm Beach includes Palm Beach and South Palm Beach service areas.

As encouraged by §163.3177(6)(c), F.S., the County coordinates with the SFWMD and local municipalities to cooperatively address future population and water supply planning during the preparation of updates to the Work Plan.

Table 5.1 Population Forecast Throughout Palm Beach County

Utility	2025		2030		2035	
	Total Pop Served	Unincorporated Population Served	Total Pop Served	Unincorporated Population Served	Total Population Served	Unincorporated Population Served
Boca Raton	126,533	25,216	131,684	25,540	138,052	26,165
Boynton Beach	122,202	36,061	127,832	37,732	131,275	38,726
Boynton Beach Self-Served (On Wells)	*1,169*	*1,169*	*876*	*876*	*657*	*657*
Delray Beach	72,998	2,872	76,332	3,065	81,135	3,099
Golf	3,329	2,959	3,344	2,973	3,361	2,988
Highland Beach	4,176	0	4,200	0	4,221	0
Jupiter	78,953	14,109	82,994	16,442	85,838	17,486
Jupiter Self-Served (On Wells)	*12,445*	*12,445*	*11,245*	*11,245*	*10,570*	*10,570*
Lake Worth Beach	57,235	13,127	58,530	13,379	59,630	13,500
Lantana	12,616	0	13,303	0	13,727	0
Manalapan	2,472	0	2,524	0	2,586	0
Mangonia Park	2,256	0	2,615	0	2,792	0
Maralago Cay	1,178	1,178	1,190	1,190	1,200	1,200
Palm Springs	52,615	23,376	54,106	24,144	55,484	24,889
Riviera Beach	44,820	3,478	46,538	3,522	47,910	3,570
Seacoast	107,084	18,776	112,940	19,388	117,735	19,717
Seacoast Self Served (On Wells)	*1,369*	*1,369*	*1,259*	*1,259*	*1,158*	*1,158*
Tequesta	9,076	2,303	9,434	2,385	9,559	2,412
Wellington	59,456	2,882	63,007	3,120	65,570	3,256
Wellington Self-Served (On Wells)	*3,157*	*693*	*2,998*	*656*	*2,758*	*604*
West Palm Beach	136,086	120	144,283	124	152,858	132
PBC WUD East Region	568,217	465,867	590,758	484,556	615,563	506,863
Seminole Improvement District	7,695	0	10,203	0	12,747	0
PBC WUD West Region	35,520	6,397	37,885	7,135	39,809	8,068
PBC WUD Total	**611,432**	**472,264**	**638,846**	**491,691**	**668,119**	**514,931**
Self-Served (On Wells)	*44,843*	*42,784*	*44,320*	*42,079*	*43,805*	*41,761*
Total Projected Population	**1,567,500**		**1,634,000**		**1,700,000**	
BEBR County Population	**1,567,500**		**1,634,400**		**1,700,000**	

PBCWUD includes Seminole Improvement District, Atlantis, and part of Seacoast service areas. Lake Worth Beach includes Lake Osborne service area. Palm Springs includes Lake Clarke Shores service area. Delray Beach includes Gulfstream service area. West Palm Beach includes Palm Beach and South Palm Beach service areas. See maps for service area locations and unincorporated areas served.

Source: PBC WUD, PBC Planning 2025 Population Allocation Model, 2024 Existing Land Use layer, PBC Property Appraiser, PBC Building/Zoning Division, University of Florida Bureau of Economic and Business Research

The non-PBCWUD water service providers within unincorporated Palm Beach County are identified in **Table 5.1.A**. Pursuant to Policy 3.1-c, the County has entered into written agreements with other entities as shown below in **Table 5.1.A** confirming their rights and responsibilities to provide utility services to the unincorporated areas of the County. The population of unincorporated County served by non-PBCWUD water service providers is shown in **Table 5.1.B.**

Table 5.1.A - PBCWUD Interlocal Agreements

Unincorporated County Service Provider	Effective Date of ILA	ILA Reference	Term of ILA
Boca Raton	9/3/1996	R-96-1200D	In Perpetuity
Boynton Beach	9/26/2000	R2000-1534	In Perpetuity
Delray Beach	2/25/2003	R2003-0284	In Perpetuity
Golf	No ILA Executed		
Jupiter	10/4/2011	R2011-1509	In Perpetuity
Lake Worth Beach	6/12/1990	R-90-926D	In Perpetuity
Lake Clarke Shores	7/7/2009	R2009-1123	7/7/2059
Palm Springs	9/2/1997	R-97-1130D	In Perpetuity
Riviera Beach	No ILA Executed		
Seacoast	9/12/1989 9/13/2005	R-89-1657D R2005-1769	In Perpetuity 9/13/2055
	4/18/2006	R2006-0687	4/18/2036
	3/22/2017	R2017-0444	3/22/2047
	5/23/2018	R2018-0962	5/23/2048
Tequesta	No ILA Executed		
Wellington (Acme)	4/28/1992	R-92-616D	In Perpetuity
West Palm Beach	9/12/1989 12/20/2006 12/7/2010	R-89-1657D R2005-2445 R2010-2045	In Perpetuity 12/20/2030
Seminole Improvement District	4/18/2006	R2006-0732	4/18/2036

At present, the County does not have a written service area agreement with the Village of Golf, City of Riviera Beach, or the Village of Tequesta. However, Article 6 of the County's September 13, 2005, agreement with the Seacoast Utility Authority (R2005-1769) addressed the provision of future water utility services for the unincorporated area of Jupiter Farms. Article 6 obligates the County to have sufficient bulk water capacity available to serve the specific unincorporated area adjacent to the Town of Jupiter. The County's Water Supply Work Plan therefore includes future service to the Jupiter Farms area.

The 2035 unincorporated population projected to be served by the three service providers that currently do not have agreements with the County (Golf, Riviera Beach and Tequesta) is 8,970 people (Table 5.1). Each of the providers holds existing water use permits issued by SFWMD with specified water allocations. The County anticipates a sufficient surplus surficial aquifer system water allocation within its current water use permit to meet projected demand for the three service providers through the ten-year planning horizon if for some reason the providers are unable to adequately provide for the projected population growth expected in these areas.

Table 5.1.B - Unincorporated PBC Served by Non PBC WUD Providers

Non-PBC WUD Service Provider	Unincorporated Population Served		
	2025	2030	2035
Boca Raton	25,216	25,540	26,165
Boynton Beach	36,061	37,732	38,726
Delray Beach	2,872	3,065	3,099
Golf	2,959	2,973	2,988
Jupiter	14,109	16,442	17,486
Lake Worth Beach	13,127	13,379	13,500
Maralago Cay	1,178	1,190	1,200
Palm Springs	23,376	24,144	24,889
Riviera Beach	3,478	3,522	3,570
Seacoast	18,776	19,388	19,717
Tequesta	2,303	2,385	2,412
Wellington	2,882	3,120	3,256
West Palm Beach	120	124	132
Total Non-PBC WUD Served Unincorporated Population[1]	**136,539**	**142,934**	**146,970**
Non-PBC WUD Served Unincorporated Population without ILA[2]	**9,918**	**10,070**	**10,170**
Potable Water Demand From Non-PBC WUD without ILA (mgd)[3]	1.0	1.0	1.0
Note 1 - Population values as presented and described in Table 5-1 Note 2 - Non-PBC WUD Served Unincorporated Population without ILA as presented in Table 5-1A and represents Villages of Golf and Tequesta, the City of Riviera Beach, and Maralago Cay Note 3 - Potable Water Demand from Non-PBC WUD without ILA represents Palm Beach County's Level of Potable Water Service of 103 gallons per capita per day multiplied by Non-PBC WUD Served Unincorporated Population without ILA			
Future Non-PBC WUD Served Unincorporated Population[4]	0	6,395	10,431
Future Non-PBC WUD Served Unincorporated Population without ILA[5]	0	152	252
Potable Water Demand from future Non-PBC WUD without ILA (mpg)[6]	0	0.02	0.0.3
Note 4 - Represents Projected Population minus 2025 population already being served Note 5 - Includes Villages of Golf and Tequesta and the City of Riviera Beach Note 6 - Refer to Note 3 for calculation formula			

A more detailed breakdown of the population served by PBCWUD is presented in **Table 5.2** in the following section.

5.2 Coordination with LEC Plan

The 2025 population projections resulting from the application of the Palm Beach County Allocation Model utilized in the development of this Work Plan are different than the 2021 BEBR projections utilized by the SFWMD during the preparation of the most recent LEC Update. However, SFWMD staff indicated that the County's allocation methodology and projections utilized by the County are acceptable, and that the District would facilitate a coordinated planning approach with other local governments within the County.

PBCWUD's projected populations through 2035 are shown in **Table 5.2.** In 2035, PBCWUD expects to be providing potable water to 667,443 people as well as a portion of the population that is currently self-served. The projections presented in **Table 5.2** below correspond with the SFWMD's population projections in the LEC Plan.

The population values shown for "Palm Beach County Planning" represent the information presented in **Table 5.1**. The LEC Plan recognizes that the population projections are expected to change over time. The LEC Plan states:

> *"The projections reflect trends, economic circumstances, and industry intentions that will change over time. Like any predictive tool based on past assumptions, there is uncertainty and a margin for error."*

The SFWMD received vast amounts of information from utilities within the planning area throughout the LEC planning process. A determination of future needs for each service area was developed with the finalization of the LEC Plan. Palm Beach County is confident that the population projections and the methodology used in the determination are consistent with the values used by SFWMD in development of the LEC Plan and the goal of providing for the future needs of the unincorporated population.

