

INFRASTRUCTURE ELEMENT ADOPTION DOCUMENT

III. GOALS, OBJECTIVES AND POLICIES

GOAL

The goal of the Infrastructure Element of the Comprehensive Plan for the City of Pembroke Pines is to ensure the provision of adequate water and wastewater treatment facilities, solid waste, and drainage facilities, the protection of the natural groundwater aquifer, to promote the conservation and protection of surface and groundwater resources with the purpose of securing future water supplies, and for the preservation and enhancement of the regional ecosystem in order to provide for the health, safety and welfare of the residents of the City of Pembroke Pines and its visitors.

A. SANITARY SEWER

OBJECTIVE I

Insure the adequate treatment of sewage within the community at the time of building permit issuance by maintaining the adopted level of service through the year ~~2015~~2030.

Evaluation Measure Objective I - Record of maintaining the adopted level of service through the year ~~2015~~2030.

Policy 1.1 - Maintain sanitary sewer service capacity through incorporation of any needed improvements into the City's Capital Improvements Program.

Policy 1.2 - Coordinate with the private sector for the extension of facilities as needed to meet future demands through a provision for voluntary contribution for construction of connections to the City sanitary sewer system.

Policy 1.3 - Since sanitary sewer facilities have been determined to be available to serve the future population, monitor service demand and capacity in ~~2025~~40 and again in ~~2015~~2030 so as to identify any unforeseen facility deficiencies.

Policy 1.4 - Develop a plan for prioritizing needs and correcting deficiencies upon their identification, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

Policy 1.5 - Average design capacities as depicted on Table I, Wastewater Demand, shall not be exceeded.

Policy 1.6 - Continue interlocal agreement with the City of Hollywood for the treatment of sewerage for the area east of Flamingo Road and examine alternative methods of service delivery to improve level of service.

Policy 1.7 - Standards equal 93 gallons/capita/day and 1,000 gallons/acre/day.

OBJECTIVE II

Continue to provide wastewater treatment operations to meet demands within the City in an efficient, economical and environmentally sensitive manner through the year ~~2015~~2030.

Evaluation Measure Objective II - Maintain record of water treatment operations relating to demand and capacity; and update for both the short term and long term planning horizons.

Policy 2.1 - Implement the Five Year Capital Improvement Program for the City to insure coordinating the extension of, capacity increase and other facility improvements to meet future needs.

Policy 2.2 - Every five years, establish priorities for providing for future facility needs to be implemented through the Capital Improvement Program, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

Policy 2.3 - Continue to require the use of existing sanitary sewer facilities by all new development so as to discourage urban sprawl.

Policy 2.4 - Maximize the use of the City's existing facilities.

Policy 2.5 - All new land use amendments shall be consistent with existing and programmed sanitary sewer facilities.

Policy 2.6 - All new development permits may be issued only when determined to be consistent with existing and programmed sanitary sewer facilities.

Policy 2.7 - LDR's will be updated by 2008 to reflect criteria in reviewing land use plan amendments for consistency with existing and programmed sanitary sewer facilities.

Policy 2.8 - Coordinate with the Broward County Department of Planning and Environmental Protection in conducting wastewater treatment and disposal operations which consider environmental quality impacts for commercial and industrial uses.

Policy 2.9 - Continue to coordinate with the Broward County Department of Planning and Environmental Protection in maintaining an inventory of commercial and industrial uses which utilize, produce, or dispose of hazardous chemicals as a means to track potential sources of water contaminants.

Policy 2.10 – Utilize inventory of septic tank locations in the City (see FLU-Appendix) in the preparation of a report to be submitted with the next EAR on the feasibility of converting from septic tanks to sanitary sewer as an alternative means to protect ground water quality.

Policy 2.11 - The City shall require existing development using septic tanks to hook up to centralized sewer facilities as they become available in order to phase out septic tank systems in an economically feasible and environmentally sound manner.

Policy 2.12 - New septic tank systems shall only be permitted in accordance with the criteria and requirements of the Florida Department of Health.

