



JOINT ALACHUA COUNTY/CITY OF GAINESVILLE

2018-2028

WATER SUPPLY FACILITIES WORK PLAN



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Appendix B.....City of Gainesville Comprehensive Plan Goals, Objectives, and Policies addressing Water Supply

1.0 INTRODUCTION

This Joint Alachua County and City of Gainesville Water Supply Facilities Work Plan (“Work Plan”) has been prepared pursuant to subparagraph 163.3177(6)(c)3 of the Florida Statutes. It is the first Work Plan prepared pursuant to this statute by the County and the City. This water supply work plan is a 10-year work plan that describes water supply sources and water supply projects that will be undertaken in order to meet current and projected potable water demands for both the City of Gainesville and the portion of unincorporated Alachua County located within the Urban Cluster. Gainesville Regional Utilities (GRU) is owned by the City of Gainesville and serves as the major water supplier for the City as well as the surrounding portions of unincorporated Alachua County located within the Urban Cluster designated in the Alachua County Comprehensive Plan. Chapter 163, Part II, Florida Statutes (F.S.), requires local governments to prepare and adopt Work Plans into their comprehensive plans within 18 months after final approval of the pertinent regional water supply plan or its update.

Water Supply planning efforts in North Central Florida began in 2005 when the Suwannee River Water Management District (SRWMD) and the St Johns River Water Management District (SJRWMD) performed Water Supply Assessments. Subsequent updates to these Water Supply Assessments identified in 2010 a need to designate a Water Resource Caution Area (WRCA) encompassing most of Alachua County including the City of Gainesville. As a result, SRWMD and SJRWMD engaged in a collaborative public process to jointly develop the North Florida Regional Water Supply Plan, which was adopted by the respective Districts’ Governing Boards on January 17, 2017. Therefore, local governments within the North Florida Regional Water Supply Plan (NFRWSP) area are required to amend their comprehensive plans to adopt a Work Plan by July 17, 2018.

GRU is responsible for ensuring that sufficient capacity is available to meet the water demand of existing and future customers within its service area. The Work Plan will reference the initiatives already identified to ensure adequate water supply for the City of Gainesville and the areas in unincorporated Alachua County located within the Urban Cluster that are served by GRU. The Work Plan and the respective comprehensive plans 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.

The Work Plan is divided into five sections:

Section 1 – Introduction

Section 2 – Background Information

Section 3 – Data and Analysis

Section 4 – Selected NFRWSP Projects/Capital Improvement Plan

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

Alachua County and the City of Gainesville have considered the following statutory provisions during the creation of the Joint Water Supply Facilities Work Plan (Work Plan):

1. The Legislature enacted bills in 2002, 2004, and 2005 to address the State's water supply needs. These bills, especially Senate Bills 360 and 444 (2005), created a statutory link between the Regional Water Supply Plans (RWSP) prepared by water management districts (WMDs) and comprehensive plans prepared by local governments. Thereby, the Legislature established a coordinated planning process between local level land use planning and WMD's regional water supply planning by necessitating the incorporation of enhanced water supply planning requirements into local government comprehensive plans.
2. Local governments must address in their comprehensive plan the water supply sources necessary to meet and achieve existing and projected water use demand for the comprehensive plan's established planning period, considering the applicable RWSP.
3. Local governments subject to a WMD's regional water supply planning area (and WRCA) must adopt a water supply facilities work plan (WSFWP) and related comprehensive plan amendment. [Section 163.3177(6)(c)3, F.S.]
4. WSFWP-related comprehensive plan amendments should identify the local government's program to implement traditional and alternative water supply projects, and reuse and water conservation practices/projects necessary to meet existing and future water demands. [Section 163.3177(6)(c)3, F.S.]
5. In addition, each local government comprehensive plan needs to address or include:
 - a) Coordination of the comprehensive plan with the appropriate WMD's RWSP. [Section 163.3177(6)(h), F.S.]
 - b) Water supply and facility concurrency. [Section 163.3180(2), F.S.]
 - c) An update of the Conservation Element to identify the current and projected water needs and sources for a minimum 10-year period. [Section 163.3177(6)(d), F.S.]
 - d) A 5-year Schedule of Capital Improvements that includes water supply development components, if needed. [Section 163.3177(3), F.S.]
6. Also, the Future Land Use Map and related policies must be based on appropriate data and analysis to demonstrate the availability of water supplies and water supply facilities necessary to accommodate the water use demand. [Section 163.3177(6)(a)2.d, F.S.]

2.0 BACKGROUND INFORMATION

Alachua County is located in North Central Florida and covers an area of 977 square miles. It is located 85 miles south of the Georgia state line, 50 miles from the Gulf of Mexico, and 67 miles from the Atlantic Ocean. Alachua County is comprised of the unincorporated portion of the County, and the nine municipalities of Archer, Alachua, Gainesville (county seat), Hawthorne, High Springs, LaCrosse, Micanopy, Newberry, and Waldo. Founded in 1824, Alachua County today is home to over 250,000 people, with an estimated 100,000 people living in the unincorporated area.

The City of Gainesville is the county seat and largest city in Alachua County and has about fifty percent of the population of the County. It is home to the University of Florida, the ninth largest university in the nation. The City of Gainesville was founded along the Cross-Florida Railroad and incorporated on April 14, 1869. Surrounded mostly by unincorporated Alachua County, the City has grown both in size and population, encompassing about 62 sq. miles of land.

The City of Gainesville, through Gainesville Regional Utilities (GRU), supplies water to most of the City and the portion of the unincorporated County located within the Urban Cluster. The City of Gainesville and Alachua County are located within both the St. Johns River Water Management District (SRJWMD) and the Suwannee River Water Management District (SRWMD).

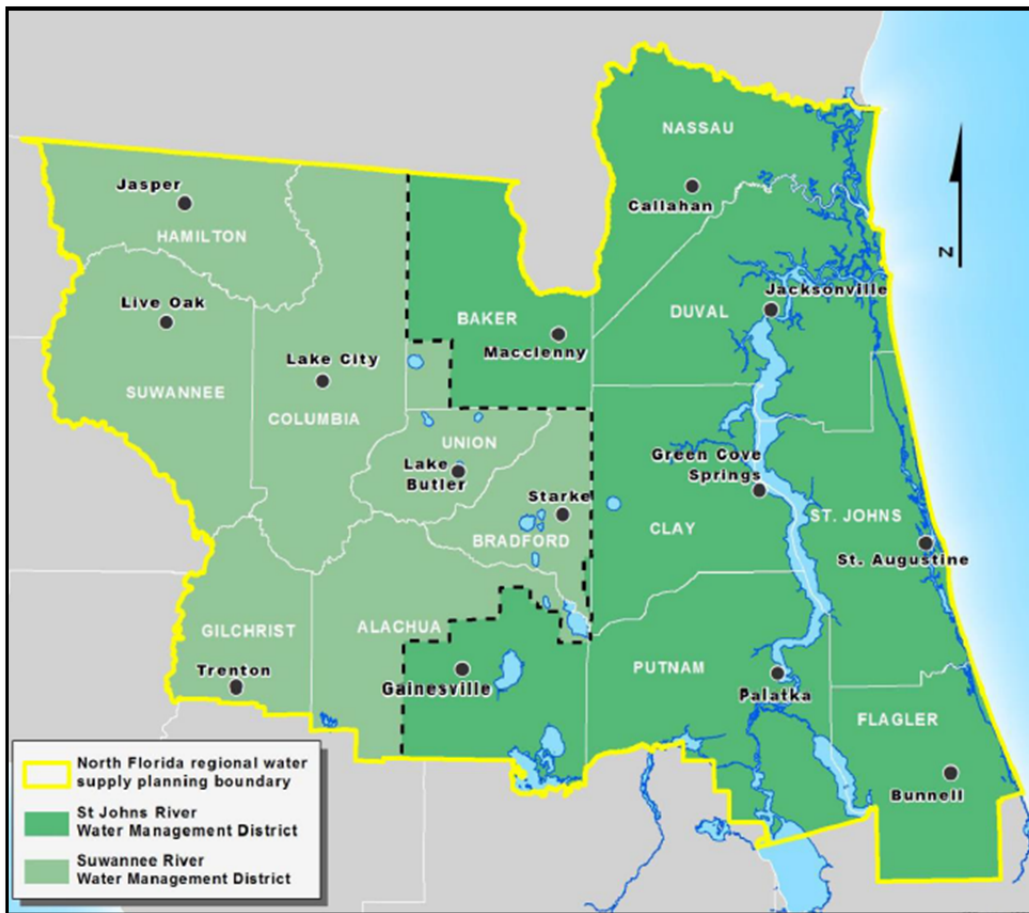
2.1 The North Florida Regional Water Supply Plan (NFRWSP)

The North Florida Regional Water Supply Plan (NFRWSP) is a result of collaboration between Suwannee River and St. Johns River Water Management Districts, the Florida Department of Environmental Protection (FDEP), local governments, public supply utilities, agriculture, industry, commercial business, environmental advocates, and other stakeholders. The goal of the NFRWSP is to project future water needs and water supply sources, identify and evaluate potential impacts to water resources, and develop projects that can be undertaken in order to avoid unacceptable impacts to water resources. The plan has been created to:

1. Identify projected water demands for all use types through the planning horizon;
2. Identify the water resource impacts that could occur as a result of meeting the projected increase in water demand with traditional sources; and
3. Identify technically and economically feasible water resource and water supply development project options that can be implemented to meet future water demands and avoid unacceptable water resource impacts.

The NFRWSP covers a 20-year planning period and is based on the best data available at the time of the plan development. Figure 1 shows the area included in the NFRWSP.

FIGURE 1– NORTH FLORIDA REGIONAL WATER SUPPLY PLANNING AREA



(Source: NFRWSP 2017)

2.2 Relevant Regional Issues

This section discusses the overarching regional issues impacting water supply planning at the local level. The NFRWSP projected that water demands over the planning region will increase by 117 million gallons per day (mgd) by 2035. Potential natural resource impacts that were evaluated included saltwater intrusion into groundwater supplies, impacts to surface water flows and levels, and impacts to wetland hydrology. Impacts to surface waters were evaluated based on minimum flows and levels (MFLs) for surface waters, which define the minimum flow regime necessary to avoid unacceptable ecological or aesthetic impacts.

The conclusions from the NFRWSP are summarized below:

- Fresh groundwater alone cannot meet projected 2035 water demands for the region without causing unacceptable impacts to water resources
- Water conservation and water reuse will be key in meeting future water demands
- Alternative water supply sources will be necessary to sustainably meet future demand
- Water supply and water resource development projects were identified that are sufficient to meet water supply needs while protecting natural resources. The project options included in the NFRWSP will guide water users and suppliers in their efforts to meet the projected demand while protecting our natural resources.

The NFRWSP has noted that uncertainties associated with climate change can further complicate the challenge of how to meet future water supply demands while avoiding unacceptable water resource impacts. Practices that are implemented to address water resource constraints can also mitigate the impacts of climate change. These include decreasing groundwater demand, improving efficiency and reducing losses, improving infrastructure capacity and flexibility, and diversifying water supply sources.

The NFRWSP concludes that water conservation efforts could potentially reduce the projected 2035 water demand by as much 54 mgd. This represents 46 percent of the projected 117 mgd increase in demand over the 20-year planning horizon and demonstrates the districts' and stakeholders' commitment to water conservation.

In addition to water conservation, the plan identifies an additional 160 mgd of potential project options to guide water users and suppliers in their efforts to meet the projected demand while protecting our natural resources. Project options range from aquifer recharge using reclaimed water or storm water to expansion of reclaimed water systems, rehydration of wetlands, and water reuse. Both water management districts are committed to working with local governments to share costs to help implement these beneficial projects.

3.0 DATA AND ANALYSIS

GRU provides water and wastewater service within the Gainesville city limits and the portion of unincorporated Alachua County that is within the Urban Cluster (see Figure 2). This section describes projected population growth, associated water demand and level of service (LOS) standards in the City of Gainesville and the unincorporated Alachua County portions of GRU's water service area. It will address the nature and extent of GRU's supply services and strategies.

3.1 Population Growth

Population within Alachua County and the City of Gainesville is projected to grow steadily over the next decade. Population projections for the County in Table 1 are based on the "Medium" population projections published by University of Florida Bureau of Economic and Business Research (BEBR), which are consistent with Florida Statutes requirements for comprehensive planning. City of Gainesville and unincorporated area projections have been calculated based on maintaining a constant (2016) share of the total County population over the planning period, as provided in Section 163.3177(6)(a), F.S. The 2016 City of Gainesville share of the County population is approximately 50.0% and the unincorporated share of the County population is approximately 39.8%.

TABLE 1 – CITY AND COUNTY POPULATION ESTIMATES AND PROJECTIONS

	2016 Population Estimate	2025 Population Projection	2030 Population Projection	2035 Population Projection	2040 Population Projection
Alachua County Population	257,062	275,200	283,100	290,300	296,700
City of Gainesville Population	128,612	137,600	141,550	145,150	148,350
Unincorporated Population*	102,298	109,530	112,674	115,539	118,087

Source: University of Florida Bureau of Economic and Business Research (BEBR), "Florida Estimates of Population 2016", "Projections of Florida Population by County, 2020–2045, with Estimates for 2016".