Table 5.2 - Population Forecast for PBCWUD

PBC WUD Served Population	2025	2030	2035
Unincorporated County	473,442	492,881	516,131
Atlantis	2,160	2,186	2,263
Belle Glade	17,722	18,814	19,347
Boca Raton	598	645	662
Cloud Lake	171	174	175
Glen Ridge	276	279	280
Greenacres	45,480	46,327	46,961
Haverhill	2,399	2,557	2,630
Lake Clarke Shores	367	370	407
Loxahatchee Groves	349	589	864
Pahokee	6,086	6,262	6,546
Palm Beach Gardens	1,386	1,585	1,690
Palm Springs	1,903	3,098	3,731
Royal Palm Beach	35,066	36,134	36,409
South Bay	5,315	5,674	5,848
Wellington	9,623	9,653	9,696
Westlake	7,695	10,203	12,747
West Palm Beach	1,046	1,051	1,056
Total Population Served by PBC WUD	**611,084**	**638,482**	**667,443**
The following values represent the population throughout unincorporated Palm Beach County that is self- served via wells. All have the potential to request utility service from PBC WUD at any given time. For conservative facility planning purposes, plants are sized to be able to serve all the self-served population in addition to the population projected throughout the utility service area.			
Self-Served Population	**2025**	**2030**	**2035**
Loxahatchee Groves	3,141	3,334	3,454
Unincorporated PBC/Glades	42,784	42,079	41,761
Total Self-Served Population	**45,323**	**44,843**	**44,320**

5.3 Contracted Bulk Water Customers/Demands

Utilities continue to recognize the advantages offered through the regionalization of treatment facilities. Sharp increases in operational costs are causing many utilities to find alternative strategies for providing redundancy, ensuring system reliability, and serving peak demands. Frequently, contracting with a larger utility, such as Palm Beach County, to purchase bulk utility capacity is less expensive than constructing, operating, and maintaining new infrastructure. Additionally, determining where to construct new infrastructure and wellfields is becoming problematic for some utilities due to regulatory constraints and other pressures. Other utilities simply require a cushion of time to raise the capital required to expand and construct new treatment plants and water supplies. The impact of bulk water sales to the PBCWUD system is presented in **Table 5.3**.

NOTE: The bulk utility service demands presented in **Table 5.3** are not overlapped or "double-counted" with the population forecast demands presented in the **Tables 5.1, 5.2, and 5.5** because the bulk water will be utilized to serve customers not located within PBCWUD's utility service area.

Table 5.3 – PBCWUD Contracted Bulk Water Customers

Year	FW Demand from Bulk Agreements (mgd)		Boynton Beach Bulk Agreement 2013 (mgd)		Lake Worth Beach Bulk Agreement 2010 (mgd)		Seacoast Bulk Agreement 2005 (mgd)		Seminole Bulk Agreement 2007 (mgd)		FPL Bulk Agreement 2007 (mgd)		Parkland Bulk Agreement 2007 (mgd)		Atlantis Bulk Agreement 1992 (mgd)		Lake Clarke Shores 2009 Agreement (mgd)		Northern Springs Improvement District 2018 Agreement (mgd)	
	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF
2006	**2.6**	**7.0**	1.0	5.0	1.6	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2007	**3.6**	**12.0**	2.0	5.0	1.6	2.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2008	**7.0**	**17.4**	2.0	5.0	3.2	4.0	0.3	0.4	0.0	5.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2009	**7.0**	**17.4**	2.0	5.0	3.2	4.0	0.3	0.4	0.0	5.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2015	**4.54**	**18.53**	1.00	5.00	0.00	0.00	0.11	5.00	0.10	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.00	0.00
2016	**4.54**	**18.53**	1.00	5.00	0.00	0.00	0.11	5.00	0.10	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.00	0.00
2017	**4.94**	**18.53**	1.00	5.00	0.00	0.00	0.51	5.00	0.10	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.00	0.00
2018	**4.94**	**18.53**	1.00	5.00	0.00	0.00	0.51	5.00	0.10	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.00	0.00
2019	**5.25**	**18.54**	1.00	5.00	0.00	0.00	0.66	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2020	**5.65**	**18.54**	1.00	5.00	0.00	0.00	1.06	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2021	**5.95**	**18.54**	1.00	5.00	0.00	0.00	1.36	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2022	**6.25**	**18.54**	1.00	5.00	0.00	0.00	1.66	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2023	**6.50**	**18.54**	1.00	5.00	0.00	0.00	1.91	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2024	**6.50**	**18.54**	1.00	5.00	0.00	0.00	1.91	5.00	0.25	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2025	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2026	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2027	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2028	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2029	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2030	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2031	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2032	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2033	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2034	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02
2035	**6.90**	**18.54**	1.00	5.00	0.00	0.00	1.96	5.00	0.60	5.00	1.00	1.00	0.80	1.00	0.73	0.73	0.80	0.80	0.02	0.02

Source of information is agreements held by Palm Beach County Water Utilities Department

**The 2010 Bulk Agreement (R2010-1161) was satisfied by the City of Lake Worth Beach and effective 06/10/2013, the City stated that they would no longer purchase Bulk Water from the County.*

ADF = Average Daily Flow; MDF = Maximum Daily Flow

FW = Finished Water

5.4 Formerly Self-Served Population

WUD instituted a Special Assessment Program that provides a means by which neighborhoods using private wells for water supply can request public water service. Since 1988, WUD has converted approximately 9,500 properties from wells to potable water (over 20,000 customers) via its Special Assessment Program. Palm Beach County will continue to include areas where people utilize private wells for water supply. However, property owners continue to contact PBCWUD to request potable water service. The County anticipates that the following issues will continue to drive people to public utilities verses maintaining private wells.

- **Drought:** Significant recent severe drought periods experienced in South Florida resulted in a negative impact on shallow aquifer wells. Some wells previously constructed by homeowners are drying up or producing less water. Public utility service removes the burden of managing a private well to sustain extreme drought conditions.

- **Water Restrictions:** The imposition of water restrictions by SFWMD results in a number of homeowners seeking public utility service. This is particularly true in areas where reclaimed water is available or scheduled to be available.

- **Hurricanes & Power Outages:** Private wells do not operate effectively following hurricanes and/or power outages unless a homeowner possesses a generator. PBCWUD's Special Assessment Program received a large number of requests from communities on private wells that were impacted by hurricanes or other severe storm events.

- **Marketability:** New residents to the County have historically desired public utilities. Having public water and/or sewer service greatly enhances the value of a property. Many people are responding favorably to assessment projects so that the value of their estate will be increased through the provision of public water service.

- **Fire Protection:** Property owners desire the added protection of having fire hydrants near their home to be able to quickly put out fires that may erupt. Also, the escalated cost of homeowner's insurance is somewhat reduced by the presence of fire hydrants near a property.

- **Fuel and Chemical Costs:** Since the LEC Plan update was published, the cost of chemicals and power associated with home-based wells and water treatment equipment continues to increase.

The LEC Plan recognizes the number of self-served people within the County. These people are not assigned to any utility for potable water service. PBCWUD projects that 60-percent of the self-served population will eventually convert to public utility service for the reasons listed above. Since this population is included in the LEC Plan, it is not a new source of water use and instead qualifies as an existing source. A portion of this existing, recognized water use source needs to be reassigned to utilities as more people abandon their wells for public utilities. PBCWUD anticipates that the Special Assessment Program will continue to ramp up and facilitate a portion of the self-served population to become utility customers using public water supplies. This "conversion" is presented in **Table 5.4**. For planning purposes, we have incorporated these "converted" self-served population values into WUD's customer base. This conservative approach provides the added benefit of ensuring an adequate water supply will be available to serve people desiring to rid themselves of the burden of private well systems. This approach does not affect LEC Plan

projections because this population base is clearly represented in the SFWMD model.

Table 5.4 – Formerly Self-Served Population Consideration

Year	LEC Plan Identified Self- Supplied Population[1]	PBC Identified Self- Supplied Population[2]	Cumulative Number of Customers added from Special Assessment Program[3]	Served Population by TAZ[4]	Served Population[5]
2020	**52,004**	**63,193**	**23,632**	**565,820**	**589,452**
2021			23,632	561,721	585,353
2022			23,632	557,622	581,254
2023			23,632	553,523	577,155
2024			23,632	559,004	582,636
2025	**59,186**	**64,065**	**23,632**	**610,350**	**633,982**
2026			23,657	615,831	639,488
2027			23,682	621,311	644,993
2028			23,707	626,792	650,499
2029			23,732	632,272	656,004
2030	**61,318**	**61,791**	**23,757**	**637,753**	**661,510**
2031			23,782	643,544	667,326
2032			23,807	649,335	673,142
2033			23,832	655,127	678,959
2034			23,857	660,918	684,775
2035	**62,485**	**60,358**	**23,882**	**666,709**	**690,591**

*Revised from previous Water Supply Plan to reflect more recent data

[1] Represents population throughout the County using private wells for water supply as identified in the LEC plan which goes through 2045

[2] PBC "Self-Supplied Population" represents values presented in Table 5.1

[3] Represents the amount of people previously using wells ("self-served") that connect to public water supply

[4] "Served Population by TAZ" represents PBCWUD values presented in Table 5.1

[5] "Served Population" represents population served by TAZ PLUS population requesting public water in lieu of their wells

5.5 Finished Water Demand

PBCWUD's finished water demand was calculated by multiplying the population served times the per capita rates outlined in the 2023-2024 Lower East Coast Supply Plan. For the Eastern Region Distribution System the per capita rate was 103 gallons per capita per day (gpcd). The Western Region Distribution System per capita rate was 176 gpcd. To accurately reflect the total amount of finished water demand, the forecasted demand from contracted bulk water customers was added to the projected population demand. The demand for the bulk water agreements are served solely by the Eastern Region permit (50-00135-W). PBCWUD expects the 2025 combined finished water demand of 74.79 mgd, for both the Eastern and Western Regions, will increase to 80.94 mgd in 2035 as shown in **Table 5.5**. An equivalent population for 80.94 mgd of finished water would be 757,581 people.

