

DRAINAGE and AQUIFER RECHARGE SUB-ELEMENT

Goals, Objectives and Policies

Review Draft-January 2011

Existing language in green. New language in black.

OVERALL INTENT: Manage and store stormwater to the benefit of the aquifer and the City's lakes and other hydrological features.

GOAL ONE- Manage stormwater run-off in a way that protects the City's natural hydrological systems, while at the same time, prevents ~~Eliminate flooding problems~~ within development areas.

Objective 1.1: Adopt the following Level of Service standards for new development or substantial modification of existing projects, upon adoption of the Plan. [Measurable Target: Implement LOS]

Policy 1.1.1: All development and redevelopment shall design all stormwater drainage systems to, at a minimum, manage the effects of a 25-year 24 hour storm event.

Policy 1.1.2: In all development and redevelopment, the post-development stormwater runoff rate shall not be greater than the natural, pre-development runoff rate. Any difference in the pre and post volume of stormwater runoff shall be contained on site.

Policy 1.1.3: Any development and redevelopment, not having a positive outfall, will be required to retain a 100 year 24-hour storm event.

Policy 1.1.4: Require all development and redevelopment, to construct on site drainage systems and retention facilities that maintain water quality and promote aquifer recharge.

Objective 1.2: ~~Implement a special~~ Utilize the stormwater utility fee program to provide funding to reduce existing flooding problems, and construct facilities to accommodate future demand, to improve the water quality of stormwater run-off, and to develop areas for the storage of stormwater. [Measurable Target: Implement stormwater Management Plan]

Policy 1.2.1: Continue to implement the City's Stormwater Utility Code, including collect and utilize the stormwater utility fees and requirements for the use of and discharge maintenance and upgrades to the City's stormwater management system. Assign higher priorities to projects necessary to correct drainage deficiencies that result in the flooding of structures and to projects designed to protect the water quality of the City's lakes.

Policy 1.2.2: Continue to Conduct all appraisals, evaluations of purchase, engineering and design studies, property acquisitions, construction, and other activities necessary for implementing the City's stormwater management program 2010 Water Resource Sustainability Plan, programming priorities as part of the five-year CIP.

Policy 1.2.3: To facilitate the goal of creating a compact, pedestrian friendly downtown, work towards the development of regional stormwater management facilities (ie. retention basins, swales, and rain gardens) that will improve water quality and increase aquifer recharge.

Policy 1.2.4: When technically and financially feasible, require the use of perforated pipe designed to percolate stormwater when any capital project requires work on the stormwater conveyance system.

Objective 1.3: Establish stormwater management regulations for new development in flood prone areas compatible with the Levels of Service. [Measurable Targets: Implement code, FEMA maps]

Policy 1.3.1: Continue to enforce Land Development Regulations which define the standards and criteria for the construction of new drainage and stormwater treatment systems in new developments. Additionally, continue the practice of requiring these facilities to be privately owned and maintained.

Policy 1.3.2: Continue to enforce and, as necessary, update the existing 1979 Stormwater Management Ordinance, to be consistent with the Comprehensive Plan. By 2014, revise and update the stormwater management regulations contained in the City's Land Development Regulations for consistency with the 2010 Water Resource Sustainability Plan and all state and federal regulations governing surface water quality.

Policy 1.3.3: Continue to enforce and, as necessary, update the existing City's flood prevention and Control Ordinance land development regulations, to be consistent with the Comprehensive Plan and

~~utilize~~ Ensure that the regulations remain consistent with Federal Emergency Management Agency (FEMA) data and maps.

Policy 1.3.4: Assign “Conservation” Future Land Use along existing natural drainage features and floodways to prevent encroachment from development. For minor drainage features and floodways the buffer shall be 50 feet from the edge of the feature, and for major drainage features and floodways, including the Peace Creek and the Wahneta Farms Drainage Canals, the buffer shall be 100 feet from the edge of the feature.

Objective 1.4: Maintain existing ~~drainage~~ stormwater conveyance facilities in efficient operating condition. [~~Measurable Target: Inspect and clean drainageways~~]

Policy 1.4.1: Maintain and replace, as needed, ~~vacuum cleaner type~~ street sweepers and vacuum trucks ~~that~~ to reduce the amount of pollutants and debris from the City’s streets entering lakes and other water bodies. When purchasing new vehicles, seek out the most fuel efficient, technologically advanced, vehicles that are financially feasible, and capable of completing the job.

Policy 1.4.2: ~~Continue~~ Perform ongoing inspection and maintenance on the existing ~~drainage pipe~~ stormwater conveyance system.

Policy 1.4.3: Continue to enforce ordinances and regulations that prevent the movement of soil, yard waste, and debris into streets and alleys and ultimately the stormwater conveyance system.

