

ORANGE WATER AND SEWER AUTHORITY

LONG-RANGE WATER SUPPLY PLAN

April 2016

PURPOSE: To provide information about the *Long-Range Water Supply Plan* (Plan) that was originally approved and adopted by the OWASA Board of Directors in April 2010. The *Plan* was revised in January 2013, and a process to update the *Plan* is beginning.

BACKGROUND: OWASA updated its *Long-Range Water Supply Plan* to determine the optimum mix of strategies that will ensure a reliable, cost-effective, and sustainable water supply to meet the needs of Carrboro, Chapel Hill, and the University of North Carolina at Chapel Hill (UNC) through 2060. (Please see also the related briefs about the Jordan Lake Partnership and the 2001 Water and Sewer Management, Planning, and Boundary Agreement.) The planned update will include projections through 2065.

KEY ASSUMPTIONS UNDERLYING THE PLAN:

- OWASA's service area boundary will remain unchanged in the future;
- Water use efficiency achievements (25% unit demand reduction for all customer classes since 2002) will be sustained; and
- OWASA will continue to recycle process water at the Jones Ferry Road Water Treatment Plant and – along with UNC – will continue to operate its Reclaimed Water System throughout the planning period.

SUPPLY AND DEMAND CONSIDERATIONS:

50-year demand projections were made in consultation with the planning and economic development staffs of Orange County, Carrboro, Chapel Hill, and UNC. Projections were based on “lower than expected,” “expected,” and “higher than expected” growth and demand assumptions.

The study included a recalculation of the estimated capacity (yield) of OWASA's existing reservoir/quarry system and reflected 2001-02 drought-of-record conditions. To account for uncertainty, the revised yield estimate assumes that a 20% storage reserve (700 million gallons) will be maintained to provide adequate time to implement emergency supply measures during an extreme drought.

The *Plan* includes thorough financial cost/benefit analyses of 13 alternative supply-side and demand-side strategies for meeting OWASA's long-term water supply needs.

KEY FINDINGS AND RECOMMENDATIONS:

OWASA's locally protected water supplies can meet most, but not all, expected needs for the next 50 years. The expanded Quarry Reservoir is the most cost-effective option for additional future water supply, but will not be available until approximately 2035. Jordan Lake – especially until the expanded Quarry Reservoir is online – will become an increasingly important “insurance policy” during severe drought or other emergency conditions. Investing OWASA funds to expand the reclaimed water system or to establish financial incentive programs, such as plumbing fixture rebates, to promote additional water conservation is not recommended at this time, because these options are less cost-effective than the other alternatives evaluated.

CONCLUSION: The *Long-Range Water Supply Plan* presents a positive outlook for OWASA and the conservation-minded community it serves. The continued focus on water use efficiency by all customers will enable future generations to enjoy a reliable and sustainable supply of high quality drinking water with far less capital investment than anticipated in previous reports. Although the Cane Creek/University Lake/Quarry Reservoir system will meet our expected needs under most future conditions, there remains a need to further diversify and insure our water supply portfolio for greater reliability and resiliency.