

COMMUNITY FACILITIES AND NATURAL GROUNDWATER AQUIFER RECHARGE ELEMENT

GOALS, OBJECTIVES AND POLICIES

GOAL 1: Wastewater

Plan for and provide adequate, high quality and economical wastewater service while protecting the environment, especially groundwater resources.

Objective 1.1:

The City of Alachua shall examine capital improvements priorities as funded in the Five-Year Capital Improvements Program in order to prevent, or correct, deficiencies in the Community Sanitary Sewer System to meet projected demands within established service areas at adopted levels of service.

Policy 1.1.a: Capital improvement projects needed for replacement or correction of existing deficiencies shall be given priority over providing for future facilities needs, if they are imminently needed to protect the public health and safety and if existing facilities are not meeting maintenance or operation level of service standards adopted herein.

Policy 1.1.b: The City shall continue to implement a long-range wastewater plan, which shall include, at a minimum, an updated database of all wastewater facility locations, line sizes, lift station locations, reuse lines, future facilities locations, and rate analysis.

Policy 1.1.c: Capital facilities fees shall be dedicated to the rehabilitation, replacement, maintenance, and expansion needs of the wastewater system, consistent with the City's long-range wastewater plan. The City may also use impact fees, if such fees are adopted by the City Commission.

Policy 1.1.d: The City hereby establishes the following level of service standards for sanitary sewer facilities

Levels of Service

- a. Quality: Compliance with all applicable standards of the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection (FDEP).
- b. Quantity: System-wide wastewater collection and treatment will be sufficient to provide a minimum of 250 gallons per day per equivalent residential unit (ERU) on an average annual basis. Plant expansion shall be planned in accordance with F.A.C. 62-600.405, or subsequent provision. This level of service standard shall be re-evaluated one year from the adoption date for the amended Plan.
- c. System capacity: If the volume of existing use in addition to the volume of the committed use of the City's wastewater facility reaches 85% of the permitted capacity design, no further development orders for projects without reserved capacity will be issued until additional capacity becomes available or funds to increase facility capacity are committed in accordance with a development agreement.

Objective 1.2:

Wastewater service will be made available to new development in a manner to promote compact urban growth, promoting development where wastewater service is available, and discouraging urban sprawl. For purposes of this objective, new development does not include remodeling of existing developments or additions of less than 33% to existing developments.

Policy 1.2.a: The City shall establish a Community Wastewater Service Area, which includes all areas where wastewater service is available. Wastewater service shall be deemed available if:

1. A gravity water system exists within 100 ft of the property line of any residential subdivision lot or single family residence and wastewater service can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.

2. A gravity wastewater system exists with 500 ft of the property line of any residential subdivision consisting of 5 units or less and the gravity wastewater system can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.
3. A gravity wastewater system, wastewater pumping station, or force main exists within ¼ mile of the property line of any residential subdivision with more than 5 units, or any multi-family residential development, or any commercial development, or any industrial development and the gravity wastewater system, wastewater pumping station, or force main can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.

Policy 1.2.b: Isolated vacant lots in residential areas may be developed for single family residential under a de minimis exception if wastewater service is not available along the frontage of the lot. Where no wastewater infrastructure exists along the frontage of a single existing residential lot zoned for single family use, and the owner of the single lot requests service, sufficient wastewater infrastructure shall be constructed by the owner to extend service from an existing point to the point of the requested service connection, plus an additional 10 feet. If the City determines that a repayment agreement is practical and the applicant desires to enter into an agreement, the new infrastructure shall be constructed to and across the entire lot frontage.

Policy 1.2.c: The City prohibit the installation of in-ground septic tanks in locations with unsuitable soils within wetland areas, or where wastewater service is available.

Policy 1.2.d: The City shall permit septic tanks outside the Community Wastewater Service Area, provided that site and soil conditions are suitable for septic tank use as determined by the requirements of Chapter 10D-6, FAC.

Policy 1.2.e: Existing septic tanks shall be allowed to remain in service until such time as wastewater service is available, in accordance with State regulations.



