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Senator Lee Constantine, Chairman

INTEGRATION OF WATER SUPPLY PLANNING AND LOCAL GOVERNMENT COMPREHENSIVE PLANNING

SUMMARY

A significant “missing link” exists between the treatment of water supply issues in local government comprehensive plans and regional water supply plans and assessments prepared by Florida’s five water management districts. The report recommends that local governments must consider data from regional water supply plans in revising the potable water element and capital improvements element of the local government comprehensive plan.

BACKGROUND

A number of bills considered during the 2001 legislative session attempted to improve the coordination between water supply planning conducted by the five water management districts and the potable water supply element of the local government comprehensive plan. This project will evaluate the types of information currently used by local governments in preparing their potable water element and examine methods of improving the quality of information supporting the potable water element as well as improving coordination between the water management districts and local governments.

The lack of integration between water supply and resource planning and the state’s growth management program has been identified as a problem for a number of years. For example, the Third Environmental Land Management Study Committee (ELMS III) in its December 1992 Final Report, identifies this problem:

An important policy question remains regarding the legal relationship that should exist between water and land use planning. Except for limited provisions regarding water resource data and stormwater management, Florida law at present does not establish a formal link between land planning and water planning. In light of the importance of water resources for the future

development of the state, this is a significant “missing link.”¹

The ELMS III report recommended that the Governor establish a study group to make recommendations for legislative action on “the most appropriate formal link between district water management plans, on the one hand, and strategic regional policy plans and local comprehensive plans, on the other.”²

Following this recommendation, Governor Chiles created a Land Use and Water Planning Task Force (Task Force) in 1993. In 1994, the Legislature also asked the Task Force to consider how state water policy should be developed and adopted. With respect to local government comprehensive plans, the Task Force identified the problem that local plans primarily focus on the “hardware” of water delivery systems because of the concurrency requirement that drinking water be available to serve a new development at the time a certificate of occupancy is issued; yet, “local governments have given insufficient attention to the actual availability of a source of the raw water.”³

The Task Force made several recommendations designed to improve the technical information and data underlying the treatment of water supply and resource issues in local government comprehensive plans:

- The Legislature should direct each water management district to develop data and information to be included in a format to be used by local governments in developing their local comprehensive plan amendments and

¹ Environmental Land Management Study Committee, “*Building Successful Communities*,” December 1992, at p. 33.

² *Ibid* at p. 33.

³ Land Use and Water Planning Task Force, “*Recommendations of the Land Use and Water Planning Task Force: Final Report*,” December 1994.

their Evaluation and Appraisal Reports. The Reports must be specific to each local government within the water management district and include:

1. Resource planning constraints relevant to local government comprehensive planning, including capacity of the district's flood control and stormwater management facilities, water supply availability, water shortage areas and areas of significant recharge.
2. Relevant technical data and the sources of the data.
3. Methods for determining the estimated costs to local governments to implement the rule-adopted portion of the district water management plans.
4. Population projections consistent with the local government's unless a more accurate estimate is available.

The Water Resources Facilities Report must be consistent with the district water management plans.

- The Legislature should require local governments to use the data and information in the Water Resources and Facilities Report and the district water management plans as the "best available data" in developing their local plans and plan amendments unless more accurate information is available. In addition, the Department of Community Affairs and regional planning councils should be required to use the data in the Water Resources and Facilities Report as the best available data in reviewing local government comprehensive plans and amendments unless more accurate information is available.⁴

Another suggestion of the Task Force that attempts to provide better linkage between land use and water supply planning was offered in the context of requiring the water management districts to provide technical assistance to regional planning councils in the preparation of strategic regional policy plans. The task force suggested that the water management districts develop planning standards, including levels of service for water supply availability.⁵

In September 1996, Governor Chiles issued Executive Order 96-297 directing the water management districts to identify water supply regions within each district, and by July 1, 1998 to conduct a district-wide water supply assessment for each water supply planning region, for at least a 20-year planning period. In addition, the executive order authorized the creation of a work group to develop recommendations on effective means for water supply development and funding and "as necessary, water supply planning."

