

# Linking Land Use & Water Supply Planning

Palm Beach County Pilot Project

Contract 03-DR-37-10-60-01-002



## PALM BEACH COUNTY COMPREHENSIVE PLAN



**Third Contract Deliverable  
Draft Comprehensive Plan Amendments**

**April 11, 2003**



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## **EXECUTIVE SUMMARY**

Palm Beach County has been designated by the Florida Department of Community Affairs as one of the five Pilot Communities providing an early implementation of new State requirements to link land use and water supply planning. These communities are located in each of the water management districts and were selected to provide a diversity of community situations and sizes. The intent of the pilot projects is to gain experience and fine-tune the State's assistance to local governments in Florida for the preparation of plan amendments and programs to link land use and water supply planning.

This document is submitted to satisfy the third contract deliverable for Palm Beach County's Pilot Project linking land use and water supply planning, as currently required by the State. This includes proposed plan amendments in draft form and supporting data and analysis.

The documents address all requirements to incorporate a Water Supply Facilities Work Plan into the County's Comprehensive Plan. Some of the components of the draft Plan amendment have been drawn from the previous deliverables. Others have been taken from goals, objectives, policies and policy statements already existing in the Comprehensive Plan, which have been relocated, and in some cases rephrased for clarity or to meet a specific requirement. The proposed amendments will keep and expand existing policy statements in the Assessments and Conclusions sections, as well as existing and new Goals, Objectives and Policies.

In summary, to address the requirements to link land use and water supply planning, the County is recommending modifications to appropriate elements of the Plan and to their Support Documents as well. The adopted portion of the Work Plan will be in the elements and the rest, including descriptive and thematic maps, will reside in the support documents.

The proposed draft amendments affect the Utility, Conservation, Capital Improvements and Intergovernmental Coordination elements of the Palm Beach County Comprehensive Plan and some of their Support Documents.

Because of the complexity of this exercise in Palm Beach County, and the fact that all pilot projects have not benefited from the results of the EAR review, the draft Plan amendments contained in this document and their supporting data and analyses might be revised, complemented, and updated as needed after the completion of the EAR, as additional data is collected and further analysis is performed. The final version that will be adopted with the EAR, as required by law, may be different from the one the County is submitting with this third deliverable.

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## **1. INTRODUCTION**

This document is being submitted to satisfy the requirements of the third deliverable of the Pilot Project to link land use and water supply planning. The document presents proposed amendments to appropriate elements in the County's Comprehensive Plan (the Plan) to address the requirements of a Water Supply Facilities Work Plan (Work Plan) and its supporting data and analysis.

### **Palm Beach County Comprehensive Plan Structure**

Since the adoption by the County of the 1996 EAR the County decided to separate the data and analysis section from the adopted portion of the Plan. This was accomplished by formally creating a document called *Support Documents* for each element of the Plan. This allows updating and maintaining the supporting data and analyses as needed without the need to go through lengthy Plan amendments. However, it is clear that modifications and updates to the data and analyses may lead to plan amendments.

Because the goals, objectives and policies in the Plan need to be supported by specific data and analysis, separating the two could lead to the lost of this important link. To address this situation, the County decided to create a section entitled "Assessments and Conclusions" to highlight and summarize the main issues related to each element, as contained in the Support Documents. This section is located in both the Plan Element and its Support Documents. All policy statements, goals, objectives and policies in the Plan are based on data and analyses kept and maintained by a staff element planner in each element's Support Documents.

In order to address the requirements to link land use and water supply planning, the County is recommending modifications to appropriate elements of the Plan and to their Support Documents as well. The adopted portion of the Work Plan will be in the elements and the rest, including descriptive and thematic maps, will reside in the support documents.

### **Land Use Planning and Water Supply in Palm Beach County's Comprehensive Plan**

The County through various departments and the County Commission supports the concept that water resource management should address the combined needs of the environment, urban areas and agriculture. This has been expressed in several documents, including the Comprehensive Plan and a BCC Resolution in support of the Conceptual Plan for the restoration of the Everglades. Under this concept, water supply to satisfy human needs is one component of the regional water supply picture. The Plan currently has policies in the Conservation Element addressing the combined needs of the environment, agriculture and urban users.

Potable Water in unincorporated Palm Beach County is supplied through multiple providers in areas where a centralized system is available or permitted. In other cases, the County allows the use of potable water wells and restricts the use of potable water package treatment plants to a few specific situations. This will be explained in detail in the Work Plan supporting data and analyses.

The County adopted in 2000 an award-winning Managed Growth Program. This program is based primarily on the “Tier” planning concept. The Tier system identifies areas with similar characteristics regardless of their geographic location in the County, and designs strategies and policies tailored to address the specific circumstances of each Tier. This has resulted in the adoption of differential levels of service and service areas for each type of service within each Tier. In the case of potable water the differential levels of service range from centralized potable water systems for the Urban/Suburban Tier, to individual potable water wells in the Exurban and Rural Tier, and the use of package treatment plants for bonafide agricultural uses and essential public facilities in the Everglades Agricultural Area. The coordination of land use and water supply planning needs to address these differential levels of service.

The Palm Beach County Water Utilities Service Area, for which the County is responsible, encompasses a large portion of the Urban/Suburban Tier. There are no plans to expand the County’s service area beyond the current service area in the Urban/Suburban Tier.

### **Approach Utilized to address the Work Plan requirements**

The County’s Comprehensive Plan currently has policies addressing the links between growth management and water resource management. Land Use and Potable Water Supply, which is the subject of the Pilot Project and the new legislation, are a subset of the former.

For this reason, a new goal area in the Potable Water Sub-Element is being proposed, addressing the links between growth and water resource management. This new goal area incorporates existing policies, some of which go beyond current State requirements to link land use and water supply. One such existing key policy designates the SFWMD as a commenting agency for large-scale land use amendments.

This policy complements other existing policies in the Plan, which together establish a two-way process whereby the County participates and provides input for the development and implementation of water resource and water supply programs, and the SFWMD provides comments on large-scale land use amendments that may impact District’s plans. The proposed new goal area will house new and existing objectives and policies addressing the links between land use and water supply planning and growth and water resource management.

Because of the complexity of this exercise in Palm Beach County, and the fact that all pilot projects have not benefited from the results of the EAR review, the draft Plan amendments contained in this document and their supporting data and analyses might be revised, complemented, and updated as needed after the completion of the EAR, as additional data is collected and further analysis is performed. The final version that will be adopted with the EAR, as required by law, may be different from the one the County is submitting with this third deliverable.

## **2. EXISTING TEXT AND AMENDMENTS TO THE UTILITY ELEMENT AND THE POTABLE WATER AND WASTEWATER SUB-ELEMENT ADDRESSING THE WORK PLAN REQUIREMENTS**

The Utility Element of the County's Comprehensive Plan Includes three Sub-Elements: Potable Water & Wastewater, Stormwater Management and Solid Waste Management.

The Utility Element of the County's Comprehensive Plan currently addresses many of the requirements related to linking and coordinating growth and water resource management. They include among others, participating and cooperating with the South Florida Water Management District (SFWMD) and the Army Corps Of Engineers (USACE) in the implementation of CERP components in the County; cooperating in the implementation of the Everglades Construction Program, where a vast majority of components are located in Palm Beach County; assisting in the implementation of the Everglades Buffer also known as Water Preserve Areas (WPA's) by purchasing or dedicating land within or in close proximity to the WPA's; or officially designating the SFWMD as a commenting agency for large scale land use amendments.

The Potable Water & Wastewater Sub-Element also calls for the development and implementation of alternative water resources to augment the availability of water for human water supply and other purposes, like Aquifer Storage and Recovery wells, constructed wetlands, or the mandatory use of reclaimed water. This Sub-Element currently includes extensive policies addressing water conservation and groundwater protection.

As indicated in the Introduction to this deliverable above, the proposed amendments will affect the "Assessments and Conclusions" section of the Utility Element and the Potable Water & Wastewater Sub-Element, as well as the "Goals, Objectives, and Policies" of the Sub-Element. The proposed amendments will keep and expand existing policy statements in the Assessments and Conclusions sections, as well as existing and new Goals, Objectives and Policies.

The new text additions specifically address the 20-Year Water Supply Facilities Work Plan requirements. New and existing text will be presented together, in order to show other local governments that perhaps may have not addressed these policies, how to incorporate them into their Comprehensive Plans.

This approach is repeated with proposed amendments and text additions to the Conservation and Intergovernmental Coordination Elements of the Comprehensive Plan, where the County currently addresses issues related to growth and water resource management coordination, including land use and water supply planning issues.

All policy statements, goals, objectives and policies in the Plan are based on data and analyses located in each element's "Support Documents". All new data and analysis requirements and new maps needed to establish the Water Supply Facilities Work Plan will be added to the Support Documents, as shown later within this report.

**The proposed text to address the requirements of the Water Supply Work Plan is presented below. Existing language is presented with clean text, while the additions and changes are shown in underline and strikeout format:**

### **Utility Element Assessment & Conclusions:**

Goals, Objectives and Policies are expressed in each of the Sub-Elements, addressing the County's desire to maximize the use of existing facilities, correct existing deficiencies, promote a more efficient land use pattern, and conserve and protect water resources. Diversified levels of service standards have been adopted in this Element for the purposes of determining capacities, levels of service, and levels of protection. It is the objective of the County to require that services be provided concurrent with development. Level of service standards must be met for issuance of Development Orders.

It is also the objective of the County to protect water resources. The Sub-Elements address the protection and preservation of water resources and water quality, the conservation of potable water and the use of reclaimed water, safe management and disposal of solid and hazardous wastes, and the protection of wellfields and prime aquifer recharge areas.

While each Sub-Element focuses on a specific utility or facilities, all are interrelated, as they are interrelated with other Elements of this Plan. For example, wastewater demand and the necessary capacities are correlated to potable water use. Disposal of treated effluent and solid/hazardous waste has the potential of affecting groundwater quality, as does stormwater runoff found in surface waters. The agriculturally designed drainage system must be sufficient to provide protection for residential structures and septic tanks. Septic tank malfunction and infiltration of waste into the groundwater system is of concern. Protection of the aquifer system and wellfields through conservation and reuse, recharge enhancement, limitations on withdrawal, regulation of land use, and maintenance of minimum flows and levels will ensure the availability of an adequate water supply for all competing demands, maintain and enhance the functions of natural systems and preserve water quality.