Not all of PBCWUD's finished water demand will be satisfied using the surficial aquifer system as a source water; serving to potentially further lower the demands on the regional water system. The County's robust alternative water resources program will more than likely result with more water being returned to the regional system as is further detailed in Section 8 of this Water Supply Plan

Table 5.5 PBCWUD Finished Water Demand

Year	Served Population	Eastern Distribution Served Population	Western Distribution Served Population	Finished Water Demand from Served Population (mgd)		Eastern Distribution System Finished Water Demand from Served Population (mgd)		Western Distribution System Finished Water Demand from Served Population (mgd)		Finished Water Demand from Bulk Agreements (mgd)		Total Finished Water Demand (mgd)		Equivalent Population Potentially Served by PBCWUD
				ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	ADF	MDF	
2025	633,982	598,462	35,520	67.89	82.83	61.64	73.97	6.25	7.63	6.90	18.54	74.79	101.37	700,972
2026	639,488	603,495	35,993	68.49	83.56	62.16	74.59	6.33	7.73	6.90	18.54	75.39	102.10	706,478
2027	644,993	608,527	36,466	69.10	84.30	62.68	75.21	6.42	7.83	6.90	18.54	76.00	102.84	711,983
2028	650,499	613,560	36,939	69.70	85.03	63.20	75.84	6.50	7.93	6.90	18.54	76.60	103.57	717,489
2029	656,004	618,592	37,412	70.30	85.77	63.72	76.46	6.58	8.03	6.90	18.54	77.20	104.31	722,995
2030	661,510	623,625	37,885	70.90	86.50	64.23	77.08	6.67	8.13	6.90	18.54	77.80	105.04	728,500
2031	667,326	629,056	38,270	71.53	87.26	64.79	77.75	6.74	8.22	6.90	18.54	78.43	105.80	734,316
2032	673,142	634,488	38,655	72.16	88.03	65.35	78.42	6.80	8.30	6.90	18.54	79.06	106.57	740,133
2033	678,959	639,919	39,039	72.78	88.79	65.91	79.09	6.87	8.38	6.90	18.54	79.68	107.33	745,949
2034	684,775	645,351	39,424	73.41	89.56	66.47	79.77	6.94	8.47	6.90	18.54	80.31	108.10	751,765
2035	690,591	650,782	39,809	74.04	90.33	67.03	80.44	7.01	8.55	6.90	18.54	80.94	108.87	757,581

Finished Water Demand based upon PBCWUD per capita rates found in the SFWMD 2023-2024 Lower East Coast Plan Water Supply Plan Update

Per Capita Rates: Eastern Distribution 103 gpcd; Western Distribution 176 gpcd

Finished Water Demand from Bulk Agreements is representative of values presented in Table 5.3

The PBCWUD Population includes the former GUA (Cities of Pahokee, South Bay, and Belle Glade) which is now the PBCWUD Western Region service area.

Max day to avg day peaking factor of 1.22

5.6 Water Treatment Plants

Palm Beach County Water Utilities Department has five existing water treatment plants (WTP 2, 3, 8, 9 and 11) that are permitted to provide approximately 113.28 million gallons per day (mgd) of finished water capacity for consumer demand - 103.28 mgd from WTP 2, 3, 8, and 9 and 10.0 mgd from WTP 11. **The County's water distribution system is interconnected throughout its service area, excluding the Western (Glades) Region.**

The interconnected Eastern Region Distribution System (50-00135-W) is represented by WTP 2, 3, 8 and 9, where finished water can be pumped from any plant to meet customer demands. The permitted capacity of this system is 104.4 MGD. Both the Floridan and surficial aquifer systems are sources of water in for the Eastern Region. Raw water capacity for the wellfields in this system is 135 MGD.

The Western Region Distribution System (Glades Region; CUP 50-06857-W) is separate and served only by WTP 11. This system has a permitted capacity of 10 MGD. All wells in this system pull water from the Floridan aquifer system. Raw water capacity for the wellfields in this system is 15 MGD.

5.6.1 Eastern Region Distribution System

Water Treatment Plant 2 is a lime softening plant and ion exchange plant with a total treatment capacity of 16.4 MGD. Lime softening and ion exchange (IXOM resin) treatment capacities are 16.4 mgd and 14.5 mgd respectively. Ion exchange is a treatment process in addition to lime softening and does not add additional treatment capacity. This facility will shift to membrane softening by 2030.

Water Treatment Plant 3 is a nanofiltration membrane plant with a total treatment capacity of 30.0 mgd with a 15 percent raw water bypass blend. Membrane softening accounts for 25.5 mgd while the remaining 4.5 mgd is for raw water blending.

Water Treatment Plant 8 is a lime softening and ion exchange plant with a total treatment capacity of 30.0 mgd. Lime softening and ion exchange (Tonka resin) treatment capacities are 30.0 mgd and 30.0 mgd respectively. Ion exchange is a treatment process in addition to lime softening and does not add additional treatment capacity. This facility will shift to membrane softening by 2030.

Water Treatment Plant 9 is a nanofiltration membrane plant with a total treatment capacity of 26.88 mgd with a 15 percent raw water bypass blend. Membrane softening accounts for 23.88 mgd while the remaining 3.0 mgd is for raw water blending.

5.6.2 Western Region Distribution System

Water Treatment Plant 11 is a reverse osmosis plant with a total treatment capacity of 10.0 mgd.

6.0 RAW WATER DEMAND PROJECTIONS

Based upon the results of extensive comprehensive planning, master planning, and expected population growth, Palm Beach County has developed a capital improvements program to ensure adequate water supply and water treatment facilities will be available to satisfy projected demand through the year 2035.

As documented in the 2023-2024 Water Supply Plan Update, Palm Beach County Water Utilities Department's Eastern Region has operated with an average finished water per capita usage of 103 gpcd. This is a reduction from previous use levels. When the previous consumptive use permit was issued in 2003, the finished water per capita usage was approximately 126 gpcd. A significant factor in the reduction of per capita demand has been the implementation of the Water Utility Department's Water Conservation Program. The Program includes an aggressive inclining block rate structure that was updated in 2007 to achieve further conservation benefits, customer outreach efforts, and the enforcement of the County's irrigation ordinance adopting the South Florida Water Management District's Year-Round Landscape Irrigation Conservation Rule (Chapter 40E-24, F.A.C.). Palm Beach County adopted the Mandatory Year-Round Landscape Irrigation Conservation Measures Ordinance on February 24, 2022. The ordinance adopts the rules of the SFWMD, listed in Rule 40E-24.201(1)-(5) and (7), Florida Administrative Code.

The finished water per capita rate for the Western Region reflects a usage of 176 gpcd. Per capita rates are based on the 2023-2024 Lower East Coast Supply Plan Update.

Additionally, all Eastern Region County facilities are proposed to shift to membrane treatment technology by 2035. The raw water per capita rate is increased to 115.7 gpcd per the 2022 consumptive use permit. The increased raw water per capita is attributed to the membrane process that produces higher quality water by generating a concentrated waste stream. The waste stream is equivalent to 15 percent of the incoming raw water flow. Palm Beach County has instituted a program to optimize recycling of the membrane waste into its reclaimed water program.

A summary of Palm Beach County's facility capacity analysis is presented in **Table 6.1 (Eastern Region)** and **Table 6.2 (Western Region)** for each of the 5-year planning increments. Palm Beach County's facility expansion strategy has been designed to have a surplus condition for both raw water and finished water facilities throughout the 10-year planning period. The County's operating strategy is to divide the system-wide demand as equally as possible among the treatment plants in the Eastern Region Distribution System. This strategy optimizes facility operations and provides a level of equilibrium for operations.

Table 6.1 - Eastern Region Facility Capacity Analysis

Facility Capacity Analyses	2025	2030	2035
PBCWUD East Region Population	610,350	637,753	666,709
Cumulative Self-Served Conversions (Wells)	23,632	23,757	23,882
Total Eastern Region Population Served[1]	633,982	661,510	690,591
Demand per Capita (gpd)[2]	103	103	103
Contracted Finished Water Bulk Demand (mgd)	6.90	6.90	6.90
Total Finished Water Average Daily Demand (mgd)	75	78	81
Total Raw Water Average Daily Demand (mgd)[3]	**86**	**89**	**93**
Available Raw Water Facility Capacity (mgd)[4]	135	135	135
Raw Water Facility Capacity Surplus[5]	49	46	42

Permitted Raw Water Allocation (mgd annual average)[6]	104	104	104
Total Raw Water Average Daily Demand (mgd)	86	89	93
Permitted Surplus (Deficit)[7] (mgd)	**18**	**15**	**11**

[1] Population Served represents projected retail customers and self-served conversions, Table 5-4.

[2] Demand per Capita based upon population served.

*[3] ADF raw water = 1.14 * ADF FW (per historical and capacity based analyses)*

[4] Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

[5] Calculated by subtracting average daily demand from available facility capacity.

