

WATER SUPPLY FACILITIES WORK PLAN
LEE COUNTY, FLORIDA
JULY 2015

LEE COUNTY WATER SUPPLY FACILITY WORK PLAN
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1.0 INTRODUCTION

The purpose of the Lee County Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within LEE COUNTY'S jurisdiction. Chapter 163, Part II, Florida Statutes (F.S.), requires local governments to prepare and adopt Work Plans into their comprehensive plans after the South Florida Water Management District (District) approves a regional water supply plan or its update. The South Florida Water Management District's 2012 Lower West Coast Regional Water Supply Plan Update (LWCWSP) was approved by the District's Governing Board on November 15, 2012.

Residents of LEE COUNTY obtain their water from the following public water supply Utilities:

- Lee County Utilities
- Florida Government Utility Authority (Lehigh Acres and Lake Fairways)
- Greater Pine Island Water Authority
- Island Water Association (Serves a portion of Un-Incorporated Lee County)
- Bonita Springs Utilities (Serves a portion of Un-Incorporated Lee County)
- Gasparilla Island Water Association (Serves a portion of Un-Incorporated Lee County)

These public water supply utilities ensure enough capacity is available for existing and future customers.

This Work Plan will reference the initiatives already identified to ensure adequate water supply for LEE COUNTY. According to state guidelines, this Work Plan and the comprehensive plan must address the development of traditional and alternative water supplies, service delivery, conservation and reuse programs necessary to serve existing and new development for at least a 10-year planning period. This Work Plan has a planning time schedule consistent with the comprehensive plan and the LWCWSP Update.

This Work Plan is divided into five sections:

Section 1 – Introduction

Section 2 – Background Information

Section 3 – Data and Analysis

Section 4 – Work Plan Projects/Capital Improvement Element/Schedule

Section 5 – Goals, Objectives, and Policies

1.1 Statutory History

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

1.2 Statutory Requirements

LEE COUNTY has considered the following statutory provisions when updating the Water Supply Facilities Work Plan (Work Plan):

1. Coordinate appropriate aspects of its comprehensive plan with the South Florida Water Management District's LWCWSP [163.3177(4) (a), F.S.].
2. Ensure the future land use plan is based upon availability of adequate water supplies and public facilities and services [s.163.3177 (6) (a), F.S.]. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map amendments submitted for review.
3. Ensure that adequate water supplies and potable water facilities are available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent and consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [s.163.3180 (2), F.S.].
4. For local governments subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the "Infrastructure Element"), within 18 months after the water management district approves an updated regional water supply plan, to:
 - a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the South Florida Water Management District's 2012 LWCWSP, or alternative project(s) proposed by the local government under s. 373.709(8)(b), F.S. [s. 163.3177(6)(c), F.S.];
 - b. Identify the traditional and alternative water supply projects and the conservation and reuse programs necessary to meet water needs identified in the South Florida Water Management District's LWCWSP. [s. 163.3177(6)(c)3, F.S.]; and
 - c. Update the Work Plan for at least a 10-year planning period for constructing the public, private, and regional water supply facilities identified in the element as necessary to serve existing and new development [s. 163.3177(6)(c)3, F.S.].
5. Revise the Five-Year Schedule of Capital Improvements to include water supply, reuse, and conservation projects and programs to be implemented during the five-year period [s. 163.3177(3)(a)4, F.S.].
6. To the extent necessary to maintain internal consistency after making changes described in Paragraph 1 through 5 above, revise the Conservation Element to assess projected water needs and sources for at least a 10-year planning period, considering the South Florida Water Management District's 2012 LWCWSP, as well as applicable Water use permit(s) [s.163.3177 (6) (d), F.S.]. The plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for the established planning period, considering the applicable regional water supply plan [s.163.3167(9), F.S.].
7. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Intergovernmental Coordination Element to ensure

coordination of the comprehensive plan with the South Florida Water Management District's LWCWSP [s.163.3177 (6) (h) 1., F.S.].

8. While an Evaluation and Appraisal Report is not required, local governments are encouraged to comprehensively evaluate, and as necessary, update comprehensive plans to reflect changes in local conditions. The evaluation could address the extent to which the local government has implemented the need to update their Work Plan, including the development of alternative water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, and conservation and reuse programs are meeting local water use demands [s.163.3191 (3), F.S.].

2.0 BACKGROUND INFORMATION

Included in this section is a brief overview of LEE COUNTY, including information on land use and population.

2.1 Overview

Lee County is located in Southwest Florida where it is bordered by Charlotte Harbor and the Gulf of Mexico on the west, and by Charlotte, Hendry, and Collier counties on the north, east and south respectively. (See Figure 2-1). The county was established from Monroe County in 1887 and is named for General Robert E. Lee. The Caloosahatchee River bisects the county. Lee County has 237 square miles of inland water and 172 square miles of coastal/territorial water. The county has a total land area of 804 square miles. Its population in 2010 was 618,754 growing 40.3% from 2000 (Florida Legislative Office of Economic and Demographic Research). During season, winter residents may increase the Region's population by as much as 22% (Southwest Florida Regional Planning Council, Strategic Regional Policy Plan). In addition, in calendar year 2014, Lee County hosted an estimated 5.0 million total visitors (Lee Count, VCB 2014 Annual Report). In 2014, 55% of Lee County's population was in unincorporated Lee County (population of 361,890). The city with the greatest population is Cape Coral with a 2014 population of 163,599. The second most populous incorporated area is the City of Fort Myers, with a 2014 population of 69,437. The remaining three incorporated areas in Lee County and their respective 2014 populations are the City of Bonita Springs (45,819), the City of Sanibel (6,490), and the Town of Fort Myers Beach (6,250) (BEBR 2014 Population Estimates). The Village of Estero incorporated on December 31, 2014, population data for Estero is not yet available from BEBR.

Figure 2-1 Lee County Location Map



2.2 Relevant Regional Issues

This section presents a brief narrative discussing the overarching regional issues impacting water supply planning at the local level, such as the Regional Availability of Water Rule or the Central Florida Water Initiative (CFWI) planning effort. The issue(s) are listed below. The regional issues identified for 2030 in the South Florida Water Management District's Lower West Coast Planning Region are:

Primary freshwater sources in the LWC Planning Area may not be sufficient to meet 2030 projected water use demands. Past analysis (SFWMD 2000b) indicated that fresh water in the surficial aquifer system (SAS) and intermediate aquifer system (IAS), and surface water in the Caloosahatchee River (C-43 Canal) Watershed are not adequate to meet the growing needs of the LWC Planning Area during 1-in-10 year drought conditions. The water supply issues continuing to influence water supply planning efforts to meet 2030 projected water needs in LWC Planning Area are as follows:

1. Increased withdrawals from the SAS and the freshwater portion of the IAS are generally limited due to potential impacts on wetlands and existing legal water users including Domestic Self-Supply (DSS), the potential for saltwater intrusion, and the possibility of reaching the maximum developable limits (MDLs) of aquifers. New or increased allocations will be evaluated on an application-by-application basis to determine if the project meets Water use permitting criteria.
2. In some areas DSS cumulative withdrawals are having an effect on aquifer water levels.
3. Surface water allocations from Lake Okeechobee and hydraulically connected surface waters are limited by the Lake Okeechobee Service Area Restricted Allocation Area criteria.
4. The results of the 2008 LORS process indicated that the level of certainty is projected to decline from the Water use permitting standard of experiencing water shortage restrictions every 1-in-10 years to experiencing restrictions every 1-in-6 years while the lake is operated under the 2008 LORS.
5. Peak freshwater discharges during the wet season are affecting the health of the Caloosahatchee Estuary and additional storage is required in both the basin and the regional system to attenuate damaging peak flow events.
6. Surface water availability and current storage capacity is insufficient for the Caloosahatchee River and Estuary during dry conditions.

3.0 DATA AND ANALYSIS

The intent of this section of the Work Plan is to describe information Lee County needs to provide to the state planning and regulatory agencies as part of proposed comprehensive plan amendments, particularly those changing the Future Land Use Map (FLUM) to increase density and intensity.

3.1 Population Information

This section provides information regarding population information for Lee County Utilities. Population information for other water supply utilities within un-incorporated Lee County will be presented in Section 3.4.

In 2011, Lee County Utilities (LCU) completed an Integrated Water Resource Master Plan (IWRMP). The plan projected water system demands to 2030 and identified all necessary improvements to the water system facilities over a 20 year planning horizon. The population projection included in the IWRMP is summarized in Table 3-1. The Lee County Planning Department developed the projection for the IWRMP. In November 2012 the South Florida Water Management District (SFWMD) completed their Lower West Coast Water Supply Plan (LWCWSP). LCU participated with the SFWMD throughout the processes of developing the

LWCWSP. LCU personnel worked closely with SFWMD staff during the development of the population and demand projections developed for LCU’s service area. This close coordination resulted in a population and demand projection for LCU’s service area that closely mirrors the projections performed in support of the 2012 update to the LWCWSP. For example, the projected 2030 population served included in the IWRMP is 313,918 and the projected 2030 population served included in the LWCWSP is 317,567; representing only a 1.1% difference between the two projections.

TABLE 3-1
 Lee County Utilities
 Potable Water Service
 Area
 Population Projection

Year	Population
2010	240,955
2011	244,603
2012	248,251
2013	251,899
2014	255,547
2015	259,195
2016	262,844
2017	266,492
2018	270,140
2019	273,788
2020	277,436
2021	281,084
2022	284,733
2023	288,381
2024	292,029
2025	295,677
2026	299,325
2027	302,973
2028	306,622
2029	310,270
2030	313,918

Source: LCU IWRMP 2011

3.2 Maps of Current and Future Areas Served

Figure 3-1 shows the service areas of water supply utilities within unincorporated Lee County. A more detailed map of Lee County Utilities service area is shown in Figure 3-2. More detailed service area maps of other water supply utilities will be presented in Section 3.6, Water Supply Provided by Other Entities. In addition to the water supply utilities shown on Figure 3-1 there are several smaller water supply utilities within unincorporated Lee County. The service areas of these smaller utilities will also be presented in Section 3.6.

Figure 3-1
Water Suppliers Service Areas in Un-Incorporated Lee County

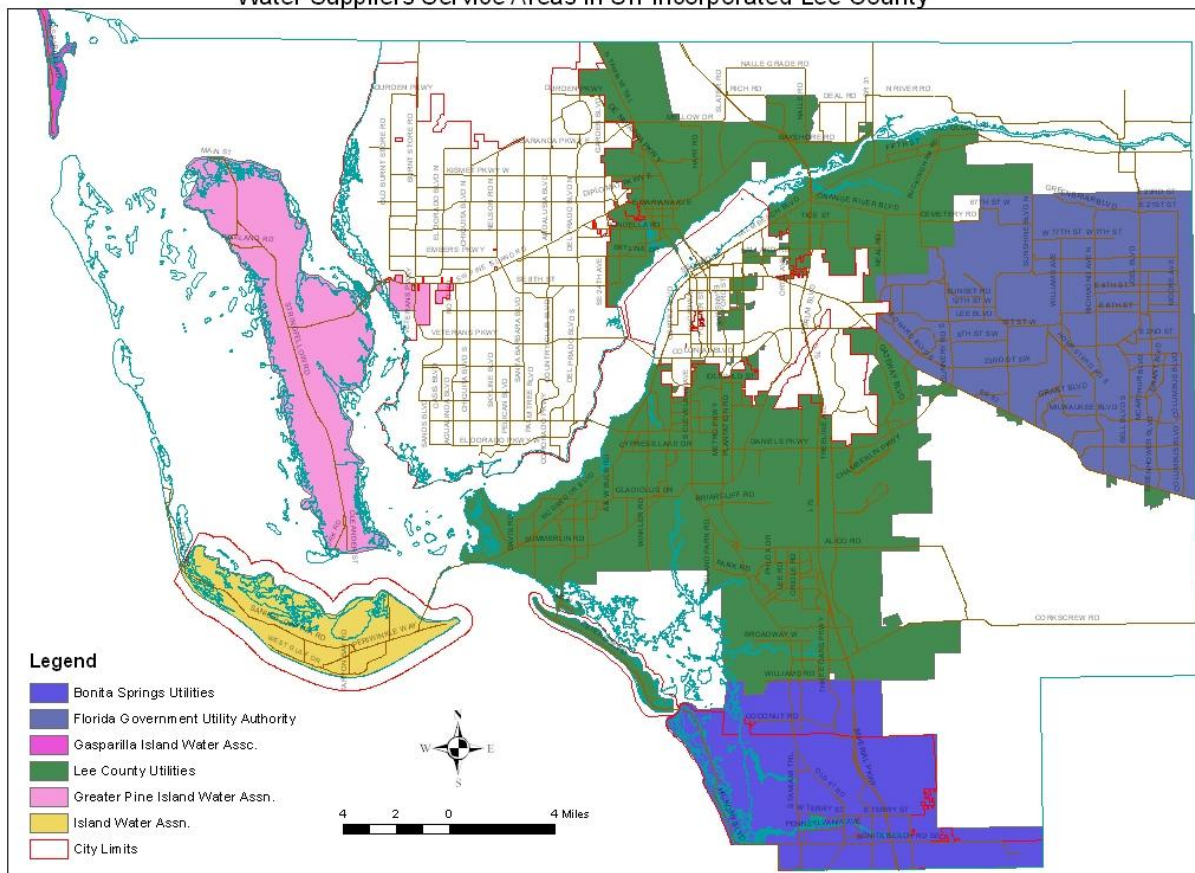
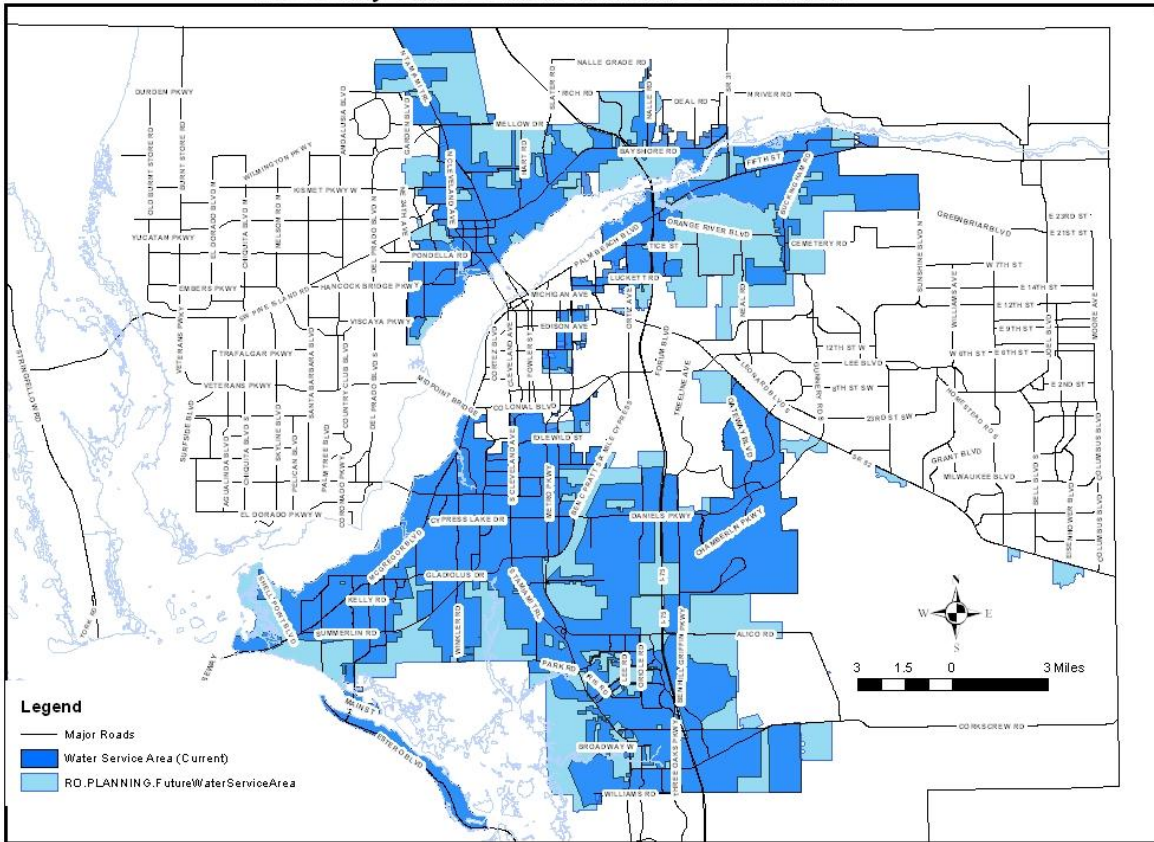