Several regional water supply, surface water management studies, and ecosystem restoration programs and projects are being developed in South Florida. Many of these projects will have a significant impact in Palm Beach County and land use decisions made in the County may also affect some of

these projects. To address this interrelationship, the County is involved in the development of these initiatives by providing input in matters related to land use planning, growth management, water supply and environmental topics, and will follow the outcome of the several initiatives as they are implemented and operated. Likewise, the South Florida Water Management District has been designated as a commenting agency for land use amendments and development applications reviewed by the County. Among The most critical regional projects where the County is involved are:

- The US Army Corp of Engineers Central and South Florida (C&SF) Project Comprehensive Review Study (Restudy), authorized by the US Congress in 1992 and delivered to the Congress July 1,1999. This study will examine structural and operational modifications to the regional water management system to protect the Everglades and the Florida Bay ecosystems and to improve other functions including urban and agricultural water supply and flood control. In the year 2000, the US Congress gave authorization to implement the study recommendations through the Water Resources Development Act of 2000, which authorized the implementation of the Comprehensive Everglades Restoration Plan (CERP). CERP is to be implemented in the next decades and the Congress authorized the first 1.4 billion dollars for the construction of the first group of priority projects.
- The SFWMD Governing Board adopted an Interim Plan for Lower East Coast Water Supply in March of 1998. The Interim Plan included recommendations for water supply and water resource development projects to help meet the needs of the region through 2010. The Interim Plan also lays out a map to develop a 20-year water supply plan for the region. This plan, known as the LEC 2020 Plan, and the CERP were carefully coordinated by the SFWMD and the Army Corps of Engineers to ensure integration of water resource planning for the region.
- Other related programs are: the Water Preserve Areas (WPA's) Feasibility Study, which is exploring concepts to capture and store excess surface waters that are normally released to tide via the C&SF Project canal system by back pumping these surface waters to the WPA's; the Comprehensive Water Management Plan for Northern Palm Beach County , which would capture water from the southern L-8 Basin, provide water quality treatment, and route water to the West Palm Beach Water Catchment Area the Loxahatchee Slough and the NW Fork of the Loxahatchee River, when needed; and the Integrated Water Resources Strategy for Southeastern Palm Beach County, which includes improving existing flood control and water supply services for the urban and agricultural areas, water supply augmentation through the use of alternative water technologies, and coordination with regional ecosystem enhancement and land use planning efforts.

- In 1994 the Federal and State governments entered into an agreement to settle a Federal lawsuit and the Everglades Forever Act was enacted. The implementation of this act includes the development of Stormwater Treatment Areas (STA's) and the establishment of Best Management Practices (BMP's) in the Everglades Agricultural Area, with the purpose of filtering phosphorus and other detrimental nutrients currently going to the Everglades.
- Several Federal and State legislative initiatives and regulatory programs that have been adopted or are currently being discussed, might also have an impact on the surface and groundwater management situation in South Florida and particularly in Palm Beach County. Among them is the 1995 Florida Water Plan (FWP) which includes directives mandating water management districts and other agencies to achieve "Minimum Flows and Levels" (MFL's) for Florida water courses, lakes and aquifers, and also calls for new legislation to strengthen the link between land use planning and water management.

Palm Beach County continues to actively participate in all the above-described projects and will follow the outcome of the several initiatives. In order to provide a more efficient and balanced review of these projects, to develop consolidated and technically sound position statements on the diverse issues, and to identify their potential impact on Palm Beach County, the County Administration created a Water Issues Group. This group includes top administrators, executives and senior professionals from the County's WUD, ERM, PZ&B, and Engineering departments and the County Administration. The County has developed through the WUD a County Water Policy, which is used as a guide to evaluate the diverse initiatives as they become adopted or are finalized, and to help provide more specific position statements. Further analysis of these issues will be reflected in the Utility Support Document and modifications or updates to the Goals, Objectives and Policies might be implemented as needed.

This Element, along with provisions in the Conservation, Intergovernmental and Capital Improvement elements, addresses new State requirements adopted in the 2002 Legislative Session requiring all affected local governments to prepare a Water Supply Facilities Work Plan (Work Plan) for at least a 10-Year period with the purpose of linking water supply and land use planning. The County's Work Plan has been adopted for a 20-Year period consistent with the approval of a 20-Year Water Use Permit for the County's Water Utilities Department.

**Potable Water & Wastewater Sub-Element Purpose and Assessment & Conclusions:**

**A. Purpose**

The Potable Water and Wastewater Sub-Element has as its purpose:

- To provide for necessary public facilities and services (including fireflow);
- To establish different levels of service in order to meet a diversified demand;
- To determine the most appropriate use of the County's water resources to meet current and future urban, environmental and agricultural demands;
- To determine sound management of wastewater in a manner consistent with federal, state and local law, including methods of disposing of treated wastes and sludge from water and sewer treatment plants.
- To establish the conditions upon which central potable water and/or wastewater service will be provided, and to identify those areas where public service will not be provided.

## **B. Assessment and Conclusions**

Southeast Florida is a region where appropriate management of water resources is critical for the future sustainability of the region. This region encompasses a fast and steady growing population, some of the most important agricultural industries in the country, and last but not least, a fragile natural environment which includes the Everglades National Park and its supporting regional ecosystem. The region's water resources need to be planned and managed in order to respond to the competing needs of the growing population, the continuation of agriculture and the preservation and enhancement of the region's natural resources.

Palm Beach County is participating in and closely following the diverse regional programs addressing the future of water resources and water supply in the region. Several policies in this sub-element and other elements of the Comprehensive Plan state the need for County participation and monitoring of these regional initiatives.

### **1. General Findings**

In addition to the regional issues indicated in Section B above, the most relevant issues relating to Potable Water and Wastewater in Palm Beach County are the following:

- a. The unincorporated area of Palm Beach County receives potable water and/or wastewater from multiple providers. This Sub-Element identifies the service areas, capacities, and level of service of each provider. Analysis performed for this Sub-Element determines the impact of the

proposed Land Use Plan on each provider's ability to meet future demand. This analysis provides the basis for intergovernmental and government/private provider coordination, to assure the availability of potable water and /or wastewater to meet projected demand. It also assures the County that needs can be met in the County's own service area.

- b. The Sub-Element also provides a strategy to assist the County in meeting the requirements of Chapter 163.3180(2)(a), F.S., to provide required public services, such as potable water and wastewater, concurrently with the demands for those services. This strategy includes a capacity management system, which is necessary because the unincorporated area receives service from a number of providers.
- c. The Sub-Element provides information for current and future property owners and developers regarding proposed location, levels of service (LOS), and capacity of potable water and wastewater service.
- d. Palm Beach County residents obtain potable water and wastewater services through a variety of service providers. Population living within municipalities received drinking water either from those municipalities, or private franchises or special districts authorized to serve those municipal residents. The exceptions are the municipalities of Greenacres City where potable water and wastewater services are totally provided by the Palm Beach County Water Utilities Department; and the City of Atlantis, ~~the towns of Haverhill, Cloud Lake and Golfview, and a portion of Lake Clarke Shores~~ where potable water is ~~also provided~~ sold wholesale by Palm Beach County Water Utilities Department.

## **2. Potable Water Issues Providers**

The residents of unincorporated areas of the County receive potable water services from one of the following sources:

- a. Eastern Palm Beach County: Palm Beach County Water Utilities Department (PBCWUD); Seacoast Utilities; ~~Acme Improvement District~~ Village of Wellington; Town of Jupiter; Village of Palm Springs; City of Lake Worth; City of Boynton Beach; City of Riviera Beach; Village of Tequesta; City of Delray Beach; City of Boca Raton; Village of Royal Palm Beach; Seminole Water Control District, a new utility provider; and small private water supply systems.
- b. Glades Area (Western Palm Beach County): City of Belle Glade; City of Pahokee; City of South Bay; and small private water supply systems.

- c. While most Eastern Palm Beach County drinking water providers rely upon groundwater as the source of raw water, the Glades Area municipalities draw water from Lake Okeechobee.

### **3. Wastewater Issues Providers**

Unincorporated residents located in eastern Palm Beach County received sanitary service from one of three types of systems:

- a. Central wastewater service, including the Palm Beach County Water Utilities Department (PBCWUD), Loxahatchee River Environmental Control District (ENCON), Seacoast Utilities, ~~Acme Improvement District~~ Village of Wellington, Seminole Water Control District, City of West Palm Beach, ~~and municipal service providers~~ Village of Palm Springs; City of Lake Worth; City of Boynton Beach; City of Riviera Beach; City of Delray Beach; City of Boca Raton; Village of Royal Palm Beach; and Seminole Water Control District, a new utility provider.
- b. Package treatment plant systems serving only one land use or development (such as a mobile home park); or
- c. Septic tanks operated and permitted under the provisions of the County's Environmental Control Rule I (ECR I).

A majority of the urban unincorporated areas in the Glades are served by the cities of Belle Glade, Pahokee and South Bay. Significant portions of unincorporated rural residential Palm Beach County including antiquated and unrecorded subdivisions, some of which are growing at a faster rate than other areas in the County rely on septic tanks.

Package treatment plants serving labor camps and sugar industry sites are also present in unincorporated Palm Beach County areas in the Glades. Palm Beach County ~~is considering through the Managed Growth Program the prohibition of~~ prohibits package treatment plants in the urban and limited urban service areas, while allowing restricted use of package plants in the Everglades Agricultural Area and in other areas dedicated to agricultural production, in order to provide wastewater service to bonafide agricultural uses and to essential public facilities.

The map entitled "Palm Beach County Water & Wastewater Service Areas" hereby incorporated into these Support Documents, depicts the service providers and service areas in detail.

(Omitted for Brevity)

## **Potable Water Sub-Element Goals, Objectives and Policies:**

### **GOAL 2 WATER AND GROUNDWATER PROTECTION**

It is the GOAL of Palm Beach County to promote the conservation and protection of surface and groundwater resources with the purpose of securing future water supplies for urban and agricultural users and for the preservation and enhancement of the regional ecosystem.

#### **OBJECTIVE 2.1 Water Conservation**

Palm Beach County shall continue to implement procedures and programs to conserve water through reuse, and other methods, consistent with federal, state and regional policy plan goals and regulations.

**Policy 2.1-a:** Palm Beach County encourages and promotes the use of innovative alternative technologies to augment water resources including: conventional reclaimed water irrigation piping systems, constructed wetlands, aquifer storage and recovery (ASR), groundwater recharge and indirect reuse systems.

**Policy 2.1-b:** The County shall require the use of Irrigation Quality (I.Q.) reclaimed water for irrigation in any development within the Palm Beach County Water Utilities Department Mandatory Reclaimed Water Service Area (MRWSA) or where a reclaimed water main is within 300 feet of the property to be developed.

1. The MRWSA shall correspond to the area surrounding the Southern Region Water Reclamation Facility on Hagen Ranch Road in suburban Delray Beach (See detailed description of this area on page 3, item 4, of the Utility Element Support Documents)
2. If all or a portion of any new development or project falls within the MRWSA, the entire development or project shall be required to use reclaimed water service.
3. No new customer shall construct or use a new irrigation system which does not use reclaimed water where reclaimed water service is available.
4. Notwithstanding the above requirements, other customers may connect to the reclaimed water system with the approval of the Department.

**Policy 2.1-c:** Palm Beach County shall continue the implementation of land development regulations that require proper plant selection and siting, preservation of existing native vegetation and use of native plants,

efficient irrigation systems (example: xeriscaping), and appropriate maintenance procedures.