Policy 1.2.f: The City's Public Services Department shall coordinate wastewater service for new development with the City's Department of Planning and Community Development to ensure compliance with the elements of the Comprehensive Plan.

Policy 1.2.g: To promote compact urban growth, all wastewater line extensions for new development outside the Community Wastewater Service Area will be funded by development, developer or permittee.

Objective 1.3:

Wastewater treatment by-products will be reclaimed or disposed of in an environmentally acceptable manner while maximizing resource recovery.

Policy 1.3.a: Wastewater effluent may be treated and reused for irrigation and aesthetic water features, consistent with requirements of Chapter 62-610, F.A.C., or subsequent provisions.

Policy 1.3.b: Sludge from wastewater treatment facilities within the City of Alachua shall be disposed of through such means as land application. Surface water runoff from land application shall not violate state water quality standards.

Policy 1.3.c: The City shall pursue an interlocal agreement with Alachua County for the permitting of any private land application of sludge from septic tanks and private wastewater systems. In the event that an interlocal agreement cannot be accomplished, then the City shall adopt its own standards for regulating the land application of sludge from septic tanks and private wastewater systems.

Objective 1.4:

The City shall prevent additional nutrients from entering high aquifer recharge areas by the central sewerage of existing developed areas.

Policy 1.4.a: Within the high aquifer recharge areas, the City shall make it a priority to connect areas densely populated with septic systems to the central sewer system, thereby minimizing the input of nutrients into the groundwater.



Objective 1.5:

The City shall minimize the impact of septic systems within the high aquifer recharge areas.

Policy 1.5.a: The City shall establish a septic system management program to ensure that these systems are inspected at least once every five years and maintained as needed to assure proper treatment. The City shall require existing systems to be inspected and upgraded to meet current standards whenever a property is sold, modified or expanded to accommodate additional residents, or at least every 10 years.

Policy 1.5.b: Septic tanks in high aquifer recharge areas shall be either multi-compartment, multi-tank or aerobic design.

GOAL 2: Solid Waste

The City of Alachua will provide for solid waste disposal service in a sanitary, economic, and environmentally safe manner.

Objective 2.1: Continue to ensure satisfactory and economical solid waste service for all City residents, with an emphasis on reuse and recycling.

Policy 2.1.a: The City hereby establishes the following level of service standards for solid waste disposal facilities:

<u>FACILITY TYPE</u>	<u>LEVEL OF SERVICE STANDARD</u>
Solid Waste Landfill	.73 tons per capita per year

Policy 2.1.b: Intergovernmental coordination efforts with Alachua County shall include an annual report to Alachua County delineating the City's service area population and the anticipated annual tonnage of solid waste to be disposed of at the New River Solid Waste Landfill.

Objective 2.2:

Reduce amount of solid waste disposed per capita through waste reduction strategies that include waste prevention, source reduction, reuse, and recycling.



Policy 2.2.a: The City shall maximize the use of solid waste facilities through implementation of a recycling program.

Policy 2.2.b: The City shall maintain recycling and waste reduction programs in all City facilities.

OBJECTIVE 2.3:

The City shall avoid the siting of solid waste and hazardous waste facilities within high recharge areas to minimize the water quality impacts from solid waste and hazardous waste facilities within the City's high aquifer recharge areas.

Policy 2.3.a: The City shall develop design criteria for the siting of solid or hazardous waste disposal, treatment and transfer facilities within the City. The City may prohibit these facilities in areas shown to be in the unconfined area of the Floridan Aquifer.

GOAL 3: Stormwater

Develop and maintain a stormwater management system that minimizes flooding, protects, preserves and enhances desirable water quality conditions, and, where possible, preserves and utilizes existing natural features.

Objective 3.1:

Ensure provision of drainage and stormwater retention through level of service standards and design requirements to minimize flooding and to protect and improve water quality.