Figure 3-2
Lee County Utilities Current and Future Service Areas



3.3 Potable Water Level of Service Standard

The Lee County Comprehensive Plan (Lee Plan) contains the following Policies regarding the level of service for Potable Water:

POLICY 53.1.2: The minimum acceptable level-of-service standards (see Policy 95.1.3) for potable water connections to Lee County Utilities will be:

An available supply and treatment capacity of 250 gallons per day per equivalent residential connection (ERC) for the peak month, except that facilities serving only mobile home residential structures must have a capacity of 187.5 gallons per day and facilities serving only travel trailer residential structures must have a capacity of 150 gallons per day. (Amended by Ordinance No. 92-35, 00-22)

POLICY 53.1.3: The Board of County Commissioners encourages all private utilities to set a minimum acceptable level of service to be adopted herein for use in the concurrency management system within their respective franchised or certificated areas. After the effective date of this plan or September 1, 1989, whichever is later, if the county has not adopted such standards into this plan, the standards adopted for the Lee County Utilities'

water systems will apply in those certificated or franchised areas and will be used in enforcing concurrency regulations (see Policy 95.1.3).

Regarding Policy 53.1.3, It should be noted that no private utility within un-incorporated Lee County has petitioned for a alternative level of service standard, within their respected franchise or certificated areas, to be included in the Lee Plan. Therefore the level of service adopted for Lee County Utilities (Policy 53.1.2) apply to these private utilities for use in the concurrency management system.

An analysis was performed to determine LCU's historical water use as it relates to the level of service specified in the Lee Plan. Raw water demand data from 2006 through 2012 was compared to the number of Equivalent Residential Connections (ERC's) served for each year.

For each year, the annual total, the maximum monthly and the maximum daily water system demands were determined from flow records maintained by LCU's Operations. Records provided by LCU's Customer Service were utilized to determine the number of Equivalent Residential Connections (ERC's) at a point in time for each year (September). Utilizing a residential unit count and applying conversion factors to mobile home and travel trailer units to reflect the reductions specified in the Lee Plan the appropriate number of residential ERC's were determined. The number of commercial and industrial connections and meter size of each connection was used to determine the total number of ERC's for these use classes. Adding the calculated residential ERC's and the Commercial/Industrial ERC's resulted in a total number of ERC's being served in September of each year. Table 3-2 presents a summary of the analysis that was performed.

As seen in table 3-2, the maximum month gallons per day per equivalent residential connection ranged from 179.970 gpd/erc to 221.066 gpd/erc over this period of record. Further, the maximum day gallons per day per equivalent residential connection ranged from 199.910 gpd/erc to 239.319 gpd/erc over this period of record. The result of this analysis suggests that raising the current level of service from its current 250 gpd/erc is not warranted at this time.

**TABLE 3-2
Lee County Utilities
Water System Level of Service Analysis 2006-2012**

2006		2007		2008		2009	
	Raw Water		Raw Water		Raw Water		Raw Water
Annual TTL (MG)	9,989.251	Annual TTL	10,269.627	Annual TTL (MG)	9,809.918	Annual TTL (MG)	9,703.842
Max Month (MG)	980.033	Max Month (MG)	1,039.411	Max Month (MG)	942.902	Max Month (MG)	971.226
Max Day (MGD)	33.599	Max Day (MGD)	36.417	Max Day (MGD)	33.505	Max Day (MGD)	33.954
2006 ERC's	143,007	2007 ERC's	152,169	2008 ERC's	154,532	2009 ERC's	155,738
AADF gpd/erc	191.374	AADF gpd/erc	184.899	AADF gpd/erc	173.922	AADF gpd/erc	171.038
MMADF gpd/erc	221.066	MMADF gpd/erc	220.343	MMADF gpd/erc	196.828	MMADF gpd/erc	201.559
Max Day gpd/erc	234.947	Max Day gpd/erc	239.319	Max Day gpd/erc	216.816	Max Day gpd/erc	218.441

2010		2011		2012		LEGEND
	Raw Water		Raw Water		Raw Water	
Annual TTL (MG)	9,327.156	Annual TTL (MG)	9,516.266	Annual TTL (MG)	9,420.002	MG = Million Gallons MGD = Million Gallons per Day AADF = Annual Average Daily Flow MMADF = Max Month Avg. Daily Flow ERC = Equivalent Residential Connection gpd/erc = gallons per day per ERC
Max Month (MG)	869.189	Max Month (MG)	934.187	Max Month (MG)	926.065	
Max Day (MGD)	31.145	Max Day (MGD)	32.562	Max Day (MGD)	33.776	
2010 ERC's	155,795	2011 ERC's	155,949	2012 ERC's	156,286	
AADF gpd/erc	164.022	AADF gpd/erc	167.183	AADF gpd/erc	165.135	
MMADF gpd/erc	179.970	MMADF gpd/erc	193.237	MMADF gpd/erc	197.515	
Max Day gpd/erc	199.910	Max Day gpd/erc	208.799	Max Day gpd/erc	216.177	

3.4 Population and Potable Water Demand Projections by Each Local Government or Utility

The population estimates and projections and the potable water demand projections are presented below in Table 3-3. The projections are through the year 2030. The population projections are consistent with the other elements of the comprehensive plan. The water demands are for finished water.

**TABLE 3-3
WATER SUPPLY UTILITY SERVICE WITHIN UNINCORPORATED LEE COUNTY POPULATION AND DEMAND PROJECTIONS**

Utility Service Area	Population Projections					Water Supply Demands (MGD)				
	2010	2015	2020	2025	2030	2010	2015	2020	2025	2030
Lee County Utilities	240,995	259,195	277,436	295,677	313,918	28.43	30.59	32.74	34.89	37.07
Bonita Springs Utilities		48,479	54,918	60,945			8.87	10.08	11.23	
FGUA Lehigh Acres	29,050	41,241	53,431	75,865	98,298	2.32	3.30	4.27	6.07	7.86
Greater Pine Island Water	13,877	15,829	17,781	20,288	22,795	1.53	1.74	1.96	2.23	2.51
Island Water Assn.	8,509	8,776	9,042	9,324	9,605	3.21	3.31	3.41	3.51	3.62
FGUA Lake Fairways	3,322		0		0	0.19		0.00		0.00
Gaspirilla Island Water	5,834	5,924	5,996			0.96	1.08	1.05		

3.4.1 Comprehensive Plan Amendments Approved Following Projections

It should be noted that several Comprehensive Plan Amendments have been approved since the demand projections were performed for the LWCWSP and the Lee County IWRMP. These approved amendments will result in an additional demand on the LCU water system in the future. In an effort to capture this increase in future demands, Table 3-4 below lists these amendments and provide an associated projected demand.

**TABLE 3-4
Comprehensive Plan Amendments Approved Following Projections**

Development Name	CPA #	Demand MGD (AADF)
Corkscrew Woods	CPA2011-00018	0.256
Alico West	CPA2009-00001	0.784
Florida Gulf Coast Tech and Research Park	CPA2010-00001	0.094
DR/GR Mixed Use Communities	CPA2008-00006	1.16
West Lakes Excavation	CPA2013-00001	0.0015
Corkscrew Ranch	CPA2013-0004	0.015
Total		2.311

3.5 Water Supply Provided by Local Government

This section provides information pertaining to water provided by Lee County Utilities. The information for any future water supply facilities needed is included in the discussion below and in the Capital Improvements section. This section includes the following information:

- Water Use Permit (WUP) Information and Number
- Raw Water Allocation Information
- Average Annual Daily and Maximum Monthly (Daily) Allocations
- Applicable Source Limitations (dry season, wellfields, and priority)
- Required Off-sets
- Expiration Date(s) by Source
- Treatment Facilities and Planning Schedules
- Treatment Methods and Losses in the WUP
- Permitted Florida Department of Environmental Protection (FDEP) Capacities
- Storage Facilities
- Interlocal Agreements and Bulk Sales
- Interconnects, Distribution, and Associated Responsibilities (emergency or on-going)
- Treatment and Distribution System Losses
- Outstanding Compliance Issues (required upgrades or expansion, etc.)

3.5.1 Water Use Permit Information

Lee County Utilities holds three water use permits issued by the South Florida Water Management District (SFWMD) for public water supply. Table 3-5 below presents the following information regarding these permits: the water treatment plant covered under each water use permit, the Florida Department of Environmental Protection (FDEP) permitted treatment capacity for each facility, the water use permit number, raw water allocation information, the annual and maximum month allocation specified in the water use permit, source limitations specified in the water use permit, permit expiration dates. Lee County Utilities' water use permits do not include any required offsets.

TABLE 3-5

LEE COUNTY UTILITIES WATER USE PERMIT INFORMATION AND PLANT TREATMENT CAPACITIES

							Source Limitations		
Water Treatment Facility	FDEP Permitted Treatment Plant Capacity (MGD)	Water Use Permit Number	Expiration Dates	Raw Water Allocation (MGY)	* Annual Average Daily Allocation (MGD)	Maximum Month Allocation (MGM)	Source	Raw Water Allocation (MGY)	Maximum Month Allocation (MGM)
Corkscrew WTP	15.0	36-00003-W	6/15/2031	12,508	34.27	1,355	Corkscrew Surficial Aquifer	1,683.70	182.40
Green Meadows WTP	9.0						Corkscrew SAS	2,244.90	243.20
Olga WTP	5.0						Corkscrew UFAS	808.20	87.60
							Green Meadows Water Table Aquifer	1,178.60	127.68
							Green Meadows SAS	1,627.60	176.30
							Green Meadows UFAS	4,377.60	474.20
							SFWMD Canal (C-43)	1,615.64	152.00
North Lee County WTP	11.6	36-00152-W	8/20/2032	5,886	16.13	592.9	Waterway Estates Mid-Hawthorn Aquifer	168.00	32.10
							Waterway Estates Surficial Aquifer	32.00	14.40
Pinewoods WTP	5.3	36-00122-W	12/1/2034	2,686	7.36	268.43	Water Table Aquifer	676.50	69.90
							Sandstone Aquifer	217.80	22.50
							Lower Hawthorn	1,791.40	176.00
Totals	45.9			21,080	57.76	2,216			

NOTES

SAS = Sandstone Aquifer System

UFAS = Upper Floridan Aquifer System

* Annual Average Daily Allocation is not a permit limit but based on Raw Water Allocation (MGY) / 365

3.5.2 Treatment and Distribution System Loss

The percentage of treatment systems loss were calculated for the years 2008 through 2014 utilizing the Unaccounted-For Water Reports required by SFWMD from these years. The percentage was calculated using the monthly average amount of raw water withdrawn and the finished water produced. This report was also utilized to provide the unaccounted for water or distribution system loss percentage for each year. The results of this calculation is shown in Table 3-6.