[6] Permitted groundwater withdrawal allocation from Permit #50-00135-W.

[7] Values do NOT reflect offsets from alternative water supplies as further documented in Section 8.

[8] PBCWUD is projecting to meet and exceed the AWS requirements contained in Permit #50-00135-W as presented in Tables 8.2 and 8.4.

Table 6.2 - Western Region Facility Capacity Analysis

Facility Capacity Analyses	2025	2030	2035
Population Served[1]	35,520	37,885	39,809
Demand per Capita (gpd)[2]	176	176	176
Total Finished Water Average Daily Demand (mgd)	6	7	7
Total Raw Water Average Daily Demand (mgd)[3]	**8**	**8**	**8**
Available Raw Water Facility Capacity (mgd)[4]	10	10	10
Raw Water Facility Capacity Surplus (mgd Deficit)[5]	2	2	2
Permitted Raw Water Allocation (mgd annual average)[6]	10	10	10
Floridan Aquifer ADF Withdrawal (mgd)[7]	8	8	8
Water Available[8] (mgd)	**2**	**2**	**2**

[1] Population Served represents projected retail customers and self-served conversions, Table 5-4.

[2] Demand per Capita based upon population served.

*[3] ADF raw water = 1.21 * ADF FW (per historical and capacity based analyses)*

[4] Raw Water Facility Capacity = Wellfield Capacity with two largest wells out of service for each individual wellfield.

[5] Calculated by subtracting average daily demand from available facility capacity.

[6] Permitted groundwater withdrawal allocation from Permit #50-06857-W.

[7] Values do NOT reflect offsets from alternative water supplies as further documented in Section 8.

[8] PBCWUD is projecting to meet and exceed the AWS requirements contained in Permit #50-00135-W as presented in Tables 8.2 and 8.4.

7.0 RAW WATER SOURCE IDENTIFICATION

Eastern Region

Palm Beach County WUD's 20-year Consumptive Water Use Permit (50-00135-W) supporting the Eastern Region was issued on March 31, 2022 and expires on December 31, 2053. The permit authorizes withdrawals to meet the future reasonable-beneficial demands of 763,725 residents with a per capita use rate of 115.7 gallons per capita per day. An average allocation of 97.4 MGD is available from the surficial aquifer system with supplementary water supplied by the Floridan aquifer system in the amount of 7 MGD.

PBCWUD committed to the development of approximately 57 MGD of alternative water supply under maximum month pumping conditions (Exhibit 10 of application 210924-3), including the Floridan aquifer system and reclaimed water. Due to PBCWUD's commitment to AWS, the required volume has been far exceeded. By 2035, it is estimated that a maximum volume of 85.1 MGD of AWS will be available (Table 8.3).

The County is planning to implement alternative sources above and beyond the mandated quantities. The exact use of each component is dependent upon actual customer demands. For example, if finished water demands are significantly reduced, PBCWUD will not have as much raw wastewater to utilize for reclaimed water as desired. Additionally, PBCWUD is not moving forward with the ASR program as this system is proving to be inefficient. PBCWUD will continue to aggressively expand its reclaimed water program. The County will satisfy its Water Use Permit requirements and intends to remain a leader in the field of alternative water supplies as long as it is technically feasible and viable.

PBCWUD provided SFWMD reasonable assurances that the Utility's proposed use is consistent with the prevention plan for the Biscayne aquifer as described in Rule 40E-8.421(4) of the Florida Administrative Code (FAC). Specifically, the modeling results indicate the area of influence of the four wellfields (excluding Royal Palm Beach and Lake Region wellfields) does not extend to the coastal saline water interface and will not result in saline water intrusion, consistent with the Biscayne aquifer minimum flows and levels (MFL) prevention plan. Additionally, the proposed use will not lower coastal canal stages.

Western Region

Palm Beach County WUD's 20-year Consumptive Water Use Permit (50-06857-W) supporting the Western Region was issued on October 12, 2005 and expires on October 12, 2025. The permit authorizes withdrawals to meet the future reasonable-beneficial demands of 42,115 residents across the Cities of Belle Glade, Pahokee, and South Bay with a per capita use rate of 224 gallons per capita per day. The full allocation is available from the Floridan aquifer system.

The permit has been modified several times since issuance to update proposed withdrawal facilities and address concerns over upconing of saline water. The permit is not subject to any of the District's Restricted Allocation Area or Source of Limited Availability criteria due to a combination of its location and withdrawal source. An renewal application for the consumptive use permit will be submitted to SFWMD prior to permit expiration.

7.1 SURFICIAL AQUIFER WELLFIELDS

A description of each active wellfield is given below and is consistent with current operations and those forthcoming in a consumptive use permit modification. The wellfields previously associated with PBCWUD Wellfields 1 and 7, (decommissioned in 2002), were assigned to Wellfield 8 and the wells are numbered accordingly. However, due to the location of these wells and the absence of raw water piping to physically connect the wells with Wellfield 8, they were plugged and abandoned in 2002 (WUD 00-136). Well 10 and the associated wellfields have been decommissioned and water provision to the service area is being supplied by Wellfield 8.

The surficial aquifer system (Fish, 1988; Fish and Stewart, 1991) comprises a sequence of highly permeable limestone, quartz sand, shell, and terrigeneous mudstone of Pliocene to Holocene age. It is unconfined and generally extends from land surface to 200 below land surface. Rainfall and seepage from canals, lakes, the Everglades, and other wetlands recharge the surficial aquifer system (SAS). The surficial aquifer system has been divided into separate aquifers and semi-confining (leaky) units of quartz sand, terrigeneous mudstone, and limestone (Fish, 1988; Fish and Stewart, 1991). The Fort Thompson Formation, Anastasia Formation, and Key Largo Limestone yield the most water and constitute the prolific Biscayne aquifer. The Biscayne aquifer generally is considered to extend northward from southeastern Monroe County and southernmost Miami-Dade County into southern Palm Beach County. In southern Palm Beach County, the Anastasia and Fort Thompson Formations compose the Biscayne aquifer and does not extend into central and northern Palm Beach County. However, a moderately to highly transmissive limestone sequence forms its lateral hydrogeologic equivalent and has been defined as the non-Biscayne production zone (Shine and others, 1989).

7.1.1 Wellfield 2

Wellfield 2 is located to the east of Pinehurst Drive just north of 10th Avenue North in West Palm Beach. PBCWUD has 16 existing surficial aquifer system wells with a withdrawal capacity of 22.6 MGD and has proposed 21 other surficial aquifer system wells. Six of the existing wells are being relocated/replaced. The proposed wells have a design capacity of 39.3 MGD. New wells are scheduled in preparation for the future WTP 2 expansion to 10 MGD of membrane treatment. WTP 2 will be expanded from 16.4 MGD to an ultimate capacity of 21 MGD and 30 MGD buildout capacity.

PBCWUD and PBC Parks and Recreation have worked closely in the area of Wellfield 2 to design the Cholee Park lake system. This lake system will provide recharge to the groundwater in the vicinity of the wellfield and promote wetland preservation within the park. PBCWUD's and Lake Worth Drainage District's 20-year water use permits required both groups to work together for design and construction of a new pump station along the SFWMD's C-51 Canal to maintain water elevations at 13.0 feet NGVD. This pump station became fully operational in 2005.

7.1.2 Wellfield 3

Wellfield 3 is currently located between Florida's Turnpike and just east of Jog Road between the LWDDs L-29 and L-31 canals. The eastern portion of the wellfield was constructed during the 1970's and consists of wells 3W-1 through 3W-7. Since 1988, the County has added nineteen wells, 3W-8 through 3W-10 at the Wellfield 3 site; 3W-20 and 3W-21 along Jog Road; 3W-11 and 3W-12 along the L-30 canal; 3W-13 through 3W-18 near the Southern Region Water Reclamation Facility (SRWRF) site; and 3W-23 though 3W-29 along Hagen Ranch Road. In 2001 wells 3W-1 through 3W-7 were up-rated to 1,000 gallons per minute and ten new production wells were constructed in 2003 (WUD 00-136). The production wells provide raw water adequate for the

planned expansion of WTP 3. PBCWUD constructed four new production wells in 2008 to ensure the wellfield serving WTP 3 has adequate capacity at all times.

PBCWUD currently has 29 existing surficial aquifer system wells with a withdrawal capacity of 48.5 MGD and has proposed 12 additional surficial aquifer system wells. Two of the existing wells have pending screen replacements. The proposed well has a design capacity of 1.44 MGD.

7.1.3 Wellfield 8

Wellfield 8 is located along Florida's Turnpike between Belvedere Road and Okeechobee Boulevard. Wells have been installed in increments since 1982. Wells formerly associated with the County's WTPs 1 and 7 but could not be efficiently used to supply WTP 8 with raw water. Wells 8W-19 and 8W-20 located directly east of the WTP 8 site were also abandoned.

PBCWUD currently has 25 existing surficial aquifer system wells with a withdrawal capacity of 36.0 MGD. Four of the existing wells are being relocated/replaced and another four have pending screen replacements.

7.1.4 Wellfield 9

Wellfield 9 is located south of W Palmetto Park Road in the vicinity of the Boca Dunes Golf course and along the north side of the Hillsboro Canal, west of State Road 7 N. PBCWUD currently has 30 existing surficial aquifer system wells with a withdrawal capacity of 48.4 MGD and one proposed well. Two of the existing wells are being relocated/replaced while five of the existing wells are pending screen replacements.