In 1997, the Governor's Water Supply Development and Funding Work Group put forward a number of recommendations for better integrating land use and water supply planning: 1) including water sources in the infrastructure element of local government comprehensive plans; 2) increasing technical and financial assistance to encourage local governments to coordinate local comprehensive plans with water management districts' Needs and Sources assessments and regional water supply plans; 3) and requiring the Department of Community Affairs to rely on the five water management districts for evaluation of identified water supply sources. Many of the work group's recommendations were incorporated in water supply legislation enacted as chapter 97-160, Laws of Florida.

Chapter 163, F.S., Provisions

Role of Local Governments

Local governments are required in their local government comprehensive plans to address a number of issues related to water supply. First, s.163.3177(6)(c), F.S., requires local governments to prepare: "A general sanitary sewer, solid waste, drainage, potable water, and natural groundwater aquifer recharge element correlated to principles and guidelines for future land use, indicating ways to provide for future potable water, drainage, sanitary sewer, solid waste and aquifer recharge protection requirements for the area." The element must include a topographic map showing groundwater recharge areas for the Floridan or Biscayne aquifers. Local governments are required to give special consideration to aquifer recharge areas. Where an area is served by septic tanks, the plan must include soil surveys.

Local governments must prepare a conservation element addressing: "the conservation, use, and protection of natural resources in the area, including air, water, water recharge areas, wetlands, waterwells, estuarine marshes, soils, beaches, shores, flood plains, rivers, bays, lakes, harbors, forests, fisheries and

⁴ *Id* at p. 35.

⁵ *Id* at p. 32.

wildlife, marine habitat, minerals, and other natural and environmental resources.” Local governments are also required to assess their current, and projected water needs and sources for a 10-year period. In addition, the land use map in the future land use element must identify existing and planned waterwells and cones of influence as well as other water resources such as surface water bodies and wetlands.

Local government comprehensive plans must contain a capital improvements element to address the availability of public facilities, and “which outlines principles for correcting existing public facility deficiencies, which are necessary to implement the comprehensive plan” (s. 163.3177(3)(b), F.S.) The capital improvements element must cover at least a 5-year period.

Concurrency

The provision of potable water is one of the services subject to concurrency. Potable water, along with sanitary sewer, solid waste, and drainage must be in place and available to serve new development no later than the issuance by the local government of a certificate of occupancy or its equivalent.⁶ In order to implement concurrency, the local government must adopt level of service standards by which to evaluate whether adequate potable water service necessary to support new development is available concurrent with the impacts of such development.

Rule 9J-5 Criteria

Chapter 9J-5, Florida Administrative Code (F.A.C.), establishes the minimum criteria for the Department of Community Affairs’ review of local government comprehensive plans, plan amendments, evaluation and appraisal reports and land development regulations. The rule specifically requires that all goals, objectives, policies, standards, findings and conclusions within the comprehensive plan or amendments must be based on data and analysis applicable to each element. The data used shall be the best available existing data, unless the local government “desires original data or special studies.”⁷ Moreover, the data must be taken from professionally accepted sources, “such as the United States Census, State Data Center, State University System of Florida, regional planning councils, water management districts or existing technical studies.”⁸

⁶ Section 163.3180(2)(a), F.S.

⁷ Rule 9J-5.005(2)(c), F.A.C.

⁸ Rule 9J-5.005(2)(c), F.A.C.

Several provisions in this chapter affect the treatment of water supply issues by local governments in their comprehensive plans.

- *Future Land Use Element (9J-5.006, F.A.C.):*
 1. Requires an analysis of the availability of facilities and services as identified in potable water and natural groundwater aquifer recharge elements to accommodate existing development, land for which development orders have been issued, and an analysis of the amount of land needed to accommodate the projected population.
 2. Requires that existing and planned potable waterwells and wellhead protection areas be shown on the existing land use map or map series.
 3. Provides that facilities and services meet locally established level of service standards, and are available concurrent with the impacts of development.
 4. Protection of potable water wellfields by designating appropriate activities and land uses within wellhead protection areas, and environmentally sensitive land.
- *Sanitary Sewer, Solid Waste, Stormwater Management, Potable Water and Natural Groundwater Aquifer Recharge Element (9J-5.011, F.A.C.):*
 1. The local government must identify facilities that provide service within the local government’s jurisdiction, including the design capacity, current demand and level of service provided by the facility. Potable water facilities are defined as “a system of structures designed to collect, treat, or distribute potable water, and includes water wells, treatment plants, reservoirs and distribution mains.” (9J-5.003(93), F.A.C.)
 2. A facility capacity analysis, for a planning period of at least 5 years in length, based on the projected demand at the current level of service for the facility, the projected population, land use distributions depicted in the future land use element, and available surplus capacity. The element must also address correcting existing facility deficiencies.
 3. The element must address conserving potable water resources and protecting the functions of

natural groundwater recharge areas and natural drainage features.