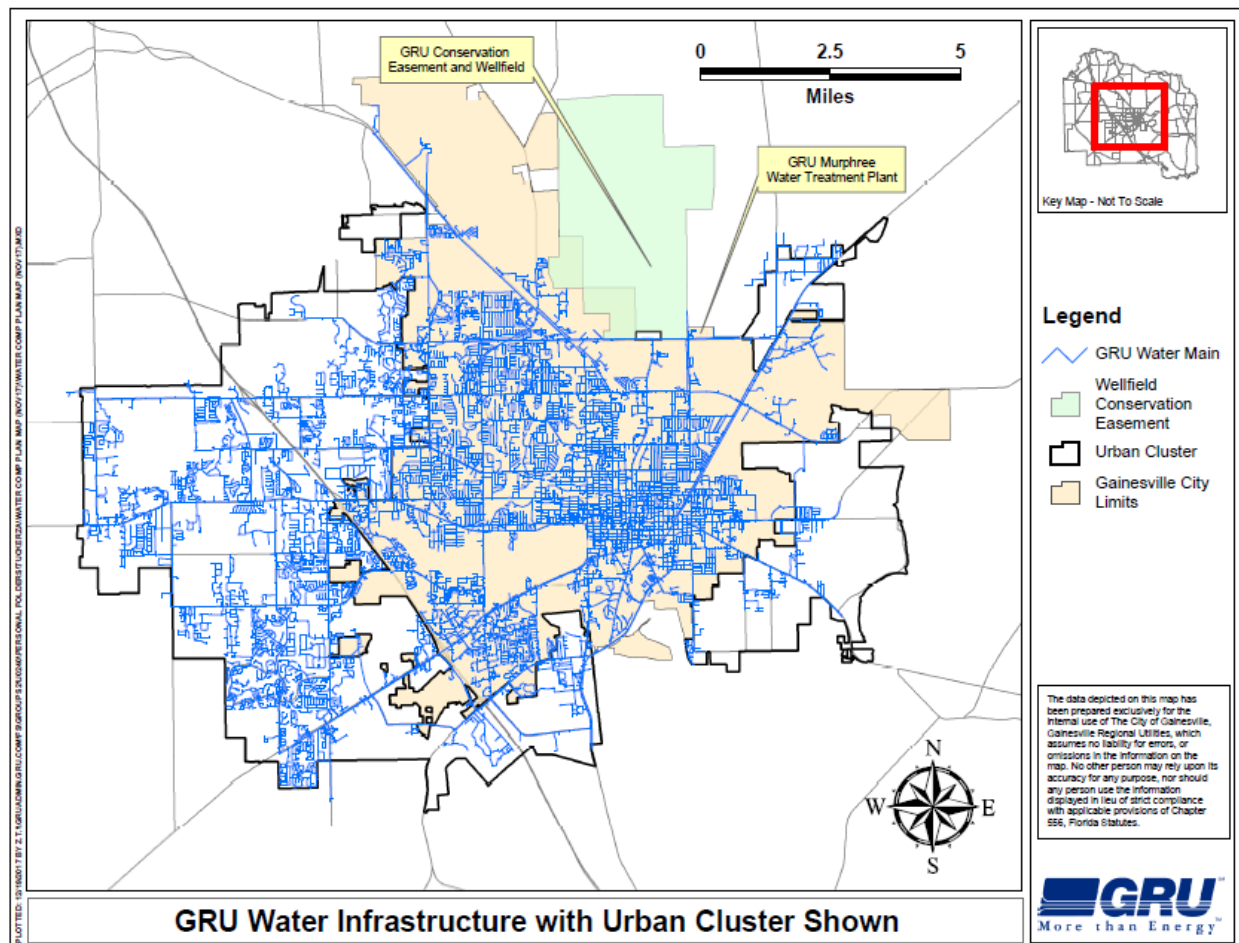
* The Alachua County Department of Growth Management projects that 90% of the population increase in the unincorporated County during 2016-2040 will occur in the Urban Cluster, based on recent development trends and policy. These projections are generally consistent with the population projections provided by GRU in Table 2 for the Urban Cluster and are below the Water Treatment Plant capacity and Consumptive Use Permit allocation to GRU through the 2034 expiration date.

3.2 Potable Water Supplies

Gainesville Regional Utilities (GRU) provides water and wastewater services to the majority of residents within the Gainesville city limits. It also provides service to the portion of unincorporated Alachua County located within the Urban Cluster adopted in the Alachua County Comprehensive Plan. Pursuant to the policies in both the Alachua County and City of Gainesville Comprehensive Plans, centralized potable water and wastewater facilities cannot be extended outside the Urban Cluster, with limited exceptions subject to approval by the Alachua County Board of County Commissioners. Alachua County Comprehensive Plan Potable Water and Sanitary Sewer Element Objective 3.1 and Policy 3.1.1 provide for the coordination of potable water and sewer facilities in the unincorporated area and establish the Urban Cluster as the area where central potable water and sanitary sewer shall be provided. City of Gainesville Comprehensive Plan Potable and Wastewater Element Objective 1.3 and Policy 1.3.1

require coordination of the extension of potable water and wastewater services outside of city limits in accordance with County Comprehensive Plan Policies.

FIGURE 2 – GRU SERVICE AREA AND URBAN CLUSTER



3.3 Potable Water Levels of Service Standard (LOS)

The City of Gainesville’s comprehensive plan has established LOS standards for potable water supply in Policy 1.1.1 of the Potable Water and Wastewater Element. The current comprehensive plan has established a maximum daily design flow LOS of 200 gallons per capita per day and an average daily flow of 147 gallons per capita per day. However, based on more up-to-date data, this LOS is being revised to an average daily flow of 124.5 gallons per capita per day. These values are based on current gross per capita usage. Gross per capita is calculated by dividing the system’s total water demand (including demand from all customers including residential, commercial, industrial, institutional, etc.) by the residential population.

3.4 Population Projections within GRU Service Area

The estimates and projections of population in the GRU service area, and the potable water demand projections through 2034 are presented below in Table 2. BEBR medium countywide population projections (BEBR Bulletin 174 published June 2016) were used as the basis for the population projections. GRU projects future service area population based on the countywide population projections and the historical relationship between countywide population and number of GRU

customers. The water demands are for total withdrawal from the aquifer. These projections include demands from UF and a small portion of the City of Alachua. These projections include the impacts of conservation and reuse practices to reduce potable water demand.

TABLE 2 – GRU POPULATION AND WATER DEMAND PROJECTIONS

	2016	2018	2023	2028	2034
Total Population Served ¹	193,600	198,500	210,200	221,000	232,800
Estimated pop inside City of Gainesville ²	117,792	120,774	127,892	134,463	141,643
Estimated pop in unincorporated Urban Cluster ²	75,808	77,726	82,308	86,537	91,157
Avg Gross per capita demand (gpcd) ³	115.2	124.5	124.5	124.5	124.5
Total Avg Daily Flow (ADF) (mgd)⁴	22.3	24.7	26.2	27.5	29.0
UF Demand (mgd) ⁵	2.8	2.8	2.8	2.8	2.8
City of Alachua Demand (mgd) ⁵	0.0010	0.0010	0.0010	0.0010	0.0010
Estimated Demand offset due to reuse ⁶	1.2	1.3	1.6	1.8	1.9
Estimated Demand offset due to additional conservation ⁶	0.1	0.2	0.3	0.4	0.6
Water Treatment Plant ADF Capacity (mgd)⁷	30	30	30	30	30
Surplus Treatment ADF Capacity (mgd)	7.7	5.3	3.8	2.5	1.0
Permitted Amount (mgd)⁸	30	30	30	30	30
Permitted Surplus (mgd)	7.7	5.3	3.8	2.5	1.0

Notes:

¹ Estimated residential population served by GRU water system. Does not include UF on-campus residents which number approximately 8,500 people.

² Population served inside city vs. in unincorporated Urban Cluster (outside of Gainesville city limits) estimated based on percentage of GRU customer connections inside city vs. in unincorporated Urban Cluster in 2017. In 2017 60.8% of connections were inside the city limits, with the remainder in the unincorporated Urban Cluster.

³ Total water demand divided by residential population. 2016 value is actual. Projected years based on 1 in 10 year drought conditions.

⁴ Total projected average daily withdrawal. Includes offset of total demand due to conservation and reuse.

ADF value for 2016 is actual. Projections for 2018 and beyond based on 1 in 10 drought conditions.

⁵ Estimated portion of total flow that goes to UF and to small portion of City of Alachua.

⁶ Estimated demand offset due to reuse and additional conservation beyond current conservation efforts. Note that Total ADF already accounts for these offsets.

⁷ Murphree Water Treatment Plant is permitted at 54 mgd peak day flow. Based on historical peak to average flow ratios, this results in an equivalent average daily flow of 30 mgd.

⁸ Permitted Annual Average flow per GRU Consumptive Use Permit which expires in 2034.

3.5 Water Supply and Potable Water Demand within GRU Service Area

Water is pumped from the GRU Murphree Wellfield and treated at the Murphree Water Treatment Plant (MWTP) before being distributed to GRU's customers. The system has a Consumptive Use Permit (CUP) (# 11339-6) from St. Johns River Water Management District (SJRWMD) which allows withdrawals of up to 30 million gallons per day (mgd) on an annual average basis. The CUP is a 20-year permit which was received in 2014 and expires in 2034. Based on the projections presented in Table 2 above, the permitted allocation is expected to be adequate through the permit period.

As shown in Table 2, projected demands are below the 30 mgd CUP limit in the 10-year planning horizon. Based on current trends the annual average daily flow (ADF) is not expected to reach the current 30 mgd CUP allocation until after the 2034 CUP expiration. These projections generally align with the NFRWSP projections which project an ADF of 28.66 mgd in 2035 under 1-in-10-year -drought conditions.

3.6 Water Supply Agreements

GRU has water supply agreements with the University of Florida and the City of Alachua. GRU is the water supplier for the portion of unincorporated Alachua County located within the Urban Cluster. The County Comprehensive Plan limits extensions of potable water and sewer facilities beyond the Urban Cluster except as provided in Potable Water and Sanitary Sewer Element Policy 3.1.5 (in Appendix A). Objective 1.3 and Policy 1.3.1 of the Potable Water and Wastewater Element of the City of Gainesville Comprehensive Plan require extension of potable water beyond City boundaries to be consistent with the Alachua County Comprehensive Plan.

3.6.1 GRU/UF Water Supply Agreement

The University of Florida (UF) gets all of its potable water from GRU via a bulk water service agreement between GRU and UF. The current agreement was executed in 2009. UF owns and operates its own potable water distribution system that serves the main campus. The UF on-campus potable water system is connected to GRU's water transmission system.

3.6.2 GRU/City of Alachua Water Supply Agreement

GRU provides bulk water service to the City of Alachua at two locations. One location consists of a car wash. The other location serves two residential subdivisions with a total of approximately 59 homes. The agreement was executed in 1986. The population served and amount of water provided to the City of Alachua is very small relative to GRU's overall service population and is not expected to increase over time.

3.7 Water Supply Provided by Other Entities

GRU provides water supply services to all residents within the Gainesville city limits, with the exception of residents who rely on wells or residential self-suppliers. No other entity supplies water within the City of Gainesville. In unincorporated Alachua County, approximately 3,600 residents are supplied with water from non-municipal water suppliers, as displayed in Table 3. Four of these locations are within the Alachua County Urban Cluster and four are in the rural area outside of the Urban Cluster. There are also municipal water supply systems that serve portions of the other municipalities within the County except for the Town of LaCrosse.

TABLE 3 - WATER SUPPLY BY OTHER ENTITIES WITHIN THE UNINCORPORATED COUNTY

Name and Location	Primary Service Area	Population	Capacity(GPD)
Inside Urban Cluster			
Arredondo Estates	Subdivision	738	290,000
Kincaid Hills	Subdivision	800	236,400
Palms of Archer	Mobile Home Park	1,092	290,000
Westgate Manor Mobile Home Park	Mobile Home Park	300	73,341
Outside Urban Cluster			
Cross Creek Mobile Home Park	Mobile Home Park	156	86,000
Lake Alto Estates Mobile Home Park	Subdivision	325	70,000
Lochloosa Harbor RV Park	RV Park	25	9,407
Santa Fe Hills*	Subdivision	200	110,400

* Santa Fe Hills is operated under receivership by Alachua County. The County is evaluating options to improve the system and connect it to a municipal water source. Estimated cost is approximately \$500,000.

3.8 Water Conservation

The NFRWSP has identified the potential of water conservation to significantly reduce projected water demand within the region. The City of Gainesville/GRU and Alachua County also support water conservation as a way to reduce total groundwater pumping and water use throughout the City and County. Conservation efforts have already significantly reduced water demands. GRU's residential per capita water demands have decreased by approximately 32% since 2007. Overall water demand decreased from 27.7 mgd in 2007 to 22.3 mgd in 2016. The primary focus of the County and City is to reduce public supply and domestic self-supply water use, as these are sectors in which local government can have the most positive influence. Both the City and County comprehensive plans include objectives and policies addressing water conservation actions, programs, regulations, and opportunities (See Appendices A and B). These programs aim at public education, reducing irrigation water use, and promoting water-efficient development. Some of the programs have been implemented through collaboration between the County, municipalities and the water management districts.