7.2 FLORIDAN AQUIFER WELLFIELDS

The Floridan aquifer system is one of the most productive aquifers in the United States and underlies all of Florida and parts of Georgia, South Carolina, and Alabama for a total area of about 100,000 square miles. The Floridan aquifer system (FAS) consists of an extensive sequence of thickly-bedded, Tertiary-aged limestone and less abundant dolomites that are connected by varying degrees. The FAS in western Palm Beach County consists of Ocala Limestone, Avon Park Formation, Oldsmar Formation, and locally Suwannee Limestone. The base of the FAS is generally placed at the top of the uppermost evaporate (anhydrite) bed in the Cedar Keys Formation, which occurs approximately 3,500 feet below ground surface in the Lake Region WTP (WTP 11) area (Miller, 1986). Regionally, the FAS contains the upper, middle, and lower producing zones. The Upper Floridan aquifer (UFA) is the production zone of choice for PBCWUD withdrawals as it is the most accessible, productive, and freshest source. Based on data compiled near WTP 11, the UFA is present from approximately -940 to -1,440 ft NGVD.

7.2.1 Wellfield 2

An ASR well is no longer proposed for Wellfield 2. One UFA well remains proposed.

7.2.2 Wellfield 3

As part of the Wellfield 3, PBCWUD constructed an ASR well in 1999. Known as Southern Region Operations Center (SROC) ASR well, the design capacity is 2.2 MGD. The purpose of this well has since changed to future use as an Upper Floridan aquifer blending well due to the uncertainty of environmental, technical, or economic or feasibility of ASR.

7.2.3 Wellfield 8

An ASR well is no longer proposed for Wellfield 8. One UFA well remains proposed.

7.2.4 Wellfield 9

The East Hillsboro Canal ASR well (WUD 98-66, Florida Department of Environmental Protection WACS Facility ID 97730) was constructed to store 5 MGD of raw water to mitigate peak water supply demands at WTP 9. The ASR Well has been modified to be used as a blending well.

7.2.5 Wellfield 11

Raw water is withdrawn from the Upper Floridian aquifer (UFA) via 11 wells located along State Highway 715 north of Hooker Highway. Plant capacity will not be increased; however, system efficiency will increase, allowing for more effective utilization of the facility and flexibility in the operation of the existing wellfield to abate concerns over upconing of saline water. Well 11 construction was completed in 2019. Additional well sites are anticipated as part of the upcoming application for permit renewal to meet future demands while reducing the stress on the aquifer.

8.0 ALTERNATIVE WATER RESOUCES PROGRAM

The County is actively and aggressively implementing alternative water resource projects. This program supports the SFWMD LEC Plan for reducing reliance on the regional shallow aquifer system including demand reduction, supply management, and augmentation techniques. The County is proactively expanding alternative water resources that address both innovative supply sources and reuse of wastewater.

The County's alternative water resources program is multifaceted in that many benefits are realized:

- Minimizing dependence upon the surficial aquifer system and the regional water supply system;
- Implementing a robust water conservation plan;
- Maintaining a steady raw water supply for water treatment plants;
- Reducing the amount of fresh water drained from the land and discharged to the ocean;
- Minimizing stressing of wellfields;
- Minimizing the "net" quantity of water withdrawn from the surficial aquifer system;
- Providing landscaping water supply during drought conditions;
- Reducing reliance upon deep injection well system for wastewater effluent disposal;
- Providing habitat for migratory birds and waterfowl and endangered species;
- Providing passive recreation opportunities for the public;
- Increasing suburban green space.

Water supply in South Florida requires a complex and difficult balancing of a multitude of considerations. As the number of customers served by PBCWUD increases, the associated increase in demand must be balanced with permitted aquifer allocations. When the County received its 20-year water use permit in 2003, the future bulk customer market and the regionalization of utility service were not front-line topics. Therefore, PBCWUD has continued to maximize its use of alternative supplies as demonstrated in 2022 permit renewal, serving more people with the same baseline allocations. The County continues to cultivate and implement new innovative water supply projects.

The purpose of the County's Alternative Water Resources Program encompasses a myriad of issues. The Department's top goals for the program are as follows:

Reduce impact on the "regional system". All urban and environmental users are ultimately reliant upon the "regional system" as defined as Lake Okeechobee and the downstream Water Conservation Areas. Whether a direct user, such as LWDD, or an indirect user, such as PBCWUD, the more water supply sources are made, the longer our existing resources will remain viable.

Implement real water conservation. Water conservation is the key to maintaining the health and productivity of the Surficial and Floridan aquifer systems. Promoting water conservation equipment, techniques, and practices will benefit customers economically and maintain a realistic water demand picture for utilities. PBCWUD promotes conservation through a variety of means including an inverted rate structure, conservation ordinance, public education, and offering low-cost kits to its customers to reduce water use in their homes.

Recently, Ordinance 2018-002 adopted in February 2018, updated existing authority governing

landscaping and irrigation including the installation of native and drought-tolerant plant materials in appropriate areas; the use of water conserving irrigation practices; and the adherence to landscape installation standards and maintenance procedures that promote water conservation following SFWMD's Waterwise Florida Landscapes publication.

The inclining block rate structures are intended to promote water conservation and encourage the efficient use of water, both potable and alternative. Since October 2007, a commodity fee for reclaimed water was implemented by PBCWUD to encourage conservation and to adsorb some of the effluent disposal costs previously borne by wastewater customers. These rate structures show the County is committed to conservation efforts of not only our traditional water source but also our alternative water supply.

PBCWUD Conservation Plan

1. Limitation of lawn and ornamental irrigation hours: Palm Beach County passed an Irrigation Ordinance that restricts landscape irrigation to between the hours of 4:00 pm and 10 am three days per week.

2. Use of Xeriscape Principles: The Palm Beach County Land Development Code, Article 7 Landscaping, references the District's most recent Waterwise Florida Landscapes guide in the selection of new plantings.

3. Ultra-Low Volume Plumbing Fixture Requirements: The County Building Code requires ultra-low volume plumbing fixtures in all new construction.

4. Water Conservation Based Rate Structures: PBCWUD has had a conservation-based rate structure for over a decade that includes increasing block rates as a means of reducing demands. The rate structure also includes a commodity fee for reclaimed water to encourage conservation.

5. Leak Detection Programs: PBCWUD completes an unaccounted-for water and leak detection program on an annual basis. The program results have indicated that system leakage is well below industry standards for the Eastern Region permit (50-00135-W). For the Western Region (50-06857-W), which has water loss above industry standards, PBCWUD has an ongoing and aggressive infrastructure improvement program to reduce water loss.

6. Requirements of Rain Sensor Override for New Lawn Sprinkler Systems: The County Building Code requires any person who purchases and installs an automatic lawn sprinkler system to operate and maintain a rain sensor device or automatic switch that will override the irrigation system with the occurrence of adequate rainfall.

7. Water Conservation Public Education Programs: PBCWUD distributes brochures, educational videos, staff display booths at local fairs, provides water conservation information on an internet site, and hosts tours of Wakodahatchee Wetlands to promote conservation within the community. PBCWUD also posts information in the form of signs, press releases, and messages about water conservation and water quality. Messages are often placed on a flyer or directly on utility bills.

8. Analysis of Economic, Environmental, and Technical Feasibility of Reusing Reclaimed and/or Recycled Water: PBCWUD's commitment to reclamation of water is shown by our use of wetland treatment facilities, a mandatory reclaimed water use service area

(Reclaimed Water Ordinance 97-12), expansion of treatment facilities, and implementation of other methods of water conservation. A more detailed explanation of PBCWUD's commitment to reclaimed water is given in Section 8.1, below.

9. A Schedule and Processes for Implementing, Assessing, and Periodically Updating the Water Conservation Plan: PBCWUD revisits our conservation programs on an as needed basis depending on factors such as regulatory updates.

10. Any Other Appropriate Elements: PBCWUD has demonstrated a strong willingness to invest the resources necessary to expand our alternative water supplies. This is best demonstrated by the commitments made to the District in our existing consumptive use permit and investments in reclaimed water.

Long-term planning for water availability. PBCWUD is continually planning for the long-term viability of its water supply. The Eastern Region permit was renewed in 2022 for a permit duration through 2053. PBCWUD has already begun the process of renewing our consumptive use permit for the Western Region for at least a 30-year duration. This goes a long way in planning and budgeting capital projects. PBCWUD is keenly aware of the environmental concerns facing our residents and actively participates in the dynamic regulatory and legislative process. Water resources previously earmarked for urban users have already been set aside for environmental purposes. Alternative Water Resources help utilities make decisions and construct new infrastructure required to serve growth while protecting the water resources.

Mitigate localized wellfield impacts. Lake augmentation projects greatly assist with recharging the surficial aquifer system and mitigating localized wellfield impacts. This type of project has the added benefit of reducing the amount of fresh water discharged to tide. Capturing otherwise discharged stormwater, results with more local aquifer recharge, less regional stormwater pumping and energy costs, and an enhanced oceanic ecology. Lake augmentation projects often promote intergovernmental cooperation and provide a mechanism to join community partnerships.

