

**A GUIDE TO THE PREPARATION OF THE WATER SUPPLY
FACILITIES WORK PLAN**

Florida Department of Economic Opportunity
Division of Community Development
Bureau of Community Planning

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A. INTRODUCTION

All water management districts have determined that portions of their districts will have insufficient supplies of water from traditional sources (typically groundwater) over the next 20 years to meet the demands of both their growing population and the environment and agriculture. In order to ensure adequate water supplies, the Legislature has established a coordinated planning process between regional water supply plans prepared by the water management districts pursuant to Chapter 373, Florida Statutes (F.S.), and comprehensive plans prepared by local governments pursuant to Chapter 163, Part II, F.S. Under these laws, local governments must address in their comprehensive plans the water supply sources necessary to meet and achieve existing and projected water use demand for the established planning period, considering the applicable regional water supply plan prepared pursuant Section 373.709, F.S. [Section 163.3167(9), F.S.]

Section 163.3177(6)(c)3, F.S., requires local governments within areas projected to have insufficient supplies of water from traditional sources to amend their comprehensive plan: (1) to incorporate the alternative water supply project or projects selected by the local government from those identified in the regional water supply plan pursuant to s. 373.709(2)(a) or proposed by the local government under s. 373.709(8)(b); and (2) to adopt a work plan, covering at least a 10-year planning period, for building public, private, and regional water supply facilities, including the development of alternative water supply projects and conservation and reuse, which are necessary to serve existing and new development. Once adopted, the work plan must be updated within 18 months after the water management district updates the regional water supply plan, which typically occurs every five years.

This Guide has been prepared to help local governments understand their responsibilities regarding water supply and facilities planning. It addresses the scope and content of the water supply work plan; the data and analysis needed; and the sources of information available for the preparation of the work plan. In addition to this Guide, we have prepared another technical assistance document (*A Guide to the Data and Analysis to Support Comprehensive Plan Amendments*) which explains the water supply and water facilities data and analysis that should be included with proposed future land use map amendments.

B. STATUTORY REQUIREMENTS

Those local governments required to adopt a water supply work plan must comply with the following statutory requirements for water supply and facility planning:

1. Coordinate appropriate aspects of their comprehensive plan with the appropriate water management district's regional water supply plan. [Section 163.3177(4)(a), F.S.]
2. Revise the Potable Water Sub-Element to adopt a water supply facilities work plan covering at least a 10-year planning period to meet existing and projected demand. The work plan should address those water supply facilities for which the local government has responsibility and include the facilities needed to develop alternative water supplies.

The work plan should also identify conservation and reuse measures to meet future needs. [Section 163.3177(6)(c), F.S.]

3. Revise the Conservation Element to assess current and projected water needs and sources for at least a 10-year planning period. The analysis must consider the existing levels of water conservation, use, and protection and the applicable policies of the water management district, and the district's approved regional water supply plan. In the absence of an approved regional water supply plan, the analysis must consider the district's approved water management plan. [Section 163.3177(6)(d)3, F.S.]
4. Revise the Capital Improvements Element to identify capital improvements projects to be implemented in the first 5 years of the work plan for which the local government is responsible, including both publicly and privately funded water supply projects necessary to achieve and maintain adopted level of service standards; and adopt a 5-year schedule of capital improvements to include those projects as either funded or unfunded, and if unfunded, given a level of priority for funding. [163.3177(3)(a)4, F.S.]
5. Revise the Intergovernmental Coordination Element to adopt principles and guidelines to be used to coordinate the comprehensive plan with the regional water supply authority (if applicable) and with the applicable regional water supply plan. [163.3177(6)(h)1, F.S.]
6. During the Evaluation and Appraisal review, determine if comprehensive plan amendments are necessary to reflect statutory changes related to water supply and facilities planning since the last update to the comprehensive plan. If necessary, transmit the amendments to incorporate the statutory changes as appropriate. [Section 163.3191(1) and (2), F.S.]