3.8.1 City of Gainesville/GRU Specific Actions, Programs, or Opportunities

Objective 1.5 and associated Policies 1.5.1 through 1.5.9 of the Potable and Wastewater element and Conservation Element Objective 2.3 and associated Policies in the City of Gainesville Comprehensive Plan provides programs and methods to encourage water conservation (See Appendix B). These policies implement the City/GRU's conservation measures and programs, and apply to its customers both within the city and in the unincorporated service area within the Urban Cluster of the County. Specific conservation methods and programs implemented in the City of Gainesville are listed below.

Water Conservation-Based Rate Structure

GRU has a conservation-based water rate structure, which includes an increasing rate with increasing use, as a means of reducing demand.

Use of Florida-Friendly Landscape Principles

The City of Gainesville's Land Development Code provides recommended use of Florida-friendly landscaping materials

Requirement of Low Volume Plumbing in New Construction

The City requires the use of low-volume plumbing devices in new construction, consistent with applicable building codes.

Water Loss Reduction

GRU closely monitors water use in order to minimize water loss from unaccounted sources through its Water Loss Reduction Program.

Water User Review

GRU monitors water use of all customers. GRU contacts the top 50 water users (residential and commercial), reviews their water use with them, and assists them as appropriate in identifying the problem. Often times this leads to a water audit as described above.

Water and Energy Audits

GRU performs water and energy audits at homes, businesses, etc. at customers' request. Florida Water Star certified professionals are available to advice customers on water conservation measures.

Commercial Kitchen Spray Nozzle Retrofit

GRU provides 0.65 gallons per minute (gpm) kitchen spray nozzles to commercial kitchens to replace

higher flow models.

Annual review of large accounts

GRU large account representatives review water use patterns and discuss ways to reduce water use with customers. That helps ensure that customers are on the correct rate structure and are aware of how much they use.

Public Education and Information Program

- i. The City/GRU provides public education through speaking at various events, setting up information booths at events, speaking at public schools and providing water conservation educational materials to schools.
- ii. The City also offers free water conservation information as part of at least one utility billing statement per year.
- iii. The City continues to work with Alachua County and the water management districts to develop a model ordinance or plan to better regulate private irrigation wells.
- iv. In addition, City of Gainesville continues to support and expand existing goals, objectives and policies in the comprehensive plan promoting water conservation in a cost-effective and environmentally sensitive manner.
- v. The City will continue to actively support the SJRWMD and the SRWMD in the implementation of new regulations or programs designed to conserve water during the dry season.

3.8.2 Alachua County Specific Actions, Programs, or Opportunities

The Alachua County Comprehensive Plan provides the framework for implementing a variety of water conservation efforts. These Objectives and Policies include:

- Conservation and Open Space Element Objective 8.1 and related Policies 8.1-8.1.7
- Potable Water and Sanitary Sewer Element Objective 2.2 and related Policies 2.2.2 and 2.2.5 (see Appendix A)

Additional water conservation measures are implemented by:

- a. Land Development Regulations
Alachua County's Land Development Code promotes water conservation in new developments in multiple sections.
- b. Requirement of Low-Volume Plumbing in New Construction
The County requires the use of low-volume plumbing devices in new construction, consistent with applicable building codes.

Specific conservation methods and programs implemented in Alachua County are listed below.

Landscape Irrigation Restrictions and Water Shortage Regulations (Alachua County Code of Ordinances Chapter 79, Article I and Chapter 80)

Alachua County Environmental Protection Department (ACEPD) has actively enforced landscape irrigation restrictions since 2010. The program includes responding to complaints and conducting proactive irrigation inspections in higher water use areas, including within the City of Gainesville.

Landscape Irrigation Design Code (Alachua County Code of Ordinances Chapter 79, Article II)

In 2015 the Alachua County Board of County Commissioners adopted Landscape Irrigation Design and Maintenance Standards for new irrigation systems. The irrigation design code currently applies standards, fees, and limitations on the use of irrigation within unincorporated Alachua County. The

County encourages municipalities to opt into the code to authorize Alachua County to implement the standards within their municipal boundaries.

Irrigation Tune-Ups

ACEPD has applied for funding from SRWMD to offer 150-200 irrigation tune-ups to property owners. Tune-ups will include properly setting irrigation timers, identifying leaks and misaligned heads, checking rainfall shut off devices, flagging irrigation heads that can be capped, and general water conservation tips.

Turf SWAP (Save Water, Add Plants) Landscaping Rebate Program

Through funds from the SJRWMD, SRWMD, and FDEP, the County is offering 50% rebates up to \$2,000 to property owners throughout the County that replace portions of irrigated turf with Florida Friendly Landscaping. The current grant funded project began in April 2017 and will end in January 2019.

Florida Water Star Rebate Program

The voluntary Florida Water Star Certification Program has been actively promoted in Alachua County since 2012. Through funds from the SJRWMD, SRWMD, and FDEP the county is offering \$700 rebates to builders for each site that receives certification April 2017 through January 2019.

Leading by Example

Alachua County has committed to leading by example when it comes to water conservation and landscaping choices. The Board of County Commissioners directed staff to turn off all permanent irrigation systems on County-maintained property, excluding ballfields.

Public Education Programming

- i. ACEPD staff conducts water conservation programming in local schools, at public events, and at civic programs. Programs often include interactive displays, models, handouts, and promotional materials (low flow sink aerators, shower timers, etc.) to assist with reducing water use.
- ii. General Water Conservation Efforts- ACEPD uses paid media outlets such as radio, television, and Facebook advertisements to encourage water conserving behaviors. Staff also utilizes free media outlets such as libraries, PSAs, and partnerships with various organizations to promote water conservation, and maintains an extensive website.

3.9 Water 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 that "reuse is a critical component of meeting the State's existing and future water supply needs while sustaining natural systems."

Reuse of reclaimed water is a common strategy to assist with managing water supplies. Alachua County and the City of Gainesville recognize that the best uses of reclaimed water are for industrial uses that offset potable demand and for recharging the aquifer following additional treatment, such as that provided by aquifer recharge wells and infiltrating wetlands. The Sweetwater Wetlands project utilizes reclaimed water for environmental restoration and aquifer recharge. Reclaimed water may also be used for landscape irrigation purposes in place of GRU potable water or well water in areas

with high landscape irrigation demand. However, the City and County recognize the need to minimize landscape irrigation demands regardless of the source of irrigation water. As landscapes become less water intensive due to conservation measures and changes in development patterns, extension of reclaimed water systems for landscape irrigation becomes less of a priority. In addition, if improperly managed, the use of reclaimed water for landscape irrigation has the potential to contribute to some of the water quality issues identified in the Orange Creek and Santa Fe River Basin Management Actions Plans.

3.9.1 GRU Water Reuse System

The Potable and Waste Water Element of both the Alachua County and the City of Gainesville comprehensive plans support the reclamation and reuse of water. Policy 1.5.6 of the City of Gainesville Potable Water and Waste Water Element of the Comprehensive Plan requires the use of reclaimed water in reclaimed water service areas. 100% of the wastewater received at GRU's water reclamation facilities is treated and beneficially reused for aquifer recharge, environmental restoration, irrigation, and industrial cooling. Figure 3 shows GRU's reuse system. Figures 4 and 5 provide more detailed views of GRU's reuse facilities extending from the Kanapaha Water Reclamation Facility (KWRF) and Main Street Water Reclamation Facility (MSWRF). Current and future anticipated reuse capacities and flows are summarized in Table 4 and in the section below.

TABLE 4 – GRU PROJECTED RECLAIMED WATER FLOWS

Reuse Type	2018	2028
Total Water Reuse Amount (mgd)¹	16.6	18.8
Groundwater Recharge Wetlands (mgd) ²	2.00	2.5 - 3
Sweetwater Wetlands Park (mgd) ³	6.4	7.0
Potable Offset Irrigation/cooling (mgd) ⁴	1.3	1.5 - 1.9
Kanapaha Recharge Wells (mgd) ⁵	6.9	6.9 - 7.8

¹ Total estimated flow from water reclamation facilities. All of GRU effluent is reused.

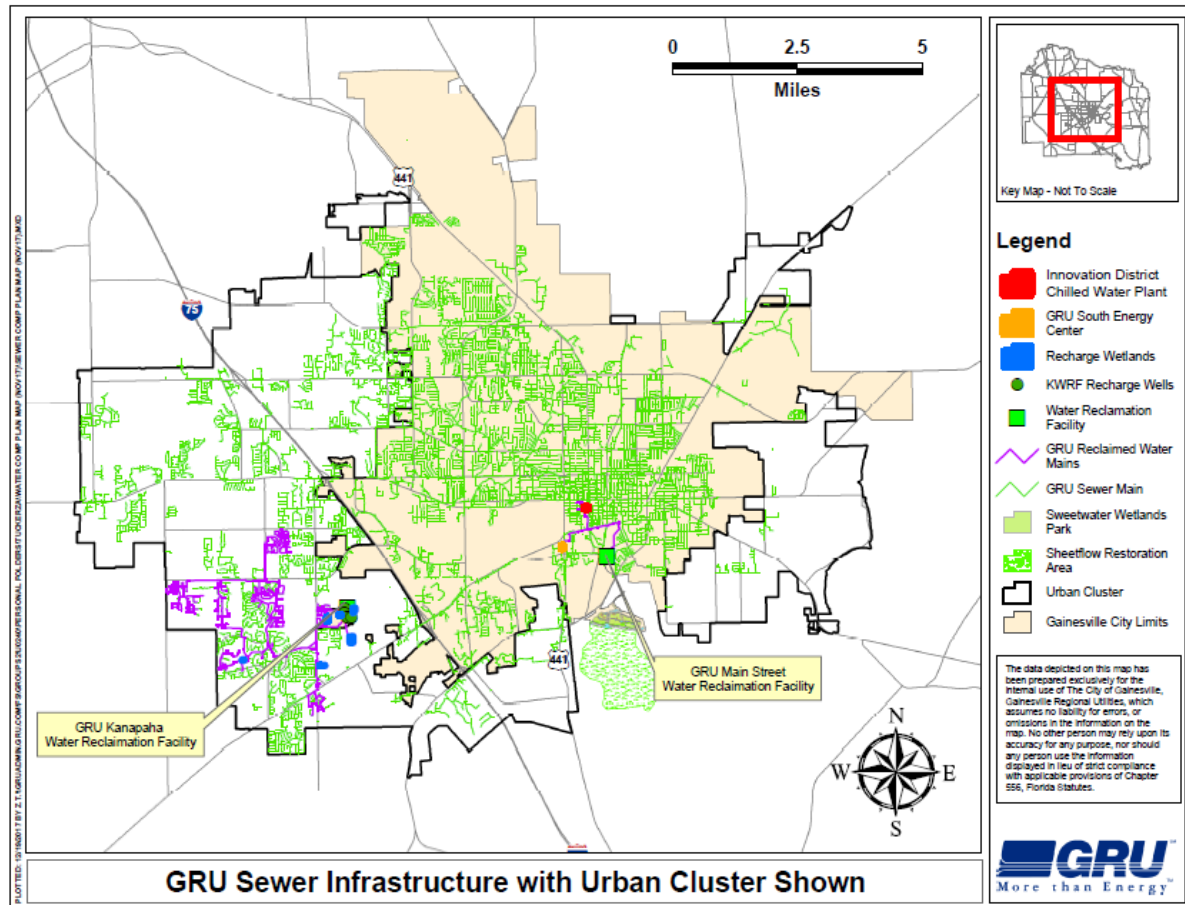
² Flow to GRU groundwater recharge wells and water features.

³ Flow to Sweetwater Wetlands which restores wetlands on Paynes Prairie.

⁴ Includes reclaimed water used for industrial cooling and irrigation in place of groundwater.

⁵ Estimated flow to Kanapaha recharge wells. Permitted capacity 10 mgd.