Policy 2.13 - The City shall coordinate with the Broward County Department of Planning and Environmental Protection to encourage the use of reclaimed water as part of the City's wastewater management strategies where economically, environmentally and technically feasible.

Policy 2.14 - The City will incorporate all updated Infrastructure Element objectives and policies which require coordination with other governmental entities in the City's Intergovernmental Coordination Element (ICE).

Policy 2.15 - The City will continue to update on an as needed basis, the infrastructure map which shows potable water, sanitary sewer, groundwater, floodplains, and solid waste facilities.

B. SOLID WASTE

OBJECTIVE III

Ensure that adequate solid waste facilities are provided to meet current and future demands of all the residents of the City through the year ~~2015~~2030.

Evaluation Measure Objective III - Maintain record of solid waste facility operations relating to demand and capacity; and update for both the short term and long term planning horizons.

Policy 3.1 - Continue to recognize Reuter, Inc. in its role as a transfer site for solid waste disposal outside Broward County and its role in providing recycling services for the residents of the City.

Policy 3.2 - Ensure that the recycling facility is designed to protect the environment and the residents of the community through a review of its design and an annual review of its operations.

Policy 3.3 - Continue to coordinate with the solid waste service providers to monitor service demand and capacity on an annual basis so as to identify any facility deficiencies.

Policy 3.4 - In coordination with private solid waste service providers, develop a plan for prioritizing needs and correcting deficiencies upon their identification, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

OBJECTIVE IV

Insure that an adequate level of service is maintained by the solid waste facility operators contracted by the City through an annual review which addresses needed increases in capacities of facilities to meet future needs.

Evaluation Measure Objective IV - Maintain record of solid waste facility operations relating to demand and capacity; and update on a yearly basis.

Policy 4.1 - Continue to coordinate with contracted solid waste facility operators on an annual basis to monitor the solid waste demands of the community, and to provide for the extension of, capacity increase, and other facility improvements to meet future needs.

Policy 4.2 - By 2010, the City will establish and implement a citywide education program for commercial and residential recycling activities to achieve the state's 30 percent waste reduction target.

Policy 4.3 - The City shall continue its newspaper recycling program and continue to request grant funds to initiate recycling of aluminum, glass and plastics.

Policy 4.4 - On an annual basis, priorities for meeting future facility needs will be updated and reviewed, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

Policy 4.5 - Standard equals 5.0 lbs./capita/day.

Policy 4.6 - Continue to require the use of existing and programmed solid waste facilities so as to discourage urban sprawl.

Policy 4.7 - All new land use amendments shall continue to be consistent with existing and programmed solid waste facilities.

Policy 4.8 - All new development permits shall continue to be issued only when determined to be consistent with existing and programmed solid waste facilities.

Policy 4.9 - LDR's will be updated by 2008 to reflect criteria in reviewing land use plan amendments for consistency with existing and programmed solid waste facilities.

C. DRAINAGE

OBJECTIVE V

Continue to coordinate with appropriate drainage service facilities and agencies to maintain and provide for an adequate level of service, and to ensure that drainage facilities are designed to protect the health, safety and welfare of the residents.

Evaluation Measure Objective V - Record of review of site plans by the City's Development Review Committee to insure adequate drainage by all applicable regulating agencies.

Policy 5.1 - All development shall comply with the design criteria of the South Florida Water Management District (SFWMD), the South Broward Drainage District (SBDD), the Central Broward Drainage District (CBDD), the Broward County Water Resources Management Division (BCWRMD), the Broward County Department of Planning and Environmental Protection (BCDPEP) and the City's Environmental Services Division.

Policy 5.2 - Continue to implement a plan to protect the natural groundwater aquifer through implementation of Best Management Practices.