C. PREPARING THE WATER SUPPLY WORK PLAN

1. Work Plan Objective

As set forth in Section 163.3177(6)(c), F.S., the water supply work plan must incorporate the traditional and alternative water supply sources identified in the regional water supply plan, or proposed by the local government under Section 373.709(8)(b), F.S., to meet existing and projected needs for at least a 10-year period. The work plan must identify the capital improvements that will be needed to develop, treat, and deliver those alternative supplies. It must also include conservation measures and reuse supplies that can be used to offset demand for new water. The capital improvements needed in the first five years of the work plan must be included in the 5-year schedule of capital improvements.

2. Coordination with Water Management Districts

When preparing the work plan, the local government should coordinate with the water management district regarding population and water demand projections, areas to be served, the

availability of traditional and alternative water supplies, bulk sale agreements, and water conservation and reuse strategies necessary to meet projected demand.¹

3. Coordination with Water Suppliers

In addition to coordinating with the water management district, each local government should also coordinate the work plan with local water utilities that supply water to the community. This could be the water utility of another local government, a private water supplier, a regional water supply authority, or some combination thereof. Section 163.3177(6)(c), F.S., encourages local governments, public and private utilities, regional water supply authorities, special districts, and water management districts to cooperatively plan for multijurisdictional water supply facilities that are sufficient to meet projected demands for established planning periods, including the development of alternative water sources to supplement traditional sources of groundwater and surface water supplies.

4. Define Extent of Responsibility

Each local government should determine the extent of its responsibility in the planning, financing, construction and operation of the water supply facilities that will serve the community, whether the facilities will be provided by the local government's utility, a regional water supply authority, or another public or private water supplier. The local government's responsibility can range from none to total control of the withdrawal, treatment and distribution of potable water and reclaimed water. If the local government provides water supply and facilities to other jurisdictions, the work plan must also address the services provided outside of the local government's jurisdiction. Where the local government does not have responsibility itself for the water supply and facilities within its jurisdiction, it still must ensure its water supply and facilities needs are adequately addressed by the provider(s). To the extent the provider is another local government, then it should ensure that the other local government includes within its work plan adequate supplies and facilities to serve it. To the extent the water supply and facilities provider is a private entity or an independent special district, then the local government receiving the services should submit with its work plan a letter and supporting documentation from the provider confirming the availability of adequate sources of water, considering the applicable regional water supply plan, and the necessary facilities to serve the local government. The documentation should include any agreement that the local government may have with the water supplier showing that provision has been made for its existing and projected water supply and facilities needs. Section 5 of the Guidebook describes three scenarios of a local government's responsibility in the preparation of the work plan. In addition, examples of adopted comprehensive plans amendments incorporating the water supply facilities work plan for each of the three scenarios are attached (see **Appendix A**). Regardless of the level of responsibility the local government has for providing water supplies and facilities, all local

¹ At a minimum, local governments must base their population projections on the medium population projections prepared by the University of Florida, Bureau of Economic and Business Research, or population projections generated by the local government based upon a professionally acceptable methodology. The projections must include both permanent and seasonal residents. [Section 163.3177(1)(f)3, F.S.]

governments have a responsibility to adopt policies in their comprehensive plan to conserve water and to require the use of reclaimed water when it is available.

5. Data and Analysis

Like all comprehensive plan amendments, the water supply facilities work plan must be based upon information relevant to the local government's circumstances. Thus, the content of the work plan will vary depending on the degree to which the local government owns or operates the water supply facilities serving its residents. Three common water supply situations are presented here, as well as the data and analysis the local government needs to base its water supply facilities work plan upon for each situation. As described in the preceding Section, each local government should determine the extent of its responsibility in the planning, financing, construction and operation of the water supply facilities that will serve its community and base its water supply facilities work plan upon relevant data and analysis as described here.