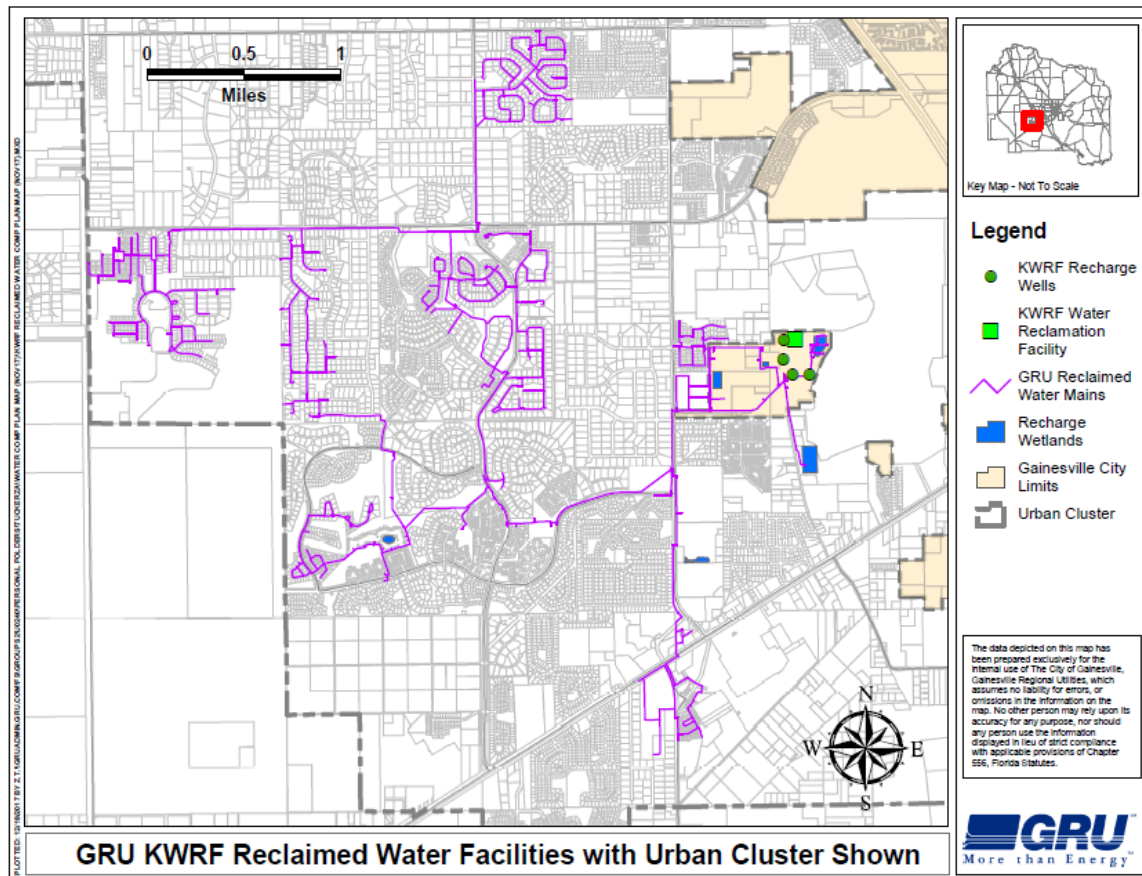
FIGURE 3 – GRU WASTEWATER COLLECTION AND RECLAIMED WATER SYSTEMS



Aquifer Recharge

GRU operates four (4) aquifer recharge wells located at KWRF which discharge reclaimed water treated to drinking water standards to the Lower Floridan Aquifer. This recharge supports groundwater levels in the Lower and Upper Floridan Aquifer and regional surface waters. In addition, GRU operates several groundwater recharge wetlands (shown in Figure 4) which remove nutrients from reclaimed water and recharge the Floridan Aquifer. The most recent recharge wetland was completed at Kanapaha Middle School. This project includes a wetland which receives and treats both reclaimed water and stormwater runoff and recharges the Floridan Aquifer. GRU is continuing to add additional wetland recharge projects in conjunction with new development projects that are located near GRU's reclaimed water distribution system.

FIGURE 4 – GRU RECLAIMED WATER FACILITIES SERVED BY KWRF



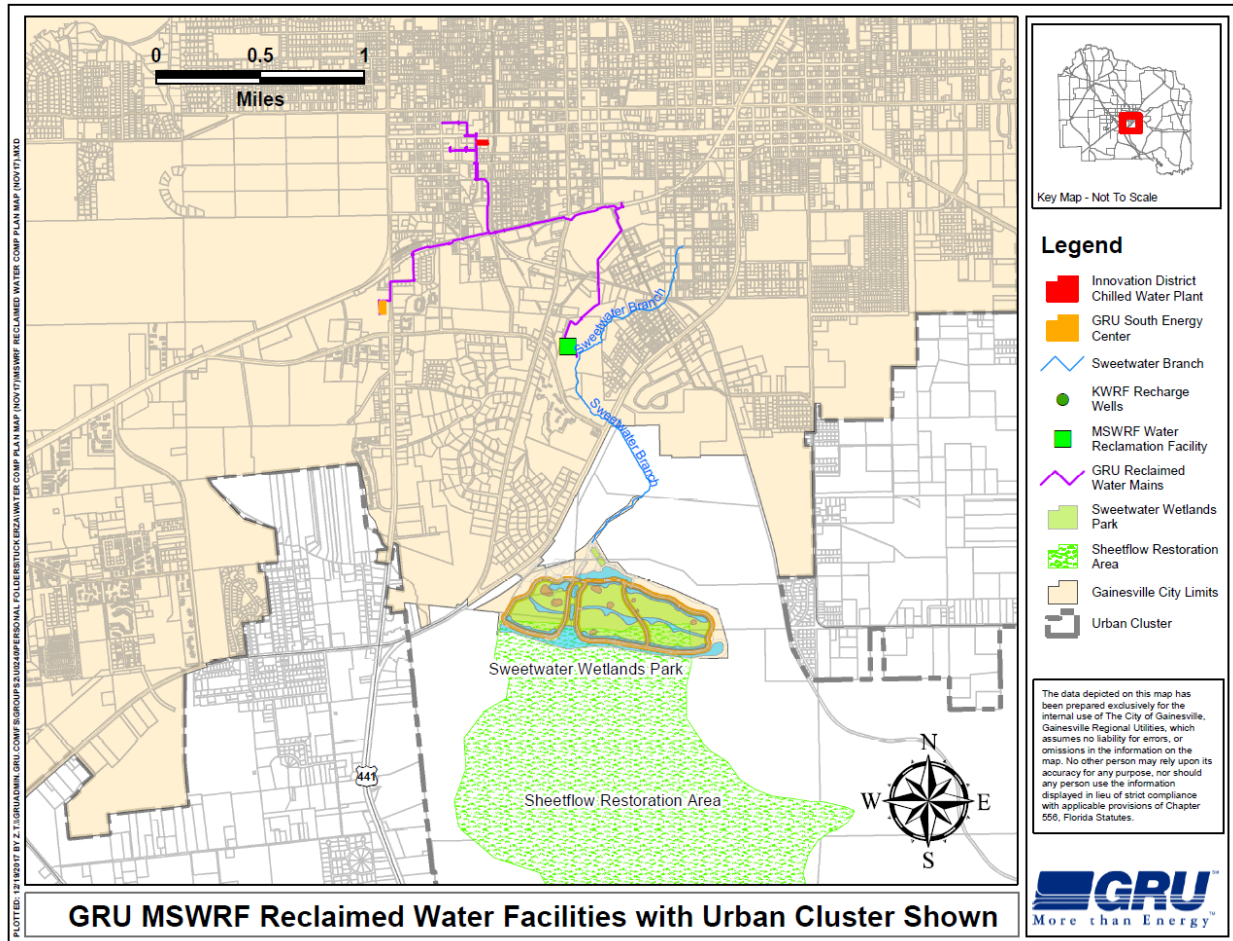
Environmental Restoration

Effluent from the MSWRF flows into Sweetwater Branch which connects to the Sweetwater Wetlands Park. The Sweetwater Wetlands Park (also referred to as the Paynes Prairie Sheetflow Restoration Project) was completed in 2015 to help meet the load reduction goals in the Orange Creek Basin Management Action Plan and achieves the following objectives:

- a. Restores the natural sheetflow pattern of water from Sweetwater Branch onto Paynes Prairie thereby rehydrating 1,300 acres of natural wetlands;
- b. Helps to restore the overall water balance to Paynes Prairie;
- c. Improves water quality in Alachua Sink and meets nutrient reduction regulatory requirements for MSWRF discharge and urban stormwater runoff flowing into Sweetwater Branch;
- d. Removes sediment, trash, and other pollutants in the Sweetwater Branch flow thus protecting the Prairie, Alachua Sink, and the Floridan Aquifer; and
- e. Creates a public nature park.

The project was undertaken jointly by GRU and the City of Gainesville Public Works Department in partnership with Florida Department of Environmental Protection, St. Johns River Water Management District, Alachua County, the Florida Department of Transportation, Florida Fish and Wildlife Conservation Commission, and the United States Environmental Protection Agency (USEPA). The project was designed by Jones Edmunds and Associates and Wetland Solutions, Inc. and constructed by Wharton Smith, Inc.

FIGURE 5 – GRU RECLAIMED WATER FACILITIES SERVED BY MSWRF



Reclaimed Water Distribution for Irrigation and Cooling

The KWRP reclaimed water service area currently includes approximately 1200 customers which are served by the reclaimed water distribution system from KWRP. Reclaimed water is used to offset the use of groundwater for irrigation. In addition to providing reclaimed water service to customers, the distribution system also provides a means to transport reclaimed water from KWRP to groundwater recharge wetlands and other recharge features.

For locations within the city limits, the City requires the use of reclaimed water where available for uses that do not require the use of potable water. Likewise, for unincorporated areas within the urban cluster, Alachua County requires the use of reclaimed water where available for uses that do not require potable water. At this time GRU plans to continue to expand the reclaimed water distribution system for irrigation and construction of recharge wetlands in future phases of the Oakmont and Brytan subdivisions and in other locations depending on proximity to the existing distribution system, offset benefit and overall feasibility.

The reclaimed water distribution system from the MSWRF (Figure 5) provides reclaimed water for irrigation in the Innovation District and at the University of Florida Health facility on SW 13th Street. Reclaimed water is used for industrial cooling at the South Energy Center operated by GRU at the

University of Florida Health facility and to the Innovation District chilled water facility.

3.10 Protection of Water Quality, Supplies, and Sources

The comprehensive plans of both Alachua County and the City of Gainesville demonstrate commitment to the protection of the quality and quantity of current and projected water sources including Wellfields, wetlands, watersheds, surface waters and ground water. Both comprehensive plans emphasize regional coordination in Water Source Protection issues.

City of Gainesville

Conservation, Open Space and Groundwater Recharge Element Objectives 2.2, 2.3, and 2.4, Stormwater Management Element Objective 2.4, and Future Land Use Element Objective 3.1 include water quality standards for development and redevelopment; protection of groundwater recharge areas, surface waters, and wetlands; treatment of stormwater; and restoration of channelized creeks.

Alachua County

Potable Water and Sanitary Sewer Element Objective 7.1 include water quality standards and protection of water supplies and sources.

The City and County have wellfield protection policies and ordinances (see Appendices A and B) which regulate land uses in the designated wellfield protection zones. The GRU wellfield is located within a 7,000 acre conservation easement which helps to prevent development adjacent to the wells.

3.11 Intergovernmental Coordination

Several policies in both the City of Gainesville and Alachua County comprehensive plans require coordination between the City, County, and Water Management Districts on water management issues and initiatives. Additional policies require consistency between local water management programs and the Regional Water Supply Plan.

City of Gainesville

Conservation, Open Space, and Groundwater Recharge Element: Policies 1.1.5, 2.2.5, 2.3.4 and 2.3.5; Intergovernmental Coordination Element: Objective 1.3, Policies 1.3.4, 1.4.1a, 1.5.2, 1.5.4; Potable Water and Wastewater Element: Policy 1.1.4 provide enabling language for coordination between the City, the County, Water Management Districts and other regional organizations on water issues.

Alachua County

- The Future Land Use Element Objective 7.1 and Potable Water and Sanitary Sewer Element Objectives 1.1 and 3.1 address coordination with water suppliers, the relationship of the GRU Service Area to the unincorporated Urban Cluster, criteria for extension of service lines.
- Potable Water and Sanitary Sewer Element Objectives 1.1, 4.1, and 7.1 address coordination with water suppliers to ensure water capacity concurrent with development, level of service standards for potable water, monitoring potable water system for development impacts, water quality standards, protection of water supplies and sources.
- The Potable Water and Sanitary Sewer Element Objectives 1.1, 2.1, and 3.1, Capital Improvements Element Objective 1.2, and Intergovernmental Coordination Element

Objective 6.1 address water supply systems provided by other entities to the unincorporated area and requirements for permitting, expansion, timing, staging, capacity, responsibility, level of service, and concurrency management.

3.12 Water Supply and Water Supply Facilities Concurrency

The City of Gainesville and Alachua County have policies in their comprehensive plans that ensure concurrency between water supply and facilities capacities, and new development. Examples of specific policies in the Potable Water and Wastewater element of the City of Gainesville comprehensive plan include policies 1.1.7 and 1.3.3. Additionally the Future Land Use Element provides policies which implement the use of a concurrency management system to maintain adopted LOS standards. These include policies 3.4.1 and 3.4.2.

City of Gainesville

Capital Improvements Element Objectives 1.1, 1.2, 1.3, and 1.6 require concurrency for potable water, and address provision and cost. Potable Water and Wastewater Element Goal 1 and Objective 1.1 specify level of service standards.

Alachua County

Potable Water and Sanitary Sewer Element includes policies addressing coordination with water suppliers to ensure water capacity concurrent with development, level of service standards for potable water, monitoring potable water system for development impacts. Coordination of Level of Service Standards with land use decisions and the Concurrency Management System are included in the Capital Improvements Element.

