

Water Conservation (water source and usage) Related Policies Excerpts from the Comprehensive Plan

UTILITIES ELEMENT

POTABLE WATER SUBELEMENT

GOAL 1: PROVIDE CITY RESIDENTS AND OTHER LOCAL GOVERNMENTS THAT RECEIVE POTABLE WATER WITH RELIABLE SERVICE.

Objective 1.1: New development within the City’s Potable Water Service Area shall be approved only when adequate water supply, treatment and distribution capacity is available to provide, or provisions are included (as identified in Capital Improvement Element Policies), for the needed potable water or when the developer obligates funds to provide that development’s share of capital improvements to any of these systems, as well as the distribution systems within the development.

Policy 1.1.1: The City shall coordinate closely with local governments that receives potable water from the City to ensure they provide the City with an annual report including 5-year and 10-year projections of population, land use and water usage information.

Policy 1.1.2: Applicants seeking development approvals shall obtain a written water availability statement from the City indicating an adequate water supply consistent with the established level of service (LOS) standards is available to serve the development. At a minimum, the water availability statement shall indicate an adequate water supply will be available and all required delivery infrastructure shall be fully constructed and operable prior to the issuance of the Certificate of Occupancy.

Policy 1.1.3: The following level of service standards shall serve as the basis for determining the demand and future capacity needs to be generated by a development:

<u>Average Water Consumption Rate (gpcpd)</u>	
West Palm Beach Service Area	269

Objective 1.2: The City shall continue to annually evaluate programs and construction projects to identify necessary repairs and add to the potable water delivery system to correct existing facilities and distribution deficiencies.

Policy 1.2.1: The City shall continue to implement an on-going program of inspection and replacement of water lines which are determined to be in a deteriorated condition. Priorities for this work shall be established within a Potable Water Quality Master Plan that additionally includes identification of appropriate measures to safeguard the quality of the City’s potable water.

Policy 1.2.2: The City shall identify areas within the water distribution system, which are not provided with looped service and schedule construction, as funding permits, to correct this problem by 2016.

Objective 1.3: Pursuant to the South Florida Water Management District Consumptive Use Permit, per capita use of potable water within the West Palm Beach Service Area shall be decreased to 262 gallons per capita per day by 2011, and further to 257 gallons per capita per day by 2016.

Policy 1.3.1: The City shall continue to educate water users of the importance of water conservation and coordinate with the South Florida Water Management District in the implementation of water conservation programs such as but not limited to:

- a) Encourage the use of water saving plumbing devices in new and existing structures.
- b) Reduce water line loss through regular repair and replacement.
- c) Aggressively pursue the use of wastewater reuse for landscaping within rights-of-way, golf courses and parks.
- d) Promote xeriscape practices when considering all proposals for development and/or redevelopment.

Policy 1.3.2: The City shall continue to implement a water conservation program aimed at the consumer and monitor water usage to study the results of the program.

Policy 1.3.4: The City shall continue to employ structured water rates as an incentive that supports this objective of potable water conservation.

Objective 1.4: In order to discourage urban sprawl, the City shall concentrate new development around existing or planned infrastructure, including potable water facilities.

Policy 1.4.1: The City shall discourage urban sprawl by adhering to the concurrency requirements and level of service standards outlined within this comprehensive plan, including those for potable water facilities.

Policy 1.4.2: The City shall construct additional infrastructure and/or facilities for potable water delivery as it deems necessary to accommodate projected needs.

Policy 1.4.3: The City shall complete, by 2010, a capacity need and water delivery analysis for potable water that includes the identification and work program for improvements for the replacement, expansion, and/or increase in capacity of

facilities within the West Palm Beach Service Area. Future improvements shall be implemented so that there is no disruption in meeting levels of service and shall be compatible with adopted level of service standards for facility design as required by federal and state regulations. *[9J-5.011(2)(c)1,F.A.C.]*

Objective 1.5: The City shall plan for future water supplies and assure future water demands will be met through the implementation and updates of the 10 Year Water Supply Facility Work Plan (incorporated into this Element as the 10 Year Water Supply Facility Work Plan SubElement) and incorporate alternative water supply projects identified in the South Florida Water Management District’s regional water supply plan pursuant to s. 373.0361(2)(a) or proposed by the County under s. 373.0361 (7)(b).

Policy 1.5.1: The City shall continue to coordinate with the South Florida Water Management District regarding water supply efforts and shall incorporate into the 10 Year Water Supply Facility Work Plan, as appropriate, any updates to the 2005-2006 South Florida Water Management District Lower East Coast Regional Water Supply Plan.