Policy 5.3 - Comply with the following level of service standards:

Facility Type	Level of Service Standard
Road Protection	Residential streets not greater than fifty feet wide rights-of-way to have crown elevations no lower than the elevation for the respective area depicted on the Broward County "Flood Criteria Map." Rights-of-way greater than fifty feet wide to have an ultimate edge of pavement no lower than the elevation for the respective area depicted on the "Flood Criteria Map." In all cases, residential streets shall be designed in accordance with the Broward County flood maps.
Buildings	<p>"The minimum lowest floor elevation" shall be the highest of the following:</p> <ol style="list-style-type: none">1. Minimum floor elevation as set forth in the South Florida Water Management District's Surface Water Management Permit.2. The elevation shown on the "100 Year Floor Elevation" Map, Latest Revision, prepared by Broward County Transportation Department.3. Twelve (12") inches above the highest point of the paved roadway/drive-lane nearest to the building.

Off-Site Discharge	Not to exceed the inflow limit of SFWMD primary receiving canal or the local conveyance system, whichever is less. Within the SBDD pumped basins, the allowable discharge is not applicable. The discharge for the entire basin is controlled by the District's pump station.
Storm Sewers	Design frequency minimum to be three year rainfall intensity of the State Department of Transportation Zone 10, rainfall chart as shown on the attached exhibit. SBDD requires that an initial time of concentration of 10 minutes be used or calculations be provided to justify a time of concentration greater than 10 minutes. The time of overland flow is dependent on the slope of the ground and the nature of the ground cover, for example, whether the surface is paved, rocky or grassed.
Flood Plain	Calculated flood elevations routing based on the ten-year and one hundred-year return frequency rainfall of the three-day duration shall not exceed the corresponding elevations of the Broward County "Flood Criteria Map" and the "100 Year Floor Elevation" Map, or in accordance with SBDD permits.
Antecedent Water	The control elevation for each of the District's basins are set by SFWMD permits.
Water Quality Pretreatment Standards and On-Site Storage	<p>a. Retention and/or detention in the overall system, including swales, lakes, canals, greenways, etc., shall be provided for one of the three following criteria or equivalent combinations thereof:</p> <ol style="list-style-type: none"> 1. Wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater. 2. Dry detention volume shall be provided equal to 75 percent of the above amounts computed for wet detention.

3. Retention volume shall be provided equal to 50 percent of the above amounts computed for wet detention.
- b. Commercial or industrial zoned projects shall provide at least one half inch of dry detention or retention pretreatment as part of the required retention/detention, unless reasonable assurances can be offered that hazardous materials will not enter the project's surface water management system.
 - c. Systems with inlets in greased areas will be credited with up to 0.2 inches of the contributing areas. Full credit will be based on a ratio of 10:1 impervious area runoff to pervious area with proportional credit granted for greater ratios.
 - d. Storage requirements for each SBDD basin are in accordance with SBDD's Public Facility Report.

Best Management
Practices (BMP'S)

Prior to discharge to surface or ground water
BMP's will be used to reduce pollutant discharge.

Policy 5.4 - By 2008, update LDR's to reflect the drainage level of service standards as amended.

Policy 5.5 - Continue to coordinate with South Broward Drainage District and Central Broward Drainage District on an annual basis to prioritize replacement needs, and correct existing facility deficiencies, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

Policy 5.6 - The City will continue to update the map series for the drainage facilities on an as needed basis in accordance with the Broward County and applicable Drainage District and South Florida Water Management maps as an amendment to the Infrastructure Element.

Policy 5.7 - The City will incorporate all updated Infrastructure Element objectives and policies which require coordination with other governmental entities in the City's Intergovernmental Coordination Element (ICE) during the amendment cycle following the update.

Policy 5.8 - The City establishes water quality standards for stormwater discharge in accordance with Chapter 60-25, F.A.C.

OBJECTIVE VI

Continue to coordinate with the SFWMD, SBDD, and CBDD to coordinate the extension of, capacity increases and other facility improvements to meet future needs.

Evaluation Measure Objective VI - The City's Environmental Services Division in coordination with the appropriate drainage facility agencies shall maintain a record of drainage facility operations relating to demand and capacity; and update the record for both the short term and long term planning horizons.

Policy 6.1 - Continue to coordinate with appropriate drainage facility agencies on an annual basis to review the status of the drainage system to meet future needs.

