

**PINELLAS PLANNING COUNCIL
AGENDA MEMORANDUM**

**PRELIMINARY FOR
PAC REVIEW ONLY**

AGENDA ITEM: IV D.

MEETING DATE: January 21, 2009

SUBJECT:

Review of the 2008 Tampa Bay Water Long-Term Water Supply Plan

RECOMMENDATION:

Council Receive And Discuss As Determined Appropriate
(Information Only - No Action Required)

BACKGROUND

When Tampa Bay Water (TBW) was established in 1998 as the successor to the West Coast Regional Water Supply Authority, it served 1.8 million customers. It now serves 2.4 million. TBW is composed of "member governments" that include Hillsborough, Pasco, and Pinellas counties, and the cities of New Port Richey, St. Petersburg, and Tampa. The member governments are signatories to an interlocal agreement that "obligates" TBW to meet both their current and future water needs and requires the *Master Water Plan* to be updated every five years. The first update was completed in 2003 and the *Tampa Bay Water Long-Term Water Supply Plan 2008* (the Plan) is the second one which was adopted by the TBW Board of Directors in December 2008.

After an executive summary and introduction, the Plan consists of:

- An inventory of existing facilities;
- A discussion of current capital improvement projects and staffing;
- An assessment of customers and water demands;
- A regulatory review and system analysis;
- Examination of source water protection, climate variability, and long-term climate change; and
- A discussion of demand management and potential future water supply sources.

One of the constraints under which TBW operates is the requirement by the Southwest Florida Water Management District (SWFWMD) to reduce the amount of groundwater withdrawal from the Floridan Aquifer. This requirement has resulted in TBW shifting its

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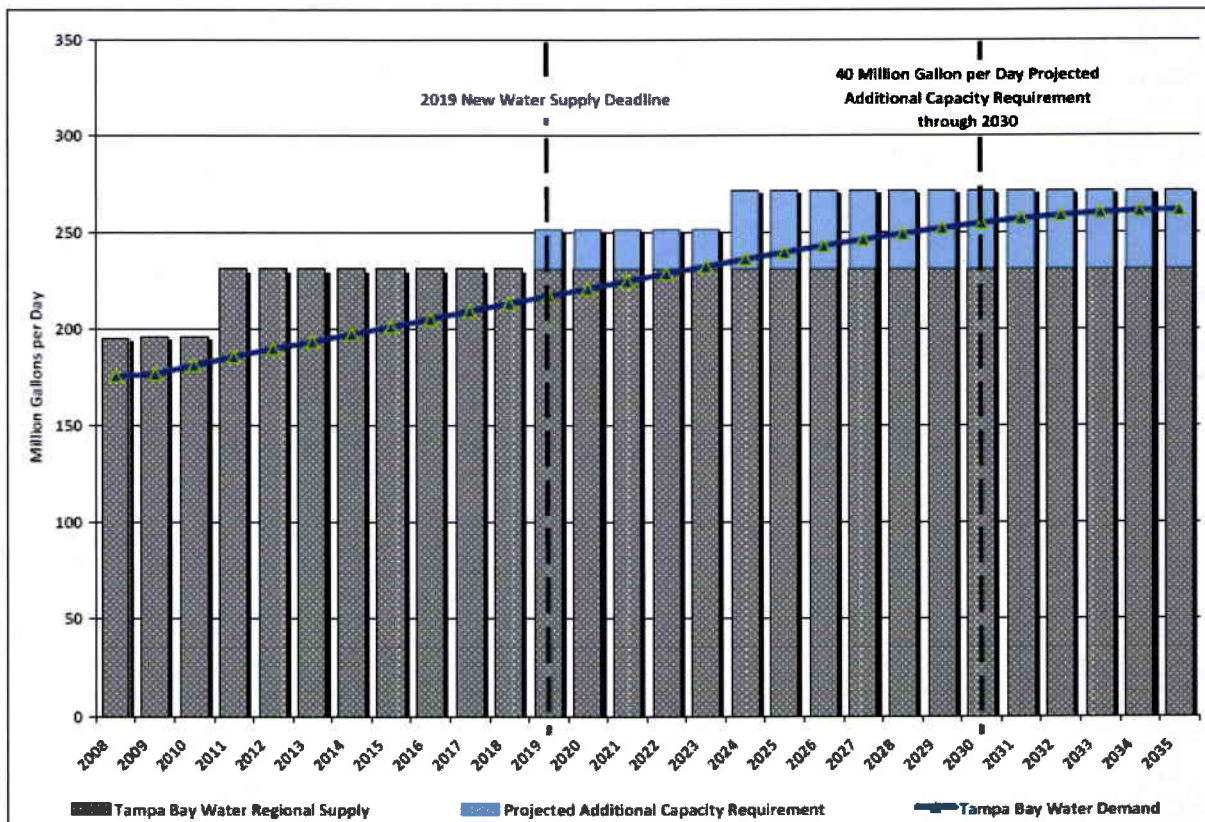
COUNTYWIDE PLANNING AUTHORITY ACTION:

