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ORANGE WATER & SEWER AUTHORITY

ATTACHMENT 2

Quality Service Since 1977

November 19, 2003

Mr. W. Calvin Horton
Town Manager
Town of Chapel Hill
306 North Columbia Street
Chapel Hill, North Carolina 27516

**SUBJECT: SPECIAL USE PERMIT MODIFICATION FOR THE UPGRADE AND
EXPANSION OF THE MASON FARM WASTEWATER TREATMENT PLANT**

Dear Cal:

We are very pleased that the Town has agreed to provide expedited review of the Special Use Permit (SUP) modification for the Mason Farm Wastewater Treatment Plant (WWTP). I am writing to summarize the important community and environmental benefits for this project and to explain why it is necessary to begin construction of the improvements early next year.

BRIEF SUMMARY OF PROJECT OBJECTIVES

Improve Effluent Quality

- ◆ The State has mandated advanced nutrient removal for all wastewater treatment plants discharging into nutrient sensitive watersheds, including the Jordan Lake watershed. Excess nutrients (nitrogen and phosphorus) from point and nonpoint sources can degrade water quality as a result of increased algae blooms and reduced dissolved oxygen levels. OWASA and the local governments in Orange County have a long history of supporting local and regional watershed protection efforts, and the OWASA Board of Directors approved a WWTP project scope that, when completed in 2007, will provide a much higher effluent quality that exceeds existing and possible future regulatory requirements.

Improved Plant Reliability

- ◆ During periods of heavy rains and flooding which may occur several times a year, some stormwater enters our 290 miles of wastewater collection pipes and creates

peak flow conditions at the WWTP. Although OWASA continues to make good progress in reducing inflow and infiltration into the collection system, additional plant improvements are needed to ensure sufficient treatment to maintain effluent quality during these occasional periods of high plant flows.

- ◆ Greater redundancy for “mission critical” equipment will be provided to further improve the plant’s reliability.
- ◆ The project will improve operator and community safety by using ultraviolet light, rather than chemicals, to disinfect the treated effluent.
- ◆ There is a need to increase the capacity of emergency standby power. The importance of our existing emergency generator was reinforced during two major ice storms and Hurricane Isabel during the past year.
- ◆ The project has several features which will improve odor management at the plant.

Increase Capacity

- ◆ The WWTP currently has a peak month permitted capacity of 12.0 million gallons per day (MGD). A capacity increase to 14.5 MGD is needed to meet demand until 2011 or so (Attachment 1).

Provide Opportunity for Significant Use of Reclaimed Water

- ◆ To reduce local drought risk and provide long-term water supply benefits, OWASA and the University desire to jointly develop a reclaimed water system that will initially serve the main campus area. This has been the focus of a recently completed feasibility study funded jointly by OWASA and the University. Based on our preliminary work, it appears feasible to use substantial amounts of highly treated effluent (reclaimed water) from our WWTP in the University’s cooling towers, Cogeneration Plant boiler, and for campus irrigation. If implemented, this ambitious program will initially save an average of 1.6 MGD of drinking water.

A presentation regarding the potential reclaimed water program was provided to the Town Council on September 22, 2003. OWASA and the University are currently discussing the likely implementation of the reclaimed water system. Initial estimates of the capital costs are about \$13 million, but the long-term savings in both resource value and increased drought protection may be worth more than that.

- ◆ All WWTP effluent from the upgraded facility will meet the State's reclaimed water standards.

SCHEDULE IMPORTANCE

It is critically important that we begin construction of the WWTP improvements by March 2004. The reasons being:

1. The capacity of the Mason Farm WWTP needs to be expanded as soon as possible to assure that the projected flows can continue to be treated in full compliance with applicable regulatory requirements. As shown on Attachment 1, projected maximum month flow will exceed the presently permitted capacity before 2007. Given the expected construction timetable, it is essential that we complete the project as soon as possible in order to assure that adequate capacity is available to meet projected flows. If the capacity is not expanded, the flow limit in the permit could be violated and lead to enforcement action by the State. Enforcement actions could include restrictions on extensions of and connections to the sewer system until such time as the capacity expansion is completed.
2. Periods of heavy rains and flooding create high flow conditions at the WWTP and can result in degraded effluent quality. Until the WWTP improvements are completed, we operate under an increasing risk of violating our operating permit during peak flows.
3. The WWTP currently has one emergency generator for use when Duke Power feed is unavailable. The existing generator has insufficient capacity to power all essential equipment during a power emergency, thereby increasing the risk of a sewage overflow at the plant and/or violating our operating permit during a power emergency.
4. OWASA and the University are proceeding with plans to develop a reclaimed water system as soon as possible. The planned upgrades to the Mason Farm WWTP are essential to meeting the State's reclaimed water standards. The drought of 2002 revealed the vulnerability of our water supply to extreme conditions. Completion of the OWASA/University reclaimed water project will immediately lessen this vulnerability by decreasing finished water demand by 15 percent. The University is moving ahead with plans to design and install reclaimed water lines on the main campus, with the expectation that we will be able to begin providing reclaimed water to key facilities on the main campus by the middle to end of 2006.