**Policy 2.1-d:** The County shall adopt a policy requiring manual operation of all irrigation systems or automatic systems with sensors, in order to eliminate irrigation cycles during rain or when ground is saturated.

**Policy 2.1-e:** The County shall coordinate with the South Florida Water Management District (SFWMD) in the development of the local Water Supply Plan. The County shall coordinate with the SFWMD in development of a plan, which will provide adequate water for the conservation, and restoration of native ecosystems, agricultural, domestic, public water supply, and industrial needs. The County shall participate on the Lower East Coast Regional Water Supply Plan (LEC) Advisory Committee, local water supply plans, and other committees essential to Palm Beach County's interest. The County shall also coordinate with the public and private sectors, major utilities and municipal providers, and with water control and special districts, which manage water resources in the development of local water supply plans. *Cross-Reference: For more information on the water supply issue and its importance to the future of water resources in the County, see the Conservation Element data and analysis sections and Policies 3.1-a through 3.1-g, under Objective 3.1.*

**Policy 2.1-f:** Palm Beach County shall encourage the continuation of existing water conservation programs as directed by various public and private agencies and organizations, through the distribution of information prepared by those entities.

**Policy 2.1-g:** Palm Beach County shall continue to promote the prohibition of water-only meters used strictly for irrigation, where reasonable alternative irrigation sources exist, by providing information on this issue to other utility providers.

**Policy 2.1-h:** The Palm Beach County Water Utility Department shall continue to promote water conservation through the use of increasing block utility rate structures by providing information on this issue to other utility providers.

**Policy 2.1-i:** Palm Beach County shall establish a long-term goal of a water consumption rate of 150 gallons per capita per day and shall structure water rates to support this goal. Palm Beach County shall urge all providers to adopt this goal and similarly restructure their rate schedules, in order to achieve water conservation.

## **OBJECTIVE 2.2 Groundwater Protection**

Palm Beach County shall continue to enforce local regulations designed and adopted to prevent groundwater degradation, and to protect water and groundwater resources, such as the Wellfield Protection Ordinance, Environmental Control Rule I (ECR-I), Environmental Control Rule II (ECR-II), and the Turnpike Aquifer Protection Overlay District (TAPO).

**Policy 2.2-a:** Cones of influence of wellfields shall be identified on the Wellfield Zone of Influence map as areas where use of regulated substances is restricted. The map is maintained by Palm Beach County ERM, which is the agency that administers the Wellfield Protection Ordinance. **Cross Reference:** See Conservation Element Policies 3.1-j through 3.1-l.

**Policy 2.2-b:** New uses or developments, or non-conforming uses and developments proposed for expansion, located within the Turnpike Aquifer Protection Overlay (TAPO) District and designed for the purpose of storing, handling or processing of regulated substances, as defined by the Unified Land Development Code, shall comply with the requirements of the Wellfield Protection Ordinance restrictions for zone 3. **Cross Reference:** See Conservation Element Policy 3.1-i.

**Policy 2.2-c:** The County and the Palm Beach County Health Department shall continue to enforce the provisions of Article 16 of the ULDC - Public Health Department regulations. In particular, Section 16.1.3 of Environmental Control Rule I, which sets the general provisions for construction, use and abandonment of on-site sewage treatment and disposal systems; and Section 16.1.4 addressing permits, permit conditions and approvals of such systems. **Note:** For an expanded analysis of this policy see the Utilities Support Document

### **NEW GOAL 3: GROWTH MANAGEMENT AND WATER RESOURCE MANAGEMENT COORDINATION**

It is the GOAL of Palm Beach County to coordinate and cooperate with the South Florida Water Management District and other local, regional, state and federal agencies in the implementation of effective linkages between growth management and water resource management in the County.

#### **OBJECTIVE 3.1 Water Supply Facilities Work Plan**

**Policy 3.1-a:** The County shall consider the most current version of South Florida Water Management Districts's Lower East Coast Water Supply Plan and Regional Water Plan in developing a 20-Year Water Supply Facilities Work Plan.

**Policy 3.1-b:** The County shall adopt a 20-Year Water Supply Facilities Work Plan 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 Work Plan shall be consistent with the County's Water Use Permit renewals. The potable water facilities that will be needed during the 20-Year period to satisfy projected needs and all relevant information for each facility are shown in Tables 1 through 6 below. **Cross-Reference:** For detailed information on the 20-year Water Supply Facilities Work Plan see the Potable Water & Wastewater Support Documents.

**Policy 3.1-c:**The County's Water Utility Department shall work with each municipality or special taxing district to define the ultimate boundaries of that entity's potable water and wastewater service areas and to coordinate the development of consistent master plans and work plans when applicable. Every municipal provider, regional utility or special district's master plan and/or work plan is encouraged to consider the Lower East Coast Regional Water Supply Plan. This task shall be completed after the municipal providers have adopted their respective Work Plans.

### **OBJECTIVE 3.2 Fostering Compatibility between the built and natural systems**

**Policy 3.2-a:**The County shall coordinate with the South Florida Water Management District and other entities to assist with implementation of the provisions of the Regional Water Plan, CERP and other regional water resource management and restoration programs, to evaluate the long-term needs of the natural and built environments, to restrict activities that result in the degradation or over-utilization of potable water resources, and to assure adequate water supply for the competing needs of native ecosystems, agriculture, and domestic and industrial users. **Cross Reference:** Please also refer to the policies under Goal 3 of the Conservation Element.

**Policy 3.2-b:**The County shall coordinate with the South Florida Water Management District to ensure consistency between the County's and the District's planning efforts and to address the combined long-term flood control needs of the environment, agriculture and urban areas through measures identified in Potable Water & Wastewater Policy 2.1-e. **Cross Reference:** Please also refer to the policies in the Intergovernmental Coordination Element.

**Policy 3.2-c:**The County shall support efforts to integrate land use and water resource planning to ensure the availability of water for regional water management purposes. Accordingly, the SFWMD shall be designated as a commenting agency on large scale plan amendments and other projects with potential impacts on regional water resources and programs, and shall be encouraged to provide comments prior to any action on amendments, rezonings, and development projects with regional impacts, by the Land Use Advisory Board, the Zoning Board, or the Board of County Commissioners. **Cross Reference:** Please also refer to the policies in the Intergovernmental Coordination Element.

**TABLE 1**

**PALM BEACH COUNTY  
FACILITY CAPACITY ANALYSIS  
2005**

Facility	Population Served	Demand			Capacity		Facility Evaluation		Raw Water Source	
		Raw Water Average Daily Flow (mgd)	Raw Water 1-in-10 Year Drought Demand (mgd) <sup>(4)</sup>	Finished Water Average Daily Flow (mgd)	Raw Water Pumping Capacity (mgd) <sup>(1)</sup>	Finished Water Production Capacity (mgd)	Raw Water Surplus or (Deficiency) (mgd)	Finished Water Surplus or (Deficiency) (mgd)	Surficial Aquifer (mgd)	Alternative Water Resources (mgd) <sup>(5)</sup>
WTP No. 2 <sup>(2)</sup>	94,535	11.74	12.99	10.77	15.60	14.50	3.86	3.73	11.74	0.00
WTP No. 3 <sup>(3)</sup>	70,476	13.31	14.73	11.05	40.20	30.00	26.89	18.95	4.81	8.50
WTP No. 8 <sup>(2)</sup>	137,750	14.05	15.55	12.79	18.70	16.00	4.65	3.21	14.05	0.00
WTP No. 9 <sup>(3)</sup>	93,465	18.56	20.54	15.40	35.70	27.00	17.14	11.60	18.56	0.00
System-Wide	396,226	57.66	63.80	50.00	110.20	87.50	52.54	37.50	49.16	8.50

Notes: (1) Raw Water Pumping Capacity = Wellfield Capacity with two largest wells out of service.

(2) Finished Water Capacity = Lime Softening Plant

(3) Finished Water Capacity = Membrane Softening Plant with 15% Raw Water Blend

(4) Raw Water 1-in-10 Year drought demand based upon SFWMD June 1998 methodology using 1.1065 times average daily flow.

(5) Alternative resources to be provided for an average day condition. Amount will increase with maximum month pumping conditions.

**TABLE 2**

**PALM BEACH COUNTY  
FACILITY CAPACITY ANALYSIS  
2010**

Facility	Population Served	Demand			Capacity		Facility Evaluation		Raw Water Source	
		Raw Water Average Daily Flow (mgd)	Raw Water 1-in-10 Year Drought Demand (mgd) <sup>(4)</sup>	Finished Water Average Daily Flow (mgd)	Raw Water Pumping Capacity (mgd) <sup>(1)</sup>	Finished Water Production Capacity (mgd)	Raw Water Surplus or (Deficiency) (mgd)	Finished Water Surplus or (Deficiency) (mgd)	Surficial Aquifer (mgd)	Alternative Water Resources (mgd) <sup>(5)</sup>
WTP No. 2 <sup>(2)</sup>	109,271	11.69	12.93	10.66	15.60	14.50	3.91	3.84	11.69	0.00
WTP No. 3 <sup>(3)</sup>	83,312	18.70	20.69	15.71	40.20	30.00	21.50	14.29	7.20	11.50
WTP No. 8 <sup>(2)</sup>	150,802	13.92	15.40	12.56	23.00	20.00	9.08	7.44	13.92	0.00
WTP No. 9 <sup>(3)</sup>	98,351	18.67	20.66	15.68	35.70	27.00	17.03	11.32	18.67	0.00
System-Wide	441,736	62.98	69.69	54.62	114.50	91.50	51.52	36.88	51.48	11.50

Notes: (1) Raw Water Pumping Capacity = Wellfield Capacity with two largest wells out of service.

(2) Finished Water Capacity = Lime Softening Plant

(3) Finished Water Capacity = Membrane Softening Plant with 15% Raw Water Blend

(4) Raw Water 1-in-10 Year drought demand based upon SFWMD June 1998 methodology using 1.1065 times average daily flow.

(5) Alternative resources to be provided for an average day condition. Amount will increase with maximum month pumping conditions.