4. The element must establish level of service standards; for example, minimum design flow, storage capacity, and pressure for potable water facilities.
5. A strategy for regulating land use and development to protect the functions of natural drainage features and natural groundwater aquifer recharge areas.

Conservation Element (Rule 5.013, F.A.C.)

- Current and projected water needs and sources for the next ten-year period based on the demands for industrial, agricultural, and potable water use and the quality and the quantity of water available to meet these demands. “The analysis shall consider existing levels of water conservation, use and protection and applicable policies of the regional water management district.”⁹
 1. “Protection of water quality by restriction of activities and land uses known to affect adversely the quality and quantity of identified water sources, including natural groundwater recharge areas, wellhead protection areas and surface waters used as a source of public water supply.”¹⁰
 2. Emergency conservation of water sources in accordance with the plans of the regional water management district.¹¹
- *Concurrency Management System (Rule 9J-5.0055, F.A.C.)*
 1. For potable water facilities, in order to demonstrate concurrency, a local government must demonstrate either: a) at the time a development order or permit is issued, that at the time a certificate of occupancy is issued that the necessary facilities and services are available to serve the new development, or b) the necessary facilities and services are guaranteed in an enforceable development agreement (under s. 163.3220, F.S.) or development order (pursuant to chapter 380) such that the service will be available to serve

new development at the time of the issuance of the certificate of occupancy.

2. Level of service standards are adopted, such as the minimum design flow, storage capacity, and pressure for potable water facilities.

Strategic Regional Policy Plans

Section 186.507, F.S., requires regional planning councils to adopt strategic regional policy plans (SRPPs) that identify and address significant regional resources. The purpose of the SRPPs is to provide guidance to their region and local governments within the region on multijurisdictional issues, including natural resources of regional significance. In addition, the SRPPs must be consistent with the State Comprehensive Plan. The SRPPs cannot establish binding level of service standards for public facilities and services provided or regulated by local governments.

Role of the Water Management Districts in Reviewing Comprehensive Plan Amendments

Pursuant to s.163.3184, F.S., the water management districts along with other agencies, including the Department of Environmental Protection, the Department of Transportation and the Regional Planning Councils, are required to provide comments to the Department of Community Affairs on certain comprehensive plans and plan amendments. If review of a proposed comprehensive plan amendment is requested by a regional planning council, affected person, the local government transmitting the plan amendment, or DCA elects to review an amendment, the appropriate water management district is required to provide comments to the Department of Community Affairs within 30 days of receipt of the proposed plan amendment.

Chapter 373, F.S., Provisions

Chapter 373, F.S., contains a comprehensive framework for water supply planning in Florida. First, s. 373.036, F.S., requires the development of a Florida Water Plan by the Department of Environmental Protection (DEP). The Florida Water Plan includes: a) the programs and activities of DEP related to water supply, water quality, flood protection, and natural systems; b) the water quality standards of DEP; c) the district water management plans; d) guidance for the development of programs and rules related to water resources.

⁹ Rule 9J-5.013(1)(c), F.A.C.

¹⁰ Rule 9J-5.013(2)(c)1., F.A.C.

¹¹ Rule 9J-5.013(2)(c)4., F.A.C.

Each water management district is required to adopt a water management plan for water resources within its region, which addresses water supply, water quality, flood protection and floodplain management, and natural systems. The plan is based on a 20-year planning horizon and must be updated every 5 years. The plan must include:

1. Methodologies for adopting minimum flows and levels, and any established minimum flows and levels;
2. Identification of one or more water supply planning regions;
3. Required technical data;
4. A districtwide water supply assessment to be completed no later than July 1, 1998 which determines for each water supply planning region whether “existing and reasonably anticipated sources of water and conservation efforts are adequate to supply water for all existing legal uses and reasonably anticipated future needs and to sustain the water resources and related natural systems,” (s. 373.036 (2)(b), F.S.); and
5. Any completed regional water supply plans.