Maximize funding opportunities. By planning alternative water resource projects in advance, opportunities for cost-sharing among agencies and external funding agreements can be fully realized. The County has been working toward a Comprehensive Alternative Water Resources Program since 1990. PBCWUD anticipates increasing its alternative water supplies from 42 mgd in 2015 to 57 mgd in 2030. In 2018, the County's Eastern Region raw water demand was 72 mgd. This demand was easily satisfied with its current surficial aquifer system allocation of 87 mgd. However, by 2035 the County's Eastern Region raw water demand is projected to increase to 93 mgd due to regionalization, County-wide growth, and expansion of the County's utility service area. The 97.4 mgd of surficial aquifer system supply permitted through December 2053 will be sufficient to satisfy raw water demand. Alternative water resources have become a major component of the Department's Capital Program. By constructing alternative resources in advance of actual water demand, PBCWUD will remain in a positive position with respect to accommodating utility service requests from residents, municipalities, businesses, and bulk customers. PBCWUD and SFWMD have cooperated to develop a 20-year alternative water resources program that was included in the 2006 LEC Plan, 2013 LEC Plan, 2018 LEC Plan, and 2023-2024 LEC Plan. Over $40 Million has been invested into the alternative water supply program. To aid expansion efforts, PBCWUD continues to aggressively seek grants through local, state and federal agencies for the implementation of various alternative water supply projects. As described below, PBCWUD continues to develop alternative supply projects that diversify the water resources of the County and benefit the regional system.

The County's Alternative Water Resources Program is diverse and encompasses many types of projects including: reclaimed water, created wetlands, aquifer storage and recovery wells, brackish source water wells, stormwater diversion and impoundment, lake augmentation, and agricultural water reuse.

8.1 Reclaimed Water Systems

Palm Beach County currently has one of the largest reclaimed water systems in southeast Florida and has an aggressive plan to expand this program. On July 11, 2006, the Palm Beach County Board of County Commissions adopted an Ordinance amending Chapter 27, Article IX of the Palm Beach County Code (codifying Palm Beach County Ordinance 97-12), expanding the mandatory reclaimed water service area to ten square miles around SRWRF. New developments constructed within the mandatory reclaimed water service area are required to install and use reclaimed water for irrigation. The County is proactively working towards providing a cost-effective means for existing developments to convert to reclaimed water. Interest is expected to increase with time as implementation costs are reduced. Additionally, the County continues to work with the South Florida Water Management District to ensure that existing developments convert to reclaimed water as it comes available, pursuant to conditions included in the consumptive use permits issued to those developments.

The County has expanded the reclaimed water system at the SRWRF over the last ten years to be the largest in Southeast Florida, with a maximum treatment capacity of 35 MGD and filtration capacity of 22 MGD. Over the next few years PBCWUD will continue to increase its reclaimed water capacity and expand the distribution network. It will also undertake projects to achieve the interconnection of the reclaimed network, for example, there is the potential for conversion of a pump station at Morikami Gardens from potable to reclaimed, which will allow for greater distribution within the larger reclaimed network.

West County Energy Center Reclaimed Project

In 2008, Palm Beach County and Florida Power and Light (FPL) entered into an agreement providing for the extension of reclaimed water lines to FPL's West County Energy Center. As a result of the implementation of the project, Palm Beach County supplies 22 mgd (27 mgd peak day) of reclaimed water to FPL from the East Central Regional Reclamation Facility for use in cooling three natural gas combined cycle power units generating 3,800 megawatts of power. The provision of reclaimed water has allowed FPL to avoid the need to construct a reverse osmosis water treatment plant that would have produced water from the Floridan aquifer system at a significant cost.

Palm Beach County / Broward County Reclaimed Water Project

Many wastewater utilities in Southeast Florida currently operate reclaimed water systems, including both Broward County Water and Wastewater Services (BC) and the Palm Beach County Water Utilities Department (PBC). As regulatory entities seek to expand the quantity of water being reclaimed, additional reuse systems are being placed into service, with customers usually located within the immediate areas adjacent to reclaimed water generation facilities.

BC and PBC have embarked on an effort requiring BC to deliver reclaimed water from its North Regional Wastewater Treatment Plant (NRWWTP) to Large Users (generally defined as Golf Courses) in the northern Broward County and southern Palm Beach County area. This regional approach will benefit both agencies as:

- BC is committed to supplying reclaimed water to Large Users in the NRWWTP service area as recommended by the Broward County Effluent Disposal and Reclaimed Water Master Plan dated November 2010 as well as the June 2013 Ocean Outfall Legislation Detailed Plan to DEP.
- PBC desires to make reclaimed water available to Large Users in the southern PBC (Boca Raton) area, but lacks reclaimed water infrastructure to service this need.

In April of 2016, the Palm Beach County Board of County Commissioners approved an Interlocal Agreement with Broward County for a Regional Reclaimed Water System. A reclaimed water transmission line from Broward County's northern wastewater treatment plant to serve the PBCWUD southern service area. Upon completion, the Regional Reclaim Water System is expected increase the reclaim water capacity in Palm Beach County by a maximum of 7.0 MGD. BC and PBC anticipate that the potential benefits resulting from more efficient regional implementation via accruing economies of scale will be significant. The reclaimed water will then be provided to several identified golf courses and HOAs for irrigation needs. Accompanying positive impacts to the surficial aquifer system will result from the elimination of approximately 20 mgd in permitted capacity as the project is implemented.

8.2 Created Wetland Systems

Palm Beach County operates the 50-acre Wakodahatchee Wetland and the 75-acre Green Cay Wetland. The wetlands systems are designed to process highly treated secondary effluent with advanced natural biological processes to further reduce nutrient levels. Treated water from the wetlands percolates into the surficial aquifer system, where it recharges the local groundwater. The wetlands are valuable in providing vegetated and open water habitat for migratory birds and waterfowl in this region. The benefit to the Regional System resulting from reduced surface water leakage due to implementation of the created wetland systems was determined based upon cooperative modeling of the system by PBCWUD and SFWMD. An expansion of the wetlands and an additional 2 MGD of recharge is planned by PBCWUD.

8.3 Stormwater Diversion and Impoundment – Lake Augmentation

The residential Riverbridge community, located near the WTP 2 wellfield, constructed its lake system at a non-optimum control elevation. SFWMD, Palm Beach County and LWDD entered into a Memorandum of Understanding to cooperatively address this situation by designing and constructing a pump station to divert water from the C-51 Canal into the LWDD E-2E Canal system, maintaining area canal elevations at 13' NGVD.

The County, in conjunction with LWDD and the SFWMD, additionally implements a program to recharge the aquifer via lake augmentation. The beneficial recharge maintains surface water elevations in the lakes at a set design elevation. The lakes at Riverbridge are hydraulically connected to the Pines State Park (PSP) Canal by two existing outfalls. Additionally, the PSP Canal and other area water bodies also directly affect the lake levels in Cholee Park. For a 1-in-10-year drought condition, the rate of aquifer recharge occurring under existing pumping conditions (12.64 mgd) is 1.89 mgd at Riverbridge and 1.34 mgd at neighboring Cholee Park, assuming both water bodies are maintained at elevation 13 feet NGVD.

SFMWD, PBCWUD and LWDD additionally have a Memorandum of Understanding to address a similar issue in the southwest Boca Raton area involving the communities of Boca Heights, Boca Springs, Boca County Estates and Meadow Lakes. PBCWUD is authorized to divert and impound less than 1 mgd from the Hillsboro Canal via the E-1W South Canal for storage within the

communities existing stormwater systems (lakes).

8.4 Green Cay Phase 2

As the population within Palm Beach County and Florida grows, PBCWUD has recognized the challenges utilities will face in the future with respect to traditional drinking water sources. To this end, PBCWUD has undertaken the Green Cay Phase II Project (Project). The Project will include a new Water Purification Facility located at the Southern Region Water Reclamation Facility (SRWRF) capable of treating two (2) MGD and expandable to four (4) MGD of purified water, a new state-of-the-art education/learning facility co-located with the WPF, a new sixty-three (63) acre public park with waterways located at the corner of Jog and Flavor Pict Roads, up to eight (8) new surficial aquifer production water wells and associated water transmission lines. The WPF will treat source water from SRWRF supplying purified water to Green Cay Park to replenish groundwater, supporting PBCWUD's strategic goals of becoming a sustainable and best-in-class utility.

8.5 Program Summary

The combined use of the alternative water resource projects discussed herein is presented in **Tables 8.1** through **8.4**. For average daily flow conditions, PBCWUD anticipates utilizing over 53 mgd of alternative water supplies by 2035. This evaluation conservatively estimates the flow for AWS projects. The quantity of AWS projects planned to be implemented by PBCWUD greatly exceed those required in its water use permit as shown in **Tables 8.2** and **8.4**. PBCWUD has gone above and beyond the terms and conditions agreed to with SFWMD. Given these additional AWS projects and conservative assumptions, PBCWUD is confident that it will not exceed its current surficial aquifer system water allocation of 97.4 mgd (annual average day).
Alternative water resources play an important role in PBCWUD's master planning process for providing adequate water supply, satisfying projected finished water demands, and minimizing the use of deep well injection. The PBCWUD Alternative Water Resource Projects included in the LEC Plan are shown in **Table 8.5**. The timing of these projects may vary depending upon the demand of wastewater as well as customer demand.

For the purpose of this water supply plan, alternative water resource projects have been projected to 2035, reflecting the current horizon projections of the 2023 consumptive use permit as well as the PBCWUD Capital Improvement Program.