Policy 3.1.a: The City hereby establishes the following water quantity and quality level of service standards for drainage facilities:

LEVEL OF SERVICE STANDARD

For all projects which fall totally within a stream, or open lake watershed, detention systems must be installed such that the peak rate of post-development runoff will not exceed the peak-rate of pre-development runoff for storm events up through and including either:

1. A design storm with a 10-year, 24-hour rainfall depth with Soil Conservation Service type II distribution falling on average antecedent moisture conditions for projects serving exclusively agricultural, forest, conservation, or recreational uses; or
2. A design storm with 100-year critical duration rainfall depth for projects serving any land use other than agricultural, silvicultural, conservation, or recreational uses.
3. The LOS standard for water quality treatment shall be treatment for the “first one inch” of runoff, and compliance with the design and performance standards established in Chapter 40C-42.025, FAC, and 42.035, FAC to ensure that the receiving water quality standards of Chapter 62.302.500, FAC are met and to ensure their water quality is not degraded below the minimum conditions necessary to maintain their classifications as established in Chapter 62-302, FAC. These standards shall apply to all new development and redevelopment and any exemptions, exceptions or thresholds in these citations are not applicable. Infill residential development within improved residential areas or subdivisions existing prior to the adoption of this comprehensive plan, must ensure that its post-development stormwater runoff will not contribute pollutants which will cause the runoff from the entire improved area or subdivision to degrade receiving water bodies and their water quality as stated above.

Policy 3.1.b: The City shall require the construction of roads within new plats or replats to be arranged so that the grades of the streets shall conform as closely as possible to the original topography to prevent the interruption of natural drainage flows, including sheet flow and flow to isolated wetland systems.

Policy 3.1.c: The City shall require a certification, by the preparer of the permit plans, that all construction activity undertaken shall incorporate erosion and sediment controls during construction.

Policy 3.1.d: Priorities for upgrading existing stormwater management facilities shall continue to be scheduled in the Capital Improvements Element of this plan and updated annually.



Policy 3.1.e: The City shall provide incentives for the use of pervious surfaces in developments in order to reduce the size of retention basins and increase the area available to receive runoff.

Policy 3.1.f: The City shall permit the use of off-site retention facilities, if they are part of previously approved master stormwater retention or detention facility.

Objective 3.2:

Maintain a database on all existing and newly constructed stormwater systems in the City.

Policy 3.2.a: The City shall quantify and assess any deficiencies in its existing stormwater management system, by requesting the Florida Department of Environmental Protection and/or the Suwannee River Water Management District, to fund and prepare a City-wide stormwater master plan to determine necessary design capacities and hydraulic demands for any needed stormwater management facilities and assess the performance of existing facilities with regard to flood control, water quality treatment and impact on the City's surfacewater and groundwater. As an alternative to a City-wide stormwater master plan, the City may request funding for a comprehensive stormwater assessment. Further, if stormwater management facilities are determined by such study to be needed, the City shall seek grant funding to fund and construct such needed facilities.

Objective 3.3:

The City shall implement design guidelines for stormwater management facilities to promote dual use, protect natural features, and provide aesthetically pleasing facilities.

Policy 3.3.a: Stormwater facility design shall incorporate the following features, where practicable:

1. Joint use of retention and detention basins for passive recreation, habitat and open space.
2. Use of vegetation, such as cypress and river birch, in retention and detention basin to enhance stormwater management objectives.
3. On-site retention and detention facilities shall be integrated with other elements of the proposed development through aesthetically sensitive design and the use of landscaping.

4. Maintain and enhance the existing hydrological and ecological function of stream or drainage corridors or wetland areas which serve stormwater facilities.
5. Where retention and detention basins are located along County roads or State roads, the basin design shall comply with the Gainesville Urbanized Area Metropolitan Transportation Planning Organization's drainage retention basin landscaping standards.

Objective 3.4:

The City shall promote practices that minimize erosion, sedimentation and stormwater runoff.

Policy 3.4.a: The City shall require development practices that minimize land disturbance, the clearing of vegetation and the removal of topsoil. These practices shall be based on established construction best management practices, such as the use of silt fences and sediment basins to retain sediment onsite.

Objective 3.5:

The City shall work with the Suwannee River Water Management District and the FDEP criteria for karst stormwater management system design.