5.1. Local Governments with Sole Responsibility for their Water Supply Facilities

For local governments that have sole responsibility for the water supply facilities serving their residents, the data and analysis must include:

- a. **Population and Water Demand Projections** – Project water demand for at least a 10-year period based on the local government's existing and future service area boundary (which may include areas served outside its jurisdiction). Determine the extent to which reuse and conservation would reduce demand during the period covered by the water supply plan. The projected water demand should be based on permanent and seasonal population, it should use adopted level of service standard to project the demand, and it should be coordinated with the water management district's demand projections for the area served by the local government.
- b. **Service Area Boundary** - Map(s) showing existing and future service area boundaries, including reuse service area boundaries. The service area map should identify existing self-supplied systems within the service area boundary. If the local government is a supplier for areas outside of its jurisdiction, the service area boundary should include those areas.
- c. **Existing Water Supply and Facilities**² – Include a thorough inventory and capacity analysis of the components of the existing water supply sources and facilities, including reuse water. This inventory forms the basis for determining the quantity of water that the local government can produce and the identification of the major facility improvements that would be needed to meet future demand. The following data and analysis must be included:

² The term "water supply facilities" means a system of infrastructure designed to collect, treat, or distribute water, and includes water wells, treatment plants, reservoirs, distribution mains, and reuse facilities.

1. Water sources (traditional and alternative), including groundwater, surface water, aquifer storage and retrieval, reuse, conservation, desalination, and bulk purchase agreements
 2. Map(s) showing the general location of water sources³
 3. Design capacity of the production facilities, such as wells and reservoirs
 4. Current permitted consumptive use (CUP) by water source
 5. Design capacity of the treatment facilities and map(s) showing the general location of facilities
 6. Design capacity of storage facilities and map(s) showing the general location of facilities
 7. Design capacity of reuse facilities and areas served
 8. Major components of the water distribution facilities
- d. **Future Need** - Determine whether additional water supplies and facilities are needed to meet future demand, based on the water demand and supply analysis. The following table illustrates a convenient format for comparing projected demand, facility capacity and permit conditions. As shown, the table reveals the need to increase permitted withdrawals to accommodate anticipated growth for the 10-year period of 2012 through 2022.

	2012	2017	2022
Population Served	3,073	3,598	3,955
Avg. Daily Demand (GPD)	479,388	546,896	593,250
Demand per Capita (GPD)	156	152	150
Available Facility Capacity (GPD)	700,000	700,000	700,000
Facility Capacity Surplus (Deficit)*	220,612	153,104	106,750
Permitted Amount (GPD Annual Avg.)	500,000	500,000	500,000
Permitted Surplus (Deficit)**	20,612	(46,896)	(93,250)

GPD = Gallons per Day

* Calculated by subtracting Average Daily Demand from Available Facility Capacity

** Calculated by subtracting Average Daily Demand from Permitted Amount

5.2. Local Governments with Partial Water Supply Responsibility

For local governments which own or have responsibility for some, but not all of the water supply facilities within their jurisdictions, the data and analysis must address both the areas served by the local government itself and the areas served by other supplier(s), as follows:

5.2.1 Local Government Service Area: For the area(s) served by the local government, the work plan should address all of the data and analysis listed under Section 5.1 above.

5.2.2 Areas Served by Other Supplier(s): For area(s) served by outside suppliers, the local government's water supply work plan must include a letter, along with supporting documentation from the water supplier(s), confirming the availability of adequate sources and

³ Some local governments have expressed security concerns about including detailed maps depicting the precise location of wells, treatment plants and other major water supply infrastructure components. As a result, maps depicting general locations are sufficient.

the necessary infrastructure to serve the projected water demand. If the supplier is another local government, that local government's water supply work plan demonstrating that it has the capacity or plans to provide adequate capacity, is sufficient documentation. If the supplier is a regional water supply authority, then its water supply plan is sufficient documentation.