4.0 SELECTED NFRWSP PROJECTS/CAPITAL IMPROVEMENT PLAN

This section provides a brief description of the projects selected out of the NFRWSP project options list (NFRWSP, Appendices J, K, and L) and proposed to be undertaken by the City of Gainesville/ GRU. These projects include alternative water supply projects for both water supply development and water resource development. It also includes proposed City and County water conservation projects and programs from the conservation project options list (NFRWSP, Appendix M).

4.1 Alternative Water Supply/Water Conservation Projects

As previously described, projected water demands are expected to be well within permitted capacities and available supply over the 10-year planning period. Selected alternative water supply and water conservation projects proposed to be completed over the 10-year planning period are described in Tables 5 and 6. An estimate of the quantity of water to be produced by each project is indicated under "Project Capacity".

TABLE 5 – CITY OF GAINESVILLE/ALACHUA COUNTY ALTERNATIVE WATER SUPPLY PROJECTS AND CAPITAL IMPROVEMENT PLAN

WMD	Project Name	Implementing Agency or Entity	Project Description	Project Type	Water Source	Project Capacity (mgd)	Total Capital (\$M)	Estimated Annual O&M	Timeframe for Completion
Reuse Projects Included in 5-year Capital Improvements Budget									
SJRWMD	Kanapaha Middle School GW Recharge Wetlands	GRU	Construction of groundwater recharge wetlands at Kanapaha Middle School.	Reuse - Recharge	Reclaimed Water	0.75	\$0.08	\$18,000	2017 Complete
SRWMD	Oakmont Reclaimed Water Main Extension	GRU	This project will include construction of reclaimed water mains for the internal distribution network for construction of the Oakmont Subdivision, Phase 2.	Reuse - Pipeline	Reclaimed Water	0.05	\$0.44	\$1,000	2018
SRWMD	Oakmont Reclaimed Water Main Extension	GRU	This project will include construction of reclaimed water mains for the internal distribution network for construction of the Oakmont Subdivision, Phases 3 and 4.	Reuse - Pipeline	Reclaimed Water	TBD	TBD	TBD	2023
Reuse Projects - Projected 10 Year Completion									
SRWMD	Oakmont Subdivision Reclaimed Water System Expansion	GRU	Expansion of reclaimed water distribution system pipelines in Oakmont subdivision for irrigation reuse and expansion of recharge wetlands. Includes additional transmission and storage/pumping facilities to facilitate addition of groundwater recharge wetlands and/or further expansion of potable offset irrigation.	Reuse - Pipeline	Reclaimed Water	0.40	\$8.40	\$5,600	2028
SRWMD/SJRWMD	Southwest Area Groundwater Recharge Wetlands	GRU	Construction of groundwater recharge wetlands at yet to be defined location in southwest area.	Reuse - Recharge	Reclaimed Water	0.5-1.0	\$1 - \$2	\$30,000	2028
SJRWMD	Brytan Subdivision Reclaimed Water System Expansion	GRU	Expansion of reclaimed water distribution system pipelines in Brytan subdivision to offset use of potable water for irrigation.	Reuse - Pipeline	Reclaimed Water	0.16	\$2.23	\$2,000	2028
Reuse Projects - Beyond 10 Year Completion									
SJRWMD	Innovation District Reclaimed Water System Expansion	GRU	Expansion of reclaimed water distribution system pipelines to offset use of potable water for industrial cooling and irrigation in the Innovation District.	Reuse - Pipeline	Reclaimed Water	0.11	\$1.50	\$1,100	2038
SRWMD and SJRWMD	Reclaimed Water System Expansion into New Neighborhoods	GRU	Expansion of reclaimed water distribution system pipelines to offset use of potable water for irrigation.	Reuse - Pipeline	Reclaimed Water	0.40	\$5.00	\$3,000	2038
SJRWMD or SRWMD	Groundwater Recharge Wetlands	GRU	Construction of groundwater recharge wetlands (location not yet defined).	Reuse - Recharge	Reclaimed Water	1.5-3	\$2 to \$6	\$50,000	2038

TABLE 6 – CITY OF GAINESVILLE/ALACHUA COUNTY CONSERVATION PROJECTS

WMD	Project Name	Implementing Agency or Entity	Project Description	Project Type	Water Source	Project Capacity (mgd)	Total Capital (\$M)	Estimated Annual O&M	Timeframe for Completion
Water Conservation Projects									
SRWMD and SJRWMD	Alachua County Florida Water Star Rebate Program	Alachua County Environmental Protection	This project is to offer rebates to entities that participate in the Florida Water Star program.	Conservation	N/A	0.0190	\$0.21	\$15,000	Ongoing
SJRWMD and SRWMD	Alachua County Landscape Irrigation Retrofit Rebate Program	Alachua County Environmental Protection	This project offers Alachua County residents an opportunity to replace 200-400ft ² of irrigated turf with Florida Friendly Landscape.	Conservation	N/A	0.044	\$0.6	\$10,000	Ongoing
SJRWMD	Water Consumption & Conservation Tracking Tool	GRU/ACEPD/IFAS	GIS based tool being developed to track individual customer water use, conservation measures implemented, and results of conservation measures	Conservation	N/A	0.140	\$0.1	\$5,000	2018
SJRWMD and SRWMD	Indoor Plumbing Retrofit	GRU	Replace existing "high flow" toilets with ultra-low flow toilets. Also replace shower heads and sink aerators with high efficiency units.	Conservation	N/A	0.032	\$0.3	\$7,000	2017
SJRWMD and SRWMD	Large Meter Replacement	GRU	Replace existing large meters with more accurate new meters. Greater accuracy of meter measurement will promote conservation.	Conservation	N/A	0.085	\$0.4	\$100	2018
SJRWMD and SRWMD	GRU Water Conservation Projects	GRU	Implement cost effective projects that may include but are not limited to public education, advanced metering, indoor plumbing retrofit replacement of high flow toilets, shower heads, and sink aerators with efficient units, commercial water efficiency programs, and outdoor irrigation efficiency programs. Estimated water savings of 0.3 to 0.5 mgd.	Conservation	N/A	0.4	\$2.0	\$7,000	2035
SJRWMD and SRWMD	Phase 2-10: Advanced Metering Infrastructure (AMI) and Service Lateral Replacement	GRU	Replace existing meters with smart meters that can help detect leaks on the customers' side of the meter, while also replacing service laterals that are made of polybutylene which are prone to leaking. Estimated water savings of 0.2 to 0.5 mgd.	Conservation	N/A	0.4	\$13.05	\$15,000	2035

5.0 GOALS, OBJECTIVES AND POLICIES

City of Gainesville and Alachua County Comprehensive Plans Goals, Objectives, and Policies (GOPs) have been reviewed for consistency with the Work Plan, which is supported by best available data and analysis. New policies to be adopted and existing policies to be revised to incorporate the Joint Alachua County/ City of Gainesville: 2018-2028 Water Supply Facilities Work Plan are shown below.

5.1 The City of Gainesville and Alachua County Comprehensive Plan Amendments

The City of Gainesville and Alachua County Comprehensive Plans will each be amended to:

- Include a policy adopting the Joint Alachua County/ City of Gainesville Water Facilities Supply Work Plan into the applicable jurisdiction's Comprehensive Plan by reference.
- Amend LOS for potable water/water supply consistent with Joint Alachua County/ City of Gainesville Water Facilities Supply Work Plan
- Include policy language specifying that Alachua County and City of Gainesville/GRU will coordinate the update of the City of Gainesville/Alachua County Water Facilities Supply Work Plan and any corresponding comprehensive plan amendments within 18 months of the Water Management District update of the regional water supply plan.
- Amend and update other policies related to water supply planning.

5.2 City of Gainesville Comprehensive Plan Amendments

New and revised objectives and policies in the City of Gainesville Comprehensive Plan include the following with proposed amendments and revisions in underline and deleted portions in ~~strikethrough~~:

5.2.1 POTABLE WATER & WASTEWATER ELEMENT

Policy 1.1.3 The following LOS standards shall be adopted for water supply:

Average Daily Flow: 147 124.5 gallons per capita per day.

~~**Policy 1.1.4** Within 18 months of the adoption of water supply plans by the St. Johns~~

~~**River Water and Suwannee River Water Management Districts, the City shall amend the Comprehensive Plan to:**~~

~~**a. identify alternative and traditional water supply projects, and conservation and reuse measures that will meet the water needs identified in the water supply plans;**~~

~~b. incorporate a work plan for at least a 10-year planning period for the development of water supply projects that will meet the water needs identified in the water supply plans.~~

Policy 1.1.4 [New Policy] The Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan: 2018-2028 is hereby adopted by reference.

Policy 1.1.5 [New Policy] Within 18 months of adoption of an updated North Florida Regional Water Supply Plan (NFRWSP), the City shall:

- a. Coordinate with the county to update the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan as needed; and
- b. Amend the City of Gainesville Comprehensive Plan as needed.

Objective 1.5 Recognizing the importance of potable water supplies, the City shall encourage water conservation through the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan and the programs and methods listed below:

...

5.2.2 CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

Policy 2.3.12 [New Policy] The City shall implement water conservation, use and protection programs consistent with the Water Management District Plans and the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan.

5.2.3 INTERGOVERNMENTAL COORDINATION ELEMENT

Policy 1.6.2 The City shall maintain water conservation and water supply programs that are consistent with the Water Management Districts' plans.

5.3 Alachua County Comprehensive Plan Amendments

New and revised objectives and policies in the Alachua County Comprehensive Plan include the following with proposed amendments and revisions in underline and deleted portions in ~~strikethrough~~:

5.3.1 POTABLE WATER & SANITARY SEWER ELEMENT

Policy 1.1.1 The following level of service standards for potable water and sanitary sewer service in the unincorporated portion of Alachua County are hereby adopted, and shall be used as the basis for determining the availability of facility capacity, adequate water supply, and the demand generated by a development within the appropriate service area for the providers listed below for purposes of issuing development orders or building permits.

GAINESVILLE REGIONAL UTILITIES (GRU)**Potable Water**

Raw Water Supply:	Average Daily Flow
Treatment Capacity:	Peak Daily Flow
Pumping and Distribution Capacity:	Peak hourly flow
Storage Capacity:	One-half of peak day volume in gallons. This requirement may be met by a combination of storage and auxiliary power.
Minimum Pressure:	The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions.
Fire Demand:	As determined using Insurance Services Organization guidelines
Potable Water:	
Average Day (gross)	147 124.5 gallons per capita per day (including residential and non-residential uses)
Peak Day (gross)	200 gallons per capita per day (including residential and non-residential uses)

...

Municipal Systems-**ALACHUA-**

Potable Water:	124 gallons per capita per day
Sanitary Sewer:	81 gallons per capita per day (Paul O'Dea Plant) 60 gallons per capita per day (Turkey Creek Plant)

ARCHER-

Potable Water:	116 gallons per capita per day
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HAWTHORNE-

Potable Water:	117 gallons per capita per day
Sanitary Sewer:	100 gallons per capita per day

HIGH SPRINGS-

Potable Water:	135 gallons per capita per day
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MICANOPY-

Potable Water:	120 gallons per capita per day
----------------	---

NEWBERRY-

Potable Water:	124 gallons per capita per day
Sanitary Sewer:	120 gallons per capita per day

WALDO-

Potable Water:	89 gallons per capita per day
Sanitary Sewer:	61 gallons per capita per day

...

OBJECTIVE 7.1

Coordinate with relevant agencies and water suppliers to protect the potable water supplies and sources.

Policy 7.1.2 Alachua County shall coordinate with **GRU**, the St. John's River Water Management District (SJRWMD) and/or the Suwannee River Water Management District (SRWMD) in determining and assessing impacts of proposed developments on the County's potable water supplies. These impacts shall be used by the County's Development Review Committee (DRC) in the evaluation of applications for site plan and development plan approval.

(a) Alachua County shall incorporate the results of any studies by the water management districts on projected demands on the sources of potable water for Alachua County, relative to potential supply, as a factor in determining the maximum population the water supply in Alachua County will be able to support.

Policy 7.1.3 Alachua County shall coordinate **proposed amendments to** future land use designations of this plan with **GRU and** incorporated towns and cities and surrounding counties, **as appropriate**, to ensure that sufficient water quantity is available and that its quality is not degraded. In evaluating any proposed amendments to the Future Land Use Element that would provide for more intensive development adjacent to such jurisdictions, the County shall **coordinate with GRU and municipal water suppliers, as appropriate, to** address such impacts and the **demand for and** capacity of such potable water facilities to implement this policy.

Policy 7.1.5 **[New Policy] The Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028 is herein incorporated by reference.**

5.3.2 CONSERVATION AND OPEN SPACE ELEMENT

Policy 4.5.9 In accordance with Florida Statutes for Water Supply Planning, the County shall cooperate with the St. Johns River and Suwannee River Water Management Districts in the evaluation of updates of applicable data and analysis of current and projected water needs for at least a 10-year period; initiate Comprehensive Plan amendments to incorporate appropriate water supply projects, including conservation and reuse projects, identified in regional water supply plans; and coordinate **with** WMD updates of the **regional** water supply plans. **Within 18 months of adoption of an updated North Florida Regional Water Supply Plan (NFRWSP), the County shall update the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan (WSFWP) as needed and any corresponding** County comprehensive plan amendments **as needed** with Gainesville Regional Utilities.