TABLE 3-6
LEE COUNTY UTILITIES
WATER DISTRIBUTION SYSTEM LOSSES
WATER TREATMENT LOSSES
PERCENTAGES 2008-2014

Year	Distribution System Losses Percent	Treatment Losses Percent
2008	4.87%	10.90%
2009	3.21%	9.61%
2010	3.96%	10.71%
2011	6.70%	9.00%
2012	7.53%	7.66%
2013	6.10%	9.00%
2014	6.66%	8.50%
Average	5.58%	9.34%

3.5.3 Treatment Facilities and Planning Schedules

3.5.3.1 Olga Water Treatment Plant:

The Olga plant is permitted as a Class “A”, Category I potable water treatment facility by the FDEP and is staffed 24 hours a day, 365 days a year. The current designed and permitted capacity of the Olga WTP is 5.0 MGD. The plant processes water through coagulation, filtration and disinfection.

3.5.3.2 Corkscrew Water Treatment Plant:

The Corkscrew plant is permitted as a Class “A”, Category I potable water treatment facility by the Florida Department of Environmental Protection FDEP and is staffed 24 hours a day, 365 days a year. The current designed and permitted capacity of the Corkscrew WTP is 15.0 MGD. The plant processes water through lime softening, coagulation, filtration and disinfection.

3.5.3.3 Green Meadows Water Treatment Plant

The Green Meadows plant is permitted as a Class “A”, Category I potable water treatment facility by the FDEP and is staffed 24 hours a day, 365 days a year. The current designed and permitted capacity of the Green Meadows WTP is 9.0 MGD. The plant processes water through lime softening, coagulation, filtration and disinfection.

Lee County Utilities is currently constructing a 14.0 MGD R.O. / Ion Exchange treatment facility and associated expansion of the wellfield to utilize the Lower Hawthorn as source water to replace this facility and expand the capacity from the existing 9.0 MGD to 14.0 MGD. The project is scheduled for completion in 2017.

3.5.3.4 Pinewoods Water Treatment Plant

The Pinewoods facility consists of two treatment plants. The original Water Treatment Plant is a 2.12 MGD plant, permitted with the FDEP as a Class “B”, Category II, potable water treatment facility. The plant processes water through nano-filtration membrane treatment and disinfection and treats raw water from the water table and sandstone aquifers. The second plant, which was completed in 2007, treats water withdrawn from the Lower Hawthorn aquifer and produces 3.0 mgd through low pressure reverse osmosis.

3.5.3.5 North Lee County Water Treatment Plant

The North Lee County Water Treatment Plant is an 11.6 mgd plant, permitted with the FDEP as a Class “B”, Category II, potable water treatment facility. The plant processes raw water from the Lower Hawthorne aquifer through low pressure reverse osmosis.

Lee County Utilities is planning an expansion of the facility from the current 10.0 MGD to 15.0 MGD. The expansion of the treatment facility and related Lower Hawthorn wellfield is scheduled for completion in 2022.

3.5.3.6 Bartow Water Treatment Plant (San Carlos Wellfield)

The Bartow Water Treatment Plant was a 2.41 MGD plant, permitted with the FDEP as a Class “B”, Category I, potable water treatment facility. This facility was decommissioned in 2008. LCU is utilizing the San Carlos Wellfield and the storage tank that remained on the site, to provide a supplemental source for the Three Oaks WWTP Reclaimed Water System (see Section 4.1 Work Plan Projects).

3.5.4 Storage Facilities

Lee County Utilities currently operates fourteen potable water storage facilities. These existing storage facilities have the capacity to store a total of 32.5 million gallons. These storage facilities are located throughout the water distribution system. A list of these storage facilities is provided in Table 3-7.

TABLE 3-7
Lee County Utilities Potable Water Storage Facilities

<u>Name</u>	<u>Existing / Proposed</u>	<u>Type</u>	<u>Material</u>	<u>Capacity Million Gallons</u>
North Tower	E	Elevated Tank	Steel	0.2
North Reservoir	E	Ground Storage	Concrete	2.0
South Reservoir	E	Ground Storage	Concrete	2.0
Tice Tower	E	Elevated Tank	Steel	0.3
Miners Corner Reservoir	E	Ground Storage	Concrete	2.0
Alico Reservoir	E	Ground Storage	Concrete	1.0
41 Reservoir	E	Ground Storage	Steel	1.0
Airport Haul Road	E	Ground Storage	Concrete	10.0
North Lee County WTP	E	Ground Storage	Concrete	5.0
Olga WTP	E	Ground Storage	Concrete	1.0
Corkscrew WTP	E	Ground Storage	Concrete	2.0
South Beach Tank *	E	Ground Storage	Concrete	1.0
North Beach Tank *	E	Ground Storage	Concrete	0.5
Waterway Estates WTP	E	Ground Storage	Concrete	1.0
College Pkwy WTP **	E	Ground Storage	Concrete	1.5
Pinewoods WTP	E	Ground Storage	Concrete	2.0
Total System Storage				32.5

* Owned by the Town of Fort Myers Beach

** Not currently in service

3.5.5 Inter-local Agreements and Bulk Sales

3.5.5.1 Charlotte County Inter-Local Agreement

Lee County entered into an Inter-Local Agreement with Charlotte County Utilities in February 2004. The agreement allows Charlotte County Utilities to provide water service to approximately 900 customers in the Burnt Store Marina area that is located within unincorporated Lee County. The area is located on the east side of Burnt Store Road at the extreme North boundary of Lee County along the Charlotte County line.

3.5.5.2 Gateway Services Community Development District

Lee County has an Inter-Local Agreement with Gateway Services Community Development District (GSDSD) for the sale of bulk water. For planning purposes, the GSDSD area is included in Lee County Utilities (LCU) service area boundary and the population and demand projections for the GSDSD are included in the projections for LCU.

3.5.5.3 Town of Fort Myers Beach

Lee County has an Inter-Local Agreement with the Town of Fort Myers Beach for the sale of bulk water. For planning purposes, the Town of Fort Myers Beach is included in Lee County Utilities (LCU) service area boundary and the population and demand projections for the Town of Fort Myers Beach are included in the projections for LCU.

3.5.5.4 Florida Governmental Utility Authority (Pine Lakes)

On August 27, 2013 Lee County entered into an Inter-Local Agreement with Florida Governmental Utility Authority (FGUA) to provide bulk water service to FGUA's Pine Lakes and Harper McNew service areas. LCU was previously providing water to the Pine Lakes area and therefore this area has been included in LCU's service area and the demand projections for this area are included in the LCU projections.

The Harper McNew service area however is not currently within LCU's service area. Additionally, this area is in Charlotte County. The service area is located on the east side of US 41 abutting the Lee County – Charlotte County line. LCU will be providing bulk water service to FGUA allowing FGUA to provide water service to this area in the future. The projected build-out water system demand for this development is 0.851 MGD.

3.5.6 Outstanding Compliance Issues

Lee County Utilities has no outstanding compliance issues related to water supply.

3.6 Water Supply Provided by Other Entities

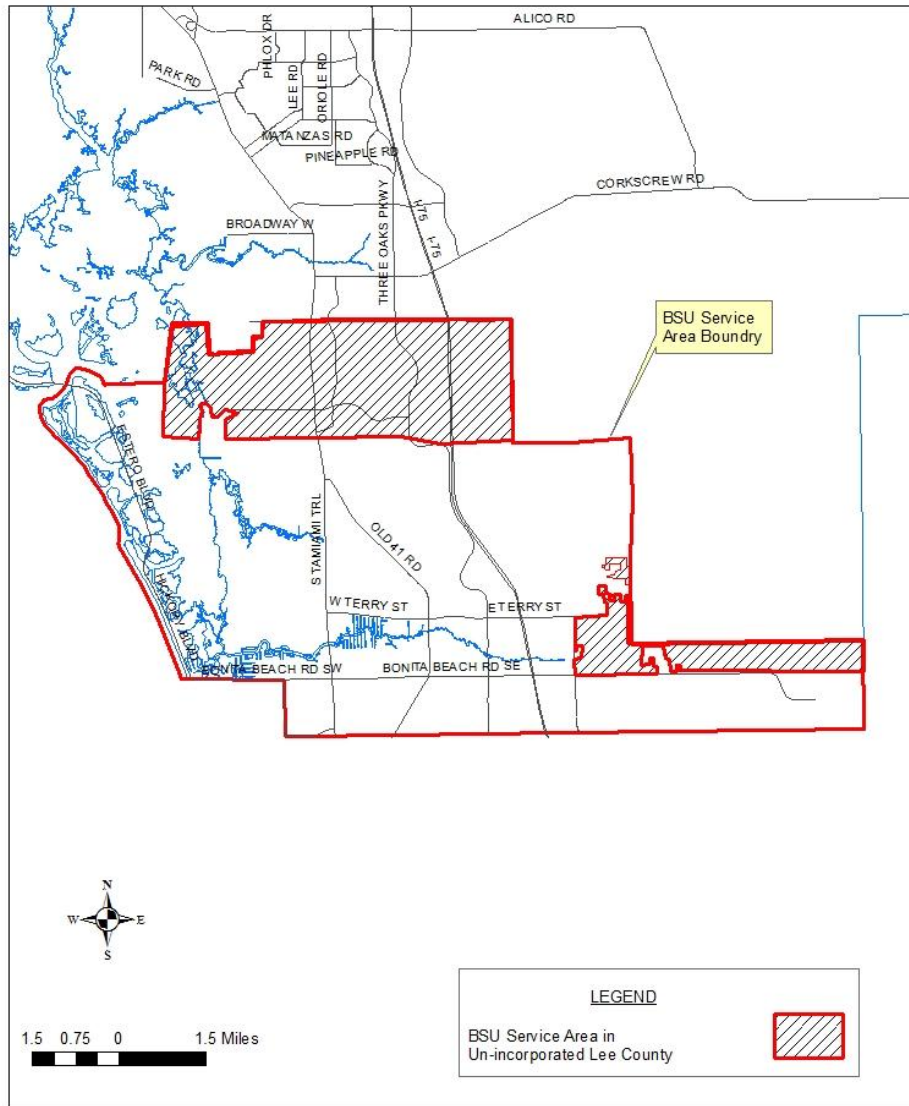
The following section presents information about water utilities other than Lee County Utilities that provide water within un-incorporated Lee County.

3.6.1 Bonita Springs Utilities

3.6.1.1 Service Area

Bonita Springs Utilities (BSU) provides potable water service within the City of Bonita Springs as well as areas within un-incorporated Lee County. The BSU service area within un-incorporated Lee County is shown in Figure 3.6.1-1. The information provide in this plan is for BSU's entire service area, however approximately 25% of the BSU service area was within un-incorporated Lee County until this area was incorporated into the Village of Estero in 2014.

**FIGURE 3.6.1-1
Bonita Springs Utilities Water Service Area
Within Un-Incorporated Lee County**



3.6.1.2 Water Use Permits

BSU has two Consumptive Use Permits issued by the SFWMD. A summary of the general permit information is presented below.

Permit Number: 36-00008-W

Issued: August 9, 2007

Expires: August 9, 2027

Annual Allocation: 2,094 million gallons ($2,094/365=5.74$ mgd) (Lower Tamiami Aquifer)

Maximum Month Allocation: 222.3 million gallons ($222.3/30=7.41$ mgd)

Source Limitation Annual: 986 mg (Lower Tamiami-West Wellfield)

No required offsets

Permit Number: 36-04062-W

Issued: January 21, 2005

Expires: January 21, 2025

Annual Allocation: 4,769 million gallons (4,769/365=13.06 mgd) (Florida Aquifer)

Maximum Daily Allocation: 16.0 mgd

Source Limitations: None

3.6.1.3 Description of Water Sources

BSU operates 19 freshwater wells ranging in diameter from 8 to 12 inches and depths ranging from 80 to 115 feet (Lower Tamiami aquifer) and 8 brackish water wells ranging in diameter from 12 to 14 inches and depths from 700 to 1,120 feet (Lower Hawthorn aquifer). Expansion of the brackish water wells is anticipated to increase capacity for a 3.27 MGD RO Expansion in 2020

3.6.1.4 Treatment Facilities

BSU currently operates a lime softening plant permitted by FDEP for 9.0 MGD and a reverse osmosis (RO) plant permitted for 6.52 MGD on a single site located at 11860 East Terry Street, providing a combined treatment capacity of 15.52 MGD. The facility allows expansion to meet additional needs consistent with permit specifications.

3.6.1.5 Storage Facilities

BSU has above ground storage tanks with a combine total of 13.5 million gallons of capacity to meet peak hour demands in the system. The location and capacity of each storage tank is provided in Table 3-8 .

TABLE 3-8
Bonita Springs Utilities Potable Water Storage Facilities

BSU Ground Storage Tank Location	Capacity (MG)
BSU (WTP) – 3 tanks	6.00
BSU (Estero Boulevard) – 1 tank	0.50
BSU (San Carlos Estates) – 1 tank	1.00
BSU (Windsor Road) – 1 tank	2.00
BSU (Snell Lane) – 1 tank	2.00
BSU (Coconut Road) – 1 tank	2.00

3.6.1.6 Interconnects

BSU has emergency interconnects with Lee County Utilities and Collier County Utilities.

3.6.1.7 Bulk Service Agreements

BSU has no contracts for bulk potable water purchases. BSU has emergency interconnect agreements (with associated rates) with Lee County Utilities and Collier County Utilities.

3.6.1.8 Planned Water Supply Projects

An RO plant expansion of 3.27 MGD is anticipated for 2020.

3.6.1.9 Treatment and Distribution System Losses

Treatment Losses: The percent loss [Finished (gal)/Raw (gal) X 100%] for FY2013 due to treatment method is approximately 12%.

Distribution System Losses: For FY2013, the unaccounted-for water was 7.1%.