Policy 6.2 - Continue to coordinate with appropriate drainage facility agencies to maximize the use of existing facilities by all new development so as to discourage urban sprawl.

Policy 6.3 - All new land use amendments shall be consistent with existing and programmed drainage facilities.

Policy 6.4 - All new development permits shall be issued only when determined to be consistent with existing and programmed drainage facilities.

Policy 6.5 - LDR's will be updated by 2008 to reflect criteria in reviewing land use plan amendments for consistency with existing and programmed drainage facilities.

D. POTABLE WATER SUPPLY AND WATER RESOURCE MANAGEMENT COORDINATION

OBJECTIVE VII

Insure the adequate provision of potable water services within the community at the time of building permit issuance by maintaining the adopted level of service.

Evaluation Measure Objective VII - Continue to maintain the adopted level of service through the year ~~2015~~2030.

Policy 7.1 - Maintain potable water service capacity through incorporation of any needed improvements into the City's Capital Improvements Program (*cross- reference CE Updated Policy 2.15 and CIE Policy 2.7*).

Policy 7.2 - Since potable water facilities have been determined to be available to serve the future population, monitor service demand and capacity in 2010 and again in ~~2015~~2030 so as to identify any unforeseen facility deficiencies.

Policy 7.3 - Develop a plan for prioritizing needs and correcting deficiencies upon their identification, and that decisions regarding the location of infrastructure investments are made with priority for the lowest income neighborhoods.

Policy 7.4 - Peak and average flow design capacities shall not be exceeded.

Policy 7.5 - Continue to ensure that water supply and distribution mains provide adequate flow for both fire fighting and consumer needs.

Policy 7.6 - Level of service standard of ~~80.52~~ ~~84.8 gal~~gallons/capita/day will be monitored through the building permit process.

Policy 7.7 - The City will update and adopt the 10-Year Water Supply Facilities Work Plan to increase the coordination between land use and future water supply planning within 18 months of the adoption of the regional water supply plan as required by Section 373.709 and Chapter 163, State Statutes.

OBJECTIVE VIII

Continue to provide potable water services to meet demands within the City in an efficient, economical and environmentally sensitive manner through the year ~~2015~~2030.

Evaluation Measures Objective VIII - Maintain record of water treatment operations relating to demand and capacity. Update both for the short term and long term planning horizons. Increase education efforts in the practices of water conservation through the year ~~2015~~2030.

Policy 8.1 - Continue to encourage the use of water conservation devices in new construction.

Policy 8.2 - The City's Utility Division will increase water conservation education programs for the residents of the City through the year ~~2015~~2030.

Policy 8.3 - Coordinate with the private sector for the extension or expansion of capacity to meet future demand.

Policy 8.4 - Continue to implement City of Pembroke Pines Code of Ordinances No. 996 which creates a water conservation plan for the City that is consistent with SFWMD's Chapter 40E-21(Water Shortage Plan).

Policy 8.5 - Continue to require the use of existing and programmed potable water facilities by all new development so as to discourage urban sprawl.

Policy 8.6 - Maximize utilization of existing potable water facilities by requiring hook-ups if water lines are within 1/4 mile from proposed subdivision or 100 ft. from a single family unit.

Policy 8.7 - All new land use amendments shall be consistent with existing and programmed potable water facilities (*cross-reference ICE Policy 2.11*).

Policy 8.8 - All new development permits shall be issued only when determined to be consistent with existing and programmed potable water facilities.

Policy 8.9 - LDR's will be updated by 2008 to reflect criteria in reviewing land use plan amendments for consistency with existing and programmed potable water facilities.

Policy 8.10 - The City will continue to update the infrastructure map on an as needed basis which shows potable water, sanitary sewer, groundwater and solid waste facilities.

OBJECTIVE IX

To ensure that the City of Pembroke Pines addresses the availability and appropriate use of regional water supplies as well as the impacts of development upon water resource management programs and planning efforts of the South Florida Water Management District, and those of other local, regional, state and federal agencies (*cross-reference update to existing FLU Objective X*).