**TABLE 3**

**PALM BEACH COUNTY  
FACILITY CAPACITY ANALYSIS  
2015**

Facility	Population Served	Demand			Capacity		Facility Evaluation		Raw Water Source	
		Raw Water Average Daily Flow (mgd)	Raw Water 1-in-10 Year Drought Demand (mgd) <sup>(4)</sup>	Finished Water Average Daily Flow (mgd)	Raw Water Pumping Capacity (mgd) <sup>(1)</sup>	Finished Water Production Capacity (mgd)	Raw Water Surplus or (Deficiency) (mgd)	Finished Water Surplus or (Deficiency) (mgd)	Surficial Aquifer (mgd)	Alternative Water Resources (mgd) <sup>(5)</sup>
WTP No. 2 <sup>(3)</sup>	125,331	17.42	19.28	14.64	41.50	30.00	24.08	15.36	17.42	0.00
WTP No. 3 <sup>(3)</sup>	93,926	17.38	19.23	14.60	40.20	30.00	22.82	15.40	3.88	13.50
WTP No. 8 <sup>(2)</sup>	164,266	17.38	19.23	16.37	23.00	20.00	5.62	3.63	17.38	0.00
WTP No. 9 <sup>(3)</sup>	102,088	17.35	19.20	14.57	35.70	27.00	18.35	12.43	17.35	0.00
System-Wide	485,611	69.53	76.94	60.18	140.40	107.00	70.87	46.82	56.03	13.50

Notes: (1) Raw Water Pumping Capacity = Wellfield Capacity with two largest wells out of service.

(2) Finished Water Capacity = Lime Softening Plant

(3) Finished Water Capacity = Membrane Softening Plant with 15% Raw Water Blend

(4) Raw Water 1-in-10 Year drought demand based upon SFWMD June 1998 methodology using 1.1065 times average daily flow.

(5) Alternative resources to be provided for an average day condition. Amount will increase with maximum month pumping conditions.

**TABLE 4**

**PALM BEACH COUNTY  
FACILITY CAPACITY ANALYSIS  
2020**

Facility	Population Served	Demand			Capacity		Facility Evaluation		Raw Water Source	
		Raw Water Average Daily Flow (mgd)	Raw Water 1-in-10 Year Drought Demand (mgd) <sup>(4)</sup>	Finished Water Average Daily Flow (mgd)	Raw Water Pumping Capacity (mgd) <sup>(1)</sup>	Finished Water Production Capacity (mgd)	Raw Water Surplus or (Deficiency) (mgd)	Finished Water Surplus or (Deficiency) (mgd)	Surficial Aquifer (mgd)	Alternative Water Resources (mgd) <sup>(5)</sup>
WTP No. 2 <sup>(3)</sup>	143,266	19.68	21.78	16.63	41.50	30.00	21.82	13.37	19.68	0.00
WTP No. 3 <sup>(3)</sup>	110,239	19.65	21.74	16.60	40.20	30.00	20.55	13.40	4.15	15.50
WTP No. 8 <sup>(3)</sup>	177,198	19.65	21.74	16.60	33.10	24.00	13.45	7.40	19.65	0.00
WTP No. 9 <sup>(3)</sup>	105,632	19.64	21.73	16.58	35.70	27.00	16.06	10.42	19.64	0.00
System-Wide	536,335	78.62	86.99	66.41	150.50	111.00	71.88	44.59	63.12	15.50

Notes: (1) Raw Water Pumping Capacity = Wellfield Capacity with two largest wells out of service.

(2) Finished Water Capacity = Lime Softening Plant

(3) Finished Water Capacity = Membrane Softening Plant with 15% Raw Water Blend

(4) Raw Water 1-in-10 Year drought demand based upon SFWMD June 1998 methodology using 1.1065 times average daily flow.

(5) Alternative resources to be provided for an average day condition. Amount will increase with maximum month pumping conditions.

**TABLE 5**

**PALM BEACH COUNTY  
FACILITY CAPACITY ANALYSIS  
2025**

Facility	Population Served	Demand			Capacity		Facility Evaluation		Raw Water Source	
		Raw Water Average Daily Flow (mgd)	Raw Water 1-in-10 Year Drought Demand (mgd) <sup>(4)</sup>	Finished Water Average Daily Flow (mgd)	Raw Water Pumping Capacity (mgd) <sup>(1)</sup>	Finished Water Production Capacity (mgd)	Raw Water Surplus or (Deficiency) (mgd)	Finished Water Surplus or (Deficiency) (mgd)	Surficial Aquifer (mgd)	Alternative Water Resources (mgd) <sup>(5)</sup>
WTP No. 2 <sup>(3)</sup>	155,076	22.23	24.60	18.36	41.50	30.00	19.27	11.64	22.23	0.00
WTP No. 3 <sup>(3)</sup>	119,326	22.18	24.54	18.32	40.20	30.00	18.02	11.68	4.68	17.50
WTP No. 8 <sup>(3)</sup>	191,805	22.18	24.54	18.30	33.10	24.00	10.92	5.70	22.18	0.00
WTP No. 9 <sup>(3)</sup>	114,339	22.14	24.50	18.28	35.70	27.00	13.56	8.72	22.14	0.00
System-Wide	580,546	88.73	98.18	73.26	150.50	111.00	61.77	37.74	71.23	17.50

Notes: (1) Raw Water Pumping Capacity = Wellfield Capacity with two largest wells out of service.

(2) Finished Water Capacity = Lime Softening Plant

(3) Finished Water Capacity = Membrane Softening Plant with 15% Raw Water Blend

(4) Raw Water 1-in-10 Year drought demand based upon SFWMD June 1998 methodology using 1.1065 times average daily flow.

(5) Alternative resources to be provided for an average day condition. Amount will increase with maximum month pumping conditions.

**TABLE 6a**

**PALM BEACH COUNTY  
FACILITY EXPANSION SCHEDULE**

<b>Facility</b>	<b>Anticipated Year Construction Completed</b>	<b>Source of Water to be Utilized</b>	<b>Estimated Cost of Construction</b>	<b>Source of Funds</b>
9W ASR Well	2005	Surficial and Floridan Aquifers	\$ 1,800,000	WUD user fees and balances brought forward
Winsberg Farms Constructed Wetlands	2005	Secondary Effluent	\$ 10,000,000	WUD user fees and balances brought forward
WTP No. 3	2005	Surficial and Floridan Aquifers	\$ 40,000,000	WUD user fees and balances brought forward
Reclaimed Water System Phase IV Expansion	2010	Reclaimed Water	\$ 2,400,000	WUD user fees and balances brought forward
WTP No. 2	2010	Surficial and Floridan Aquifers	\$ 50,000,000	WUD user fees and balances brought forward
8W ASR Well	2015	Surficial and Floridan Aquifers	\$ 2,000,000	WUD user fees and balances brought forward
Reclaimed Water System Phase V Expansion	2015	Reclaimed Water	\$ 3,200,000	WUD user fees and balances brought forward
2W ASR Well	2020	Surficial and Floridan Aquifers	\$ 2,000,000	WUD user fees and balances brought forward
WTP No. 8	2020	Surficial and Floridan Aquifers	\$ 50,000,000	WUD user fees and balances brought forward

**TABLE 6b  
PALM BEACH COUNTY  
FACILITY EXPANSION SCHEDULE**

Facility	Source of Water to be Utilized	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	Total Estimated Construction Cost
9W ASR Well	Surficial and Floridan Aquifers	\$ 1,600,000	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,800,000
Winsberg Farms Constructed Wetlands	Secondary Effluent	\$ 2,000,000	\$ 9,000,000	\$ -	\$ -	\$ -	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 13,000,000
WTP No. 3	Surficial and Floridan Aquifers	\$ 9,000,000	\$ 31,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 40,000,000
Reclaimed Water System Phase IV Expansion	Reclaimed Water	\$ -	\$ -	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 400,000	\$ -	\$ 2,400,000
WTP No. 2	Surficial and Floridan Aquifers	\$ -	\$ 4,000,000	\$ 4,500,000	\$ -	\$ -	\$ 15,000,000	\$ 15,000,000	\$ 11,500,000	\$ 50,000,000
8W ASR Well	Surficial and Floridan Aquifers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
Reclaimed Water System Phase V Expansion	Reclaimed Water	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 300,000	\$ 3,200,000
2W ASR Well	Surficial and Floridan Aquifers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,000,000
WTP No. 8	Surficial and Floridan Aquifers	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 50,000,000

Each of these facilities will take more than one year to complete, so the capital costs will be spread over several years in the Capital Improvement Element (CIE) tables (Example: the Winsberg Farms project has expenditures in FY03, FY04, FY08 and FY09, which is how the costs will appear in the CIE) . Also note that this schedule only includes alternate water resources, not water and sewer projects (as in the CIE Table 10). The source of funding for these projects will be Water Utilities Department user fees and balances brought forward.

**3. EXISTING TEXT AND AMENDMENTS TO THE CONSERVATION ELEMENT TO ADDRESS THE REQUIREMENTS OF THE WATER SUPPLY WORK PLAN.**

The proposed text to address the requirements of the Water Supply Work Plan is presented below. Existing language is presented with clean text, while the additions and changes are shown in underline and strikeout format:

**Conservation Element Purpose, Assessment & Conclusions:**

**A. Purpose**

The purpose of the Conservation Element of the Palm Beach County Comprehensive Plan is to promote the responsible use, protection, and restoration of the County's natural resources. This Element is prepared pursuant to Chapter 163, F.S., and Rule 9J-5.013, F.A.C. The protection and conservation of natural resources is of paramount importance in maintaining and improving the high quality of life that County residents demand. The Element focuses on natural resources and develops policies necessary for or related to the protection and preservation of such resources. The resources examined in this Element include wetlands and conservation areas, air quality, water quality and quantity, estuarine systems, lakes, rivers, as well as vegetative and wildlife communities. The County's Department of Environmental Resources Management is the implementing agency for the majority of the Element, unless otherwise specified in the Goals, Objectives, or Policies.

**B. Assessment and Conclusions**

The Conservation Element was developed from the data and analysis of existing and future conditions regarding the County's natural communities and resources. The evaluation included the review and analysis of Native Communities and Ecosystems, Loxahatchee River and Slough system, Linked Open Space, Air Quality, Surfacewater and Groundwater Quality and Quantity, and Lakes. The following is a summary of portions of the Data and Analysis provided in the support documents.

(Text omitted for Brevity)

**5. Surfacewater and Groundwater Quality and Quantity**

The County currently relies on ~~has only~~ one principal aquifer system: The Surficial A aquifer System. This aquifer contains: 1) the unconfined Biscayne Aquifer located in southern Palm Beach County and 2) the undifferentiated Water Table Aquifer located throughout the rest of the County. The Biscayne Aquifer is currently the sole source of potable water for southern Palm Beach County. It is

recharged by direct infiltration of rainfall and canal inflow. Due to the high permeability of the aquifer and its proximity to the surface, it is extremely susceptible to both saltwater intrusion and contamination from surface sources. The Turnpike Aquifer Protection Overlay (TAPO) District was established to safeguard the northern extension of the Biscayne Aquifer, one of the most productive portions of the surficial aquifer. All development approvals within this overlay, in conjunction with provisions of the overlay in the Land Use Element, shall be required to identify and, if applicable, dedicate well sites provided the development meets the criteria.

In the future the County may also rely on the Floridan Aquifer to complement future water supply needs. The Floridan Aquifer System, which is one of the most productive aquifers in the world, underlies the State of Florida and portions of other states to the north and west of Florida. The Aquifer lies deep below South Florida and would require special treatment to make the brackish water in its upper layer suitable for drinking. The SFWMD's Lower East Coast Water Supply Plan has suggested the Floridan Aquifer as one of the future water source options.