Policy 4.5.12 The County shall cooperate with the Suwannee River Water Management District, the St. Johns River Water Management District, and local governments to **update the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028**, conduct current and future water conservation programs and prepare an emergency water management conservation plan.

5.3.3 INTERGOVERNMENTAL COORDINATION ELEMENT

Policy 2.1.2.1 *[New Policy]* **Alachua County shall continue to review proposed amendments to the Comprehensive Plan for consistency with the North Florida Regional Water Supply Plan and the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028.**

Policy 6.1.1 Alachua County shall coordinate with local governments that supply potable water and/or sanitary sewer services to the unincorporated area to implement **the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028**, level of service standards and concurrency management systems, as provided for in the policies of the Potable Water/Sanitary Sewer Element.

5.3.4 CAPITAL IMPROVEMENTS ELEMENT

Policy 1.2.4 LOS standards for Category "A" and "B" public facilities shall be as follows:

...

- (e) Potable Water and Sewer LOS Standards (based on Potable Water and Sanitary Sewer Element). The following level of service standards for potable water and sanitary sewer service in the unincorporated portion of Alachua County are hereby adopted, and shall be used as the basis for determining the availability of facility capacity, adequate water supply, and the demand generated by a development within the appropriate service area for the providers listed below for purposes of issuing development orders or building permits.

GAINESVILLE REGIONAL UTILITIES (GRU)

Potable Water

Raw Water Supply:	Average Daily Flow
Treatment Capacity:	Daily Flow
Pumping and Distribution Capacity:	Peak hourly flow
Storage capacity:	One-half of peak day volume in gallons. This requirement may be met by a combination of storage and auxiliary power.

Minimum pressure: The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions.

Fire demand: As determined using Insurance Services Organization guidelines

Potable Water:

Average Day (gross) **147 ~~124.5~~** gallons per capita per day (including residential and non-residential uses)

Peak Day (gross): 200 gallons per capita per day (including residential and non-residential uses)

...

Municipal Systems – LOS Requirements

~~ALACHUA~~

~~Potable Water: 124 gallons per capita per day~~

~~Sanitary Sewer: 81 gallons per capita per day (Paul O’Dea Plant)~~

~~60 gallons per capita per day (Turkey Creek Plant)~~

~~ARCHER~~

~~Potable Water: 116 gallons per capita per day~~

~~HAWTHORNE~~

~~Potable Water: 117 gallons per capita per day~~

~~Sanitary Sewer: 100 gallons per capita per day~~

~~HIGH SPRINGS~~

~~Potable Water: 135 gallons per capita per day~~

~~MICANOPY~~

~~Potable Water: 120 gallons per capita per day~~

~~NEWBERRY~~

~~Potable Water: 124 gallons per capita per day~~

~~Sanitary Sewer: 120 gallons per capita per day~~

~~WALDO~~

~~Potable Water: 89 gallons per capita per day~~

~~Sanitary Sewer: 61 gallons per capita per day~~

...

6.0 CONCLUSION

This water supply facilities work plan shows that projected water demand within the GRU service area is within permitted capacities and there is available supply over the 10-year planning period. The City of Gainesville in collaboration with Alachua County will continue to encourage water conservation, and promote water reclamation and reuse. This is to further reduce potable water demand and unacceptable impacts to water resources, consistent with the goals of the NFRWSP.

APPENDIX A

Alachua County Comprehensive Plan Policies Related to Water Supply Components with Proposed Amendments additions are in underline and deletions are in ~~striketrough~~

Water Conservation Programs

POTABLE WATER & SANITARY SEWER ELEMENT

OBJECTIVE 6.1

The County shall encourage wastewater effluent reuse and other incentives for the maximum utilization of reclaimed water to the greatest extent possible by facilitating the approval of environmentally-sound facilities.

OBJECTIVE 8.1

To promote the increased conservation and reuse of water.

- Policy 8.1.1** Alachua County shall promote public information programs in an effort to increase public awareness and acceptance of water conservation techniques through newsletters, public service announcements, and displays at public awareness events.
- Policy 8.1.3** Development plans shall be reviewed for inclusion of native vegetation and other low water demand landscape material in order to reduce outdoor water consumption.
- Policy 8.1.4** Restrictions established by applicable water management districts or water districts shall be adhered to. These restrictions shall be enforced by the County or other government organization. Alachua County shall also encourage large scale commercial and institutional users of outdoor water to utilize early morning consumption as part of its public awareness efforts.
- Policy 8.1.6** Low-volume plumbing devices shall continue to be required, consistent with local building codes.
- Policy 8.1.7** The County shall encourage the use of stormwater runoff for irrigation, agricultural or industrial water needs in order to conserve potable water sources. By 2002, Alachua County shall complete a study of alternative technologies for consideration in revising the land development regulations.

CONSERVATION AND OPEN SPACE ELEMENT

- Policy 2.2.2** The County shall implement proactive, innovative, and creative educational programs concerning natural resource issues including, but not limited to:
- ...
- Surface water and wetlands quality and function;
- Groundwater quality and vulnerability;
- Water conservation;
- ...
- Policy 2.2.5** Educational materials shall be made available to developers, homeowners, and other interested citizens concerning proper maintenance, management, restoration, and development in natural areas (for example, habitat creation, endangered species, management of development ponds, wetlands vegetation, xeriscape, water quality, and water conservation).
- Policy 4.5.9** In accordance with Florida Statutes for Water Supply Planning, the County shall cooperate with the St. Johns River and Suwannee River Water Management Districts in the evaluation of updates of applicable data and analysis of current and projected water needs for at least a 10-year period; initiate Comprehensive Plan amendments to incorporate appropriate water supply projects, including conservation and reuse projects, identified in regional water supply plans; and coordinate with WMD updates of the regional water supply plans. **Within 18 months of adoption of an updated North Florida Regional Water Supply Plan (NFRWSP), the County shall update the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan (WSFWP) as needed and any corresponding** County comprehensive plan amendments **as needed** with Gainesville Regional Utilities.
- Policy 4.5.12** The County shall cooperate with the Suwannee River Water Management District, the St. Johns River Water Management District, and local governments to conduct current and future water conservation programs and prepare an emergency water management conservation plan.
- Policy 4.5.21** The County shall continue to promote water conservation techniques and programs for current and future development (consistent with Energy Element Objective 1.1). The County shall support water conservation practices and standards, including but not limited to, Florida Water StarSM, Florida Friendly Landscaping, LID techniques, installation of water efficient fixtures, soil moisture sensors and smart irrigation systems, and landscape irrigation restrictions.
- (a) The County shall update its landscape code to require a reduction in irrigated areas for all new residential and commercial development.
 - (b) Indoor and outdoor use of water should, at a minimum, meet or exceed Florida Water StarSM criteria (goal of 40% reduction in outdoor water use and 20% reduction in indoor water use) or the equivalent intended to provide water-efficient options for homes and

landscapes. The County will coordinate with potable water suppliers to develop an incentive, education and outreach program that encourages participation in water conservation programs such as Florida Water StarSM.

...

- (e) The County shall encourage the public and private water suppliers in the County to implement aggressive but fair water conservation pricing rate structures.

HOUSING ELEMENT

Policy 2.2.5 Alachua County shall collaborate with the Alachua County Cooperative Extension Office, the banking community, the builders' associations and other interested parties, to determine ways builders can incorporate "Sustainable Building" technologies in the construction of affordable housing, through the following areas:

- (a) Water (e.g., indoor water conservation, low-flow/low-flush fixtures, composting toilets, pervious materials, xeriscaping, reclaimed water irrigation, harvested rainwater, water budget)

...

Protection of Water Quality, Supplies, Sources

CONSERVATION AND OPEN SPACE ELEMENT

Policy 4.5.1 The County shall establish a comprehensive wellhead protection program to protect current and future public water supply needs from potential adverse effects from incompatible land uses and activities.

...

- (c) For each wellfield protection area, the land development regulations shall specify the size, location, and applicable restrictions of protection zones, including restrictions on activities associated with hazardous materials, septic tanks, and well construction, modification and closure.

...

POTABLE WATER & SANITARY SEWER ELEMENT

OBJECTIVE 7.1

Coordinate with relevant agencies and water suppliers to ~~To~~ protect the potable water supplies and sources.

- Policy 7.1.1** Alachua County shall regulate land use and development to protect the functions of natural drainage features and natural groundwater aquifer recharge as detailed in the Conservation and Open Space Element.
- Policy 7.1.2** Alachua County shall coordinate with **GRU**, the St. John's River Water Management District (SJRWMD) and/or the Suwannee River Water Management District (SRWMD) in determining and assessing impacts of proposed developments on the County's potable water supplies. These impacts shall be used by the County's Development Review Committee (DRC) in the evaluation of applications for site plan and development plan approval.
- (a) Alachua County shall incorporate the results of any studies by the water management districts on projected demands on the sources of potable water for Alachua County, relative to potential supply, as a factor in determining the maximum population the water supply in Alachua County will be able to support.
- Policy 7.1.3** Alachua County shall coordinate **proposed amendments to** future land use designations of this plan with **GRU and** incorporated towns and cities and surrounding counties, **as appropriate**, to ensure that sufficient water quantity is available and that its quality is not degraded. In evaluating any proposed amendments to the Future Land Use Element that would provide for more intensive development adjacent to such jurisdictions, the County shall **coordinate with GRU and municipal water suppliers, as appropriate, to** address such impacts and the **demand for and** capacity of such potable water facilities to implement this policy.
- Policy 7.1.5** **[New Policy] The Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028 is herein incorporated by reference.**

Coordination with Water Suppliers

CONSERVATION AND OPEN SPACE ELEMENT

- Policy 4.5.11** The County shall encourage the development of local and regional water supplies within water management districts through the following strategies
- (a) Participating in the development of the water supply assessments, regional water supply plans, and five year work plans of the Suwannee River and St. Johns River Water Management Districts;
- (b) Requesting to receive water management district notice of any consumptive use applications that involve the transfer of water, where that transfer originates within the jurisdictional boundaries of the County and advocating for water conservation and reuse, and the development of alternate supply sources (such as desalinization) by such applicants;

- (c) Considering the establishment of a regional water supply authority; and
- (d) Amending existing legislation regarding consumptive use permitting and exercising vigilance through the County's legislative delegation.

POTABLE WATER & SANITARY SEWER ELEMENT

OBJECTIVE 3.1

To provide for the coordination of public potable water and sanitary sewerage facility extensions in the unincorporated area of Alachua County with the Alachua County Future Land Use Element and capital improvement planning and programming.

- Policy 3.1.1** Alachua County shall designate an urban service area for future land uses with densities and intensities which will provide for efficient operation of central potable water and sanitary sewer service facilities, as well as the enabling of efficient line sizing by any potable water supplier or sanitary sewer collector.
- Policy 3.1.2** Alachua County shall coordinate any expansions in municipal potable water systems, municipal sanitary sewer systems, the school system, the highway systems, the drainage system, and any other relevant publicly provided facility through intergovernmental coordination mechanisms consistent with the Intergovernmental Coordination Element policies.
- Policy 3.1.4** Extension of potable water or sanitary sewer lines within areas designated on the Future Land Use Map as the Urban Cluster shall be allowed by Alachua County provided there are no adverse impacts on environmentally-sensitive lands.
- Policy 3.1.5** Proposed extensions of potable water and sanitary sewer lines outside of the Urban Cluster designated by the Future Land Use Element shall be subject to approval by the Board of County Commissioners. Approval of such extensions shall be based on one or more of the following:
- (a) the Alachua County Board of County Commissioners finds that the absence of such facilities would result in a threat to the public health or safety; or
 - (b) the Alachua County Board of County Commissioners finds that the extension of such facilities is necessary to enhance the safe, effective, and efficient delivery of central potable water or sanitary sewer service within an existing urban service area; or
 - (c) the Alachua County Board of County Commissioners finds that the extension of such facilities would serve a purpose consistent with the Alachua County Comprehensive Plan, such as the retention and expansion of existing business and industry or the attraction of new business and industry in accordance with the Economic Element of this Plan, or the service of institutional or tourist/entertainment uses consistent with the Future Land Use Element; or

- (d) the Alachua County Board of County Commissioners finds that the extensions of such facilities is needed as part of a comprehensive expansion of public services to encourage urban development in a new area as part of a comprehensive plan amendment. In this case, such a finding must be consistent with Policy 3.1.6 below.

Policy 3.1.6 Central potable water and sanitary sewer systems may be extended into new areas as part of a planned extension of urban services to that area based upon the following factors:

- (a) population growth rate;
- (b) maintenance of level of service standards for the potable water or sanitary sewer system;
- (c) adequacy of existing and planned supporting infrastructure;

Approval of such extensions would require the following:

- (a) Identification, scheduling, and designated funding for capital improvements to other public facilities needed to extend urban services. Such projects shall be incorporated into the five-year capital improvement program of the Alachua County Capital Improvement Element.
- (b) Adoption of necessary amendments to the Future Land Use map extending the urban cluster boundary.