Objective 1.5: Improve surface water quality. [~~Measurable Targets: Agreements with agencies, compliant development permits~~]

Policy 1.5.1: Coordinate all water improvement activities for the ~~Chain of Lakes~~ City’s lakes with the Southwest Florida Water Management District and the Lake Region Lakes Management District.

Policy 1.5.2: Development shall meet all current, applicable federal and state water quality standards (~~Rules 17-25 and 17-40, Florida Administrative Code~~).

Policy 1.5.3: Infill residential development within improved residential areas or subdivisions existing prior to the ~~adoption of this comprehensive plan~~ April, 1991, must ensure that its post-development stormwater runoff will not contribute pollutants which will cause the run-off from the entire improved area or subdivision to degrade receiving water bodies and their water quality.

Policy 1.5.4: By 2013, implement Land Development Regulations requiring the use of rain gardens, pocket wetlands, or similar stormwater catchment basins to capture and treat stormwater from rooftops, parking lots, and roadways.

Policy 1.5.5: Identify and complete three major lake water quality improvement projects by 2025. Prioritize projects that improve the water quality of Lake Lulu, Lake May, and Lake Shipp.

GOAL TWO: Protect the recharge capabilities of the aquifer to insure the future supply of water resources.

Objective 1.1: Protect all natural drainage features and groundwater recharge areas by establishing criteria to manage development. [Measurable—Target: Adopt/implement/enforce codes and standards]

Policy 2.1.1: Within wellhead protection areas, the following shall be prohibited: landfills; facilities for bulk storage, handling or processing of materials on the Florida substance list; activities that require the storage, use handling production or transportation of restricted substances, agricultural chemicals, petroleum products, hazardous toxic waste, medical waste or similar substances; feed lots or commercial animal facilities; mines; and excavation of waterways or drainage facilities which intersect the water table.

Policy 2.1.2: Protect aquifer recharge areas through the establishment of specific prohibitions, restrictions, standards and criteria for any existing or proposed wastewater system, which could potentially contaminate the water supply.

Policy 2.1.3: Enforce Land Development Regulations that require all development and redevelopment that adds additional impervious area, including building, roofs, paving, etc. to provide post development groundwater recharge volume which shall be at least 80% of the estimated natural pre-improvement recharge volume.

Policy 2.1.4: ~~Development regulations shall be adopted and/or amended by the City in accordance with Section 163.3202 (1), FS, to establish~~ Maintain performance standards land development regulations to protect in areas of high recharge potential areas, by addressing the following providing for:

- a. density limits;
- b. impervious-surface cover requirements;

- c. vegetation preservation;
- d. stormwater retention design consideration;
- e. control of point and non-point pollution of ground and surface waters (including, but not limited to, contact with sinkholes and the use of vegetative buffers and proper design of stormwater management systems); and
- f. water quality standards for waters discharged into the groundwater aquifer which ensures that new development and redevelopment within a “high recharge area” will not reduce the quality of the water discharged into the groundwater aquifer.

Policy 2.1.5: Hazardous waste handling and storage facilities to be located within high recharge areas shall meet all applicable federal and state requirements prior to or concurrent with issuance of any final development orders.

Policy 2.1.6: Amend the Comprehensive Plan as needed to incorporate new data, and analysis and that supports goals, objectives and policies that define future actions to protect aquifer recharge areas and the supply of future groundwater resources.

Objective 1.2: Increase stormwater run-off capture and storage opportunities in order to improve the overall hydrologic function of the Upper Peace River Basin.

Policy 2.2.1: Work with the Florida Department of Transportation and Polk County to incorporate water storage and conveyance features identified in the *Sustainable Water Resource Management Plan* as part of all highway capacity projects.

Policy 2.2.2: Work with the Florida Department of Transportation, Polk County, and other local governments to ensure that any wetland and floodplain mitigation occurs locally within the Upper Peace River Basin.

Policy 2.2.3: Continue to prioritize the development of nature or hydric parks within the City as a way to increase stormwater treatment and storage.

Policy 2.2.4: Develop Land Development Regulations requiring new development to utilize low-impact stormwater treatment methods to ensure stormwater is percolated into the ground as opposed to being treated in large ponds and discharged.

Objective 1.3: Increase aquifer recharge in the Upper Peace River Basin.

Policy 2.3.1: Evaluate using treated reuse water to recharge the aquifer.

Policy 2.3.2: Carry out a comprehensive study to identify areas, such as along public streets and as part of public parking lots, for the development of rain gardens. Seek funding and grants to construct the identified rain gardens. By 2020, complete ten rain garden projects within the City.

Policy 2.3.3: Implement public education campaigns to educate residential property owners on techniques, such as downspout rain gardens, pervious driveways, and swales, to reduce stormwater run-off and increase infiltration.

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