5.3 Local Governments with No Water Supply Responsibility

For local governments having no responsibility for water supply or water facilities within their jurisdiction, the water supply work plan will be more abbreviated, and consist of the following data and analysis to ensure that its water needs for the planning period covered by the work plan will be met by the supplier(s):

- a. **Population and Water Demand Projections** – Project water demand for at least a 10-year period. Determine the extent to which reuse and conservation would reduce demand during the period covered by the water supply work plan. The projected demand should be based on permanent and seasonal population.
- b. **Information from Water Supplier(s)** – The local government's water supply work plan must include a letter, along with supporting documentation from the water supplier(s), confirming the availability of adequate sources and the necessary infrastructure to serve the projected water demand. If the supplier is another local government, that local government's water supply work plan demonstrating that it has the capacity or plans to provide adequate capacity, will be sufficient documentation. If the supplier is a regional water supply authority, then its water supply plan will be sufficient documentation.

6. Capital Improvements

Based on the data and analysis developed in Section 5, the water supply work plan should next identify major capital improvements (for which the local government is responsible) that are necessary to develop, treat, and distribute the traditional and alternative sources of water for the period covered by the work plan. If the local government is a service provider for areas outside of its jurisdiction, the work plan should identify the capital improvements that will be needed to serve existing and planned development within the entire utility service area. Those capital improvements which are needed in the first 5 years to implement the work plan must be adopted into the 5-year schedule of capital improvements. The cost for the improvements must be identified as either funded or unfunded; if unfunded, then the level of priority for funding must be given. Funding provided through an interlocal agreement, or by private contributions through an enforceable development agreement, must be identified in the schedule.

7. Water Conservation and Water Reuse

Water conservation and reuse are critical components in meeting the existing and future water supply needs. Therefore, and consistent with Section 163.3177(6)(c)3, F.S., the water supply facilities work plan must:

1. Identify current and future programs and measures that the local government is implementing or will implement to promote water conservation and reuse, including those programs that apply jurisdiction-wide and those that apply to particular service areas or specific water users. Programs or projects for water conservation and reuse that local governments could consider, consistent with the rules and consumptive use permitting process of the applicable Water Management District, include the following:
 - Efficient irrigation measures, such as soil moisture and rain sensor devices
 - Landscaping/Xeriscaping regulations and guidelines
 - Low impact development techniques
 - Plumbing fixtures requirements, such as low-flow showerheads
 - Water meter management
 - Water conservation rate structure
 - Leak detection program/Regular audits of water transmission and storage facilities
 - Determination of the feasibility of reuse/reclaimed water programs and projects, including the cost of upgrading the existing waste water treatment plant(s) or building a new treatment plant to produce reclaimed water; identifying potential users of reclaimed water; and the financial feasibility of reclaimed water to both the producer and the user
 - Water conservation and reuse education programs and community outreach
2. Identify the strategies for construction, extension, increase in capacity, and costs/funding of reuse and reclaimed water facilities
3. Identify the intergovernmental coordination mechanisms necessary for implementing regional water conservation and reuse programs
4. Assess how much of the future water demand will be reduced as a result of those water conservation and reuse programs offsetting projected potable water demand

[Helpful Links: The Department's Technical Assistance website provides links to water conservation and water reuse websites that might be useful to local governments]

8. Goals, Objectives, and Policies

In compliance with the statutory requirements and based upon the data and analysis, the comprehensive plan should be amended to include goals, objectives and policies to implement the water supply facilities work plan. Listed below are examples of policies selected from water supply work plans of local governments across the state.

- **Availability of Water Supply and Water Supply Facilities**
 - Maintain adequate water treatment and distribution facilities, take steps to reduce demand for potable water, and secure sufficient funds to provide water to meet existing and future needs
 - Track current water demand and outstanding commitments in order to determine the availability of adequate water supply and facilities for existing and future developments
 - Ensure that adequate water supplies and facilities shall be in place and available to serve new development no later than the issuance of a certificate of occupancy or its functional equivalent
 - Prior to approval of a building permit or its functional equivalent, consult with water suppliers to determine whether adequate water supplies will be available to serve the new development no later than the anticipated date of issuance of certificate of occupancy or its functional equivalent
 - Participate in developing alternative water sources and alternative water supply facilities pursuant to guidance of the Water Management District