3.6.1.10 Reclaimed Water Use

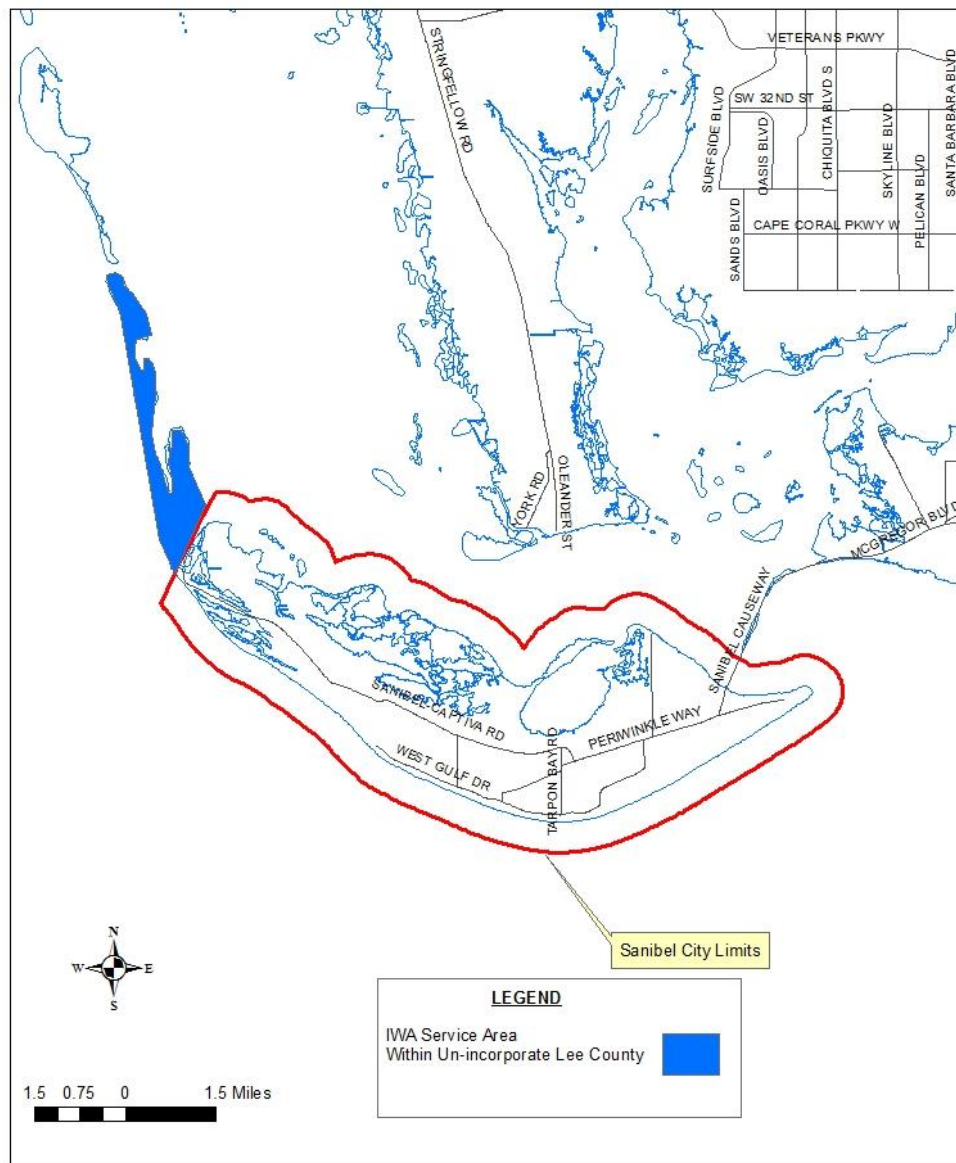
BSU's two wastewater treatment plants have produced reclaim water since their construction and are therefore called water reclamation facilities. A long term contract (30 year rolling contract) between BSU and Resource Conservation System (RCS) has been in place since the completion of BSU's first plant. Bulk reclaimed water is delivered to RCS at the plant site. Storage, distribution, and billing of reclaimed water are handled by RCS. BSU's current water reclamation capacity is 11 MGD and the bulk sales contract with RCS also is up to 11 MGD, depending on flows received. Nearly all water received is reclaimed and sold. Therefore, all reclaimed water sold is a direct offset to potable water demand.

3.6.2 Island Water Association

3.6.2.1 Service Area

The Island Water Association (IWA) provides water service to Sanibel Island and Captiva Island. IWA serves areas within the City of Sanibel and Un-Incorporated Lee County. The IWA service area located within unincorporated Lee County is shown on the figure below. The information provided in this plan is for IWA entire service area, however IWA has calculated that the unincorporated Lee County portion of its service area accounts for 25% of its potable water demand.

FIGURE 3.6.2-1
Island Water Association Water Service Area
Within Un-Incorporated Lee County



3.6.2.2 Water Use Permit

IWA has a Water Use Permit issued by SFWMD. A summary of the general permit information is presented below.

Permit Number: 36-00034-W

Issued: November 13, 1997

Expires: November 13, 2017

Annual Allocation: 1,809 Million Gallons ($1809/365 = 4.96$ MGD AADF)

Maximum Daily Allocation: 8.08 MGD

Specific Source Limitations: None

Required Offsets: None

3.6.2.3 Description of Water Sources

The IWA wellfield on Sanibel Island consists of 8 Floridan aquifer wells and 11 Lower Hawthorn aquifer wells. These wells range in diameter from 6 to 10 inches. The capacity of the wells range from 30 gallons per minute (gpm) to 525 gpm. The total capacity of the 18 wells is 6,460 gpm. The depths of these wells range from 605 to 770 feet.

3.6.2.4 Treatment Facility

Raw water from the brackish water wellfield is treated at the IWA's Reverse Osmosis Treatment Plant. The plant has a permitted capacity by FDEP of 5.99 MGD.

3.6.2.5 Storage Facilities

Island Water Association has 5 above ground storage tanks with a combined capacity of 15 million gallons. Two of the storage tanks are located at the treatment facility and 3 are located throughout the water distribution system.

3.6.2.6 Interconnects

Island Water Association has no interconnects with neighboring Utilities.

3.6.2.7 Bulk Service Agreements

Island Water has no contracts for bulk potable water purchases or sales with other water utilities.

3.6.2.8 Planned Water Supply Projects

Island Water Association has sufficient capacity to meet projected demands, therefore has no water supply projects planned at this time.

3.6.2.9 Treatment and Distribution System Losses

The 2013 system unaccounted-for losses in the water distribution system was 2.38%. Treatment losses are not reported.

3.6.2.10 Reclaimed Water Use

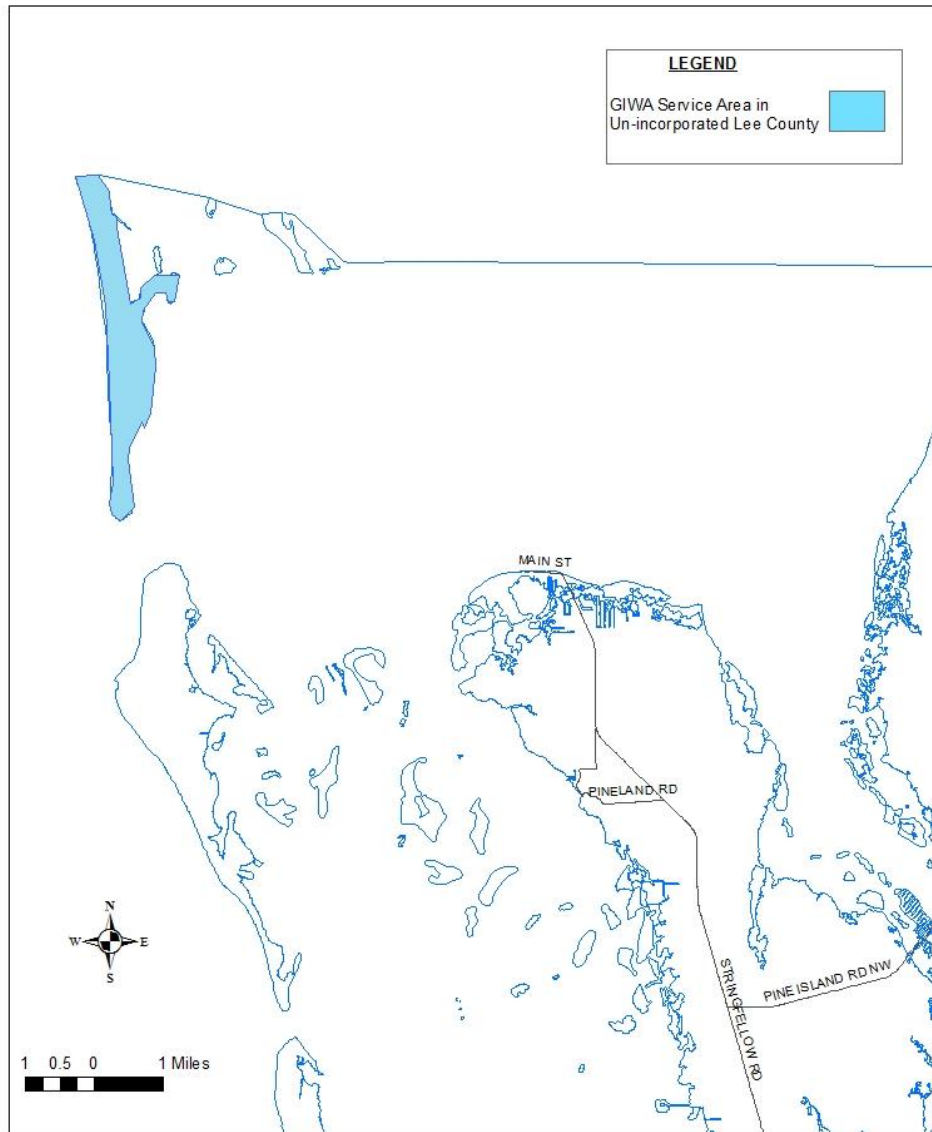
Island Water Association is reusing approximately 72% of the wastewater that is reclaimed through a public access irrigation system.

3.6.3 Gasparilla Island Water Association

3.6.3.1 Service Area

The Gasparilla Island Water Association (GIWA) provides potable water to the Gasparilla Island and a small portion of the mainland in Charlotte County. GIWA serves water customers in both Charlotte County and unincorporated Lee County. The GIWA service area within unincorporated Lee County is shown below. The information provide in this plan is for GIWA entire service area, however, approximately 75% of GIWA service area is within Unincorporated Lee County.

FIGURE 3.6.3-1
Gasparilla Island Water Association Water Service Area
Within Un-Incorporated Lee County



3.6.3.2 Water Use Permit

GIWA has a Water Use Permit issued by Southwest Florida Water Management District (SWFWMD). A summary of the general permit information is presented below.

Permit Number: 20 000718.012

Issued: December 8, 2011

Expires: December 8, 2021

Annual Average Allocation: 1,537,600 gallons per day

Peak Month Allocation: 1,952,800 gallons per day

3.6.3.3 Description of Water Sources

GIWA has five (5) freshwater wellfields comprised of thirty-six (36) wells with an annual permitted withdrawal rate of 0.432 MGD. GIWA also has six (6) brackish water wells that withdrawal from the Middle Intermediate Aquifer with a permitted annual average withdrawal rate of 1.265 MGD.

3.6.3.4 Treatment Facility

GIWA operates a water treatment facility on the mainland in Charlotte County. The five fresh water wellfields provide raw water that is treated with an alum plant rated at 0.576 MGD. In addition, a 1.065 MGD reverse osmosis treatment plant treats water from the six brackish water wells. The finished water from both plants is blended prior to chlorination and sent to the water distribution system.

3.6.3.5 Storage Facilities

GIWA has two (2) water storage tanks with a total capacity of 0.625 million gallons that are located at the treatment facility. GIWA also has three (3) storage tanks totaling 3.20 million gallons located within the water distribution system.

3.6.3.6 Interconnects

GIWA has an interconnect with Charlotte County Utilities that allows for the purchase of up to 400,000 gallons per day. More may be purchased in emergencies. GIWA also has an emergency interconnect with Placida.

3.6.3.7 Bulk Service Agreements

The bulk water service agreement with Charlotte County Utilities is for up to 400,000 gallons per day.

3.6.3.8 Planned Water Supply Projects

GIWA is in the design stage for two (2) new brackish water wells and an upgrade to the reverse osmosis treatment plant. The plant upgrade will rehabilitate the existing 1.065 MGD facility, and provide an additional 0.194 MGD of treatment capacity. The permitted withdrawal rates will not increase with the addition of the two new wells.