STORMWATER MANAGEMENT SUBELEMENT

GOAL 2: THE CITY SHALL ENCOURAGE COMPACT GROWTH IN THE WESTERN AREAS OF THE CITY AND PROVIDE ADEQUATE STORMWATER MANAGEMENT SYSTEMS WITHOUT DEPLETING THE SOURCE OF IRRIGATION AND RECHARGE WATER.

Objective 2.1: The City shall continue to coordinate with the South Florida Water Management District and the local improvement districts to design and implement future stormwater management systems, to conserve wetlands acreage, to foster protection of natural wildlife habitats, to protect natural resources, and to protect water quality.

Policy 2.1.1: The City shall maintain the water levels in the City’s discharge canals at beneficial elevations during dry periods to conserve valuable water resources.

Objective 3.1: The City shall continue to implement recommendations from the 2000 Stormwater Management Plan, which addresses correcting existing deficiencies and the increasing of capacity to meet future needs.

Policy 3.1.1: The City shall address deficiencies and future demand through the Implementation of the of the 2000 Stormwater Management Plan recommendations and by the implementation of the 1993 Stormwater Utility Ordinance and the Utility Fee to fund designated projects on an ongoing basis.

Objective 1.3: The City shall continue to implement a program of public education and information to promote understanding of the Water Catchment Area and the importance of environmental preservation to the quality of the City's water supply.

Policy 1.3.1: The City shall continue to develop and utilize the Nature Center facilities and relationships with environmental groups and educational centers to provide an educational program that allows acceptable, passive recreational use of the Water Catchment Area to promote an appreciation of the fragile and unique environment that is the source of the City's water.

Objective 1.4: The City shall continue to implement existing and identify additional programs to augment and enhance groundwater recharge.

Policy 1.4.1: The City shall continue to implement an aquifer storage and recovery program that will allow the storage of excess water underground which could then be released during low-flow or drought periods to augment surface waters and water supply requirements.

Policy 1.4.2: The City shall continue to implement a water reuse program utilizing reclaimed waste water to recharge surficial wetlands and shallow aquifer systems.

10 YEAR WATER SUPPLY FACILITY WORK PLAN SUBELEMENT

3.0 DATA AND ANALYSIS

3.5 Conservation

The City developed and adopted a Water Conservation Plan in July 2005. The Water Conservation Plan elements include an aggressive approach to the development and implementation of several alternative water supply projects, water conservation based water rate structures, leak detection programs, an irrigation limitation ordinance, native vegetation landscaping requirements, ultra-low volume plumbing fixture construction code, rain sensor override requirement ordinance, and extensive public education programs. The City will coordinate future water conservation efforts with SFWMD to ensure that proper techniques are applied. In addition, the City will continue to support and expand existing goals, objectives and policies in the comprehensive plan that promote water conservation in a cost-effective and environmentally sensitive manner. The City will continue to actively support the SFWMD in the implementation of new regulations or programs that are design to conserve water during the dry season.

3.6 Alternative Water Supply Projects/Reuse

The City is committed to developing and implementing alternative water supply projects involving reuse. In 2002, the City completed the construction of the Renaissance Project,

an innovative stormwater collection and reuse system that collects and treats stormwater normally discharged to tide, for reuse by the City in its potable water supply system. The Renaissance Project, a \$17,600,000 project was completed with financial support from the Environmental Protection Agency, South Florida Water Management District, and Palm Beach County. The Renaissance Project became operational in September 2002 and it is estimated that between September 2003 and January 2004, over 340 million gallons of stormwater were pumped and treated through the Renaissance Pump Station. The Renaissance Project captures, treat and stores approximately 365 million gallons per year, (MGY) or one (1) million gallons per day (MGD). The Renaissance Project is intended to capture, treat and store stormwater that would normally be lost to tide and reduce the City's dependency on the regional water supply system.

In 2006, the City completed construction on the Wetlands Based Water Reclamation Project (WBWRP). The WBWRP is another innovative water reuse project involving the discharge of highly treated effluent to an adjacent wetland area to restore and recharge the wetland and surficial aquifer. The City's wellfield ultimately pulls water from this recharged aquifer and discharges the water to the City's potable water supply system. The reclaimed water, at up to 10 million gallons per day (MGD), is available to augment the City's water supply and again reduces the need to withdraw additional water from the regional water supply system.

The City has also completed construction of an 8 mgd aquifer storage and recovery (ASR) well at its Water Treatment Plant. The City's ASR well is designed to store excess treated surface water during period of heavy rainfall. The excess water is pumped into the upper Floridan Aquifer System and is recovered when the water is withdrawn to meet increased demands during dry weather. The City's ASR well is not operational at this time but it is being evaluated for potential use in the future.