The County has adopted the Unified Land Development Code with a Wellfield Protection Ordinance that restricts land uses and the use of regulated substances within zones of influence of potable water wells.

Water supply is a major concern in Palm Beach County. To help solve this problem, the SFWMD is engaged in and the County is coordinating with SFWMD on many water initiatives including the Lower East Coast Regional Water Supply Plan (LECRWSP). The purpose of LECRWSP is to evaluate the complex issues associated with water supply, including the demands of the natural environment, agriculture, and urban areas. In addition, the County recognizes the importance of the SFWMD's East Coast Buffer to protect the environmental integrity and water supply of the County and their efforts of the Water Preserve Areas Studies to ensure the availability of water for natural system restoration and water supply purposes.

With increasing water use, natural systems dependent upon water have become degraded as sufficient quantities to support the natural systems become unavailable. Natural areas and other open spaces are also important as groundwater percolation (recharge) areas. The preservation of recharge areas and the use of on-site stormwater retention/detention help to replenish water supplies.

(Text omitted for Brevity)

## **Conservation Element Goals, Objectives and Policies:**

### **GOAL 3: PROTECTION OF SURFACEWATER AND GROUNDWATER QUALITY AND QUANTITY**

It is the GOAL of Palm Beach County to protect surface water and groundwater quality and quantity by discouraging activities that would damage or degrade water resources.

#### **OBJECTIVE 3.1 Quality and Quantity of Water Resources**

The County shall preserve and protect both the quality and quantity of the County's water resources so that future development activities are conducted in a manner that, at a minimum, meet state water quality standards.

**Policy 3.1-a:** The County shall continue to coordinate with the South Florida Water Management District and/or an advisory committee created by the District to assist with implementation of the provisions of the regional water plan to evaluate long-term environmental needs and restrict activities that result in the degradation or over-utilization of potable water resources and assure adequate water supply for: 1) native ecosystems and other lands with significant native vegetation; 2) agriculture; and 3) domestic and industrial needs. *Cross reference: Please also refer to the policies below and the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.1-e.*

**Policy 3.1-b:** The County recognizes the importance of the South Florida Water Management District's (SFWMD) East Coast Buffer (ECB) area to protect the environmental integrity and the water resources of the County. Accordingly, the County shall coordinate with the SFWMD in their efforts for the ECB. The County shall facilitate flexible site designs, within and adjacent to the ECB, through mechanisms such as flexible site development provisions that protect, enhance, and are compatible with the functions of the ECB. The County shall discourage, within and adjacent to the ECB, those land uses incompatible with the ECB functions including, but not limited to, heavy commercial and industrial uses, solid waste disposal and transfer stations, cemeteries, transportation facilities, and gas or service stations. The County recognizes the SFWMD's role in determining if site designs are compatible with the ECB and therefore, will coordinate and consider SFWMD recommendations in land use compatibility and zoning decisions for areas within and adjacent to the ECB. *Cross reference: Please also refer to other policies in this Objective and the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.1-e.*

**Policy 3.1-c:** The County shall coordinate with the South Florida Water Management District (SFWMD) in their efforts to ensure the availability of water for natural system restoration and for water management purposes

by participating in the Water Preserve Area (WPA) studies. The County shall facilitate flexible site designs, within and adjacent to the WPA study area, through mechanisms such as flexible site development provisions that protect, enhance, and are compatible with the functions of the WPA's. The County shall discourage, within and adjacent to the WPA study area, those land uses incompatible with the WPA functions including, but not limited to, heavy commercial and industrial uses, solid waste disposal and transfer stations, cemeteries, transportation facilities, and gas or service stations. The County recognizes the SFWMD's role in determining if site designs are compatible with the WPA's and therefore, will coordinate and consider SFWMD recommendations in land use compatibility and zoning decisions for areas within and adjacent to the WPA study area. **Cross reference:** Please also refer to other policies in this Objective and the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.1-e.

**Policy 3.1-d:** The County, in close coordination with the South Florida Water Management District and other environmental regulatory and planning agencies, shall encourage that wetland mitigation, environmental protection and water management efforts support and optimize the functions of the East Coast Buffer and the Water Preserve Areas. **Cross reference:** Please also refer to other policies in this Objective and the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.1-e.

**Policy 3.1-e:** The County shall continue its existing surface water quality monitoring network to identify point-source and non-point source water quality problem areas and shall develop and implement a program designed to reduce non-point source discharges to surface waters. The County shall continue to coordinate with Florida Department of Environmental Protection (FDEP) and South Florida Water Management District (SFWMD) with their groundwater and surface water monitoring efforts. The County shall continue to enforce Surface Water Quality Standards throughout the County and the Stormwater Pollution Prevention Ordinance within the unincorporated areas. The County shall comply with the United States Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) stormwater permit requirements. The County shall conduct on-site inspections, water sampling, permitting, compliance and enforcement, and estuary enhancement as needed to help reduce the potential degradation of water quality due to stormwater runoff. **Cross reference:** Please also refer to Coastal Management Element Policies 1.1-e, f & g and the Utilities Element, Stormwater Management Sub-Element Objective 2.1.

**Policy 3.1-f:** The County shall continue to coordinate and support the efforts of the South Florida Water Management District to require stormwater treatment standards and monitoring for phosphorus from all agricultural areas. **Cross reference:** Please also refer to the Utilities Element, Stormwater Management Sub-Element, Policy 2.1-e.

**Policy 3.1-g:** The County shall continue to coordinate with the South Florida Water Management District to give priority to water supply for native ecosystems and other areas with significant plant and animal life. *Cross reference: Please also refer to other policies in this Objective and the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.1-e.*

**Policy 3.1-h:** The County shall encourage and support a coordinated regulatory and programmatic approach for the protection of aquifer recharge areas and for environmental protection efforts.

**Policy 3.1-i:** The County shall continue to implement the regulations of the Unified Land Development Code, especially the environmental threshold reviews, wellfield protection provisions, and the Turnpike Aquifer Protection Overlay provisions to protect aquifers through water conservation and preservation of the functions of aquifer recharge areas. *Cross reference: Please also refer to the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.2-b.*

**Policy 3.1-j:** The County shall continue to enforce the provisions of the Wellfield Protection Ordinance. The use, handling, production and storage of regulated substances shall be prohibited in Zones 1, 2, 3 and 4, unless the facility or business qualifies for a General or Special Exemption and/or obtains an operating permit under the provisions of the Ordinance.

The requirements addressed by the Ordinance shall include containment, emergency collection devices, emergency plans, inspection, maintenance of containment and emergency equipment, reporting of spills, monitoring for regulated substances in the protected potable water wells, monitoring for regulated substances in groundwater monitoring wells on the sites where the substances are used, alterations and expansions of uses of Regulated Substances, reconstruction after catastrophes and financial responsibility. *Cross reference: Please also refer to the Utilities Element, Potable Water & Sanitary Sewer Sub-Element, Policy 2.2-a.*

**Policy 3.1-k:** The County shall prohibit the future location of facilities that handle, use, store or produce regulated substances within Wellfield Protection Zone 1 and discourage their location within Zones 2, 3 and 4. Additionally, the County shall identify future wellfield areas and adopt measures to protect them.

**Policy 3.1-l:** The County shall establish and develop future wellfields consistent with the Wellfield Protection Ordinance and the Turnpike Aquifer Protection Overlay District, when it can be determined through hydrologic testing that such establishment and operation would not adversely affect the natural resources or the management objectives for these resources.

**Policy 3.1-m:** The County shall not take any land use actions which are inconsistent with the State and the South Florida Water Management District efforts related to maintaining and/or improving water quality in Lake Okeechobee; particularly those included in an adopted surface water improvement and management plan.

**Policy 3.1-n:** The County shall continue to implement the “State of the Lakes” management plan for the coastal freshwater lake system which includes Lakes Osborne, Ida, Clarke, Eden and Pine in order to provide protection, conservation and enhancement of their natural functions and aesthetic economic values. The County shall prioritize the projects within the plan, pursue funding through all appropriate means and shall initiate projects based upon funding availability.

**Policy 3.1-o:** The County shall continue to maintain and implement the Lake Worth Lagoon Management Plan. The County shall continue to coordinate with all jurisdictions, which have stormwater discharges and/or potential for habitat restoration in the Lake Worth Lagoon and other estuarine waters, to implement actions which will meet or exceed the State’s Class III Surface Water Quality Standards. *Cross reference: Please refer to Coastal Management Policy 1.1-i.*

**Policy 3.1-p:** The County shall coordinate with South Florida Water Management District (SFWMD)–and the United States Army Corps of Engineers (USACE), and other local, state, tribal and federal entities on development and implementation of the Comprehensive Everglades Restoration Plan (CERP), and other related ecosystem restoration initiatives in South Florida. *Cross reference: See Potable Water and Wastewater Sub-Element objectives and policies under Goals 2 and 3, and Assessment & Conclusions section of the same sub-element.*

#### **4. EXISTING TEXT AMENDMENTS TO THE INTERGOVERNMENTAL COORDINATION ELEMENT ADDRESSING THE WATER SUPPLY WORK PLAN**

**The proposed text to address the requirements of the Water Supply Work Plan is presented below. Existing language is presented with clean text, while the additions and changes are shown in underline and strikeout format:**

##### **I. INTRODUCTION (SECTION)**

Coordination among the numerous entities that affect land development in Palm Beach County is essential for efficiently meeting the needs of Palm Beach County residents. The sheer number of governmental entities affecting Palm Beach County requires substantial efforts of coordination. The County, 38 municipalities, the School Board, South Florida Water Management District, more

than 20 secondary drainage districts and several other sub-county, Countywide, regional and state agencies, authorities and taxing districts all make direct or indirect decisions influencing land development. It is critical that Palm Beach County creates and maintains viable mechanisms to enhance close working relationships with these agencies. All should work together to avoid conflict and build cooperation, with the goal of improved and efficient service to the public. Conflicts invariably arise if there is lack of communication and interaction. Such conflicts can lead to a loss of trust among the various units of local government and, more, importantly, the public.

(Text omitted for brevity)

## **II. GOALS, OBJECTIVES AND POLICIES**

### **GOAL 1 PLAN COORDINATION**

It is the **GOAL** of Palm Beach County to provide a continuous coordination effort with all affected governmental entities in order to accomplish the goals of the Palm Beach County Comprehensive Plan and consider recommendations of affected governmental entities in the County's decision-making process and to ensure consistency with state and regional plans.

#### **OBJECTIVE 1.1 Plan Coordination**

Palm Beach County shall utilize existing mechanisms to coordinate planning efforts with the plans of school boards, other units of local government providing services, adjacent municipalities, adjacent counties, the region, the State, state and federal entities, and with the residents of Palm Beach County. In coordinating with other governmental entities the County shall address compatibility of land uses, zoning changes, and the impacts of development to be permitted by the Palm Beach County Comprehensive Plan ~~in general~~.