3.6.3.9 Treatment and Distribution System Losses

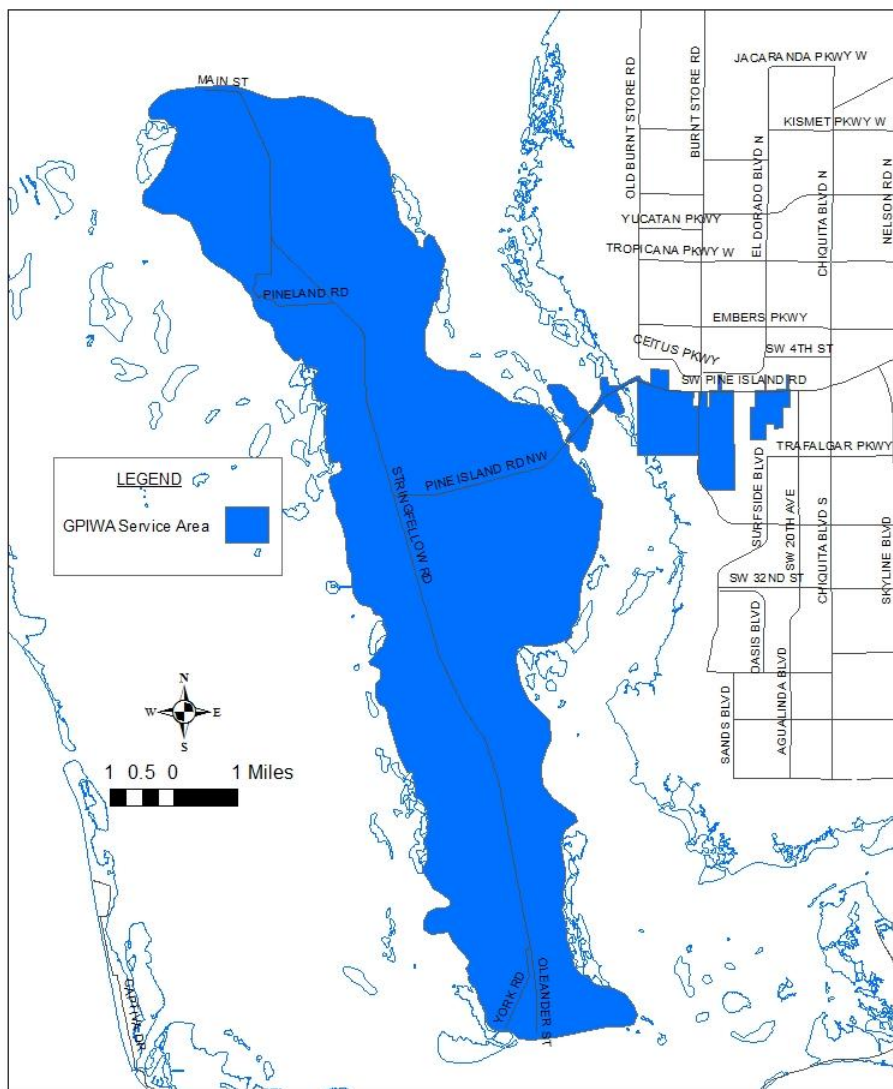
The treatment system losses for the reverse osmosis water treatment plant is 25%. The 2013 unaccounted-for water losses in the water distribution system was 6.22%.

3.6.4 Greater Pine Island Water Association

3.6.4.1 Service Area

The Greater Pine Island Water Association (GPIWA) provides potable water to the islands of Matlacha as well as Pine Island proper. Also included in the GPIWA service area is a small portion of the mainland. The GPIWA service area is shown below.

FIGURE 3.6.4-1
Greater Pine Island Water Association Water Service Area



3.6.4.2 Water Use Permit

GPIWA has a Water Use Permit issued by the SFWMD. A summary of the general permit information is presented below.

Permit Number: 36-00045-W

Issued: October 12, 2005

Expires: October 12, 2015

Annual Allocation: 890 Million Gallons ($890/365 = 2.44$ MGD AADF)

Maximum Monthly Allocation: 97.1 Million Gallons ($97.1/30 = 3.24$ MGD)

3.6.4.3 Description of Water Sources

The GPIWA wellfield on Pine Island consist of 5 Lower Hawthorn wells that are 12” in diameter. Each well is rated at 700 gallons per minute for a total well capacity of 2,800 gallons per minute.

3.6.4.4 Treatment Facility

Raw water from the wellfield is treated at GPIWA’s reverse osmosis treatment plant. The plant is permitted to treat 3.2 MGD.

3.6.4.5 Storage Facilities

GPIWA has four (4) ground storage tanks with a combined capacity of 5.75 million gallons. One storage tank is located at the treatment facility and the other three are located throughout the water distribution system.

3.6.4.6 Interconnects

GPIWA has an emergency interconnect with the City of Cape Coral. The interconnect is 8 inch in diameter with a capacity of 2.0 MGD.

3.6.4.7 Bulk Service Agreements

GPIWA has a bulk water service agreement with the City of Cape Coral and receives water from the City as needed in emergencies.

3.6.4.8 Planned Water Supply Projects

GPIWA has no water supply projects planned at this time.

3.6.4.9 Treatment and Distribution System Losses

Treatment Losses average 15%. Distribution System Losses in 2013 were 4.8%.

3.6.4.10 Reclaimed Water Use

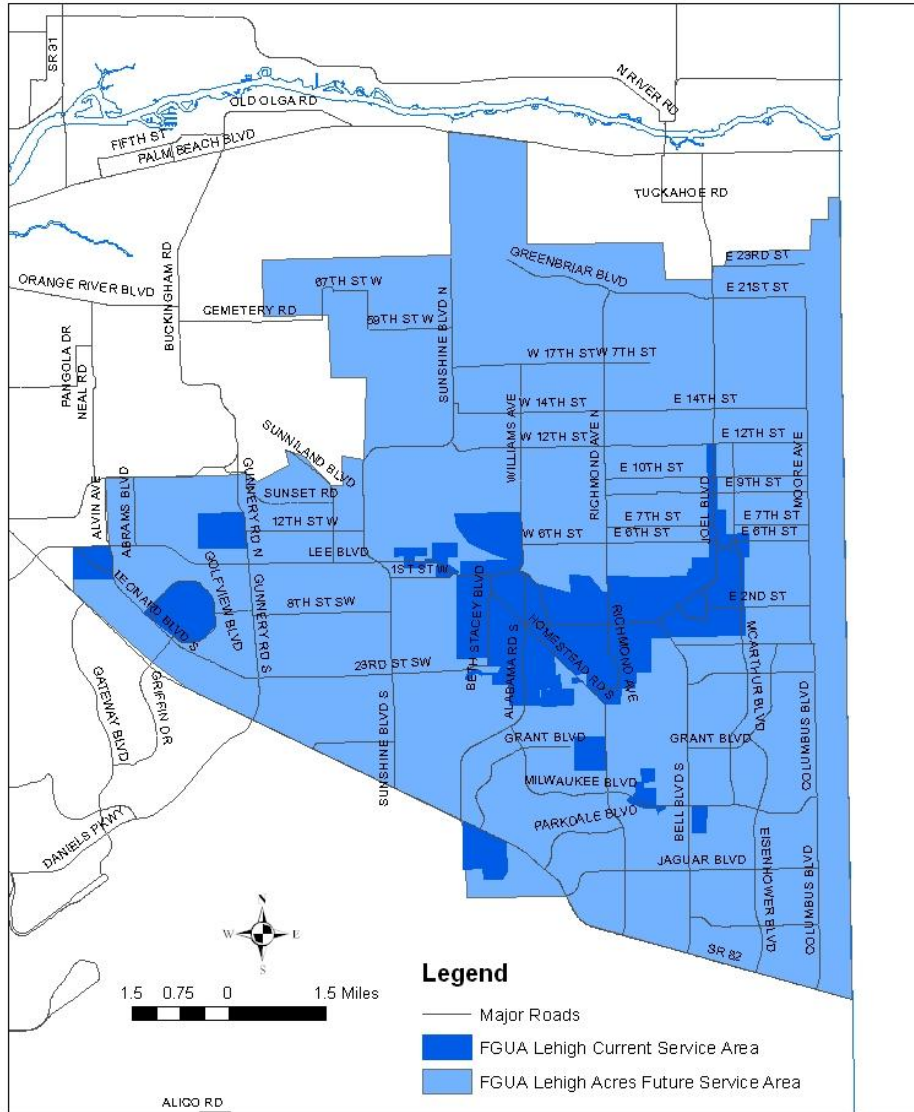
GPIWA does not provide wastewater service and therefore does not produce reclaimed water.

3.6.5 Florida Governmental Utility Authority (Lehigh Acres)

3.6.5.1 Service Area

The Florida Governmental Utility Authority (FGUA) has a franchise area that generally encompasses the area of un-incorporated Lee County known as the community of Lehigh Acres. The franchise area (future service area) and the area currently served is shown in Figure 3.6.5-1.

FIGURE 3.6.5-1
 Florida Governmental Utility Authority (Lehigh Acres)
 Future and Current Water Service Area



3.6.5.2 Existing Water Use Permit

FGUA has a Water Use Permit issued by the SFWMD. A summary of the general permit information is presented below.

Permit Number: 36-00166-W

Issued: February 9, 2015

Expired: February 9, 2035

Annual Allocation: 1,151 Million Gallons (1151/365= 3.15 MGD AADF)

Maximum Monthly Allocation: 115.97 Million Gallons (115.97/30 = 3.86 MGD)

Specific Source Limitation: None

3.6.5.3 Description of Water Sources

The existing FGUA Lehigh Acres wellfield consists of 20 Sandstone aquifer wells that vary in diameter from 6 to 12 inches in diameter. The wells are rated at capacities between 150 gallons per minute (gpm) and 500 gpm. The wells have a total capacity of 5,250 gpm.

3.6.5.4 Treatment Facility

FGUA's Treatment Plant #1 is rated at 3.11 MGD and treats raw water from the Sandstone aquifer wells referenced above. FGUA's recently completed Treatment Plant #2 has a capacity of 1.10 MGD. Treatment Plant #2 will treat raw water from permitted Sandstone aquifer wells at the plant site. The combined FDEP permitted capacity of the two plants is 4.21 MGD.

3.6.5.5 Storage Facilities

FGUA currently has two storage facilities. One elevated storage tank located at the corner of Homestead Road and Arthur Ave with a storage capacity of 0.25 MG and a ground storage tank at the corner of Lee Blvd. and Abrams Blvd with a capacity of 0.5 MG.

3.6.5.6 Interconnects

FGUA Lehigh Acres has an 8 inch diameter interconnect with the City of Fort Myers with a capacity of 0.5 MGD.

3.6.5.7 Bulk Service Agreements

FGUA Lehigh Acres has bulk service agreement with the City of Fort Myers to provide up to 1.0 MGD of finished water from the City of Fort Myers.

3.6.5.8 Planned Water Supply Projects

No water supply projects are planned at this time. However, the information included in the Lower west Coast Water Supply Plan (LWCWSP) includes a 10.0 MGD Mirror Lakes RO Water Treatment Plant including Floridan Aquifer System wells for supply. The LWCWSP states that this project is contingent upon growth. The Staff Report associated with FGUA's recently renewed water use permit discusses future plans to develop a 10.0 MGD reverse osmosis facility treating water from the Upper Floridan Aquifer.

3.6.5.9 Treatment and Distribution System Losses

As reported in FGUA Lehigh Acres water use permit files, the Treatment Losses are 1.64% and the water distribution system unaccounted-for losses are 8%.

3.6.5.10 Reclaimed Water Use

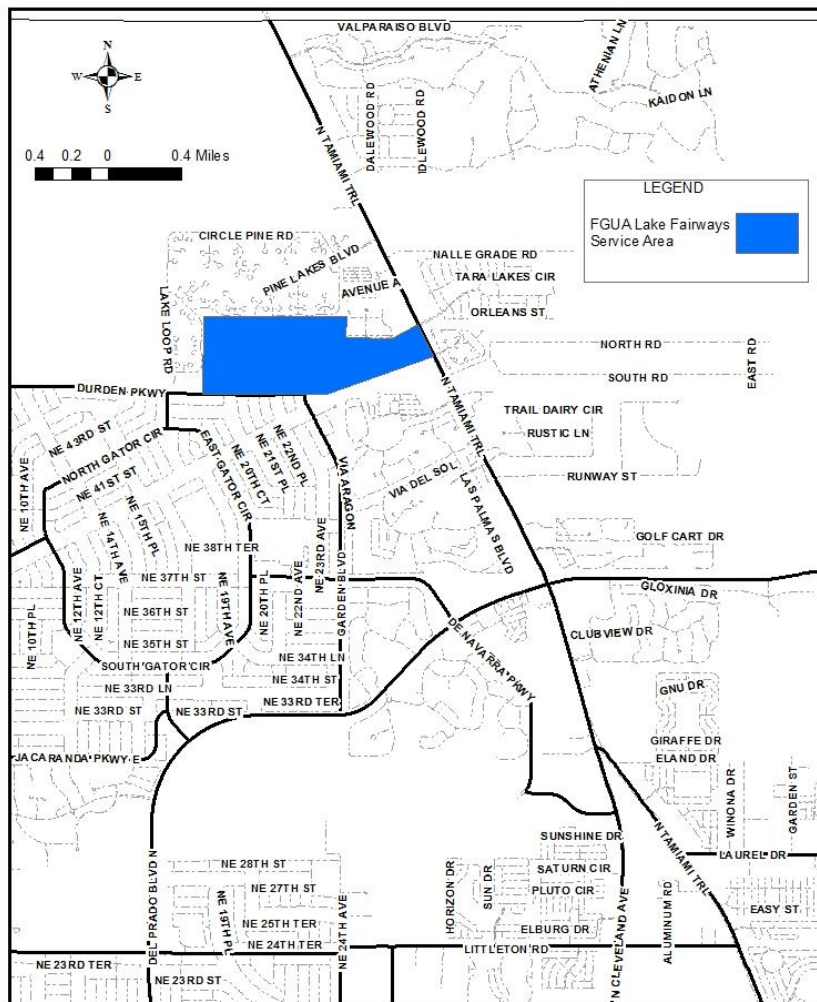
FGUA Lehigh Acres is reusing 86% of its wastewater that is reclaimed through a public access reclaimed water irrigation system.

3.6.6 Florida Governmental Utility Authority (Lake Fairways)

3.6.6.1 Service Area

The Florida Governmental Utility Authority (FGUA) provides water service to the Lake Fairways community in North Fort Myers. The FGUA (Lake Fairways) service area is shown in Figure 3.6.6-1 below.

FIGURE 3.6.6-1
Florida Governmental Utility Authority (Lake Fairways)
Service Area



3.6.6.2 Water Use Permit

FGUA (Lakes Fairways) has a Water Use Permit issued by SFWMD. A summary of the general permit information is presented below.