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emphasis from groundwater withdrawal to alternative water sources. Also contributing to this shift is the “local sources first” policy. This policy reflects a Florida Administrative Code provision that instructs water management districts to “encourage the development of local and regional surface and ground water supplies within Districts rather than transfer water across District boundaries” and “encourage the use of water from sources nearest the area of use or application whenever practical...”

There are four project “configurations” spread over 20 years in TBW plans. TBW “Configuration I” projects identified in the 1998 water supply plan include, for example, the Tampa Bay Seawater Desalination plant and the C.W. Bill Young Regional Reservoir, have been constructed. “Configuration II” projects “will allow for reliable distribution of the additional (water) supply to meet Member Government needs” including 25 million gallons per day of new surface water by 2011. These projects will offset the decreased amount of groundwater withdrawal. In total, approximately 200 million gallons per day of water supply is available from the various water sources from 2008 through 2010. However, TBW is required to plan for a 20-year period. This requirement means that there is an anticipated need for approximately 40 million additional gallons per day through 2030 (See the graphic below.).

**Figure ES-3
Demand Projections for Wholesale Water and TBW Capacity**



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TBW relies upon sophisticated computer models to ensure that a ready supply of potable water is available to member governments. These models allow water supply sources to “be utilized in a manner which meets real time demands, minimizes environmental impacts to regional water resources and meets the requirements set forth in the Consolidated Water Use Permit.” Long-term demand forecasts are made which “ensure that adequate supply will be made available to Member Governments in the future and that supplies are added in such a way as to minimize wholesale water rate impacts.”

A system analysis was performed in 2005 with the purpose of improving TBW’s ability to maintain reliable service under varying adverse circumstances, e.g., large area power interruptions. Two areas with “potential hydraulic restrictions” were identified in Hillsborough County: the Morris Bridge and Cypress Bridge Transmission Mains and the Brandon Transmission Main and Brandon South-Central Connection. If the identified deficiencies are not corrected, they “may begin to limit the ability to operate the system under certain scenarios.”

The Plan also addresses the protection of water sources. The goal is to “protect public health and the environment, and allow cost-effective and attainable drinking water treatment.” While TBW routinely monitors water sources, the Plan recommends that a formal “Source Water Protection Plan” be developed that can be used to establish a “Source Water Protection Program.”

Because by 2012 fifty percent of the water supply will come from surface water sources, the Plan says that the “relationship between climate change and water quality and quantity issues” should be examined because such reliance “imposes a new level of uncertainty upon Tampa Bay Water and makes the region more susceptible” to weather and climate extremes. Effects of climate change on water supply include:

- “Impacts of increasing temperature on evapotranspiration (The loss of water from the soil by evaporation and by transpiration from the plants growing in the soil, which rises with air temperature.) and seasonal rainfall patterns;
- Increasing rainfall variability and frequency of extreme events (e.g., more hurricanes, more droughts);
- Source water quality changes due to temperature changes or increased runoff; and
- Changes in rainfall patterns and temperatures affecting water use patterns and future water needs.”

Because by 2013 approximately half of the regional water supply will come from surface water and alternative sources, conservation becomes very important as a means to keep costs down. “As new supply development costs continue to increase, avoided cost becomes amore critical element of the water supply planning process.” In order to address this issue, the Plan recommends updating of the TBW “Demand Management Plan.” Such an update would assess water demand patterns and customer characteristics which would