In 1997, chapter 97-160, Laws of Florida, was enacted which requires the five water management districts to prepare regional water supply plans for each water supply planning region identified in the district water management plan, “where it determines the sources of water are not adequate for the planning period to supply water for all existing and projected reasonable-beneficial uses and to sustain the water resources and related natural systems.” Regional water supply planning is required to be conducted in coordination with local governments, regional water supply authorities, government-owned and privately owned water utilities, self-suppliers, and other affected parties.

A regional water supply must cover at least a 20-year planning period and must include a water supply development and a water resource development component. The water supply component must include:

- A quantification of water supply needs for all existing and “reasonable projected” future uses within the planning horizon, including meeting water supply needs for a 1-in-10-year drought event.
- A list of water source options for water supply development, including alternative sources.

- For each identified water source options, the estimated amount of water available for use and the estimated costs and funding for water supply development.
- A list of water supply development projects which receive priority consideration for state or water management district funding assistance; for example, projects that implement reuse, storage, recharge or conservation of water, or limits adverse water resource impacts.

The water resource development component of a regional water supply plan must include:

- A listing of water resource development projects that support water supply development.
- For each water resource development project listed an estimate of the amount of water to become available through the project; the timetable and costs of constructing and maintaining the project; sources of funding and who will construct the project.
- The recovery and prevention strategy for water bodies expected to fall below an established minimum flow and level.
- A funding strategy for water resource development.
- How the options identified serve the public interest or save costs by preventing the loss of natural resources or avoiding greater future expenditures for water resource development or water supply development.
- Technical data to support the regional water supply plan.
- Minimum flows and levels established for water resources within the planning regions.

Section 373.036, F.S., contains several important limitations on the applicability of regional water supply plans. First, the adoption of a regional water supply plan by the governing board of a water management district is not subject to chapter 120, F.S. Second, s. 373.0391(6), F.S., contains the disclaimer that nothing in the water supply component of the district water management plan requires local governments, government-owned or privately owned water utilities, or other water suppliers to select a water supply development option because it is in the plan.

Chapter 373, F.S., also contains several requirements that water management districts provide technical

information and assistance to local governments. First, water management districts are required, pursuant s. 373.0391, F.S., to assist local governments in the development and future revision of local government comprehensive plan elements or public facilities required of independent special districts. Second, each water management district is required to develop a groundwater basin resource availability inventory and provide each affected municipality, county and regional planning agency with the inventory. (s. 373.3095, F.S.) Local governments are required to review the inventory for consistency with the local government comprehensive plan and consider the inventory in future revisions of the plan.

Following the requirements of s. 373.0361, F.S., the water management districts have adopted the following regional water supply plans:

The Northwest Florida Water Management District adopted a Regional Water Supply plan for Santa Rosa, Okaloosa and Walton Counties on February 22, 2001. The determination was made by the district in 1998 that existing and reasonably anticipated sources of water were not considered adequate to supply water for all existing legal users and reasonable anticipated future needs in Water Supply Planning Region II, composed of Santa Rosa, Okaloosa and Walton counties. Further, water withdrawals from the Floridan Aquifer in the coastal area of Region II have formed a large cone of depression in the aquifer centered at Ft. Walton Beach, and the region is at risk for saltwater encroachment.¹² Because of the threat of saltwater intrusion, increased withdrawals from the Floridan aquifer may not be an option to satisfy increased demand. Accordingly, the plan evaluates the use of alternative water supply options, including” use of the Florida Aquifer from inland locations, Sand and Gravel Aquifer, Conservation, Reclaimed Water, Aquifer Storage and Recovery, Surface Water and Desalination.