Permit Number: 36-00081-W

Issued: November 28, 2005

Expires: November 28, 2025

Annual Allocation: 37.449 Million Gallons ($37.449/365 = 0.1026$ MGD AADF)

Maximum Daily Allocation: 4.3667 MGD

Specific Source Limitations: None

Required Offsets: None

3.6.6.3 Description of Water Sources

The FGUA (Lake Fairways) wellfield consists of 2 Mid-Hawthorn aquifer wells. These are wells 3inch diameter and the capacity of each well is 150 gallons per minute (gpm), for a total capacity of 300 gpm. The depths of these wells are 168 feet.

3.6.6.4 Treatment Facility

The FGUA (Lake Fairways) aeration /chlorination water treatment plant has a FDEP permitted capacity of 0.20 MGD.

3.6.6.5 Storage Facilities

None in the distribution system.

3.6.6.6 Interconnects

FGUA (Lake Fairways) has no interconnects with neighboring utilities.

3.6.6.7 Bulk Service Agreements

FGUA (Lake Fairways) no contracts for bulk potable water purchases or sales with other water utilities.

3.6.6.8 Planned Water Supply Projects

FGUA (Lake Fairways) has sufficient capacity to meet projected demands, therefore has no water supply projects planned at this time.

3.6.6.9 Treatment and Distribution System Losses

None reported.

3.6.6.10 Reclaimed Water Use

FGUA (Lake Fairways) is reusing approximately 50% of the wastewater that is reclaimed through a public access irrigation system.

3.6.7 Small Water Supply Utilities Serving Lee County

There are several small water supply utilities providing water service to small areas within unincorporated Lee County. These water supply utilities are classified as Multiple User/Single Development Water Treatment Plants in the Lee County Annual Concurrency Report. These systems include:

- Charleston Park
- Fountain View RV Park
- Oak Park Mobile Home Village
- Useppa Island Club

Some details are provide in this section for each of these water providers.

3.6.7.1 Charleston Park

Water Use Permit

Permit Number: 36-00744-W

Issued: March 4, 2005

Expires: April 4, 2025

Annual Allocation: 4.818 Million Gallons ($4.818/365 = 0.0132$ MGD AADF)

Maximum Month Allocation: 0.380 MGD

Water Supply: 3-4-inch Water Table aquifer water supply wells

Treatment Plant: Capacity: 35,000 GPD

Population Served: Approximately 240 (population currently served)

3.6.7.2 Fountain View RV Park

Water Use Permit

Permit Number: 36-00304-W

Issued: March 28, 2005

Expires: March 31, 2025

Annual Allocation: 26.8 Million Gallons

Maximum Month Allocation: 3.0 MGD

Note: this is a public water supply and landscape irrigation water use permit

Water Supply: 4-6 inch mid-hawthorn aquifer water supply wells

Treatment Plant: Capacity: 70,000 GPD

Population Served: N/A

3.6.7.3 Oak Park

Water Use Permit

Permit Number: 36-03179-W

Issued: January 20, 2011

Expires: January 20, 2031

Annual Allocation: 29.75 Million Gallons ($29.75/365 = 0.0815$ MGD AADF)

Maximum Month Allocation: 4.09 MGD

Note: this is a public water supply and landscape irrigation water use permit

Water Supply: 3 4 to 8 inch water table aquifer water supply wells

Treatment Plant: Capacity: 150,000 GPD

Population Served: Approximately 550 (population currently served)

3.6.7.4 Useppa Island Club

Water Use Permit

Permit Number: 36-03239-W

Issued: August 19, 2011

Expires: August 19, 2031

Annual Allocation: 19.772 Million Gallons ($19.772/365 = 0.0542$ MGD AADF)

Maximum Month Allocation: 2.964 MGD

Water Supply: 2-6" Mid-hawthorn aquifer water supply wells

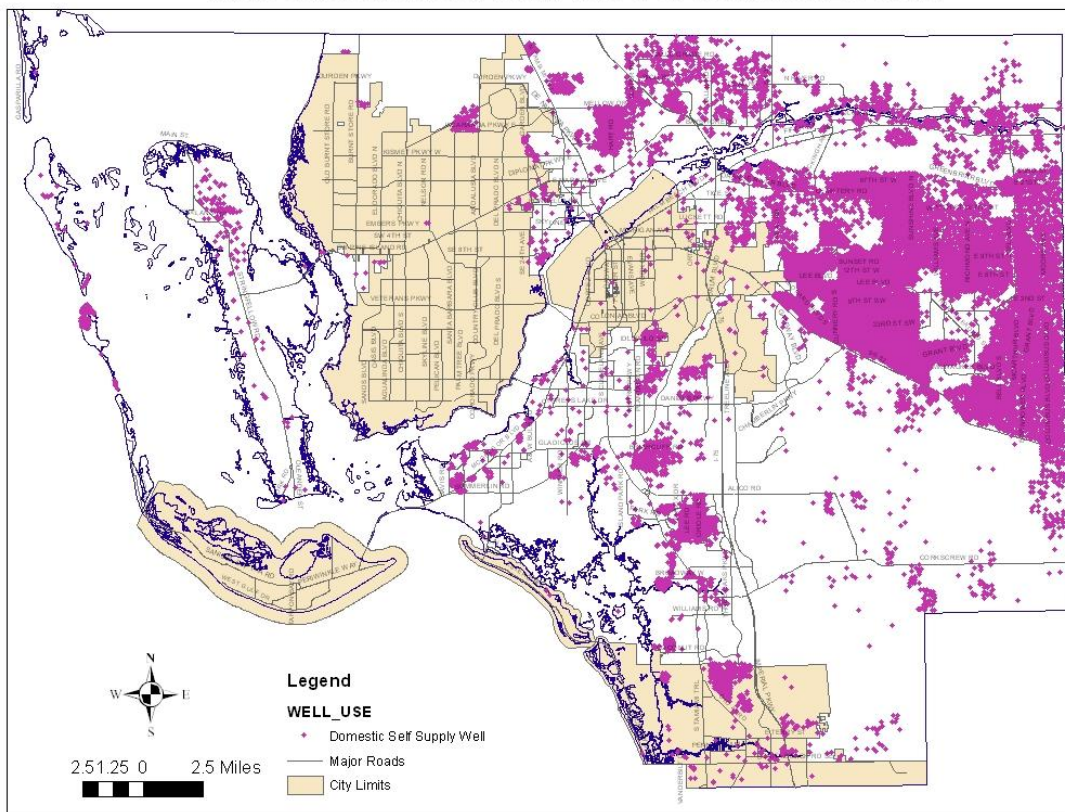
Treatment Plant: Capacity: 56,000 GPD

Population Served: Approximately 463 (projected population served in 2031)

3.6.8 Domestic Self Supply

Areas within unincorporated Lee County that are not currently served by a central water system utilized individual groundwater wells for water service. These are referred to as domestic self supply. The Lee County Division of Natural Resources maintains a database of all permitted wells within unincorporated Lee County that were installed after 1984. Based on a query of this database there are approximately 35,000 domestic self supply wells within Unincorporated Lee County. Figure 3.6.8 shows the location of the domestic self supply wells included in the database. The majority of these wells are located in Lehigh Acres and the North Fort Myers areas. Assuming an occupancy rate of 2.5 persons per an average residential unit these domestic self supply wells provide potable water to a population of 87,500. This however is an underestimate as this does not capture potable water supply wells installed prior to 1984.

Figure 3.6.8 Domestic Self Supply Wells in Un-Incorporated Lee County



3.7 Conservation

This section includes information regarding Lee County’s efforts in water conservation. It includes specific actions, programs, regulations, or opportunities that Lee County has enacted to promote water conservation.

3.7.1 Local Government Specific Actions, Programs, Regulations or Opportunities

Lee County has implemented a number of water conservation elements, including restrictions on permitted water usage, use of Florida-friendly planting principles, requirement of ultra-low volume plumbing in new construction, a water conservation based rate structure, a meter replacement program, requirement of rain sensor over-rides for new lawn sprinkler systems, and public educational programs. Summary information on each of these elements is provided below.

3.7.1.1 Restrictions on Permitted Water Use

Mandatory Year-Round Irrigation Conservation Measures

Lee County Ordinance 05-10, known and cited as the Water Conservation Ordinance, adopts by reference the irrigation restrictions included in 40E-24 Florida Administrative code, the Mandatory Year-Round Irrigation Conservation Measures . The restrictions included in the ordinance are more stringent than 40E-24FAC by limiting irrigation days to two days per week. The ordinance allows the Public Works Director to impose additional restrictions on irrigation in response to extreme climactic conditions. The ordinance also adopts by reference Florida Administrative code 40E-21, the South Florida Water Management District’s Water Shortage Plan. The ordinance provides for enforcement penalties for non-compliance. The ordinance applies to all areas within un-incorporated Lee County.

Use of Florida-Friendly Landscape Principles

As part of the Comprehensive Plan Amendment adopting this Water Supply Facility Work Plan, Lee County is proposing to revise six policies and one objective that address Florida friendly landscape principles. The proposed edits are discussed in Section 5 titled, “Goals, Objectives and Policies”, of this Plan. More particularly they are located in Section 5.3 titled, “GOP’s Related to Water Conservation” The proposed edits to Policy 54.1.3, Policy 54.1.1, Policy 117.2.1 and Objective 117.2 address Florida friendly landscape principles. The edits are identified by strikethrough and underline format.

Requirement of Ultra-Low Volume Plumbing in New Construction

Lee County Ordinance 92-36 adopts standard plumbing code in addition to other building codes in Lee County. The Ordinance address plumbing fixtures related to water conservation. Table 901.2.2 titled, “Maximum Allowable Water Usage for Plumbing Fixtures” establishes maximum flow rates for plumbing fixtures.

Water Conservation Based Rate Structure

Lee County Utilities has a conservation-based water rate structure, which includes an increasing rate with increasing use, as a means of reducing demand. The block rate structure is outlined in Section Four (B), titled “Lee County Utilities Water System Customer Rates”, of Lee County

Resolution 11-08-26, establishing customer rates for Lee County Utilities. An additional wellfield development surcharge of \$0.50 per Equivalent Residential Unit is assessed for those customers whose monthly water consumption exceeds their initial water conservation block during the monthly billing period. Also included is a water restriction surcharge adjustment of an additional 18% if the SFWMD declares a water shortage requiring a mandatory water use reduction of 15%.

Meter Replacement Program

Unaccounted for water summaries are submitted to the District annually. The average annual estimated unaccounted water loss, for the years 2008-2014 was 5.58 percent as summarized in Table 3-9.

**TABLE 3-9
LEE COUNTY UTILITIES
UNACCOUNTED FOR WATER
PERCENT 2008-2014**

YEAR	PERCENT
2008	4.87%
2009	3.21%
2010	3.96%
2011	6.70%
2012	7.53%
2013	6.10%
2014	6.66%
Average	5.58%

Although LCU has a very low unaccounted-for water percentage LCU continues to actively replace meters to improve on unaccounted for water. In addition, LCU is planning to replace all the water meters in its water distribution system with remote read meters (AMI). LCU initiated this AMI program in 2014 and expects to replace all the meters with AMI meters in the next five years.

Rain Sensor Overrides for New Lawn Sprinkler System

Chapter 10, Division 6 (Lee County Landscape Code), Section 10-414 requires an irrigation plan. One of the requirements for an irrigation plan includes the following:

“A moisture (rain) sensor will be included in the irrigation system and located on the site so that it will receive direct rainfall, not impeded by other objects”.

Public Information Program

Lee County Utilities a website that contains several pages devoted to water conservation and water restrictions. The address for this site is <http://www.lee-county.com/utilities/>. In addition, Lee County Utilities periodically prints water conservation tips on the water bills. These messages direct the customer to the web site for additional information. The annual Consumer Confidence Report is also used to direct customers to the web site for additional information. Water Conservation posters and pamphlets are placed in schools, libraries, and other county offices. During times of water restrictions Lee County Utilities has run public service announcements in cooperation with the South Florida Water Management District. LCU has an active program that provides water conservation presentations to third grade students in several

schools throughout Lee County. Approximately 20 presentations are given to third graders every year. LCU also participates in the Lee County Speakers Bureau program resulting in 4-5 water conservation presentations being provided to civic organization throughout Lee County.

LCU will coordinate future water conservation efforts with other water supply utilities in Lee County and the SFWMD. In addition, LCU will continue to support and expand existing goals, objectives and policies in the comprehensive plan promoting water conservation in a cost-effective and environmentally sensitive manner. LCU will continue to actively support the SFWMD and its water supplier(s) in the implementation of new regulations or programs designed to conserve water during the dry season.

3.7.2 Identify any Local Financial Responsibilities as Detailed in the Capital Improvement Element

Currently there are no water conservation projects included in the Lee County Capital Improvement Program.

3.8 Reuse

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

3.8.1 Local Government Specific Actions, Programs, Regulations or Opportunities

Lee County supports water reuse initiatives under consideration by both the SFWMD and other local governments in the region and the implementation of new regulations or programs designed to increase the volume of reclaimed water used and public acceptance of reclaimed water. Lee County's water conservation program encourages both conservation of water and use of alternative water supplies, such as reclaimed water for irrigation. Lee County Utilities reuse program, is described below:

3.8.1.1 Lee County Utilities Reclaimed Water Systems

Lee County Utilities owns and maintains five reclaimed water systems. These systems provide many benefits. They reduce the amount of groundwater that is withdrawn in their respective service areas and recharge the local aquifers. Increasing the utilization of reclaimed water reduces the amount of water lost "to tide" or lost through disposal in a deep injection well. Lee County Utilities has taken and plans to take several steps to reduce these losses. LCU has installed interconnects between reclaimed water systems to enable systems with low demand to provide reclaimed water to systems with high demands. LCU has installed storage facilities to better manage reclaimed water and increase utilization. LCU has plans to enhance the storage of reclaimed water. These plans include conventional above ground facilities for short-term storage and exploring the possibility of reclaimed water ASR for long-term seasonal storage. LCU also has completed a reclaimed water supplementation project. Below is a brief description of LCU's reclaimed water systems.