Policy 3.5.a: The following general requirements apply to stormwater management systems throughout the City's high aquifer recharge areas:

1. No direct discharge of stormwater to active sinkholes;
2. When soil and water table conditions allow, the use of offline retention systems for stormwater treatment shall be required;
3. Swale conveyances shall be used to the greatest extent possible;
4. Projects in areas zoned for industrial land uses shall assure that industrial pollutants do not enter the stormwater system or come in contact with groundwater.
5. Natural depressions shall be used for stormwater management only when hydrogeologic evidence shows that the geologic structure and soils are stable and unlikely to form a direct connection to the groundwater. To verify geologic stability, an applicant shall provide soil boring information and/or supplemental data such as ground penetrating radar;

6. If the hydrogeologic conditions are suitable and the depression is proposed for use as part of the stormwater management system, a spreader swale shall be employed at the inflow location;
7. Regular inspection shall be conducted by developer/ maintenance entity to visibly check for existence or beginnings of solution pipes; and
8. Remedial plugging activities shall employ methodologies acceptable to the applicable regulatory agency, either the FDEP or the Suwannee River Water Management District.

Policy 3.5.b: The following general requirements apply to stormwater management systems apply for Class C and Class D storage facilities:

1. More than five feet of material between the limestone bedrock surface and the bottom and sides of the stormwater basin;
2. Basin liners – clay or geotextile;
3. Sediment sumps at stormwater inlets;
4. Off-line treatment;
5. Special stormwater system treatment train design;
6. Groundwater monitoring; and
7. Paint/solvent and water separators.

In addition to the requirements in Policy 3.5.a, stormwater systems in these areas shall:

1. Use swales, preferably with cross block or raised driveway culverts, to promote retention/infiltration within swale; and
2. Use shallow, vegetated, offline infiltration systems that are incorporated into a project's open space/landscaping areas.

GOAL 4: Potable water

Provide an adequate supply of high quality potable water to customers throughout the water service area.

Objective 4.1:

Achieve and maintain acceptable levels of service for potable water quantity and quality.



Policy 4.1.a: Capital improvement projects needed for replacement or correction of existing deficiencies in the community potable water service area shall be given priority over providing for future facilities needs, if they are imminently needed to protect the public health and safety and if existing facilities are not meeting maintenance or operation level of service standards adopted herein.

Policy 4.1.b: The City shall establish a Community Potable Water Service Area, which includes all areas where potable water service is available. Water service shall be deemed available if:

1. A water main exists within 100 ft of any residential subdivision lot or single family residence water service can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.
2. A water main exists within 500 ft of any residential subdivision consisting of 5 units or less and water service can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.
3. A water main exists within ¼ mile of any residential subdivision with more than 5 units, or any multi-family residential development, or any commercial development, or any industrial development and water service can be accessed through public utility easements or right of ways. The distance shall be measured as required for construction of the infrastructure along public utility easements and right of ways.

Policy 4.1.c: The City establishes the following level of service standards for potable water:

1. Quality: Compliance with all applicable standards of the U.S. Environmental Protection Agency (EPA) and the Florida Department of Environmental Protection.
2. Quantity: System-wide potable water distribution and treatment will be sufficient to provide a minimum of 275 gallons per day per equivalent residential unit (ERU) on an average annual basis. Plant expansion shall be planned in accordance with Florida Administrative Code.

3. System Capacity: If the volume of existing use in addition to the volume of the committed use of the City's potable water facility reaches 85% of the permitted design capacity, no further development orders or permits for projects without reserved capacity will be issued until additional capacity becomes available or funds to increase facility capacity are committed in accordance with a development agreement.

Policy 4.1.d: A wellfield protection area shall be established as a minimum of 500' around a community potable water facility wellhead, as shown on the City of Alachua Existing and Planned Water Wells Map.

Objective 4.2:

Prioritize and execute needed system improvements in a manner which protects existing investments, promotes orderly growth, and is consistent with the Capital Improvements Element and Capital Improvements Program of this Plan.

Policy 4.2.a: New urban development will only occur within areas where potable water services are available concurrent with development. For purposes of this policy, new development does not include remodeling of existing developments or additions of less than 33% to existing developments.

