



Town of Pittsboro, North Carolina

Engineering Department

Memorandum

To: Mayor Voller and Town Board of Commissioner's

From: Fred Royal, PE, Town Engineer

Subject: FYI: Jordan Lake Partners up-date and Water Conservation Planning Strategy

Date: October 28, 2013

Background

The Town of Pittsboro has been working with the Jordan Lake Partners (JLP) since March 16, 2009, via a Memorandum of Understanding (MOU). The partnership consists of all regional municipalities and counties with an interest in or current use for Jordan Lake water as a primary or secondary public water supply.

That partnership was developed as a result of the available 100 million gallons per day allotment remaining for public water supply in Jordan Lake. The Town has identified Jordan Lake as its secondary source for public water supply beyond approximately 2030. Since the MOU, the JLP has met regularly for the purpose of developing a regional water model, an interconnection study, developing future water demand projections and preparation for the up-coming Water Allocation Application.

Due to the proposed Chatham Park Development, the town had to quickly revise its future demand projections and resubmit the data using the standards that the Partnership has been using for vetting purposes. The partnership received the towns updated data with full explanations and they were satisfied it met the partnership standards. These most recent provisional water demand projections for the town are as follows:

2020 – 3.3 MGD
2030 – 7.7 MGD
2040 – 10.1 MGD
2050 – 10.8 MGD
2060 – 11.7 MGD

Discussion

These are only provisional projections but they will be used for planning purposes moving forward. The Town will have to develop a strategy to meet the actual demand and plan to meet the projected

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demand forecast in a balanced and fiscally responsible manner. The town has significant work to do to plan, engineer and finance potable water supply increases.

The Haw River will continue to be the primary source of drinking water until the Jordan Lake allocation process and new in-take issues are all developed and instituted. It could be 2030 before any water is available from Jordan Lake. Therefore, the current planning is for incremental increases from the Haw River with a new treatment plant and distribution system where needed. It takes approximately five years to plan, design, permit and construct a new water treatment plant, therefore early planning is essential. New treatment technologies must be considered in this planning process to meet existing and future water quality standards.

One criterion for minimizing planned increases is to reduce on-going waste/losses. Water conservation planning is essential and is required by the JLP process. Water conservation planning generally includes reducing non-revenue water losses, decreasing residential and commercial water use, decreasing irrigation and other non-potable uses and creating public education, developing ordinances, and furthering incentives to meet the conservation goals.

Pittsboro has very little in place for proactive water conservation planning and management other than emergency ordinances and tiered rates. Staff will develop a draft *Water Conservation Plan Strategy* to submit to JLP as required. One key point in this strategy will be to reduce the town's high non-potable water losses (and costs) in the distribution system. These losses are estimated to be twenty five (25%) percent of the finished water in the distribution system alone.

The normal or acceptable value is ten percent (10%). Public Utilities is working to partially offset these losses with new water meters and they make repairs to known leaks routinely. However, more strategic planning to reduce water losses is what is necessary moving forward for the town.

The Town of Pittsboro's Jordan Lake Water Allocation Application is currently due by January 1, 2014. Staff will continue to work to meet the required general standards of a water conservation planning strategy in order to be prepared for the application process. This planning strategy will require that an actual *Water Conservation Plan* be developed by the town. This will involve significant staff time or it could be performed by a consultant. The time-line for such a plan will likely be over a one-year period once it begins. The basis of the plan is three-fold:

- 1) It is required as a JLP partner;
- 2) Once implemented, it will serve to reduce overall water losses and associated costs;
- 3) It will help conserve our limited water supply; and
- 4) It will provide for additional or redundant water sources from other regional entities where necessary for water emergencies/drought

Please see the draft/provisional chart below indicating current water losses in Pittsboro's water treatment and distribution systems. Further work is required to validate these findings but staff believes that they are reasonably accurate numbers, based on the method of the study. Raw water is pumped from the Haw River and treated at the water plant. Finished water is after treatment and sent out to be distributed to the town.

Town of Pittsboro Water