Fort Myers Beach WWTP

Lee County Utilities initiated its reclaimed water program in 1990 with the completion of the Fort Myers Beach WWTP Reuse System. At that time the system consisted of 10 reuse sites, most of which were large users, such as golf courses. Also included in the system is a set of 6 percolation ponds with a capacity of 60 million gallons. Since that time the system has grown and now consists of 35 reuse sites and the percolation ponds with a deep injection well for alternative disposal. The Fort Myers Beach WWTP has a permitted capacity of 6.0 million gallons per day (MGD). In fiscal year 2013-2014 the plant produced 3.334 mgd annual average daily flow (AADF) of reclaimed water. The reclaimed water system also received 0.442 mgd (AADF) of reclaimed water produced at LCU's Fiesta Village AWWTP through a large diameter interconnect. The reclaimed water system therefore had 3.786 mgd (AADF) of reclaimed water available for use. In fiscal year 2013-2014, 3.368 MGD (AADF) of the reclaimed water produced at the plant was reused. Reclaimed water utilization in fiscal year 2013-2014 for this facility was 88.9%.

Fiesta Village AWWTP

In 1999 Lee County Utilities purchased the Fiesta Village AWWTP and Reclaimed Water System from Florida Cities Water Company. The system currently consists of 16 reuse sites, with the largest users being golf courses. The system also has a permit to discharge into the Caloosahatchee River for wet weather disposal. The permitted capacity of the plant is 5.0 mgd. In fiscal year 2013-2014 the plant produced 2.957 mgd (AADF) of reclaimed water. In fiscal year 2013-2014, 1.655 mgd (AADF) of the reclaimed water produced at the plant was reused. Reclaimed water utilization in fiscal year 2013-2014 for this facility was 55.9%.

In an effort to increase the reclaimed water utilization for this facility and reduce the amount reclaimed water discharged to the Caloosahatchee River an interconnect between the Fiesta Village reuse system and the Fort Myers Beach reuse system was installed in 2002. This interconnect allows the transfer of reclaimed water from the Fiesta Village system, which has a low demand to the Fort Myers Beach system which has a high demand.

Three Oaks WWTP

In 2003 Lee County Utilities purchased the Three Oaks WWTP and Reclaimed Water System from Gulf Environmental Services Inc. The system currently consists of 18 active reuse sites with the largest users being golf course communities. The plant currently has a permitted capacity of 6.0 mgd and a permitted deep injection well for wet weather disposal. In fiscal year 2013-2014 the plant produced 2.747 mgd (AADF) of reclaimed water. In fiscal year 2013-2014, 2.296 mgd (AADF) of the reclaimed water produced at the plant was reused. Reclaimed water utilization in fiscal year 2013-2014 for this facility was 83.6%. LCU has developed a supplemental supply of water for this reuse system. The supplemental supply will result in an increase in utilization of reclaimed water produced at the Three Oaks WWTP. This project was completed in 2015 and is included in the alternative water supply projects listed in the Work Plan Projects section of this plan.

Pine Island WWTP

In 1999 Lee County Utilities constructed the Pine Island WWTP. The plant has a permitted capacity of 0.492 mgd (AADF) with a permitted deep injection well for wet weather disposal. The reclaimed water produced at this plant recharges the local shallow aquifer through two spray irrigation fields. In fiscal year 2013-2014 the plant produced 0.124mgd (AADF) of reclaimed water. In fiscal year 2013-2014, 0.055 mgd (AADF) of the reclaimed water produced at the plant was reused. Reclaimed water utilization in fiscal year 2013-2014 for this facility was 44.3%.

High Point WWTP

The High Point plant is a small package plant in North Fort Myers that produces approximately 0.012mgd of reclaimed water. The plant has a permitted capacity of 0.024 mgd. The reclaimed water from this plant is sent to percolation ponds where it recharges the local shallow aquifer.

Gateway WWTP

In 2003 Lee County Utilities purchased the Gateway WWTP Reclaimed Water System from Gateway Services District. The system currently consists of 1 reuse site, the Gateway community. The plant has a permitted capacity of 3.0 mgd. In fiscal year 2013-2014 the plant produced 1.113 mgd (AADF) of reclaimed water. All of the reclaimed water produced by this facility in fiscal year 2013-2014 was utilized by the Gateway Community for irrigation. Reclaimed water utilization in fiscal year 2013-2014 for this facility was 100%.

3.8.1.2 Lee County Land Development Code and Reclaimed Water

Chapter 10, Division 4, Section 10-354 of the Lee County Land Development Code (LDC) states the following: Wherever technically feasible, the irrigation of grassed or landscaped areas must be provided for through the use of a second water distribution system supplying treated wastewater effluent or reuse water.

The LDC also states: Any proposed development which is:

(1) Located in the franchised or certificated service area of a sanitary sewer utility, or the County utilities' future sanitary service area, which is prepared to supply reuse water at a quality and quantity commensurate with the irrigation needs of the proposed development, when the nearest property line of the development is located within one-quarter mile of the reuse distribution system; or (2) Planned to rely on an on-site wastewater treatment facility whose design average daily flow is 100,000 gallons per day or more; shall be designed to maximize the use of reuse water from the utility.

3.8.2 Identify any Local Financial Responsibilities as Detailed in the Capital Improvement Element

The following reclaimed water projects are included in the current Lee County Capital Improvement Program.

- Reclaimed Water ASR (FMB/Fiesta Village)
- Gateway ASR well System
- Three Oaks Reuse Augmentation
- Reuse System and Site Improvements
- Fiesta Village Reuse Main Upgrade

The project number, description and other pertinent information for each project is included in Table 4.2-1 title, “Capital Improvement Projects Approved Lee County CIP FY 14/15” of this report.

4.0 CAPITAL IMPROVEMENTS

This section provides a brief description of Lee County’s Capital Improvements Program and Policies for Water Supply.

4.1 Work Plan Projects

This section includes the list of the Work Plan Projects which includes all public, private, and regional water supply projects and programs necessary to serve Lee County, including all development of traditional and alternative water supply sources, reuse and conservation for at least the next 10-year period. These are the water supply projects identified in the SFWMD Lower West Coast Water Supply Plan.

TABLE 4.1-1 WORK PLAN PROJECTS			
LCU WATER SUPPLY PROJECTS INCLUDED IN THE LOWER WEST COAST WATER SUPPLY PLAN			
Water Supply Project	Source	Total Capital Cost (\$ M)	Design Capacity (MGD)
Potable Water			
Green Meadows Water Treatment Facility RO Expansion (includes FAS wells) (This water treatment facility currently has a 9.0 MGD of fresh water capacity)	Brackish	\$76.8	5.00
North Lee County Water Treatment Facility 5.0 MGD RO Expansion from 10.0 MGD to 15.0 MGD	Brackish	\$44.1	5.00
Olga Water Treatment Facility RO Expansion from 5.0 MGD to 10.0 MGD	Brackish	\$40	5.00
Green Meadows ASR Wells for Potable Water	Fresh Water	\$21	3.40
Non-Potable Water			
West ASR Wells for Reclaimed Water Storage	ASR	\$5.40	2.00
Gateway Wastewater Treatment Plant ASR Well System for Reclaimed Water Storage	ASR	\$2.50	1.00
Three Oaks Irrigation Quality Water Supplemental Reclaimed Supply	Fresh Water	\$0.70	2.60
BSU WATER SUPPLY PROJECTS INCLUDED IN THE LOWER WEST COAST WATER SUPPLY PLAN			
Water Supply Project	Source	Total Capital Cost (\$ M)	Design Capacity (MGD)
3.0 MGD Water Treatment Facility RO Expansion	Brackish	\$30	3.00
FGUA (Lehigh Acres) WATER SUPPLY PROJECTS INCLUDED IN THE LOWER WEST COAST WATER SUPPLY PLAN			
Water Supply Project	Source	Total Capital Cost (\$ M)	Design Capacity (MGD)
10.0 MGD Phased Expansion of Mirror Lakes RO Water Treatment Facility including FAS Wells and Distribution Lines (contingent upon growth)	Brackish	\$91	10.00

4.2 Capital Improvements Element/Schedule

The work plan identifies and addresses: All public, private, and regional water supply facilities needed within jurisdiction and necessary during the next five years to achieve and maintain adopted level of service standards, and reflect the identified projects and programs in Lee County's Five-Year Schedule of Capital Improvements. Table 4.2-1 presents the water supply development and alternative water supply capital improvement projects approved for fiscal year 2014/2015 for Lee County Utilities.

TABLE 4.2-1 CAPITAL IMPROVEMENT PROJECTS APPROVED LEE COUNTY CIP FY 15/16					
WATER SUPPLY DEVELOPMENT PROJECTS					
CIP #	Lee County Project Name / LWCWSP Project Name	Description	Project Status	Total CIP Budget	Estimated Completion Date
207187	Green Meadows WTP Expansion / Green Meadows Water Treatment Facility RO Expansion	Expansion of the Green Meadows WTP from 9.0 MGD to 14.0 MGD and Expansion of the Green Meadows Wellfield Utilizing Lower Hawthorn Wells	Design Underway	\$76,761,108	2017
207619	North Lee County WTP and Wellfield Expansion to 15 MGD / North Lee County Water Treatment Facility 5.0 MGD RO Expansion from 10.0 MGD to 15.0 MGD	Expansion of the North Lee County RO Treatment Plant from 10.0 MGD to 15.0 MGD and Expansion of the Lower Hawthorn Wellfield	Planning	\$44,049,999	2022
ALTERNATIVE WATER SUPPLY PROJECTS					
Future	Corkscrew Groundwater ASR System / Green Meadows ASR Wells for Potable Water	Develop a groundwater to groundwater ASR system for potable water supply to provide a supplemental supply for Corkscrew WTP or Green Meadows WTP	Planning	\$21,970,000	2021
207284	Reclaimed Water ASR / West ASR Wells for Reclaimed Water Stogage	Construct a Reclaimed Water ASR system in West Lee County to provide seasonal storage of reclaimed water produced at the Fort Myers Beach WWTP and / or the Fiesta Village WWTP	Planning	\$5,370,000	2021
207455	Reuse System & Site Improvements	Improvements to reuse system to enhance delivery and increase utilization	Planning	\$3,504,804	2018
Future	Fiesta Viillage Reuse Main Upgrade	Upgrade the reuse main from Fiesta Village WWTP to Fort Myers Beach Reuse System	Planning	\$4,725,000	2018

5.0 GOALS, OBJECTIVES AND POLICIES

The Lee County Comprehensive plan Goals, Objectives, and Policies (GOPs) have been reviewed for consistency with the Work Plan and to assure that the following issues have been addressed:

- Implementation of the Work Plan
- Concurrency for water supply availability
- Water conservation programs
- Alternative water supply projects
- Reclaimed water programs
- Level of service standards
- Population projections
- Water supply/source needs and demands
- Intergovernmental coordination with the District, water suppliers, and other local governments.

Through this review Lee County has found that no new GOPs are required. In addition, Lee County is proposing edits to six policies (2.4.3, 53.1.11, 54.1.3, 54.1.1, 55.1.3 and 117.2.1) and one objective (117.2) based on changes in statutory requirements and past implementation of the Water Supply Plan within the Lee County Comprehensive Plan.

The GOPs within the Lee County Comprehensive Plan that address the Water Supply Plan have been identified below based on the issues that they address. The proposed edits to Policy 2.4.3, Policy 53.1.11, Policy 55.1.3, Policy 54.1.3, Policy 54.1.1, 117.2.1 and Objective 117.2 are identified by strikethrough and underline format.

5.1 GOP's Related to Implementation of the Work Plan

POLICY 53.1.11: The County will expand potable water facilities consistent with those improvements identified in Table 6, the 10 Year Water Supply Development Projects Table. Table 6 will be amended annually to remain consistent with the Capital Improvement Projects List as projects are completed and technological advancements in water supply facilities are made. (Added by Ordinance No. 09-13)

POLICY 55.1.3: Lee County will actively implement the Water Supply Facilities Work Plan as adopted by the Board of County Commissioners ~~on February 25, 2009~~. Lee County will utilize the document as the County's guide to water supply facility planning with a planning horizon through the year 2030. A copy of the adopted Water Supply Facilities Work Plan will be maintained and kept on file by Lee County Utilities. (Amended by Ordinance No. 94-30, Amended and Relocated by Ordinance No. 00-22, Relocated by Ordinance No. 03-04, Amended by Ordinance No. 09-13, Scrivener's error updated June 2014)

POLICY 117.1.9: The County will utilize the recommendations made in the Water Supply Facilities Work Plan (see Policy 55.1.3) as a guide to potable water facilities planning, potable water resources, and water conservation as well as expanding potable water facilities consistent with Table 6, the 10 Year Water Supply Development Projects Table. (Added by Ordinance No. 09-13)

POLICY 151.5.1: The County will continue to evaluate the latest water supply plans issued by the South Florida Water Management District to ensure consistency in the Lee Plan and the County's Water Supply Facilities Work Plan. The county will update the Water Supply Facilities Work Plan within 18 months after the South Florida Water Management District approves an update to the regional water supply plan. (Added by Ordinance No. 09-13)

5.2 GOP's Related to Concurrency for Water Supply Availability

OBJECTIVE 53.2: WATER SUPPLY CONCURRENCY. Lee County will incorporate water supply into the concurrency management system consistent with the requirements of Section 163.3180(2)(a), F.S. (Added by Ordinance No. 09-13)

POLICY 53.2.1: County development regulations will be amended to specify that no building permit under the Land Development Code will be issued in a franchised or certificated water service area, or within Lee County Utilities' future service area, unless potable water supply will be available to meet current and projected growth demands, or surety is given that it will be available prior to occupancy. This policy does not exempt development of any size from meeting the levels of service required for concurrency under Policies 53.1.2 and 95.1.3. (Added by Ordinance No. 09-13)

5.3 GOP's Related to Water Conservation Programs

GOAL 54: CONSERVATION. To ensure that future populations have access to potable water supplies and services at a reasonable price by using and encouraging conservation and resource management measures to reduce consumption of potable water.