INTERGOVERNMENTAL COORDINATION ELEMENT

OBJECTIVE 2.1

Establish mechanisms to address the resolution of intergovernmental issues related to impacts of development proposed in the comprehensive plan upon municipalities within the County, adjacent counties, the region and the state.

Policy 2.1.2 Per F.S. 163.3184, Alachua County shall submit all proposed amendments to the Comprehensive Plan to the state land planning agency, North Central Florida Regional Planning Council, the appropriate water management district, the Department of Environmental Protection, and the Department of Transportation.

Policy 2.1.2.1 **[New Policy] Alachua County shall continue to review proposed amendments to the Comprehensive Plan for consistency with the North Florida Regional Water Supply Plan and the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028.**

Policy 2.1.3 Alachua County shall continue to notify and consult with the following entities when there is any proposed development that could have an impact on that entity before action is taken on the proposed development. Comments by these entities will be incorporated into the appropriate development reports.

...

(g) St. Johns River Water Management District,

(h) Suwannee River Water Management District,

...

(j) Local utility companies including Gainesville Regional Utilities, Clay Electric, and Progress Energy.

OBJECTIVE 6.1

Coordinate with relevant state or regional agencies, local governments, or other entities with operational and maintenance responsibility for such facilities in establishing levels of service standards and guidelines.

Policy 6.1.1 Alachua County shall coordinate with local governments that supply potable water and/or sanitary sewer services to the unincorporated area to implement the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan 2018-2028, level of service standards and concurrency management systems, as provided for in the policies of the Potable Water/Sanitary Sewer Element.

Potable Water Concurrency and Levels of Service Standards

FUTURE LAND USE ELEMENT

Policy 1.2.4. All new residential development in the urban cluster shall:

- (a) be economically and efficiently served by supporting community facilities, and services such as streets, utilities, public educational facilities, and public protection.
- (b) connect to centralized potable water supply and sanitary sewer systems in accordance with Policy 2.1.1 of the Potable Water and Sanitary Sewer Element.

Policy 7.1.2 Proposed changes in the zoning map shall consider:

- (a) consistency with the goals, objectives, policies and adopted maps of the Comprehensive Plan
- (b) the availability and capacity of public facilities required to serve the development. When considering a rezoning, this includes availability and capacity of existing public facilities and timing of future facilities based on capital plans. Specific determinations for any exceptions to the requirement to connect to a centralized potable water and sanitary sewer system will be made at the stage of development plan review, as detailed in Policy 2.1.1 of the Potable Water and Sanitary Sewer Element.

...

Policy 7.1.3 ...

(d) If ... expansion of the Urban Cluster is warranted, the evaluation of appropriate location shall be subject to analysis including the following economic, infrastructure, transportation, and conservation and recreation criteria:

...

(3) relationship to existing and planned future urban services and infrastructure

...

POTABLE WATER & SANITARY SEWER ELEMENT

OBJECTIVE 1.1

To coordinate with the providers of centralized potable water and sanitary sewer facilities to ensure that adequate facility capacity will be available to serve development concurrent with the demands for such facilities, and that adequate water supplies shall be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy.

Policy 1.1.1 The following level of service standards for potable water and sanitary sewer service in the unincorporated portion of Alachua County are hereby adopted, and shall be used as the basis for determining the availability of facility capacity, adequate water supply, and the demand generated by a development within the appropriate service area for the providers listed below for purposes of issuing development orders or building permits.

GAINESVILLE REGIONAL UTILITIES (GRU)

Potable Water

Raw Water Supply:	Average Daily Flow
Treatment Capacity:	Peak Daily Flow
Pumping and Distribution Capacity:	Peak hourly flow
Storage Capacity:	One-half of peak day volume in gallons. This requirement may be met by a combination of storage and auxiliary power.
Minimum Pressure:	The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions.
Fire Demand:	As determined using Insurance Services Organization guidelines
Potable Water:	
Average Day (gross)	147 124.5 gallons per capita per day (including residential and non-residential uses)
Peak Day (gross)	200 gallons per capita per day (including residential and non-residential uses)

...

Municipal Systems-**ALACHUA-****Potable Water:** _____ ~~124 gallons per capita per day~~**Sanitary Sewer:** _____ ~~81 gallons per capita per day (Paul O'Dea Plant)-
60 gallons per capita per day (Turkey Creek Plant)~~**ARCHER-****Potable Water:** _____ ~~116 gallons per capita per day~~**HAWTHORNE-****Potable Water:** _____ ~~117 gallons per capita per day~~**Sanitary Sewer:** _____ ~~100 gallons per capita per day~~**HIGH SPRINGS-****Potable Water:** _____ ~~135 gallons per capita per day~~**MICANOPY-****Potable Water:** _____ ~~120 gallons per capita per day~~**NEWBERRY-****Potable Water:** _____ ~~124 gallons per capita per day~~**Sanitary Sewer:** _____ ~~120 gallons per capita per day~~**WALDO-****Potable Water:** _____ ~~89 gallons per capita per day~~**Sanitary Sewer:** _____ ~~61 gallons per capita per day~~

...

Policy 1.1.2 The Alachua County Office of Planning and Development, in conjunction with any provider of potable water or sanitary sewer service listed in Policy 1.1.1, will monitor the system's level of service status to determine the impact of any requested development order or building permit on available potable water supply, system capacity, and/or sanitary sewer capacity. Periodic reports from the provider detailing available capacity (taking into consideration and distinguishing existing plus committed demand) shall be used in conjunction with development monitoring reports prepared by the County for this purpose.

Policy 1.1.3 The LOS standards adopted in Policy 1.1.1 shall be used as the criteria to measure the available supply and capacity of the potable water and/or sanitary sewer system(s), and shall, in consultation with the applicable water supplier, be used to verify that adequate water supplies are in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy. A development order will not be approved unless adequate supply and capacity will be available concurrent with the impacts of development based on the following standards:

Policy 1.1.3.1 The necessary facilities and services are in place at the time the final development order is issued; or

- Policy 1.1.3.2** The final development order is issued subject to the condition that the necessary facilities and services will be in place when the impacts of development occur; or
- Policy 1.1.3.3** The necessary facilities are under construction at the time the final development order is issued; or
- Policy 1.1.3.4** The necessary facilities and services are guaranteed in an enforceable development agreement that includes provisions of subsections 1, 2, and 3 above, and that guarantees that the necessary facilities and services will be in place when the impacts of development occur.
- Policy 1.1.4** Alachua County will encourage and provide relevant information to any provider of potable water and/or sanitary sewer service, in order to adequately project future development patterns and to program improvements necessary to maintain an adequate buffer of supply and/or capacity for the future. Information such as future land use, population projections, and public service improvements or expansions will be provided on an annual basis to the potable water supplier and/or sanitary sewer collector in order to enable accurate forecasting.
- Policy 2.1.1** All new development in the urban cluster shall be timed to occur when both centralized potable water and sanitary sewer systems are available for connection. The timing and availability of municipal water and sewer to a property shall be one of the factors to be considered when deciding upon proposed changes in zoning to a higher density or intensity pursuant to Future Land Use Element Policy 7.1.2(b). Any new subdivision, expansion of an existing subdivision, multi-family, or any new or expansion of a non-residential use, development or redevelopment in the urban cluster, shall be required to connect to a centralized potable water and sanitary sewer system for service by FDEP permitted potable water and wastewater treatment plants. This connection requirement and any exception thereto... shall be implemented at the stage of development review and approval...
- ...

OBJECTIVE 4.1

All public water supply systems serving Alachua County residents shall be maintained at accepted water quality standards.

...

CAPITAL IMPROVEMENTS ELEMENT

Policy 1.2.4 LOS standards for Category "A" and "B" public facilities shall be as follows:

...

- (e) Potable Water and Sewer LOS Standards (based on Potable Water and Sanitary Sewer Element). The following level of service standards for potable water and sanitary sewer service in the unincorporated portion of Alachua County are hereby adopted, and shall be used as the basis for determining the availability of facility capacity, adequate water supply,

and the demand generated by a development within the appropriate service area for the providers listed below for purposes of issuing development orders or building permits.

GAINESVILLE REGIONAL UTILITIES (GRU)

Potable Water

Raw Water Supply:	Average Daily Flow
Treatment Capacity:	Daily Flow
Pumping and Distribution Capacity:	Peak hourly flow
Storage capacity:	One-half of peak day volume in gallons. This requirement may be met by a combination of storage and auxiliary power.
Minimum pressure:	The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions.
Fire demand:	As determined using Insurance Services Organization guidelines
Potable Water:	
Average Day (gross)	147 124.5 gallons per capita per day (including residential and non-residential uses)
Peak Day (gross):	200 gallons per capita per day (including residential and non-residential uses)

...

Municipal Systems—LOS Requirements

~~ALACHUA-~~

~~Potable Water: 124 gallons per capita per day-
Sanitary Sewer: 81 gallons per capita per day (Paul O’Dea Plant)-
60 gallons per capita per day (Turkey Creek Plant)-~~

~~ARCHER-~~

~~Potable Water: 116 gallons per capita per day-~~

~~HAWTHORNE-~~

~~Potable Water: 117 gallons per capita per day-
Sanitary Sewer: 100 gallons per capita per day-~~

~~HIGH SPRINGS-~~

~~Potable Water: 135 gallons per capita per day-~~

~~MICANOPY-~~

~~Potable Water: 120 gallons per capita per day-~~

~~NEWBERRY-~~

~~Potable Water: 124 gallons per capita per day-
Sanitary Sewer: 120 gallons per capita per day-~~

~~WALDO-~~

~~Potable Water: 89 gallons per capita per day-
Sanitary Sewer: 61 gallons per capita per day-~~

...

OBJECTIVE 1.3

Maintenance of adopted LOS standards to meet existing and future facility needs by coordinating land use decisions with a schedule of capital improvements.

Policy 1.3.1 Require all public facilities constructed in unincorporated Alachua County, to be consistent with the Capital Improvements Element and the Comprehensive Plan.

Policy 1.3.2 Require Category "A" and "B" public facilities and services needed to support development to be available concurrent with the impacts of development and require issuance of a Certificate of Level of Service Compliance (CLSC) as a condition of all final development orders. "Concurrent" shall mean that all adopted LOS standards shall be maintained or be achieved within a reasonable time frame as set out in 1.3.2 (A-D) below. Failure to receive a Certificate of Level of Service Compliance will preclude the issuance of any final development order on the project or project phase, until the requirements of 1.3.2 (A-D) have been satisfied.

- (a) For potable water, sewerage, solid waste and storm water management, the following standards must be met to satisfy the concurrency requirement and to receive a Certificate of Level of Service Compliance:
- (1) The necessary facilities and services are in place at the time a development permit is issued; or
 - (2) A development permit is issued subject to the condition that the necessary facilities will be in place when the impacts of development occur; or
 - (3) The necessary facilities are under construction at the time a development permit is issued and will be in place when the impacts of development occur; or
 - (4) The necessary facilities and services are guaranteed in an enforceable development agreement that includes the provisions of Policy 1.3.2(a-c). An enforceable development agreement may include, but is not limited to: (1) development agreements pursuant to section 163.3220, Florida Statutes, or (2) an agreement or development order issued pursuant to Chapter 380, Florida Statutes. Any such agreement must guarantee that the necessary facilities and services will be in place when the impacts of development occur.

...

APPENDIX B

City of Gainesville Comprehensive Plan Policies Related to Water Supply Components with Proposed Amendments

additions are in underline and deletions are in ~~striketrough~~

Water Conservation Programs

POTABLE AND WASTEWATER ELEMENT

- Objective 1.5** Recognizing the importance of potable water supplies, the City shall encourage water conservation through the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan and the programs and methods listed below:
- Policy 1.5.1** The City shall continue to offer water conservation education and information to residential and non-residential customers through its Energy/Water Survey Program.
- Policy 1.5.2** The City shall continue to minimize water losses from unaccounted sources through its ongoing water loss reduction program.
- Policy 1.5.3** The City shall continue its conservation rate structure as an economic means of promoting water conservation throughout the year.
- Policy 1.5.4** The City shall continue to include water conservation techniques, including "Florida Friendly" landscaping, in the City's landscape ordinance.
- Policy 1.5.5** The City shall continue to offer free water conservation information as part of at least one utility billing statement per year.
- Policy 1.5.6** The City shall require the use of reclaimed water in reclaimed water service areas.
- Policy 1.5.7** The City shall continue to require low-volume plumbing devices, consistent with applicable building codes.
- Policy 1.5.8** The City will work with Alachua County and the water management districts to develop a model ordinance or plan to better regulate private irrigation wells.
- Policy 1.5.9** The City will conserve water on City properties by maximizing the use of "Florida Friendly" landscaping to the extent feasible in new landscaping projects.

CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

- Policy 2.3.4** The City shall maintain water conservation programs that are consistent with the Water Management Districts' plans (Sections 373.175 & 373.246, F.S., and Chapters 40B-21 & 40C-21,

F.A.C.). These programs shall include strategies to: deal with emergency conditions; implement public education campaigns regarding the nature of groundwater resources and the need to protect and conserve them; provide the public with information on water reuse systems; and employ potable water rate structures to encourage water conservation.