The Southwest Florida Water Management District (SWFWMD) adopted a Regional Water Supply Plan for a ten-county area that extends from Pasco County at its northern boundary to Charlotte County at its southern boundary. In June 1998, the Governing Board of SWFWMD identified four water supply planning regions: northern, west-central, east-central and southern. Three of the four planning regions correspond to the jurisdictional boundaries of the

regional water supply authorities (RWSA): Withlacoochee RWSA for the Northern Region, Tampa Bay Water for the west-central region and Peace River Manasota RWSA for the southern region. The SWFWMD concluded that regional water supply planning was necessary for the west-central, east-central and southern planning regions because “sources of water are not adequate for the planning period to supply water for all reasonable beneficial uses and to sustain the water resources and related natural systems.”¹³

The plan projects that the total additional increase in water demand by the year 2020 will be 364.1 million gallons per day (mgd.) An additional 68 mgd is needed to replace wellfield cutbacks; hence, the total additional water demand through 2020 will be approximately 432 mgd.¹⁴ To meet this demand, the district identifies possible sources as: 1) surface water and storm water, 2) reclaimed water, 3) agricultural water conservation, 4) non-agricultural water conservation, 5) brackish ground water and 6) seawater desalination. The plan relies on water conservation as an alternative water source to meet a significant portion of the increased demand. Finally, SWFWMD is in the process of developing a computer information system, called the Comprehensive Watershed Management Decision Support System containing water supply information that can be accessed by local governments and other users.

The South Florida Water Management District (SFWMDC) has adopted four regional water supply plans: Kissimmee Basin, Lower West Coast, Upper East Coast and Lower East Coast. The Kissimmee Basin includes those portions of Orange Osceola, Polk, Highlands, Okeechobee, and Glades County that lie within the SFWMDC. Major issues of concern identified in the plan include the continued use of ground water to supply the projected population growth in Orange and Osceola Counties and increased surface water use in the Lake Istokpoga-Indian Prairie Basin resulting from proposed agricultural expansion.

The Upper East Coast Water Supply Plan, addressing most of St. Lucie and Martin Counties, as well as a small portion of Okeechobee County, concludes that portions of historically used sources of water, especially the Surficial Aquifer System in the coastal

¹² Northwest Florida Water Management District, “Regional Water Supply Plan for Santa Rosa, Okaloosa and Walton Counties,” July 2000, at p. x.

¹³ Southwest Florida Water Management District: *Regional Water Supply Plan, Executive Summary*, August 2001, p. ES-1.

¹⁴ *Id.* at p. ES-6.

portions of the region, are not sufficient to meet projected water demands during a 1-in-10 drought. Water source options considered for the region include surface water storage, aquifer storage and recovery and the Floridan Aquifer.

The Lower East Coast Regional Water Supply Plan includes all of Miami-Dade, Broward and Palm Beach Counties as well as parts of seven other counties. The plan is linked closely to Comprehensive Review Study of the Central & South Florida Project, or Everglades Restudy. The plan focuses on \$187 million in projects to increase the available storage and recharge of water in the region.

The Lower West Coast Regional Water Supply Plan includes all of Lee County, most of Collier and Hendry County and portions of Charlotte, Glades and Monroe County counties. While the plan concludes that with appropriate management and diversification of water supply sources, there is adequate water supply to meet the needs of the region through 2020, the assessment finds that the traditional source of water, from the surficial and intermediate aquifers, has limited potential for expansion due to potential impacts to wetlands.

*The St. Johns River Water Management District (SJRWMD) adopted a District Water Supply Plan in 2000 that treats the entire district as the planning region. The population within the SJRWMD is projected to increase by 50%, to 5.2 million people in 2020. Total water demand for the District is projected to increase from 1,371 million gallons per day (mgd) in 1995 to between 1,679 to 1,863 mgd in 2020, or an increase of 22-36 percent. Public supply demand is projected to increase by 52 percent.*¹⁵

The District identifies in its plan five work group areas for purposes of evaluating water supply sources and water supply development plans: East-Central Florida; Brevard County; Volusia County Area; East-Central Flagler County; and Southwestern St. Johns County and Eastern Putnam County; and Northern St. Johns County and Southern Duval County. For some of these areas, current individual utility plans to increase withdrawals from the Florida aquifer through 2020 will not be sustainable without causing unacceptable adverse impacts to water quality, wetland and aquatic systems, and existing legal uses.¹⁶

The 1998 Water Supply Assessment conducted by the *Suwannee River Water Management District* concluded that Regional Water Supply Plans were not necessary at that time; however, the Suwannee River Water Management District Water Management Plan for 2000 predicts that consumptive water use is projected to increase by 20% by the year 2020, with population projections for the District indicating a 32% increase. The plan projects 2020 water use by county and per capita. The Floridan aquifer is the primary source of water for consumptive use in the District

METHODOLOGY

In preparing this report, staff interviewed staff of the Department of Community Affairs, the Department of Environmental Protection, the water management districts, in addition to stakeholder groups.