CONSERVATION ELEMENT

II. SURFACE AND GROUND WATER SYSTEMS

GOAL 2: THE CITY SHALL PROTECT AND CONSERVE THE QUALITY AND QUANTITY OF ALL WATER SOURCES AND GROUNDWATER RECHARGE AREAS.

Objective 2.1: The City shall protect and enhance its groundwater resources including the environmental resources in and around the Grassy Waters Preserve/Water Catchment Area (WCA) to provide for adequate water supply, help offset the City's carbon footprint associated with greenhouse gas emissions, to improve surface water drainage and to provide a means to promote the conservation and reuse of freshwater resources.

Policy 2.1.1: The City shall continue to monitor groundwater quality and levels and shall continue to remain in permit compliance with the Florida Department of

Environmental Protection (FDEP) and the South Florida Water Management District (SFWMD).

Policy 2.1.2: The City shall cooperate and comply with Palm Beach County's Wellfield Protection Ordinance for existing and future public waterwells.

Policy 2.1.3: The City shall seek ways to optimize the integrity of its recharge areas and minimize future degradation affecting water supply quality and quantity by, but not limited to, limiting adverse usage, add additional recharge areas, and/or add alternative water supply areas.

Policy 2.1.4: The City shall protect the Surficial Aquifer System by controlling land uses and preventing any use that might contaminate or reduce the quality level of the aquifers.

Policy 2.1.5: The City shall work with other agencies to improve the surface water systems of the WCA components that provide for groundwater recharge consistent with the Northern County Plan of the Comprehensive Everglades Restoration Plan (CERP). These components include:

- a) The capacity of the M Canal;
- b) The control structures forming the discharge to the C-18 Canal and eventually the Loxahatchee River; and
- c) The provision of aquifer storage and recovery wells to store excess wet weather flows for discharge during low flow conditions.

Policy 2.1.6: The City shall coordinate with the SFWMD to implement water conservation programs.

III. ECOLOGICAL RESOURCE PROTECTION

GOAL 3: THE CITY SHALL IDENTIFY, MANAGE AND PROTECT ECOLOGICAL COMMUNITIES, WILDLIFE, MARINE LIFE, ESTUARINE RESOURCES AND ESTABLISH PROGRAMS TO CONTROL OR ERADICATE INVASIVE NON-NATIVE SPECIES

Objective 3.1: The City's wetland and significant native upland vegetative areas shall be conserved and protected from physical and hydrologic alterations that cause negative impacts to their functions.

Policy 3.1.1: The City shall continue to enforce land development regulations to ensure that development proposals identify the location and extent of wetland and significant native upland vegetative areas, and identify measures to preserve them. Where alteration of wetland and native upland vegetative areas is

unavoidable to ensure reasonable use of the property, the City shall require minimization of impacts followed by requirements for appropriate mitigation.

Policy 3.1.2: The City shall continue to purchase or otherwise acquire control over undeveloped lands and buffer areas adjacent to the Grassy Waters Preserve/WCA and manage these lands such that:

- a) Wetland hydroperiods and wildlife habitats are conserved or restored.
- b) Surface and groundwater flows are enhanced thus reducing seepage losses from the WCA.
- c) The lands will serve as a protective buffer to the WCA from surrounding land uses.
- d) The lands provide an opportunity to accept excess stormwater runoff and reclaimed water to promote shallow aquifer and surface water recharge.

Policy 3.1.3: Any lands acquired by the City for the purposes specified in Policy 3.1.2 shall be designated “Conservation” land on the Future Land Use Map.

V. LOXAHATCHEE SLOUGH/RIVER WATERSHED

GOAL 5: THE CITY SHALL PROTECT AND PRESERVE ENVIRONMENTALLY SIGNIFICANT FEATURES, SUCH AS THE LOXAHATCHEE SLOUGH AND RIVER WATERSHED.

Objective 5.1: The City shall preserve and protect that portion of the Loxahatchee Slough and River Watershed which lies within its conservation jurisdiction. This segment is the City's Grassy Waters Preserve/WCA.

FUTURE LAND USE ELEMENT

Policy 1.4.11: The City shall prohibit any development within designated protected potable water wellfields, and their respective cones of influence, if that development proves to adversely affect an identified source of potable water in accordance with the Palm Beach County Wellfield Protection Ordinance.

Policy 1.7.5: Development proposed for land adjacent to the City’s Water Catchment Area poses special circumstances due to the importance of maintaining an adequate supply of clean potable water, the close relationship of surface and groundwaters, the prevalence of wetland areas which provide water storage and cleansing functions, and the nearness of the drawdown zone of another municipality. Accordingly, the City shall utilize the Special Impact Zone to ensure heightened site plan review and compatibility analysis to prohibit land use and environmental incompatibilities for the

area bounded by Haverhill Road on the east, the City's Water Catchment Area on the west, the "M" Canal on the south, and a line parallel to and approximately 611 feet south of 45th Street on the north. Any development within this zone must comply with the following standards and requirements.