(Text omitted for brevity)

**Policy 1.1-i:** The County shall coordinate with the South Florida Water Management District to ensure consistency between the County's and the District's planning efforts and to address the combined long-term flood control and water supply needs of the environment, agriculture and urban areas through measures identified in Potable Water & Wastewater Policy 2.1-e.

**Policy 1.1-I:** The County shall support efforts to integrate land use and water resource planning to ensure the availability of water for regional water management purposes. Accordingly, the SFWMD shall be designated as a commenting agency on large scale plan amendments

and other projects with potential impacts on regional water resources and programs, and shall be encouraged to provide comments prior to any action on the amendments, rezonings or development projects with regional impacts, made by the Land Use Advisory Board, the Zoning Board, or the Board of County Commissioners.

(Text omitted for Brevity)

**Policy 4.1-b:**The County's Water Utility Department shall work with each municipality or special taxing district to define the ultimate boundaries of that entity's ~~sewer and water~~ and wastewater service areas and to coordinate the development of consistent master plans and/or work plans. Every municipal provider, regional utility or special district's work plan or master plan is encouraged to consider the Lower East Coast Regional Water Supply Plan.

## **5. CAPITAL IMPROVEMENT ELEMENT EXISTING TEXT AND TABLES RELEVANT TO THE WATER SUPPLY FACILITIES WORK PLAN**

There are no changes to this element in order to address the requirements to link land use and water supply planning. Existing policy statements, as well as goals, objectives and policies already address these requirements.

The County has implemented the annual adoption of a 6-Year Capital Improvement Schedule for all County agencies, including the Water Utilities Department. Existing language in this element also addresses the criteria for the prioritization of capital projects and expenditures and the appropriate use of funds to satisfy projected needs of the community, consistent with the Comprehensive Plan. This approach requires that all major capital projects of all County agencies be supported by policies in the Plan in order to obtain approval by the Office of Financial Management and Budget.

Based on the above, no changes have been made to the Capital Improvement Element. The selected language shown below is with the purpose of illustrating to other communities how Palm Beach County is addressing the requirements.

**The selected language includes text in the Introduction, Assessment and Conclusions, Goals, Objectives and Policies, and 6-Year Capital Improvement Schedule:**

### **I. INTRODUCTION**

#### **A. PURPOSE**

The purpose of the Capital Improvement Element is to implement the provisions of the Palm Beach County Comprehensive Plan by:

- Using timing and location of capital projects to provide services to support growth in areas where the County can efficiently and effectively provide services, and to avoid placement of capital facilities in locations that would promote growth in areas which cannot be efficiently served or which are designated as coastal high-hazard areas;
- Establishing a system of examining and assigning priorities to the needs of the County, thereby assuring that the most essential improvements are provided first;
- Coordinating the timing and location of capital improvements among County agencies as well as other local governments, special districts, and state agencies to maximize benefit from public expenditures, minimize disruption of services to the public and implement land use and infrastructure decisions; and providing a means for coordinating and consolidating various departmental requests, thereby preventing duplication of projects and equipment;
- Allowing sufficient time in advance of actual need to allow for proper planning, design and construction;
- Coordinating financial planning, allowing maximum benefit from available public funds;
- Providing cost information on a timely basis for the evaluation and formulation of alternative financing programs;
- Helping to provide an equitable distribution of public improvements throughout the County; and
- Providing for a Concurrency Management System.

## **B. ASSESSMENTS AND CONCLUSIONS**

(Omitted for Brevity)

Maintaining levels of service as new growth occurs is one of the six criteria for prioritizing capital improvements. The other criteria for prioritizing capital improvements are to correct public hazards, eliminate existing deficiencies as described by the minimum levels of service, provide capacity for developments that have received a valid Development Order/Permit determination when such developments are within the Urban Service Area, increase existing levels of service to desired levels of service, and implement the goals, objectives and policies of other plan elements.

The Capital Improvement Program, annually compiled by the Office of Financial Management and Budget for public information, identifies and funds those projects for which the County is the service provider and which are required to maintain the minimum levels of service and satisfy other prioritization criteria

listed above. The Capital Improvement Element Tables include the capital projects contained in the Capital Improvement Program, as well as program costs, human resources and other operation and maintenance costs, and compares the projected revenue streams.

Projected costs of operations, debt service and capital are compared to projected revenues from existing revenue sources. In those instances where a shortfall existed (projected existing revenues did not sufficiently fund projected expenditures), staff review considered specific proposals to reduce, eliminate or delay the program or project, with corresponding adjustments to the goal, objectives and policies of the appropriate element, in order to maintain consistency in regard to levels of service or timing. The finalized expenditure projections are compared to the projections of existing revenues to verify the fiscal feasibility of the plan. The BCC approves the finalized staff recommendations and projections.

## **II. GOAL, OBJECTIVES AND POLICIES**

### **GOAL 1 USES OF THE CAPITAL IMPROVEMENT PROGRAM**

It is the GOAL of Palm Beach County to utilize a capital improvements program to coordinate the timing and to prioritize the delivery of public facilities and other capital projects; a program that supports the growth management Goals, Objectives and Policies of the Palm Beach County Comprehensive Plan and encourages efficient utilization of its public facilities and financial resources.

(Omitted for Brevity)

### **OBJECTIVE 1.4 Criteria for Prioritizing Capital Improvements**

Palm Beach County shall identify and fund services and capital improvements required by this Plan.

**Policy 1.4-a:** In the absence of legal constraints on the use of revenues, projects and programs shall be funded in order to (these criteria are not listed in order of importance):

- Correct public hazards;
- Eliminate existing deficiencies as described by the minimum levels of service;
- Provide capacity for developments that have received a valid Development Order/Permit determination when such developments are within the Urban Service Area;
- Provide for the renewal and replacement of, and improvement to, existing public infrastructure and physical assets;
- Maintain levels of service as new growth occurs;

- Increase existing levels of service to desired levels of service; and
- Implement the Goals, Objectives and Policies of other Plan Elements.

**Policy 1.4-b:** The County shall prioritize projects, programs and services, and their associated facilities in the annual Capital Project Request Proposals. These proposals shall be categorized as follows:

**Essential:** Services that are directly related to protecting the immediate health and safety of citizens from an existing or imminent hazard. An example would be an expenditure request which responds to a danger arising from an imminent bridge failure. Essential services shall be provided throughout the County.

**Necessary:** Services that are directly related to maintaining the level of service for concurrency items mandated by State law and fire-rescue services. Examples include expenditure requests which are necessary to meet the minimum level of service standards for concurrency regarding roadway, mass transit, potable water, wastewater, solid waste, stormwater protection, recreation/open space, and fire-rescue. Necessary services shall be provided throughout the County.

**Desirable:** Services that are related to enhancing the desirability of Palm Beach County as a place to live. Examples include expenditure requests for libraries, and roadway beautification. The Urban/Suburban Tier shall be given the highest priority within this category, followed by the Exurban Tier, and then the Rural Tier.

(Omitted for Brevity)

## **OBJECTIVE 1.6 Fiscal Policies**

Palm Beach County shall establish the following fiscal policies regarding budgeting, revenues, and expenditures to ensure that the needs of the County are met for construction of capital facilities, to meet existing deficiencies, accommodate future growth, and replace obsolete or worn-out facilities; to ensure that future development will bear its proportionate share of the cost of facility improvements necessitated by the development in order to maintain adopted levels of service; and to demonstrate compliance with applicable Florida Statutes.

(Omitted for Brevity)

### **Policy 1.6-c: Capital Improvement Policies**

- c-1:** The County's Comprehensive Plan shall identify the capital needs of the community and indicate how these needs will be funded. The County's Six-Year Capital Improvement Schedule shall be developed based on the elements of the Comprehensive Plan. The County may accommodate unique situations where expedient funding is needed, in cases involving public welfare or when there is an emergency situation.
- c-2:** The County shall develop a Six-Year Capital Improvement Schedule as part of the annual budget process, and will make capital improvements in accordance with the adopted Annual County Budget.
- c-3:** The County will maintain and update annually a long-range financial forecasting system that will include projections of revenues, expenditures and future costs and financing of capital improvements.
- c-4:** The County will continue to identify the cash flow needs of all new projects and determine which financing method best meets the cash flow needs of each project.
- c-5:** The costs of operating and maintaining all proposed projects will be identified and incorporated into the six-year financial projection for operations. Agencies and departments shall provide estimates of operating and maintenance expenses associated with each capital project request.

(Omitted for Brevity)

#### **OBJECTIVE 1.7 Implementation of the Capital Improvement Element**

The Capital Improvement Element and the minimum levels of service contained therein shall be examined and revised according to the provisions of Rule 9J-5, F.A.C., and Chapter 163, F.S. There will be an annual review and updating to reflect changes in the six-year capital program, a review of project needs dictated by changes in the Comprehensive Plan, and a review to determine consistency of projects in accordance with the Comprehensive Plan.

**Policy 1.7-a:** The County, as part of the annual budget process, Comprehensive Plan and the CIE, shall annually update and adopt a Six-Year Capital Improvement Schedule that identifies the capital needs of the community and supports the adopted minimum levels of service contained in the Plan, which will include all projects greater or equal to \$250,000.

(Omitted for Brevity)

**Table 10  
Palm Beach County  
Water Utilities Department Revenues and Expenditures**

Description	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008
<b>Water and Sewer Revenues</b>						
Operating Revenues	83,150,000	85,695,000	87,828,000	90,027,000	92,337,000	94,545,000
Federal/State Grants - Capital	0	0	0	0	0	0
Other Revenues	15,204,000	11,400,000	9,919,000	9,674,000	10,033,000	10,315,000
Bond/Loan Proceeds	0	0	0	0	0	0
Fund Balances	57,537,945	2,378,000	11,307,000	18,044,000	17,558,000	18,608,000
<b>Total Water and Sewer Revenues</b>	<b>155,891,945</b>	<b>99,473,000</b>	<b>109,054,000</b>	<b>117,745,000</b>	<b>119,928,000</b>	<b>123,468,000</b>
<b>Water and Sewer Operating Expenditures</b>	66,520,716	68,566,000	71,410,000	74,587,000	77,720,000	81,143,000
<b>Water and Sewer Capital Projects</b>	76,911,000	19,100,000	19,100,000	25,100,000	23,100,000	17,100,000
<b>Water and Sewer Reserves</b>	12,460,229	11,807,000	18,544,000	18,058,000	19,108,000	25,225,000
<b>Annual Surplus/Deficit</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Cumulative Surplus/Deficit</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

Note: See Table 6, Palm Beach County Facility Expansion Schedule, in the Potable Water & Wastewater Sub-element for a detailed listing of water supply annual capital projects and estimated construction costs to the year 2010.