Policy 4.2.b: The City will continue to require necessary on-site water system improvements to be completed at the expense of the property owner.

Policy 4.2.c: The City shall extend water service in a pattern consistent with the policies of the comprehensive plan, especially the Future Land Use Map and the Future Land Use Element, adhering to a compact urban growth area, promoting infill development and discouraging urban sprawl, as defined in Florida Administrative Code.

Goal 5: Natural Groundwater Aquifer Recharge

Objective 5.1:

The City of Alachua recognizes protection of high aquifer recharge areas, wellfield protection areas, lakes, streams, drainage basins, wetlands and stream-to-sink features as vital to the protection of groundwater resources. The City shall, through partnerships and using the best available data, provide protections for groundwater resources.

Policy 5.1.a: Until such time as the areas of high aquifer recharge potential are more precisely mapped, the City shall consider the best available hydrogeological information (e.g, SRWMD high aquifer recharge potential maps or site specific data), and may require the collection of site-specific hydrogeological data, such as soil borings or electric resistivity tests, when assessing the impacts of proposed land use changes and developments in areas of high aquifer recharge potential. This information should be used in the determination of land use decisions on a case-by-case basis.

Policy 5.1.b: The City shall prioritize the acquisition of high aquifer recharge areas for protection as conservation or open space areas and investigate the future use of bonds, lease agreements, property donations, private or public trusts and partnerships, and grants to achieve these purchases.

Policy 5.1.c: The City shall coordinate with the Suwannee River Water Management District to protect the functions of natural groundwater recharge areas and natural drainage features, by requiring that all development proposals, which have the potential for impacting the water resources of the City, be reviewed by the SRWMD, in accordance with Chapter 373, Florida Statutes and Rules 40B-4 and 40B-400, Florida Administrative Code, or subsequent provisions.

Objective 5.2:

The City shall establish groundwater water quality and quantity protection strategies to protect the quality of water and maintain the quantity of water entering the aquifer.

Policy 5.2.a:

In an effort to protect groundwater quality the City shall:

1. Adopt design criteria for stormwater management practices that minimize the leaching or discharge of nutrients.
2. Promote the Florida Yards and Neighborhoods program to educate the public about proper lawn and landscaped area fertilization and irrigation;
3. Incorporate the principles of the Florida Yards and Neighborhoods program into local landscaping ordinances;
4. Adopt water conservation programs; and
5. Educate the public about the proper operation and maintenance of septic tanks. Implement a local septic management program to assure that these systems are regularly inspected, pumped out, or brought up to current standards whenever a parcel is sold.
6. Participate in the Suwannee River Partnership program for the Santa Fe River Basin.

Policy 5.2.b:

The City shall require demonstration from engineering results that post-development recharge volumes will equal predevelopment recharge volumes to the Floridan aquifer.

Policy 5.2.c:

Applicants for new development, expansions, or redevelopment shall employ one or more of the following techniques to address potential groundwater quality and quantity impacts:

1. Construction and maintenance of shallow, landscaped retention basins
2. Decreasing the amount of stormwater runoff through the use of pervious surfaces or increased open space
3. Development of a stormwater pollution prevention plan
4. Development of a sinkhole remediation plan
5. Development of a groundwater monitoring plan

Policy 5.2.d: Best management practices and performance standards shall be utilized to maximize open space, limit impervious surfaces, to minimize the use of fertilizers on turf grass areas, promote protection of natural vegetation, promote the use of pervious parking areas, and treat stormwater to protect water quality.

Objective 5.3:

The City, upon adoption of this Comprehensive Plan, shall assist the Water Management District, with the implementation of its water conservation rule, when water shortages are declared by the District. Whereby, during such shortages, water conservation measures shall be implemented for the use and reuse of water of the lowest acceptable quality for the purposes intended. In addition, the City shall assist the Water Management District with the dissemination of educational materials regarding the conservation of water prior to peak seasonal demand.

Policy 5.3.a: The City shall assist in the enforcement of water use restrictions during a Water Management District declared water shortage and in addition, assist the Water Management District with the dissemination of educational materials regarding the conservation of water prior to peak seasonal demand.