- **Water Conservation**
 - Reduce per capita water usage from the current *xxx* gallons per capita per day to *xxx* gallons per capita per day by year *20yy* as indicated in the Water Supply Facilities Work Plan. The strategies to achieve this reduction will be implemented through water conservation measures, such as rate structure, aquifer storage and recovery, water reuse, and consumer education
 - Require Water Wise vegetation for landscaping in all new developments and redevelopment projects; require the use of xeriscape landscaping techniques for all new developments and redevelopment; require all new development and redevelopment to utilize native drought tolerant landscaping
 - Implement programs requiring or encouraging the use of water saving devices for irrigation systems and plumbing fixtures
 - Conduct audits of water systems to determine areas that may be in need of repair and may be contributing to increased water consumption through leaking pipes, and prioritize needed improvements accordingly
 - Encourage conservation of water sources by the enforcement of water restrictions of customers, monitoring of excessive water uses and other active measures to ensure that water is conserved and non-compliance is corrected, maintaining and implementing a water-conservation educational program, adoption of watering

restrictions, and requirement that reclaimed (non-potable) water be used by all customers when made available by the water utility provider

- Investigate strategies to further conserve water, such as incentives for low-impact water-efficient design practices, including water efficient appliances, and utilization of a water system conservation rate schedule structure
 - The City will require each new development or substantial redevelopment project to construct an irrigation water distribution system and whenever feasible to connect to the City's existing reclaim water supply system. However, the City may accept an alternative supply for reclaim water augmentation and alternative irrigation water subject to review and approval by the City, including private systems
 - Provide or expand public education program to encourage water conservation. At a minimum, the program will include:
 - Water conservation messages in monthly utility bill and newsletter
 - Regular updates regarding water conservation on the City's website
 - Provision of water conservation signs in employee and public restrooms
 - Provision of water conservation materials in City Hall and other City office buildings
 - Coordinate with public entities, such as the Conserve Florida Water Clearinghouse (University of Florida), to obtain technical assistance in the collection of measurable baseline data that can be used to establish a set of benchmarks from which the effectiveness of the water conservation measures will be evaluated in the future
 - Require the establishment of a water conservation plan for new subdivisions and planned unit developments. Each plan shall include at least one of the following: reuse of stormwater for irrigation or other non-potable water use, installation of low flow fixtures, installation of reuse dry lines, use of well water for irrigation, use of water-wise vegetation, annual water audits performed by a certified water auditor; or any other measure approved by the City
- **Water Reuse**
- Implement an incentive program to encourage replacement of potable water use with reclaimed water for irrigation purposes for at least xxx gallons per day by year 20yy
 - Expand existing reclaimed water system distribution network to serve additional large users and continue to reduce potable water usage for irrigation

- In addition to groundwater, future water needs shall be supplied from a variety of alternative sources, including reclaimed water and surface water where permitted and available
 - Support the Water Management District's water reuse projects and implementation of new regulations and programs designed to increase the volume of reclaimed water used
 - Implement a reuse dry-line program and require developers to install dry lines for reclaimed water when the availability of such facilities is imminent
- **Coordination with the Water Management District**
 - Coordinate with the Water Management District to assure the consistency of the Work Supply Facilities Work Plan with the District's Regional Water Supply Plan, including population projections and other water demand and distribution factors
 - Coordinate with the Water Management District regarding the District's water shortage conservation plans and strategies
 - Coordinate with the Water Management District regarding the availability of alternative water supply sources
 - Participate in the development and updates to the Water Management District's Regional Water Supply Plan and water supply development-related initiatives
 - Coordinate with the Water Management District on reuse projects and programs
- **Coordination with Water Suppliers**
 - Ensure that adequate water supplies and potable water facilities shall be in place and available to serve new development no later than the issuance of a certificate of occupancy or its functional equivalent.
 - Prior to approval of a building permit or its functional equivalent, consult with water suppliers to determine whether adequate water supplies will be available to serve the new development no later than the anticipated date of issuance of certificate of occupancy or its functional equivalent
 - Negotiate or renew interlocal agreements with water supply providers ensuring contractual agreement of the adopted level service standards, service areas, population projections, and time period for services provided
 - Obtain from the water supplier a written statement regarding the current potable water demand, the availability of adequate water to meet the projected demand for

the period covered by the Water Supply Facilities Work Plan, the amount of water withdrawals allowed and amount remaining through the consumptive use permit issued by the Water Management District, the capacity of available facilities