- a) The City shall require a professionally accepted and applied environmental assessment of any development proposed within the Special Impact Zone as a part of the development application process. The assessment will include an identification of the following: soils and vegetative types, groundwater and surface water elevations and flows, surface water management systems and levels of service, existing water quality standards and an aerial photography map. The environmental assessment will evaluate the impact and include design standards to prevent adverse impacts of the proposed development on surface and groundwater quality and quantity, wetlands and other sensitive environmental habitats, surface and groundwater flows and storage, drainage levels of service, and potable water supplies.
- b) Land uses shall not be approved in the Special Impact Zone that require the use, sale or storage of hazardous materials, wastes or other polluting materials unless requirements as set forth in subsection 5.02 (a), (b), (c), (d), (e), and (h) of the Palm Beach County Wellfield Protection Ordinance No. 88-7 for Zone 2 are met. In addition, any spill of hazardous materials, wastes or other polluting materials shall be reported immediately and by telephone to the Engineering and Public Works Director for the City. Clean-up shall commence immediately upon discovery of the spill.
- c) No development shall be approved in the Special Impact Zone unless the quality and quantity of the supply of groundwater and surface water inflow to the Water Catchment Area, the "M" Canal and existing potable water wellfields are maintained. The level of treatment for stormwater (especially herbicides, pesticides, heavy metals and petroleum hydrocarbons), and waste water, including sanitary sewer effluent as well as other onsite activities, must ensure that the water quality of the "M" Canal, the Water Catchment Area, and potable water wellfields are not degraded. Septic tanks shall not be permitted within the Special Impact Zone.
- d) The Water Catchment Area will be protected by a buffer of natural vegetation of at least 200 feet, and the "M" Canal will be protected by a buffer zone of natural vegetation within the south 450 feet of the Parcels One, Two, and Three described in Chapter 89-479 (Laws of Florida) as amended by Chapter 90-461 (Laws of Florida).
- e) Surface water management systems for developments in the Special Impact Zone must be designed so that hydroperiods and groundwater levels of established wetlands are maintained or enhanced.
- f) Existing wetland areas shall not be altered to decrease the fish, wildlife, and water quality and quantity values in the Special Impact Zone. Wetlands alteration is limited to degraded wetlands which are defined as having been impacted through human activities such as dredging and filling that have caused changes to the wetland hydroperiod, topography, or allowed the

intrusion of non-wetland or non-native (e.g. melaleuca) plant species. As a result, the degraded wetlands do not provide fish, wildlife and water quality and quantity values equal to or greater than would be provided if these wetlands were restored on an acre for acre basis as determined by professionally accepted and applied methodologies. There shall be no discharge of surface water off-site which exceeds the historic flow of surface waters from the Special Impact Zone. No development in the Special Impact Zone shall decrease the pre-development flow and quality of water to wetlands within the Special Impact Zone. Any loss of wetland values and functions shall be mitigated on a two-for-one basis so that twice as much of the same wetlands community will be created or restored as is lost through development. Mitigation shall be accomplished on site or within the Water Catchment Area or Special Impact Zone through restoration of degraded wetlands or through the creation of new wetlands.

- g) Review of development proposals and land use changes shall be coordinated with Palm Beach County, the South Florida Water Management District and adjacent municipalities to insure maintenance of the Florida Department of Environmental Regulation Class 1 potable water designations for the Water Catchment Area and to ensure the protection of other municipal wellfields.

Objective 1.11: The City shall coordinate future land uses with the appropriate topography, soil conditions, and the availability of appropriate facilities and services by Site Plan Review and by review of Developments of Significant Impact, Developments of Regional Impact, and Environmental Assessment Studies with the purpose of regulating development to protect against negative impacts.

Policy 1.11.1: The City shall require an environmental assessment, where appropriate, for any land use development as a part of the Development Application process, which will include identification and analysis of vegetation associations, topography, soils, elevations and flooding levels, and an aerial photography map. The Site Plan review process shall regulate land uses and development to protect natural drainage features and groundwater aquifer recharge areas.

Objective 1.14: The City shall develop and implement green and sustainability strategies.

Policy 1.14.1: The City shall continue the existence of a sustainability/green committee to evaluate and provide input regarding the implementation of green principles, practices and programs aimed at improving the sustainability of the City.

Policy 1.14.2: The City shall continue to seek ways and opportunities to implement green and sustainable initiatives regarding, but not limited to, carbon footprint reduction, water conservation and reuse, recycling, waste and energy reduction, reuse of resources, greater operational efficiency, land use and transportation practices, multi-pollutant prevention, and environmental improvements.