FINDINGS

1) The concurrency requirement for potable water in local government comprehensive planning process emphasizes the capacity of potable water treatment and transmissions systems and does not adequately address the availability of raw water resources. The Potable Water Element should include the identification of water sources with adequate capacity to meet needs of projected growth.

2) Planning assumptions—First, it is important for local governments in their comprehensive plans to use water use/demand projections that are consistent with those used by the water management in their regional water supply planning efforts. Second, it is important for the population projections used by the local governments in their comprehensive plans and by water management districts in their regional water supply planning to be the same. Third, the planning horizons used by local governments in their comprehensive plans and water management districts in their regional water supply plans need to be consistent.

3) Water conservation-- Projections of future demand should not assume that current rates of use are appropriate or the best possible, particularly where the water management district has relied on conservation as a significant “source” for meeting future needs.

4) Staff of both the Department of Community Affairs and the water management districts report that a significant reduction in comprehensive plan and plan amendment review and comment by water management districts has occurred. This reduction has occurred for several reasons. First, in some of the water

¹⁵ *St. Johns River Water Management District, District Water Supply Plan, Executive Summary*, p. ES-9.

¹⁶ *Id.* at p. ES-19.

management districts, planning positions have been cut as the result of budget cutting exercises. Second, because of shifting priorities, less staff time and resources are devoted to plan amendment review. As a consequence, water supply issues that may be associated with land use decisions are receiving less scrutiny today than was the case several years ago.

5) The most effective method of encouraging local governments to use water supply data generated by the water management districts is through technical assistance provided by the water management districts directly to local governments.

Option 1. Require local governments to identify water sources behind the water supply delivery addressed by the Potable Water Element and identify in the Capital Improvements Element a schedule for building any water supply facilities that are identified in the Potable Water Element as necessary to meet projected water demand. Require local governments to include regional water supply data as part of the data and analysis supporting an evaluation of water supply in the Potable Water Element. Narrow the focus of water management district review to issues directly related to the water management district programs of water supply, water quality, flood protection and floodplain management, and natural systems. With respect to water supply issues, water management district review of comprehensive plan amendments should focus on the compatibility of the plan or plan amendment with regional water supply plans.

Option 2. Require the Potable Water Element to be consistent with Regional Water Supply Plans. This would require local governments to use water use projections relied upon by water management districts in developing the district water use assessments and regional water supply plans. In addition, any options selected by a local government for water supply development must be consistent with those identified in regional water supply plans. This option would have the effect of superceding or repealing the tenet of the current regional water supply framework that the options identified in the plan are not binding on local governments and other water suppliers. With respect to water supply issues, focus water management district review of comprehensive plans or amendments on consistency with regional water supply plans.

Option 3: Define a New Water Supply Concurrency. Require a new water supply concurrency whereby an analysis of the availability of raw water to serve new development is conducted at the time the development

is constructed. “Availability” would be defined in terms of the relationship of water supply over a defined planning horizon to the timing of development. As a practical matter, water supply issues can already be addressed as part of the existing potable water element provided sufficient data and analysis is included in the element to evaluate the impact of development on water supply.

RECOMMENDATIONS

Require local governments to: 1) identify water sources behind the water supply delivery addressed by the Potable Water Element of their local comprehensive plans and 2) identify in the Capital Improvements Element a schedule for building any water supply facilities that are identified in the potable water element as necessary to meet projected water demand. Require local governments to use regional water supply data as part of the data and analysis supporting an evaluation of water supply in the potable water element. Focus water management district review of comprehensive plan amendments on compatibility with regional water supply plans.