▪ **Implementation of the Water Supply Facilities Work Plan**

- Implement the Water Supply Facilities Work Plan for at least a 10-year planning period addressing water supply facilities necessary to serve existing and future development. The Work Plan will be updated within 18 months following an update of the Regional Water Supply Plan. The Water Supply Facilities Work Plan is incorporated into the Comprehensive Plan by reference
- Assess annually the performance and effectiveness of the 10-Year Water Supply Facilities Work Plan and update the status of project development and potential funding sources, consistent with the corresponding Water Management District's Regional Water Supply Plan and the policies of this Comprehensive Plan in order to maximize the use of existing facilities and provide for future needs
- Utilize the Water Supply Facilities Work Plan to identify and plan for water supply sources and facilities needed to serve existing and new developments
- The City hereby adopts by reference the Water Supply Facilities Work Plan (WSFWP), dated xxxx (see Attachment A of the Potable Water Element), for a planning period of not less than 10 years. The WSFWP addresses issues that pertain to water supply facilities and requirements needed to serve current and future development within the City's water service area. The City shall review and update the WSFWP at least every 5 years. Any changes to occur within the first 5 years of the WSFWP shall be included in the annual Capital Improvements Plan update to ensure consistency between the Potable Water Sub-element and the Capital Improvements Element
- The Water Supply Facilities Work Plan shall be used to prioritize and coordinate the expansion and upgrade of facilities used to withdraw, transmit, treat, store and distribute potable water to meet future needs
- Consult with water suppliers regarding the feasibility of developing or extending reclaimed water to the City to be utilized for irrigation and other non-potable water uses
- Coordinate with wholesale customers to ensure compliance with the Water Supply Facilities Work Plan

▪ **Capital Improvements**

- Explore and utilize various revenue sources to meet water systems maintenance, extension and upgrade, including:
 - Grants (federal, state and regional grants)
 - Loans
 - Appropriations
 - Impact fees/Development fees
 - Other user fees and charges, such as retail user charges, service charges, hydrant rental, reclaimed water user charge, and connection fees
- Pursue grants for alternative water supply development
- Maintain an ongoing inventory of water supply facilities and a plan for improvements needed to support existing and future demand identified in the Water Supply Facilities Work Plan
- Review the Water Supply Facilities Work Plan annually together the Capital Improvements Program to include the water related projects identified for the first 5 years of the Water Supply Facilities Work Plan
- Capital projects scheduled in the first 5 years of the 10-Year Water Supply Facilities Work Plan shall be included in the Capital Improvements Element 5-Year Schedule of Capital Improvements. This schedule shall be updated annually, as necessary, to maintain consistency with the capital projects listed in the Water Supply Facilities Work Plan and within 18 months following an update to the Water Management District’s Regional Water Supply Plan and subsequent revisions to the Water Supply Facilities Work Plan

9. Format of the Water Supply Facilities Work Plan

Generally, the work plan should consist of the following sections:

- Section 1 Introduction – Purpose of the Work Plan; general description of how water service is currently provided in the community; description of the major features of the community’s water system; anything else of a general introductory nature
- Section 2 Data and Analysis (relevant to the Local Government as described in this Guide)
- Section 3 Identification of the facilities that will be needed to develop, treat, and distribute traditional and alternate supplies of water over the ten year period, as well as facilities needed to implement a reuse program
- Section 3 Five year Schedule of Capital Improvements (for those facilities needed within the first five years)
- Section 4 Goals, Objectives, and Policies

APPENDIX A

**EXAMPLES OF ADOPTED COMPREHENSIVE PLAN AMENDMENTS TO
INCORPORATE THE WATER SUPPLY FACILITIES WORK PLAN (*Hyperlink insert*)**

For more information and technical assistance please contact:

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