## **6. MODIFICATIONS AND UPDATES TO THE UTILITY SUPPORT DOCUMENTS**

This last section of the report contains the data and analysis required in support of the Work Plan amendments, and also addresses some of the informal comments provided by the SFWMD to the second deliverable, specifically to clarify the description of the service providers to unincorporated County and the relationship with the County's service area and the provision of services.

As indicated above, the "Support Documents" contain a section called "Assessments and Conclusions" which mirrors a section with the same title and content in the Water & Wastewater Sub-Element. The changes recommended for the Assessment and Conclusions are presented in section 2 of this report and apply to both documents. The comments provided by the SFWMD regarding clarification of the service areas and related comments can also be see in Section 2 of this report.

There is one aspect of the Support Documents that was not explained in detail in the description of our Comprehensive Plan's structure at the beginning of this document. The Support Documents include studies, agency master plans, implementation manuals and other documents relevant to the goals, objectives and policies of each element. As result, the documents that were prepared by the County Water Utilities Department (WUD) or by their consultant in support of the Water Use Permit renewal and the Pilot Project have become an integral part of the Support Documents. They include among others, the "Raw Water Master Plan", the "Reclaimed Water Master Plan", the WUD "Water and Wastewater Master Plan" and other documents produced in support of the Water Use Permit renewal.

Consistent with this aspect of the Support Documents, the documents provided to satisfy the first and second deliverables of the Pilot Project, including the expanded responses to SFWMD's comments for the second deliverable are incorporated in full to these Support Documents and shall also be used as part of the Supporting Data and Analysis to fulfill the requirements of the Water Supply Facilities Work Plan Amendments.

Finally, some of the data presented in this report referring to other municipalities and service providers needs to be updated to reflect current conditions. That update will be presented to the DCA with the adoption of the Pilot Project amendments. Outdated information will be brought up-to-date during the EAR.

**The proposed text to address the requirements of the Water Supply Work Plan is presented below. Existing language is presented with clean text, while the additions and changes are shown in underline and strikeout format:**

**Utility Element Assessment & Conclusions Section:**

Existing and proposed text amendments to the Assessment & Conclusions section of the Utility Element is provided in section 2 of this report above.

**Potable Water & Wastewater Sub-Element Assessment & Conclusions Section:**

Existing and proposed text amendments to the Assessment & Conclusions section of this Sub-Element are provided in section 2 of this report above.

**Other data and analysis in support of the Work Plan amendments:**

The following data and analyses for each service provider to unincorporated Palm Beach County will be updated during the EAR and incorporated into this document during the adoption of the EAR.

**1. TOWN OF JUPITER**

The source of raw water for the Town of Jupiter is the surficial aquifer. The Town's water system consists of 28 wells, five of which are on standby status. Excluding the wells on standby service, the system capacity is 12.0 MGD. The Town has a permit to draw a maximum of 13.5 MGD daily. The rated capacity of the treatment plant serving the Town is 12.0 MGD. The peak flow rate is 11.2 MGD. Total storage now available to the Town and its extended service area is 4.7 MGD in three ground storage facilities.

The Town examined alternatives and has concluded that a 6.0 MGD reverse osmosis process was feasible. This is presently in the design stage and is anticipated to be operational by mid 1999, yielding a total system capacity of 18 MGD. Land uses served by this provider include residential and commercial. The Town of Jupiter provides Service to individual unincorporated residents on a retail basis. No specific allocation of Jupiter's capacity has been formalized between the Town and the County. In order to determine the demand from the unincorporated area on the Town's system, an analysis of total system demand is needed. Based on the best available information, an analysis was performed. Results of the analysis of incorporated population demands are included in the support document.

The following table contains potable water demands for the unincorporated customers in the Jupiter service area currently and in the future, based on Jupiter's LOS. Updating of demand figures will be dealt with in the upcoming EAR process.

**Jupiter Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (permanent and	5,019	11,854	25,576

seasonal)

Gallons per Unit per Day	350	350	350
Total MGD	1.8	4.1	8.9

**SOURCES:**

Population: Palm Beach County Planning Division, 1989.

GPCPD: Town of Jupiter Comprehensive Plan, 1989

Unincorporated demand on this system as of 1988 was 1.8 MGD, or 15 percent of capacity. Unincorporated demand is projected to meet 23 percent of the system's capacity in 1995, and 49 percent by 2010. The proposed expansion of the Town of Jupiter's water system capacity to 18 MGD should provide sufficient capacity to serve the Town of Jupiter, its wholesale customers (Village of Tequesta, which purchases 1.5 MGD on average, 2.2 MGD during peak periods; and the town of Juno Beach, which purchases 0.88 MGD), and the portion of unincorporated Palm Beach County that it serves. More formalized arrangements for assuring availability of capacity for the unincorporated area will be addressed through the Capacity Management System. Total demand on the Jupiter system as of 1988 is 5.98 MGD on average, 6.68 during peak periods.

**2. CITY OF RIVIERA BEACH**

The City of Riviera Beach owns and operates two water treatment plants, with a total capacity of 17.5 MGD. The City's system is interconnected. Potable water is provided to residents of unincorporated Palm Beach County who are connected to the City's system. Due to the interconnection within the system, capacity is available to those unincorporated customers from both treatment plants.

Land uses served by Riviera Beach include residential, commercial, and industrial.

In order to determine total system demand currently, and projected 1995 and 2010 demand, both incorporated and unincorporated demand were analyzed. Results of the analysis of incorporated demand are contained in the support document, and indicate that capacity is sufficient.

The following table summarizes current and future potable water demand from the City's unincorporated customers. Updating of demand figures will be dealt with in the upcoming EAR process.

**Riviera Beach Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (Permanent and seasonal)	3,160	3,215	4,662
Gallons per Unit per Day	177	177	177
Total MGD	0.56	0.58	0.71

**SOURCES:**

Population: Palm Beach County Planning Division, 1989.

GPCPD: Riviera Beach Draft Comprehensive Plan, 1989

Unincorporated current demand is .56 MGD, or 3 percent of the system. Total 1988 demand on this system is 6.17 MGD, or 35 percent of system capacity. Customers of Riviera Beach who reside in the unincorporated area generate unincorporated demand. Riviera Beach does not have an allocation of capacity for the unincorporated area. More formalized arrangements to assure availability of capacity will be addressed through the Capacity Management System. According to the Riviera Beach 1989 plan, plant capacity will expand to 19.5 MGD by 1995. Estimated unincorporated demand in 1995 is 3 percent of the system. By 2010, it is estimated to be 4 percent.

### 3. VILLAGE OF PALM SPRINGS

In addition to its own residents, the Village also wholesales water to the Florida Water Service (which serves Lake Clarke Shores) and to PBCWUD to serve Englewood Manor development, and also provides retail service to customers located in unincorporated Palm Beach County.

According to the draft Comprehensive Plan for the Village, the Village of Palm Springs had a combined water treatment plant capacity of 8.0 MGD, an allocation of 5.8 MGD for withdrawal average daily from the surficial aquifer, an average output of 4.4 MGD, and a storage capacity of 2.75 MGD. The treatment plant capacity will be expanded to 10 MGD by 2010, according to the Village's 1989 Comprehensive Plan. Land uses served are primarily residential, with some commercial accounts.

In order to determine total system demand currently, and projected 1995 and 2010 demand, both incorporated and unincorporated demand were analyzed. Results of the analysis of incorporated demand are contained in the support document, and indicate that capacity is sufficient.

The following table summarizes existing and future demand in the unincorporated service area provided with potable water by Village of Palm Springs. Water demand is calculated on the basis of average daily flow. Updating of demand figures will be dealt with in the upcoming EAR process.

**Village of Palm Springs Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (permanent and seasonal)	26,670	32,095	32,467
Gallons per Unit per Day	121	121	121
Total MGD	3.6	3.9	3.9

**SOURCES:** Population: Palm Beach County Planning Division, 1989.  
GPCPD: Palm Spring Comprehensive Plan, 1989

The 1988 total demand on the Palm Springs system is 5.3 MGD, which is 66 percent of capacity. The unincorporated demand of 3.6 MGD represents 40 percent of usage of the total capacity, and is projected to need 49 percent by 1995, and 39 percent by 2010. The potable water demand from the unincorporated area is generated by customers located in the unincorporated area, which are served by the Village. The Village does not have a formal allocation of capacity for the unincorporated area.

#### 4. BOYNTON BEACH

Land uses served by Boynton Beach include residential, commercial, and industrial.

According to SFWMD permit data, in 1985 the Boynton Beach system operated 21 wells and had a treatment plant with a design capacity of 16.0 MGD. The system had an allocation of 10.66 MGD permitted to be removed from the aquifer, a storage capacity of 3.6 MGD, and an average output of 8.08 MGD. According to the draft Boynton Beach 1989 Comprehensive Plan, treatment capacity will be 32 MGD. In order to determine total system demand, and that portion needed to accommodate unincorporated customers, analysis of both incorporated and unincorporated demand was performed. Results of incorporated demand are contained in the support document, and verify that capacity is adequate for the incorporated demand.

The following table contains the estimated present and future population of this unincorporated service area, and the potable water needed by the population. Water demand is based on present and future maximum daily flow. Updating of demand figures will be dealt with in the upcoming EAR process.

#### Boynton Beach Unincorporated PBC Demand (1988-2010)

	1988	1995	2010
Estimated No. of Housing Units (permanent and seasonal)	16,110	20,568	25,596
Gallons per Unit per Day	200	200	200
Total MGD	3.2	4.1	5.1

**SOURCES:**

Population: Palm Beach County Planning Division, 1989.

GPCPD: Boynton Beach Comprehensive Plan, 1989

Existing demand for unincorporated customers is 3.2 MGD, or 20 percent of capacity. This represents demand from customers located in the unincorporated area, not a specific allocation for the unincorporated area. Projected future unincorporated demand will need 26 percent of capacity in 1995, and 16 percent by 2010. More formalized arrangements to assure capacity addressed through the capacity Management System. Total 1988 demand is 13 MGD.

The Boynton Beach 1989 Comprehensive Plan recommends the additional capacity of 16 MGD by 2010. If the Floridan Aquifer is needed as a raw water source, conventional treatment will not be used for this treatment plant.

## 5. DELRAY BEACH

Land Uses served by Delray Beach, according to the City's 1989 Comprehensive Plan, include the full range of urban land uses, from residential to industrial.

Unincorporated customers served by Delray Beach are located in two areas: specific developments west of Military Trail (including Delray Community Hospital) that are completed or near completion; and unincorporated enclaves within Delray Beach. Many of the enclave areas have already been developed, and many are subject to annexation under the provisions of special state legislation. Delray Beach has designed its water system to accommodate these areas. However, not all enclaves are subject to annexation by the special state legislation, and of those that are, annexation of all may not take place before development proceeds. Accordingly, levels of service for Delray Beach are included in the Goal, Objectives and Policy section of this Sub-Element. Delray Beach serves individual unincorporated customers. There are no specific allocations of Delray's capacity to the unincorporated area.