Table 8.1 - Summary of AWS Program for Average Daily Flow Conditions

			Western Region (50-06857-W)	Eastern Region (50-00135-W)							
Year	ADF FW Demand (mgd)	ADF RW Demand (mgd)	Floridan Aquifer (mgd)	SRWRF Reclaimed Water (mgd)	CRRWF Reclaimed Water (mgd)	Wetlands Recharge (mgd)	Green Cay Phase II	FAS Blended Water (mgd)	FPL Reclaimed Water (mgd)	Broward County Reclaimed Water (mgd)	Total ADF AWS Available (mgd)
2025	**75.09**	**85.61**	**6.25**	**16.50**	**0.50**	**2.00**	**0.00**	**0.00**	**19.00**	**0.00**	**44.25**
2026	75.69	86.29	6.33	16.50	0.50	2.00	1.25	0.00	19.00	0.00	**45.58**
2027	76.30	86.98	6.42	16.50	0.50	2.00	1.25	0.00	19.00	0.00	**45.67**
2028	76.90	87.66	6.50	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**52.75**
2029	77.50	88.35	6.58	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**52.83**
2030	**78.10**	**89.04**	**6.67**	**16.50**	**0.50**	**2.00**	**1.25**	**0.00**	**19.00**	**7.00**	**52.92**
2031	78.73	90.54	6.74	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**52.99**
2032	79.36	91.26	6.80	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**53.05**
2033	79.98	91.98	6.87	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**53.12**
2034	80.61	92.70	6.94	16.50	0.50	2.00	1.25	0.00	19.00	7.00	**53.19**
2035	**81.24**	**93.42**	**7.01**	**16.50**	**0.50**	**2.00**	**1.25**	**0.00**	**19.00**	**7.00**	**53.26**

ADF FW demand includes retail customer and bulk wholesale account flows per Table 5-6. (correct table reference to 5-5)

PBCWUD Eastern Region ADF raw water = 1.14 ADF FW (per historical and capacity-based analyses).*

PBCWUD Eastern Region ADF raw water = 1.15 ADF FW starting in 2031 due to plant treatment process change*

*PBCWUD Western Region: ADF raw water = 1.21 * ADF FW (per historical and capacity-based analyses).*

Surficial Aquifer Withdrawal = ADF RW demand minus Floridan Aquifer & ASR Recovered withdrawals.

PBCWUD's Water Use Permit Allocates an ADF Surficial Aquifer Withdrawal of 104mgd.

PBCWUD's Water Use Permit 50-06857-W Allocates an ADF Floridan Aquifer Withdrawal of 10 mgd.

SRWRF reclaimed water and wetlands recharge values based upon Exhibit 16 of SFWMD WUP Permit.

Table 8.2 – Additional AWS Projects Projected for Regional System (ADF)

Year	SFWMD WUP Requirements (ADF mgd)				Floridan Aquifer (mgd) 1	ASR Recovered Water (mgd)	SRWRF Reclaimed Water (mgd)	CRRWF Reclaimed Water (mgd)	Wetlands Recharge (mgd)	Green Cay Phase II	FPL Reclaimed (mgd)	Broward County Reclaimed Water (mgd)	Total ADF AWS Available (mgd)
	Reclaimed	Wetlands	ASR	Total									
2025	**16.00**	**1.50**	**0.00**	**17.50**	**6.25**	**0.00**	**16.50**	**0.50**	**2.00**	**0.00**	**19.00**	**0.00**	**44.25**
2026	16.00	1.50	0.00	17.50	6.33	0.00	16.50	0.50	2.00	1.25	19.00	0.00	45.58
2027	16.00	1.50	0.00	17.50	6.42	0.00	16.50	0.50	2.00	1.25	19.00	0.00	45.67
2028	16.00	1.50	0.00	17.50	6.50	0.00	16.50	0.50	2.00	1.25	19.00	7.00	52.75
2029	16.00	1.50	0.00	17.50	6.58	0.00	16.50	0.50	2.00	1.25	19.00	7.00	52.83
2030	**16.00**	**1.50**	**0.00**	**17.50**	**6.67**	**0.00**	**16.50**	**0.50**	**2.00**	**1.25**	**19.00**	**7.00**	52.92
2031	16.00	1.50	0.00	17.50	6.74	0.00	16.50	0.50	2.00	1.25	19.00	7.00	52.99
2032	**16.00**	**1.50**	**0.00**	17.50	6.80	0.00	16.50	0.50	2.00	1.25	19.00	7.00	53.05
2033	16.00	1.50	0.00	17.50	6.87	0.00	16.50	0.50	2.00	1.25	19.00	7.00	53.12
2034	16.00	1.50	0.00	17.50	6.94	0.00	16.50	0.50	2.00	1.25	19.00	7.00	53.19
2035	**16.00**	**1.50**	**0.00**	**17.50**	**7.01**	**0.00**	**16.50**	**0.50**	**2.00**	**1.25**	**19.00**	**7.00**	53.26
Amount Above & Beyond Water Use Permit:							***0.50***	***0.50***	***0.50***	***1.25***	***19.00***	***7.00***	***28.75***

Permit did not assume expansion of SRWRF reclaimed.

[1] Floridan Aquifer Quantities reflect amounts generated at the Lake Region Water Treatment Plant (Not included in calculation above and beyond WUP requirements)

SFWMD = South Florida Water Management District; WUP = Water Use Permit;

ADF = Average Daily Flow; FW = Finished Water; RW = Raw Water; ASR = Aquifer Storage and Recovery; AWS = Alternative Water Supply

SRWRF = Southern Region Water Reclamation Facility; CRRWF = Central Region Reclaimed Water Facility

Table 8.3 - Summary of AWS Program for Maximum Daily Flow Conditions

			Western Region (50-06857-W)	Eastern Region (50-00135-W)							
Year	MDF FW Demand (mgd)	MDF RW Demand (mgd)	Floridan Aquifer (mgd)	SRWRF Reclaimed Water (mgd)	CRRWF Reclaimed Water (mgd)	Wetlands Recharge (mgd)	Green Cay Phase II	FAS Blended Water (mgd)	FPL Reclaimed Water (mgd)	Broward County Reclaimed Water (mgd)	Total MDF AWS Available (mgd)
2025	**101.37**	**115.56**	**10.00**	**25.60**	**3.00**	**7.00**	**0.00**	**0.00**	**27.00**	**0.00**	**74.60**
2026	102.10	116.40	10.00	25.60	3.00	7.00	2.00	0.00	27.00	**0.00**	75.60
2027	102.84	117.23	10.00	25.60	3.00	7.00	2.00	0.00	27.00	0.00	74.60
2028	103.57	118.07	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2029	104.31	118.91	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2030	**105.04**	**119.74**	**10.00**	**25.60**	**3.00**	**7.00**	**2.00**	**0.00**	**27.00**	**10.50**	**85.10**
2031	105.80	121.68	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2032	106.57	122.56	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2033	107.33	123.44	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2034	108.10	124.31	10.00	25.60	3.00	7.00	2.00	0.00	27.00	10.50	85.10
2035	108.87	125.19	10.00	**25.60**	**3.00**	**7.00**	**2.00**	**0.00**	**27.00**	**10.50**	85.10

ADF = Average Daily Flow; MDF = Maximum Daily Flow; FW = Finished Water; RW = Raw Water; ASR = Aquifer Storage and Recovery

SFWMD = South Florida Water Management District

MDF FW demand includes retail customer and bulk wholesale account flows per Table 5.5.

*MDF FW = 1.25 * ADF FW (per historical flow data).*

*PBCWUD Eastern Region: MDF raw water = 1.14 * ADF FW (per historical and capacity-based analyses).*

PBCWUD Eastern Region ADF raw water = 1.15 ADF FW starting in 2031 due to plant treatment process change*

*PBCWUD Western Region: MDF raw water = 1.21 * ADF FW (per historical and capacity-based analyses).*

Surficial Aquifer Withdrawal = ADF RW demand minus Floridan Aquifer & FAS Blended Water withdrawals.

PBCWUD's Water Use Permit 50-00135-W Allocates a MDF Surficial Aquifer Withdrawal of 129 mgd.

SRWRF reclaimed water, wetlands recharge, & ASR values based upon Exhibit 17 of SFWMD 50-00135-W Permit).

Table 8.4 – Additional AWS Projects Projected for Regional System (MDF)

Year	SFWMD WUP Requirements (MDF mgd)				Floridan Aquifer (mgd) 1	FAS Blended Water (mgd)	SRWRF Reclaimed Water (mgd)	CRRWF Reclaimed Water (mgd)	Wetlands Recharge (mgd)	Green Cay Phase II	FPL Reclaimed (mgd)	Broward County Reclaimed Water (mgd)	Total MDF AWS Available (mgd)
	Reclaimed	Wetlands	ASR	Total									
2025	**21.00**	**2.20**	**15.50**	**38.70**	**7.70**	**0.00**	**21.90**	**3.00**	**7.00**	**0.00**	**19.00**	**0.00**	**52.90**
2026	21.00	2.20	12.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	0.00	53.90
2027	21.00	2.20	13.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	0.00	52.90
2028	21.00	2.20	14.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2029	21.00	2.20	15.50	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2030	**21.00**	**2.20**	**15.50**	**38.70**	**7.70**	**0.00**	**21.90**	**3.00**	**7.00**	**2.00**	**19.00**	**10.50**	**63.40**
2031	21.00	2.20	12.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2032	21.00	2.20	13.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2033	21.00	2.20	14.00	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2034	21.00	2.20	15.50	38.70	7.70	0.00	21.90	3.00	7.00	2.00	19.00	10.50	63.40
2035	**21.00**	**2.20**	**15.50**	**38.70**	**7.70**	**0.00**	**21.90**	**3.00**	**7.00**	**2.00**	**19.00**	**10.50**	**63.40**
Amount Above & Beyond Water Use Permit:					***0***	***-15.5***	***0.90***	***3.00***	***4.80***	***2.00***	***19.00***	***12.50***	***42.20***

Reclaimed water flow limiting factor is raw wastewater generated.