OBJECTIVE 54.1: The County will continue its programs in education, technical advice, demonstration, rate revisions, and reuse to reduce potable water consumption and the consumption of large volumes of potentially potable water. Water consumption per Equivalent Residential Unit will be decreased by 2.5% annually through the year 2000. (Amended by Ordinance No. 94-30, 00-22)

POLICY 54.1.1: Using the personnel and resources of various county agencies, Lee County will continue to offer a program of public information and education. This program should include the use of print media, advertising, and public service announcements on radio and television highlighting and advocating various strategies of water conservation, including, but not limited to:

- creating incentives for “gray water” systems or other recycling activities;
- adopting incentives for household and commercial use of appliances with low water consumption rates;
- advising householders to reduce water use;
- creating a demand for low water use appliances by publishing ratings of water use efficiency for appliances analogous to the energy efficiency ratings for electrical appliances;

- advocating the cost-effective use of appliances and water: i.e. run only full loads or use low water settings when appropriate;
- encouraging the building or grounds manager, including the individual householder, to maintain the water system, i.e. timely repair of dripping faucets, leaking water closets, broken or maladjusted sprinkler heads, etc.;
- installing alternatives to spray irrigation devices for lawns and grounds management such as drip or seep systems, or at least attending to the ambient humidity and evapo-transpiration rates in controlling sprinkler systems;
- encouraging the use of drought-tolerant ground covers and shrubbery according to the principles of “~~xeriscape~~Xeriscape Florida friendly” (see glossary and Objective 117.2) and demonstrating the uses of native vegetation in landscaping; and
- generally encouraging the thoughtful use of water in all necessary activities. (Amended by Ordinance No. 94-30, 00-22)

POLICY 54.1.2: In developing and implementing local landscape regulations including the preservation, reforestation, and wetlands restoration requirements, preference will be given to native species which are adapted to the region's climatic regime.

POLICY 54.1.3: ~~Xerie~~ Xeriscape Florida friendly landscaping, stressing the use of native vegetation, is to be emphasized through modifications to the county's development regulations and through direct action while landscaping county-owned projects.

POLICY 54.1.4: The Board of County Commissioners will periodically re-examine the "step rate" structure for the Lee County Utilities water systems which encourages water conservation by requiring that the commodity charge (basic monthly charge less readiness to serve fee and capital debt contribution) above a specified amount of water use increase continuously or by specified increments for that increased use of water. (Amended by Ordinance No. 94-30, 00-22)

POLICY 54.1.5: The Board of County Commissioners will encourage privately operated potable water utilities to adopt a "conservation" rate structure for users in their respective service areas. (Amended by Ordinance No. 00-22)

POLICY 54.1.6: Development regulations will continue to require that any development will pay the appropriate fees and connect to a re-use water system if such system is near or adjacent to the development and has sufficient surplus to supply the development. Development regulations will be amended further as follows:

- Where a significant modification is proposed to a major development subject to Chapter 10 of the Land Development Code, wastewater reuse systems will be required in the same manner as for new developments.
- The county will require by ordinance the connection of specified existing development to a utility wastewater distribution system when one is available near or adjacent to the property. (Amended by Ordinance No. 91-19, 94-30, 00-22)

POLICY 54.1.7: It is hereby declared that the conservation of potable water supply and facility capacity is of such importance to the orderly growth of the community that in order to further provide incentive for its use, reuse water may be provided at a price significantly lower than finished potable water (the residual costs of operation being charged to the sewer users as part of the cost of effluent disposal).

POLICY 54.1.8: Priority in the use of Industrial Development Revenue Bonds or other mechanisms of public finance will be given to regulated private utilities where not prohibited by the Florida constitution or statutes in order to achieve these public ends. (Amended by Ordinance No. 00-22)

POLICY 54.1.9: Lehigh Acres (as defined by outer boundaries of its Privately Funded Infrastructure overlay on the Future Land Use Map) is hereby declared a critical area for future potable water supply due to fluctuating water levels in the Sandstone aquifer. In response to this designation, the county will amend current regulations to provide that new wells in Lehigh Acres must be constructed to accommodate submersible pumps. (Also see Policy 2.4.2 for special requirements for amendments to the Future Land Use Map.) (Amended by Ordinance No. 94-30, 00-22, 02-02, 14-09)

POLICY 54.1.10: The county will continue to implement and enforce regulations to reduce the amount of effluent being discharged into surface waters. (Amended by Ordinance No. 91-19, 94-30, 00-22)

POLICY 54.1.11: Continue to encourage new and existing developments to utilize the Fort Myers Beach/Iona-McGregor sewer system's dual water system. (Amended by Ordinance No. 94-30, Amended and Relocated by Ordinance No. 98-09)

POLICY 54.1.12: Promote water conservation through the use of incentives and evaluate and apply a community based planning approach to water conservation, enabling more precision to be applied in achieving reduction targets. (Added by Ordinance No. 07-16)

OBJECTIVE 117.2: ~~XERISCAPE~~ FLORIDA FRIENDLY LANDSCAPE. The county will ~~continue to promote xeriscape~~ Florida friendly landscaping techniques. (Amended by Ordinance No. 94-30, 00-22)

POLICY 117.2.1: The county will ~~continue to encourage xeriscape~~ Florida Friendly landscaping techniques for ~~new~~ development and redevelopment in the Land Development Code. (Amended by Ordinance No. 94-30, 00-22)

POLICY 117.2.2: The county will provide education on water conservation through creative landscaping, and promote the conservation and use of native plant species through xeriscape landscaping techniques. (Amended by Ordinance No. 94-30, 00-22)

POLICY 117.2.3: The county will establish local guidelines that will assist in efforts to reduce landscape irrigation water use to the lowest and most efficient, practical level. (Amended by Ordinance No. 00-22)

5.4 GOP's Related to Alternative Water Supply Projects

POLICY 16.4.8: If a proposed Private Recreation Facility falls within an area identified as an anticipated drawdown zone for existing or future public well development, the project must utilize an alternative water supply such as reuse or withdrawal from a different non-competing aquifer or show that adequate supply is available in excess of that being used for planned public water supply development. (Added by Ordinance No. 99-16)

POLICY 117.1.2: The county will recognize and encourage water and wastewater management, provided that such management does not exceed the natural assimilative capacity of the environment or applicable health standards. Appropriate water and wastewater management includes, but is not limited to, aquifer recharge, aquifer storage and recovery, reclaimed water, reverse osmosis, dual water systems, use of low volume irrigation systems, use of water conserving vegetation, and other conservation and recycling techniques. (Amended by Ordinance No. 94-30, 00-22, 09-13)

5.5 GOP's Related to Reclaimed Water Projects

POLICY 54.1.6: Development regulations will continue to require that any development will pay the appropriate fees and connect to a re-use water system if such system is near or adjacent to the development and has sufficient surplus to supply the development. Development regulations will be amended further as follows:

- Where a significant modification is proposed to a major development subject to Chapter 10 of the Land Development Code, wastewater reuse systems will be required in the same manner as for new developments.
- The county will require by ordinance the connection of specified existing development to a utility wastewater distribution system when one is available near or adjacent to the property. (Amended by Ordinance No. 91-19, 94-30, 00-22)

POLICY 54.1.7: It is hereby declared that the conservation of potable water supply and facility capacity is of such importance to the orderly growth of the community that in order to further provide incentive for its use, reuse water may be provided at a price significantly lower than finished potable water (the residual costs of operation being charged to the sewer users as part of the cost of effluent disposal).

OBJECTIVE 57.1: The county will continue its programs in education, technical advice, demonstration, rate revisions, and reuse to reduce per-capita water consumption and subsequent wastewater generation. (Amended by Ordinance No. 94-30, 00-22)

POLICY 57.1.4: In the design of each new wastewater treatment plant, the county will dispose of effluent through reuse water systems. (Amended by Ordinance No. 00-22)

POLICY 57.1.5: Development regulations will continue to require that any development will pay the appropriate fees and connect to a reuse water system if such system is near or adjacent to

the development and has sufficient surplus to supply the development. (Amended by Ordinance No. 94-30, 00-22)

POLICY 57.1.6: On-site sewer plants serving new golf course communities must be designed to reuse effluent for irrigation purposes. (Amended by Ordinance No. 00-22)

POLICY 57.1.7: In order to ensure its effectiveness as an effluent disposal system, reuse water may be provided at cost.

POLICY 57.1.8: In order to ensure the equitable distribution of the costs of a reuse water system, the costs of operation not covered by the commodity charge should fall to the sewer users as a charge for effluent disposal.

5.6 GOP's Related to Level of Service Standards

POLICY 53.1.4: The Board of County Commissioners urges all utilities to construct and install sufficient treatment facilities and distribution systems that will meet or exceed the minimum acceptable service standards and with the capacity to deliver water at a pressure of 20 pounds per square inch (wp PSI static) at the meter anywhere on the individual system (excluding fire flow conditions). In addition, by September 30, 1994, all utilities are urged to deliver water pressure of 40 pounds per square inch (static pressure, excluding fire flow conditions). Each utility is encouraged to advise the planning and engineering staffs of the county regarding system expansions or modifications to ensure coordination with other utilities and with all other issues of public interest and to prevent duplication of facilities and services. (Amended by Ordinance No. 92-35)

5.7 GOP's Related to Population Projections

POLICY 63.2.3: Identify water needs consistent with projections of human population and the needs of natural systems in order to determine the future demands for groundwater. (Amended by Ordinance No. 94-30)

OBJECTIVE 117.1: WATER SUPPLIES. Insure water supplies of sufficient quantity and quality to meet the present and projected demands of all consumers and the environment, based on the capacity of the natural systems.

5.8 GOP's Related to Water Supply/Source Needs and Demands

POLICY 2.4.2: All proposed changes to the Future Land Use Map in critical areas for future potable water supply (Lehigh Acres as described in Policy 54.1.9; and all land in the Density Reduction/ Groundwater Resource land use category) will be subject to a special review by the staff of Lee County. This review will analyze the proposed land uses to determine the short-term and long-term availability of irrigation and domestic water sources, and will assess whether the proposed land uses would cause any significant impact on present or future water resources. If the Board of County Commissioners wishes to approve any such changes to the Future Land Use Map, it must make a formal finding that no significant impacts on present or future water

resources will result from the change. (Amended by Ordinance No. 92-47, 94-30, 00-22, 02-02, 14-10)

POLICY 2.4.3: Future Land Use Map Amendments to the existing DR/GR areas south of SR 82 east of I-75, excluding areas designated by the Port Authority as needed for airport expansion, which increase the current allowable density or intensity of land use will be discouraged by the county. It is Lee County's policy not to approve further urban designations there for the same reasons that supported its 1990 decision to establish this category. In addition to satisfying the requirements in 163 Part II Florida Statutes, ~~Rule 9J-5 of the Florida Administrative Code~~, the Strategic Regional Policy Plan, the State Comprehensive Plan, and all of the criteria in the Lee Plan, applicants seeking such an amendment must:

1. Analyze the proposed allowable land uses to determine the availability of irrigation and domestic water sources; and,
2. Identify potential irrigation and domestic water sources, consistent with the Regional Water Supply Plan. Since regional water suppliers cannot obtain permits consistent with the planning time frame of the Lee Plan, water sources do not have to be currently permitted and available, but they must be reasonably capable of being permitted; and,
3. Present data and analysis that the proposed land uses will not cause any significant harm to present and future public water resources; and,
4. Supply data and analysis specifically addressing ~~the urban sprawl criteria listed in Rule 9J-5.006(5) (g), (h), (i) and (j), FAC.~~

5.9 GOP's Related to Inter-Governmental Coordination

POLICY 117.1.5: The county will cooperate with the United States Geological Survey, South Florida Water Management District, and state agencies to develop an area-wide water resources plan emphasizing planning and management of water resources on the basis of drainage basins; and addressing the needs of the existing and potential built environment, natural hydrologic system requirements, and freshwater flow impacts on estuarine systems. (Amended by Ordinance No. 00-22)

POLICY 117.1.7: The county will cooperate fully with emergency water conservation measures of the South Florida Water Management District. (Amended by Ordinance No. 00-22)

OBJECTIVE 151.5: COORDINATION OF WATER SUPPLY PLANS AND THE LEE PLAN.

Coordinate between Lee County and the South Florida Water Management District to ensure that the Lee Plan remains consistent with the District's regional water supply plans. (Added by Ordinance No. 09-13)

POLICY 151.5.2: The county will coordinate with other government agencies and private suppliers of potable water during the water supply planning process to include the review of land use changes, addressing population projections, and acceptable level of service standards. (Added by Ordinance No. 09-13)

6.0 REGIONAL ISSUES IDENTIFIED IN REGIONAL WATER SUPPLY PLANS

A summary of the issues identified in the Lower West Coast Water Supply Plan can be found in that document. A web link to the document is provided below.

Lower West Coast Water Supply Plan

Detailed information on the regional issues can be found in Chapter 3, Issues and Evaluations, in the Lower West Coast Water Supply Plan. The information can be accessed at:

http://www.sfwmd.gov/portal/page/portal/xrepository/sfwmd_repository_pdf/lwc_planning_doc_2012.pdf.

Briefly, the issues are:

1. Increased withdrawals from the Surficial Aquifer and Intermediate Aquifer Systems are limited.
2. Lake Okeechobee Service Area Restricted Allocation Area criteria.
3. Freshwater discharges to the Caloosahatchee Estuary.