- Policy 2.3.10** The City shall inform the public of the requirements of Section 373.62, F.S., regarding automatic lawn sprinkler systems.
- Policy 2.3.11** The City shall conserve potable water supplies by using the methods shown in the Gainesville Comprehensive Plan's Potable Water & Wastewater Element, Objective 1.5 and Policies 1.5.1 through 1.5.9.

Water Source Protection and Water Quality

POTABLE & WASTEWATER ELEMENT

- Policy 1.4.6** The City shall continue its connection charge installment program, as outlined in the Code of Ordinances, to encourage users to abandon wells and/or package or on-site wastewater treatment systems and to connect to the centralized potable water and wastewater systems.

CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

- Objective 2.2** The City shall improve the quality of stormwater entering surface waters by requiring development and redevelopment to meet the adopted water quality standards of this Element and the Stormwater Management Element.
- Policy 1.5.1** The City shall collaborate with Alachua County to protect wetlands and significant habitat, and to conserve and acquire significant habitat in the Urban Reserve Area.
- Policy 1.5.2** The City shall collaborate with Alachua County regarding criteria for the location of hazardous materials collection/transfer treatment facilities. One criterion shall be consideration of potential groundwater contamination.
- Policy 2.2.1** The City shall require stormwater quality treatment facilities for redevelopment.
- Objective 2.3** The City shall conserve and protect the quality and quantity of current and projected water sources through the planning period.
- Policy 2.3.1** The City shall coordinate with the Alachua County Environmental Protection Department, the Florida Department of Environmental Protection (FDEP), the Water Management Districts, and the Environmental Protection Agency (EPA) and shall support the appropriate agencies with efforts to:

- a. Identify areas of pollution to surface waters and groundwater;
- b. Provide on-going monitoring programs that include periodic reports that describe environmental conditions and cleanup status; and
- c. Identify parties responsible for polluted areas, and require such parties to mitigate pollution problems.

Policy 2.3.2 The City shall allow land uses and facility design within wellfield protection zones (and other “community water system” cones of influence as defined by Rule 62-550.200, F.A.C.) as identified in the Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series, and that are in compliance with the Murphree Wellfield Protection Code.

Policy 2.4.6 The City shall maintain land development regulations for regulated surface waters and wetlands that require:

- a. Buffers and/or setbacks from regulated surface waters and wetlands;
- b. Development to minimize erosion and sediment pollution to regulated surface waters and wetlands;
- c. No net increase in the rate of runoff from development sites adjacent to regulated surface waters and wetlands;
- d. Retention or detention of runoff from developments adjacent to regulated surface waters and wetlands, through on-site filtration in accordance with the Public Works Design Manual;
- e. Retention of vegetation integral to the ecological value of regulated surface waters and wetlands;
- f. Compliance with the City’s adopted criteria for controlling sediment and erosion;
- g. Allowance of transfer of development intensity and density from lower to higher elevations of a site; and
- h. Prohibition on the installation of all septic tanks.

Policy 3.1.1 Standards and guidelines established in Conservation, Open Space, and Groundwater Recharge Element Objective 1.1 and its Policies shall be used to protect identified environmentally sensitive resources.

FUTURE LAND USE ELEMENT

Policy 3.1.2 The City shall regulate development in Floridan aquifer high recharge areas with requirements that, at a minimum, meet the standards and guidelines of the St. Johns River or Suwannee River Water Management Districts, as applicable

Policy 3.1.4 The City shall protect floodplain and flood channel areas consistent with Policy 2.4.9 of the Conservation, Open Space & Groundwater Recharge Element.

CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

Policy 2.1.1 The City shall implement and update land development regulations designed to conserve wetland acreage and preserve natural functions within the listed basins (shown on the map entitled Wetland Mitigation Basins that is on file with the Planning & Development Services

Department). When wetlands are unavoidably lost to development, mandatory mitigation shall be required to ensure no net loss of acreage and functions occurs. Mitigation location protocol shall follow Policy 1.1.1 b.5.

- Objective 2.2** The City shall improve the quality of stormwater entering surface waters by requiring development and redevelopment to meet the adopted water quality standards of this Element and the Stormwater Management Element.
- Policy 2.2.5** The City’s land development regulations shall supplement the standards of the applicable Water Management District to promote the maintenance of water quality in surface waters. Such standards include:
- a. Protecting the surface water resource by prohibiting excavation, filling, channelization, mechanized land clearing, and other development activities, except as may be authorized by the Land Development Code;
 - b. Requiring sedimentation controls during and after construction;
 - c. Protecting creek banks and vegetation;
 - d. Requiring treatment of the first “one inch” of stormwater runoff; and
 - e. Restoring previously channelized creeks identified for restoration by the City, when feasible.
- Policy 2.2.6** The City shall maintain an inventory of altered creek segments
- Objective 2.3** The City shall conserve and protect the quality and quantity of current and projected water sources through the planning period.
- Policy 2.3.2** The City shall allow land uses and facility design within wellfield protection zones (and other “community water system” cones of influence as defined by Rule 62-550.200, F.A.C.) as identified in the Environmentally Significant Land and Resources Map Series within the Future Land Use Map Series, and that are in compliance with the Murphree Wellfield Protection Code.
- Policy 2.3.6** Pursuant to Section 373.0397, F.S., Water Management Districts are to map “prime” groundwater recharge areas for the Floridan aquifer. Should such areas be identified within City limits, the areas will be mapped and included in the adopted Comprehensive Plan, and City land development regulations shall be amended to protect such areas if they are not already protected by existing regulations and programs. City land development regulations shall protect the Floridan aquifer groundwater resource through recognition of geographic areas of relative vulnerability and high aquifer recharge characteristics. Mapping of these high aquifer recharge areas shall include surface waters that convey flow directly to groundwater via sinkholes (stream-to-sink surface water basins), and areas where the Floridan aquifer is otherwise vulnerable or highly vulnerable to degradation through recharge from land surfaces.
- Objective 2.4** The City shall amend its land development regulations as necessary to conserve natural systems of surface waters and wetlands; areas subject to high rates of Floridan aquifer recharge; listed species of plants and animals; significant natural communities, and other significant natural and archaeological resource areas, including strategic ecosystems and significant geological resource

features; and minimize the spread of invasive vegetation. The adopted regulations shall be designed to maintain these characteristics and resources, and the functions and values which they provide, and allow development activities which are compatible with the conservation of these resource areas as identified in the Comprehensive Plan or by provisions of the Land Development Code.

Policy 2.4.6 The City shall maintain land development regulations for regulated surface waters and wetlands that require:

- a. Buffers and/or setbacks from regulated surface waters and wetlands;
- b. Development to minimize erosion and sediment pollution to regulated surface waters and wetlands;
- c. No net increase in the rate of runoff from development sites adjacent to regulated surface waters and wetlands;
- d. Retention or detention of runoff from developments adjacent to regulated surface waters and wetlands, through on-site filtration in accordance with the Public Works Design Manual;
- e. Retention of vegetation integral to the ecological value of regulated surface waters and wetlands;
- f. Compliance with the City's adopted criteria for controlling sediment and erosion;
- g. Allowance of transfer of development intensity and density from lower to higher elevations of a site; and
- h. Prohibition on the installation of all septic tanks.

Policy 4.1.2 The City shall explore projects for improving water quality in its watersheds.

Policy 4.1.3 To enhance the quality of water entering Sweetwater Branch, the City shall complete the construction of a master stormwater basin to treat flow from downtown Gainesville.

Policy 4.1.6 The City shall coordinate with the Alachua County Environmental Protection Department and other governmental entities in identifying pollution problems and providing documentation and other relevant assistance as appropriate and feasible towards the mitigation and remediation of pollution problems, including assistance as necessary in cases where sanctions may be imposed for violations of applicable environmental regulations.

Water Reuse

POTABLE & WASTEWATER ELEMENT

Policy 1.5.6 The City shall require the use of reclaimed water in reclaimed water service areas.

CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

Policy 2.3.8 The City shall require effective groundwater recharge in accordance with the Gainesville Comprehensive Plan's Stormwater Management Element, Objective 1.8 and Policy 1.8.1.

STORMWATER ELEMENT

Objective 1.8 Effective groundwater recharge shall continue to be required where soil conditions permit.

Policy 1.8.1 The City shall continue to comply with adopted Land Development Regulations that promote increased volumes of groundwater recharge, for all new development, where soil conditions permit.

Potable Water Concurrency and Level of Service Standards

POTABLE & WASTEWATER ELEMENT

GOAL 1: TO PROVIDE ADEQUATE, SAFE, ECONOMIC, RELIABLE AND ENVIRONMENTALLY STORMWATER AND WASTEWATER UTILITY SERVICES.

Objective 1.1 Water and wastewater services shall be provided at adequate levels of service (LOS) to meet the needs of existing and future populations.

Policy 1.1.1 The following LOS standards shall be adopted for potable water:

Maximum Day (Peak) Design Flow: 200 gallons per capita per day;

Storage Capacity: ½ of peak day volume in gallons. This requirement may be met by a combination of storage and auxiliary power;

Pressure: The system shall be designed for a minimum pressure of 40 psig under forecasted peak hourly demands to assure 20 psig under extreme and unforeseen conditions;

The City shall reserve potable water capacity for the annual water demand projected by the City for the University of Florida and the power plants.

Policy 1.1.2 The following LOS standards shall be adopted for wastewater services:

Average Day Standard: 106 gallons daily flow per capita.

Policy 1.1.3 The following LOS standard shall be adopted for water supply:

Average Daily Flow: 147 124.5 gallons per capita per day.

~~**Policy 1.1.4** Within 18 months of the adoption of water supply plans by the St. Johns~~

~~**River Water and Suwannee River Water Management Districts, the City shall amend the Comprehensive Plan to:**~~

~~a. identify alternative and traditional water supply projects, and conservation and reuse measures that will meet the water needs identified in the water supply plans;~~

~~b. incorporate a work plan for at least a 10-year planning period for the development of water supply projects that will meet the water needs identified in the water supply plans.~~

Policy 1.1.4 *[New Policy]* The Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan: 2018-2028 is hereby adopted by reference.

Policy 1.1.5 *[New Policy]* Within 18 months of adoption of an updated North Florida Regional Water Supply Plan (NFRWSP), the City shall:

a. Coordinate with the county to update the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan (WSFWP) as needed; and

b. Amend the City of Gainesville Comprehensive Plan as needed.

CAPITAL IMPROVEMENTS ELEMENT

Policy 1.2.6 The concurrency requirements for potable water, solid waste, stormwater management, water supply, recreation, and wastewater shall be met by any one of the following standards:

e. Prior to approval of a building permit or its functional equivalent, the City shall consult with Gainesville Regional Utilities to determine whether adequate water supplies to serve the new development will be available no later than the anticipated date of issuance by the City of a certificate of occupancy or its functional equivalent.

The City shall determine and monitor whether facilities and services that will serve proposed development meet adopted LOS standards. The Concurrency Management System shall be used to maintain adopted LOS standards.

Intergovernmental Coordination

POTABLE WATER & WASTEWATER ELEMENT

Objective 1.3 The City shall provide potable water and wastewater services throughout the urban area in an efficient and economical manner, with the cost of service expansion being borne by those requiring such expansion. Upon Plan adoption, the City of Gainesville, as the urban area service provider of potable water and wastewater through Gainesville Regional Utilities, shall coordinate the extension and increases in capacity of potable water and wastewater facilities outside of city limits through policies established in the Alachua County Comprehensive Plan.

Policy 1.3.1 In order to discourage urban sprawl, Gainesville Regional Utilities shall extend potable water and wastewater facilities outside city limits in accordance with policies in the Alachua County Comprehensive Plan.

Policy 1.6.2 The City shall maintain water conservation **and water supply** programs that are consistent with the Water Management Districts' plans.

INTERGOVERNMENTAL COORDINATION

Policy 1.4.1 The City shall collaborate with Alachua County in developing Land Development Regulations that promote the Goals, Objectives, and Policies of the City's Comprehensive Plan. Coordination efforts shall include:

- a. The regulation of land uses and site and facility design in compliance with the Murphree Wellfield Management Code;

CONSERVATION, OPEN SPACE & GROUNDWATER RECHARGE ELEMENT

Policy 2.3.1 The City shall coordinate with the Alachua County Environmental Protection Department, the Florida Department of Environmental Protection (FDEP), the Water Management Districts, and the Environmental Protection Agency (EPA) and shall support the appropriate agencies with efforts to:

- a. Identify areas of pollution to surface waters and groundwater;
- b. Provide on-going monitoring programs that include periodic reports that describe environmental conditions and cleanup status; and
- c. Identify parties responsible for polluted areas, and require such parties to mitigate pollution problems.

Policy 2.3.12 *[New Policy]* **The City shall implement water conservation, use and protection programs consistent with the Water Management District Plans and the Joint Alachua County/City of Gainesville Water Supply Facilities Work Plan (WSFWP).**