In order to determine demand by unincorporated customers, total system demand was examined. The design capacity of the City's treatment plant is 20.4 MGD. Data and analysis included in the support document indicate that Delray Beach, has sufficient capacity to serve its incorporated customers.

The following table summarized estimated demand from unincorporated customers. Updating of demand figures will be dealt with in the upcoming EAR process.

### Delray Beach Unincorporated PBC Demand (1988-2010)

	1988	1995	2010
Estimated No. of Housing Units (permanent and seasonal)	2,100	2,276	2,352
Gallons per Unit per Day	195	195	195
Total MGD	.41	.44	.46

#### SOURCES:

Population: Palm Beach County Planning Division, 1989.

GPCPD: Delray Beach Comprehensive Plan, 1989

Current estimated demand from the unincorporated area is 2 percent of the system's capacity. These population figures do not include unincorporated customers located in enclaves within the city, as noted above. The 1988 demand on this system is 13.1 MGD.

## 6. BOCA RATON

In 1995, the City of Boca Raton water system operated 51 wells with an allocation of 41.444 MGD permitted to be pumped from the surficial aquifer, source of the City's water. The design capacity of the City's treatment plant was 70 MGD, with an average output of 40 MGD. The city had a storage capacity of 23.2 MGD. Land uses served by Boca Raton include residential, commercial, and industrial.

In order to determine total demand and percentage of demand generated by customers of Boca Raton, both incorporated and unincorporated demand was examined. Results of incorporated analysis are contained in the support document.

The following table contains estimated current and future population and water demands for the service area served by the City. Water demand is based on maximum daily flow figures acceptable to SFWMD, contained in the City's allocation permit. Updating of demand figures will be dealt with in the upcoming EAR process.

### Boca Raton Unincorporated PBC Demand (1988-2010)

	1988	1995	2010
Estimated No. of Housing Units (permanent and seasonal)	116,937	125,158	132,892
Gallons per Unit per Day	365	365	365
Total MGD	40.7	42.7	43.2

**SOURCES:** City's Complan – Equivalent Population Data and Complan projections on a per capita usage

Current service area customer demand will be 43.032 MGD in 2010. Customers in Boca Raton's service area generate these demands, but Boca Raton has not allocated a portion of its capacity to serve only the unincorporated area. More formalized arrangements to verify availability of capacity will be addressed through the Capacity Management System.

The high water demand rates are due, in part, to the City's anti-rust ordinance, which leads most single-family units to use potable water for irrigation. That ordinance is not applicable in the unincorporated area. Actual demand will, therefore, be less. Water conservation efforts will be vitally important in this service area in the future. A number of developments use canals and lakes for irrigation water.

The City of Boca Raton has implemented a reuse program. The current reuse capacity of 9.0 MG will be used to supply irrigation water east of I-95, therefore, it will have no impact on the County service area.

## 7. VILLAGE OF ROYAL PALM BEACH

The Village of Royal Palm Beach is located closer to the central, more rural portion of Palm Beach County than those providers previously analyzed. Accordingly, the Land Use element of the 1989 Comprehensive Plan for Palm Beach County does not project significant urban growth to unincorporated areas adjacent to the Village, other than east of the Village Land uses served by the Village are primarily residential and commercial.

The design capacity of the Village's treatment plant is 4.17 MGD, with future expansion to 5 MGD by 8, according to the Village's 1991 plan. Land uses served are primarily residential, with some commercial accounts.

As with the other providers previously analyzed, the Village of Royal Palm Beach does serve customers located in the unincorporated area, but has not allocated a specific portion of capacity to the unincorporated area. In order to determine percentage of total capacity currently used by unincorporated customers, the entire system was examined.

Data and analysis contained in the support document indicate that current capacity for the incorporated customers served is adequate.

The following table summarizes demand from unincorporated customers of the Village of Royal Palm Beach. Updating of demand figures will be dealt with in the upcoming EAR process.

### Village of Royal Palm Beach Unincorporated PBC Demand (1995-2010)

	1995	2010
Estimated No. of Housing Units (permanent and seasonal)	1,917	2,382
Gallons per Unit per Day	100	100
Total MGD	0.19	0.24

**SOURCES:** Population: 1995 - Village of Royal Palm Beach  
2010 - Palm Beach County Planning Division  
GPCPD: Village of Royal Palm Beach.

The demand generated by unincorporated customers in 1995 was over 5 percent of the Village's capacity, and is projected to be over 5 percent in 2010. More formalized agreements to arrange for the availability of projected capacity needed will be addressed through the Capacity Management System.

## **8. CITIES OF BELLE GLADE, PAHOKEE AND SOUTH BAY**

These municipalities also serve areas beyond their municipal boundaries. The municipalities work with proposed developments on a case-by-case basis to determine if capacity exists, and what the developer would be required to do to connect to the system. Levels of service for each of these municipalities are included in the Goal, Objectives and Policies Section of this Sub-Element.

Design capacity of the Belle Glade plant is 8 MGD. Design capacity of the Pahokee plant is 1.8 MGD. Design capacity of the South Bay plant is 2.2 MGD. Adopted level of service for Belle Glade is 91 gallons per capita per day. Level of service for Pahokee is 93 gallons per capita per day, and level of service for South Bay is 174 gallons per capita per day.

Urban residential densities have been projected for areas adjacent to these municipalities. Demand for potable water to serve the projected population was calculated with the use of the level of service (LOS) standards for the individual municipalities. In the Glades area municipalities (Belle Glade, Pahokee and South Bay), the unincorporated demand declines over time, based on the projected annexation of unincorporated land by these municipalities.

Projected populations in the unincorporated areas adjacent to Glades area municipalities are year-round populations only. The best available information indicates that the seasonal population in the Glades area consists of migrant workers, the majority of whom are accommodated in the Glades area in permanent labor camps. The labor camps are equipped with their own wells, and water demands for the labor camps are discussed in the Conservation Element. Therefore, land uses served are primarily residential.

In order to determine total current and projected demand, and the unincorporated portion of that total, analysis of incorporated and unincorporated demand was performed. Results of incorporated demand analysis, contained in the support document, indicate that capacity is adequate to meet incorporated demand.

The 1988 unincorporated demand for Belle Glade is .59 MGD. Total 1988 demand on the Belle Glade system is 3.1 MGD. The 1988 unincorporated demand for Pahokee is .24 MGD. Total 1988 demand is .84 MGD. Current unincorporated demand for South Bay is .24 MGD. Total 1988 demand on the South Bay capacity is 1.44 MGD.

Unincorporated demand arises from individual unincorporated customers, and not from specific allocations of the systems to serve the unincorporated area. Projected demand for unincorporated customers is shown in the following tables. More formalized arrangements to assure capacity will be addressed through the Capacity Management System.

The following tables summarize potable water demand projected for these areas. Updating of demand figures will be dealt with in the upcoming EAR process.

**Belle Glade Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (permanent and seasonal)	6,461	6,696	4,910
Gallons per Unit per Day	91	91	91
Total MGD	0.59	0.61	0.45

**SOURCES:** Population: Palm Beach County Planning Division, 1989.  
GPCPD: Belle Glade, 1988

**Pahokee Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (permanent and seasonal)	2,605	2,592	1,862
Gallons per Unit per Day	93	93	93
Total MGD	0.24	0.24	0.17

**SOURCES:** Population: Palm Beach County Planning Division, 1989.  
GPCPD: Pahokee, 1988

**South Bay Unincorporated PBC Demand  
(1988-2010)**

	<b>1988</b>	<b>1995</b>	<b>2010</b>
Estimated No. of Housing Units (permanent and seasonal)	1,355	1,620	1,693
Gallons per Unit per Day	174	174	174
Total MGD	0.24	0.28	0.29

**SOURCES:**

GPCPD: South Bay, 1988

Population: Palm Beach County Planning Division, 1989.

## **E. FRANCHISED AREAS AND WATER CONTROL DISTRICTS**

In addition to municipalities, large portions of unincorporated Palm Beach County receive potable water from private sources. They include *Seacoast Utility Authority* and *Seminole Water Control District*.

The *Seacoast Utility Authority* was formerly a Public Service Commission (PSC) franchise serving portions of northern Palm Beach County, including the incorporated municipalities of *Palm Beach Gardens*, *Village of North Palm Beach*, *Lake Park*, the south end of *Juno Beach*, and portions of unincorporated Palm Beach County. It has recently been reconstituted as an Authority.

The second private service provider will be *Seminole Water Control District*, a district which has recently implemented its authority to provide potable water and sanitary sewer. The district will serve a new shopping center, a new public school and an existing citrus industrial complex in *Loxahatchee*, a rural residential area in west central Palm Beach County.

## 1. SEACOAST UTILITY AUTHORITY

According to the Water and Wastewater Master Plan for Seacoast Utilities, Seacoast obtains raw water from four wellfields which yield a total capacity of 31.92 MGD. These wellfields service two water treatment plants that provide a total capacity of 30.5 MGD.

The Hood Road Water Treatment Plants serves the Palm Beach Gardens/Unincorporated Area portion of the Seacoast system. It is this part of the Seacoast system that serves unincorporated Palm Beach County, with a treatment plant capacity of 23.0 MGD. However, the Seacoast system is interconnected. A second plant, Richard Road, serves the remainder of Seacoast's service area and can also provide water to unincorporated Palm Beach County. The Richard Road Plant has a capacity of 7.5 MGD. Thus, a total of 30.5 MGD is available to the unincorporated Palm Beach County portion of Seacoast's service area. Land uses served by this provider include residential and commercial.

Analysis of both incorporated and unincorporated demand was performed to determine total system demand, and unincorporated portion of the system. According to Seacoast, current water demand is 191 gallons per capita per day. Current demand on the treatment plants serving both Palm Beach Gardens and the unincorporated area is 14.6 MGD.

The following table contains existing and projected potable water demand for the existing and projected unincorporated population within the unincorporated service area of Seacoast. Maximum flow is used. Updating of demand figures will be dealt with in the upcoming EAR process.

### Seacoast Unincorporated PBC Demand (1995-2010)

	1995	2010
Estimated No. of Housing Units (permanent and seasonal)	18,427	27,957
Gallons per Unit per Day	191	191
Total MGD	3.5	5.4

**SOURCES:** South Florida Water Management District Consumptive Use Permit, May 1994

The recommendations of the previously adopted master plan for Seacoast Utilities include exploring the possibility of future construction of additional wells in the Floridan Aquifer ( blending its poorer quality water with treated water from the shallow aquifer) and construction of a reverse osmosis (RO) treatment system at the Hood Road Water Treatment Plant. Additional wells may also be possible at the Palm Beach Gardens Wellfield. These wells would supplement those now at Hood Road.

**The documents produced for the first and second deliverable, including the expanded comments for the second deliverable are incorporated in full to these Support Documents and shall be used as Supporting Data and Analysis to fulfill the requirements of the Water Supply Facilities Work Plan Amendments.**

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