

# ORANGE WATER AND SEWER AUTHORITY

## LONG-RANGE WATER SUPPLY PLAN

June 2017

**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 most recently revised in January 2013, and staff are currently updating the Plan.

**BACKGROUND:** OWASA developed 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.
- 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. Staff are beginning to update the demand projections based on regional population and job projections developed by the local governments. We anticipate having these projections drafted in September 2017.

The 2010 *Plan* 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. Since we have not had a new drought of record, staff will not update our estimated yield of 10.5 million gallons per day. However, we are working with a graduate student to evaluate the likelihood of our reservoir system not being able to meet certain demand thresholds under different climate scenarios.

The 2010 *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. Many of these alternatives will be updated; additionally, staff will evaluate indirect potable reuse and develop a Conservation Plan as a companion document to the *Plan* update.

### 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.

**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.

### FOR MORE INFORMATION:

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