[1]Floridan Aquifer quantities reflect amounts generated at Water Treatment Plant 11 (Not included in calculation above and beyond WUP requirements)

SFWMD = South Florida Water Management District; WUP = Water Use Permit;

ADF = Average Daily Flow; FW = Finished Water; RW = Raw Water; ASR = Aquifer Storage and Recovery; AWS = Alternative Water Supply SRWRF = Southern Region Water Reclamation Facility; CRRWF = Central Region Reclaimed Water Facility

Table 8.5 – Proposed Long-term Lower East Coast Water Supply Projects ($millions)

Project	Capacity (MGD)	Estimated Cost ($ millions)[2]	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
WTP 11 Expansion	10	$65.0						$9.40	$6.00	$20.00	$10.00	$10.00	$10.00					
Reclaimed Water Piping Program	22	$6.50	$0.50	$0.50	$0.50	$0.50	$0.50	$0.50										
Southern Region AWT Expansion	15	TBD																
Green Cay Phase II	2	$98.45			$4.93	$2.10	$14.24	$30.00	$47.18									
Broward County Reclaimed	7	$55[1]	$1.00	$0.10	$0.85	$8.50	$0.50	$2.00	$8.55	$15.00	$15.00	$3.50						
ECR Capacity Expansion	TBD	TBD																
TOTAL PROGRAM	**56**	**$169.95**	**$1.50**	**$0.60**	**$6.28**	**$11.10**	**$15.24**	**$41.90**	**$61.73**	**$35.00**	**$25.00**	**$13.50**	**$10.00**					

[1] Project Cost to be financed by Broward County

[2] Projects with estimated costs listed as "TBD" are outside the current 10-year planning horizon.

9.0 POTENTIAL ALTERNATIVE WATER RESOURCES

PBCWUD has developed and continues to investigate additional potential alternative water resource projects and approaches as part of the County's Alternative Water Supply Program. Those opportunities are articulated below but are not currently planned for this Work Plan period.

9.1 Aquifer Storage and Recovery Wells

Palm Beach County has completed construction of two dual-purpose ASR wells as the result of a cooperative effort with SFWMD: the five (5) mgd ASR well located along the Hillsboro Canal serving the WTP 9 wellfield and the two (2) mgd ASR well located at the Water Treatment Plant No. 3 serving the WTP 3 wellfield. PBCWUD does not intend to utilize these ASR wells as a reclaimed water source, given that they have provided insufficient in practice. These wells are currently dual permitted by the SFWMD for blending brackish raw water from the Floridan Aquifer.

9.2 Regional Storage – C-51 Reservoir Project

As described in the 2018 Lower East Coast Water Supply Plan, the C-51 Reservoir project is a public-private partnership being developed by PWS utilities and water supply authorities for use as an AWS source in southeastern Florida that captures and stores excess surface water runoff from the C-51 Basin for beneficial uses. The proposed C-51 Reservoir is a rock mine owned by Palm Beach Aggregates in central Palm Beach County, north of the C-51 Canal in Palm Beach County and adjacent to the SFWMD's L-8 flow equalization basin. Water that otherwise would be discharged to Lake Worth Lagoon would be diverted into the C-51 Reservoir during wet periods and released into the C-51 Canal during dry periods to meet demands.

The C-51 Reservoir project has been divided into two phases. The mining operation for Phase 1 is complete and designed to store an estimated 14,000 acre-feet of surface water and provide 35 mgd of canal/SAS recharge near PWS withdrawals. The Florida Department of Environmental Protection has issued a diversion and impoundment consumptive use permit and an environmental resource permit for construction and operation of Phase 1. Phase 2 of the project could provide an additional 46,000 acre-feet of storage, most likely for natural systems [Section 373.4598, F.S.]. PWS utilities have executed agreements with the property owners to purchase capacity as part of total reservoir storage. The utilities have received or are processing modifications to their water use permits to reflect this AWS source as a means for meeting future demands.

10.0 Climate Change and Water Supply

Southeast Florida is widely considered one of the most vulnerable regions to the impacts of climate and sea level rise as a result of several unique geographic characteristics, including low land elevations, flat topography, porous geology and dense coastal development. Climate change and sea level rise are expected to present significant challenges relating to water resource planning, management and infrastructure development throughout the region, including Palm Beach County. Palm Beach County is actively working to address these challenges and is a member of the Southeast Florida Regional Climate Change Compact.

The Palm Beach County Water Utilities Department anticipates a number of climate change impacts and is actively undertaking measures to adapt to and mitigate those impacts. PBCWUD has identified the following impacts as the most likely to affect its operations and service area:

- Sea Level Rise resulting in saltwater intrusion and flooding impacting easterly utilities and necessitating PBCWUD having the ability to provide water and/or technical assistance to affected areas.

- Increased tropical storm activity (frequency and intensity) necessitating investment in heightened resiliency for PBCWUD water and wastewater infrastructure.

- Changing precipitation patters resulting in more frequent and extended dry periods and increased inflow and infiltration during extended wet periods.

- Increased water demands resulting from increases in temperature, precipitation, population growth and environmental migration.

PBCWUD is implementing a program that includes several adaptation components to address the anticipated climate change impacts. The components include:

Diversification of Water Resources

PBCWUD is actively diversifying its water resources and undertaking steps to ensure that existing facilities and infrastructure operate more efficiently and effectively. In addition to the expansion of the current reclaimed water system, PBCWUD has also improved the management of existing water supply resources. Improved wellfield management is another facet of the suite of techniques that PBCWUD is utilizing to provide adaptive management in responding to possible future climate change impacts. A smart wellfield program is currently being piloted involving the installation of hardware (such as VFDs, instrumentation and updated communications equipment), smart probes and technology that will improve efficiency and aid in increasing water quality. PBCWUD additionally contributes to discussions with SFWMD and its federal partners regarding the role of Everglades Restoration in combating the impacts of climate change and ensuring that the water supply component of Everglades Restoration is successfully achieved. These approaches secure the ability of PBCWUD to provide water supply within its service area as well as to allow the supply of other communities with potable water as necessary to address the impacts of saltwater intrusion on the water resources available to coastal utilities.

Climate Resilience Planning

To adapt to the increased wind and water impacts resulting from increased tropical storm activity, PBCWUD has implemented measures to harden facilities and infrastructure, ensure continued operations during times of emergency, and to achieve rapid post-disaster recovery. PBCWUD has invested in improvements at its Water Treatment Plants, Operations Centers, Southern Region Water Reclamation Facility and master pump stations. These improvements plan for resiliency to withstand Category 4-5 storm events. Additionally, PBCWUD has an active design-build contract for rebuilding following a storm event and has invested in the construction of a Central Monitoring Facility containing dispatch services, SCADA and monitoring networks to ensure continued operation during a storm event. Future efforts include climate resiliency projects in the PBCWUD Western Region service area and continued upgrades to the existing infrastructure.

Targeted Asset Management and Strategic Planning

PBCWUD instituted an aggressive program of asset management to address possible rapid increases in population, replacement of aging infrastructure, management of inflow and infiltration events, integration of new technologies and pursuit of energy efficiency. The ISO 55001 certification is an asset management system standard to which organizations manage the life-

cycle of assets. In 2021, PBCWUD was the first water utility in North America to achieve ISO 55001 certification. In 2024, the utility was re-certified with this international recognition, making it one of just ten organizations in North America to reach this achievement. The utility is additionally undertaking an update of its Strategic Plan to provide a planning framework for the direction of the utility over a five-year period.

Through the implementation of the above program, PBCWUD is confident that it will achieve its goal of being a sustainable and climate resilient utility capable of adapting to those climate impacts that may arise within the planning horizon of this Water Supply and Facilities Work Plan.

11.0 CONCLUSIONS

Palm Beach County and the SFWMD have developed a water supply strategy that will 1) ensure infrastructure is expanded properly to accompany growth and protect the environment, 2) ensure adequate capital financing is in place, and 3) minimize application time and expense so that the focus is on implementing the plan. The overall water supply plan combines utility planning with regional water supply planning. This Water Supply Facilities Work Plan provides a clear road map of efforts to be undertaken by PBCWUD over the ten-year planning horizon.

In the Eastern Region, any potential impacts tothe regional system will be completely offset with the alternative water supply (AWS) projects identified in the existing PBCWUD consumptive use permit. Those water quantities identified in this plan that are required to serve future projected demands in Palm Beach County's eastern region through the year 2035 are less than those already authorized for consumptive use.

PBCWUD has developed a financially feasible plan to continue to design, permit, construct, and implement its extensive AWS program. The AWS program has been incorporated into the Department's annual capital budget and will continue to be a major component of PBCWUD's on-going effort to streamline water supply throughout its service area territory and to its wholesale customers. Projects identified as part of the AWS program are an integral component of the County's Comprehensive Plan. The capital costs associated with the continued implementation of the program will be incorporated into the Capital Improvement Element of the County's Comprehensive Plan.

PBCWUD continues to investigate innovative and cost-effective alternative water supply projects with a variety of agencies and to implement asset management, program management, technological innovation and smart utility programs that will ensure that PBCWUD will continue to be a leading "Utility of the Future." PBCWUD is in an optimal position to meet the demands of future growth, ensure the continued viability of its existing infrastructure, meet pressing needs in certain areas of the service area and succeed in achieving maximum efficiency and effectiveness in the current and future operation of the utility.

Appendix