Evaluation Measure Objective IX – Record of water use permits consistent with the City’s adopted WSFP, South Florida Water Management District’s (SFWMD) Lower East Coast Water Supply Plan, and the Broward County Integrated Water Resource Plan.

Policy 9.1 – The City will maintain a Water Supply Facilities Work Plan (WSFP) for at least a 10 year planning period addressing water supply facilities necessary to serve existing and future development within the City’s water service area, consistent with the City’s consumptive use permit.

Policy 9.2 – The City’s WSFP is provided in Appendix VI of this element.

Policy 9.3 – The City’s adopted WSFP will be updated at a minimum every five years within 18 months of updates of the SFWMD’s Lower East Coast Water Supply plan that affect the City (*cross-reference FLU Policy 10.6, Updated IE Policy 10.6, CE Policy 2.18, and ICE Policy 1.9*).

Policy 9.4 – The WSFP will be used to prioritize and coordinate the replacement, expansion and/or upgrade of existing facilities used to withdraw, treat, transmit, store and distribute water to meet future needs.

Policy 9.5 – The City’s WSFP considers, identifies and evaluates alternative sources of water that can be used to meet existing and future needs as well as alternative water supply project or projects available to the city should the city grow beyond the projected buildout date.

Policy 9.6 – The City will provide annual progress reports to the SFWMD on the water supply development project(s) identified in the WSFP by November 15th of each year.

Policy 9.7 – the City’s will conserve potable water resources, including the implementation of reuse programs and potable water conservation strategies and techniques as identified in the WSFP.

Policy 9.8 – The City will continue to ensure coordination among the Planning, Environmental Services and Utilities Divisions with SFWMD, Broward County Water Wastewater Services (BCWWS), and other agencies in the implementation of alternative water supply projects, establishment of level of service stands and resource allocations, changes in service areas, potential for annexation, and the sharing and updating of information to meet ongoing water supply needs (*cross-reference FLU Policy 11.13, and ICE Policies 1.9 & 2.12*).

Policy 9.9 - The City shall apply conservation strategies as identified by the Water Conservation Plan submitted with the City's consumptive use permit including but not limited to xeriscape landscaping, leak detection program, water conserving rate structure, permanent irrigation ordinance and installation of rain sensor devices, and amend the Land Development Regulations accordingly during the next amendment cycle

E. NATURAL GROUND WATER AQUIFER RECHARGE

OBJECTIVE X

Ensure the quality of the City's water supply and protect aquifer recharge through the incorporation of Best Management Practices.

Evaluation Measure Objective IX - Record of land use amendments and development permits within wellfield protection zones.

Policy 10.1 - Continue to coordinate with the Broward County Water Resources Management Division and the Broward County Department of Planning and Environmental Protection in ensuring development permits are in compliance with the Broward County Wellfield Protection Ordinance through the monitoring of development permits.

Policy 10.2 - The City will update the LDR's by 2008 to provide that no land use amendments will be approved which violate the Broward County Wellfield Protection Ordinance.

Policy 10.3 - Continue to coordinate natural groundwater aquifer recharge systems of existing developments with future development through the use of master agreements.

Policy 10.4 - The City will incorporate all updated Infrastructure Element objectives and policies which require coordination with other governmental entities in the City's Intergovernmental Coordination Element (ICE) during the amendment cycle following the update.

Policy 10.5 - In recognition that the City's role regarding the protection of the natural groundwater aquifer recharge system is limited to coordinating with Broward County agencies, data on the status of water quality in the City's wellfields along with effects of saltwater intrusion on groundwater resources will be collected, and existing data and analyses will be updated in the adopted WSFP.

Policy 10.6 - The City's adopted Water Supply Facilities Work Plan will be updated at a minimum every five years to increase the coordination between land use and future water supply planning within 18 months of updates of the SFWMD's Lower East Coast Water Supply Plan that affect the City. *(cross-reference FLU Policy 10.6, IE Policy 9.3, CE Policy 2.18, and ICE Policy 1.9).*

Policy 10.7 – The City's water quality will be protected in the traditional and new alternative water supply sources *(cross reference CE Policy 2.17).*