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5. The WWTP improvement project includes several measures to further control odor. We have committed to our neighbors that we will take all reasonable measures to accelerate the odor control improvements for the plant.

At an estimated cost of \$45 million, the WWTP project is the largest and most complex capital improvement that OWASA has ever under taken. Because of the multiple community and environmental benefits of the planned improvements, this is clearly the most important project since the Cane Creek reservoir was completed in 1989. As explained above, time is of the essence, because portions of the project will take nearly three years to complete (Attachment 2).

We look forward to working closely with the Town in obtaining an expedited approval for our WWTP project. Thanks for your support.

Sincerely,



Ed Kerwin
Executive Director

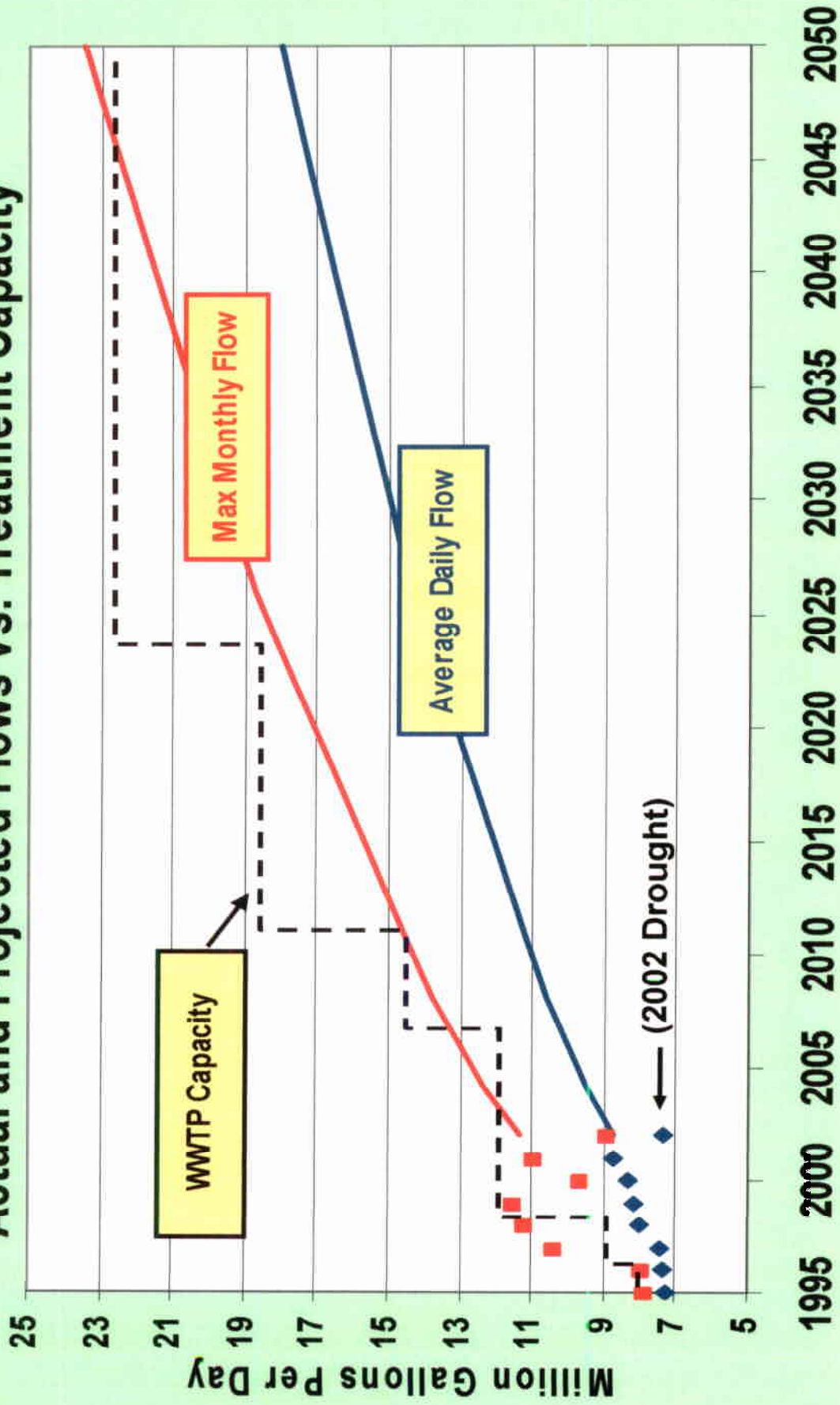
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Attachments

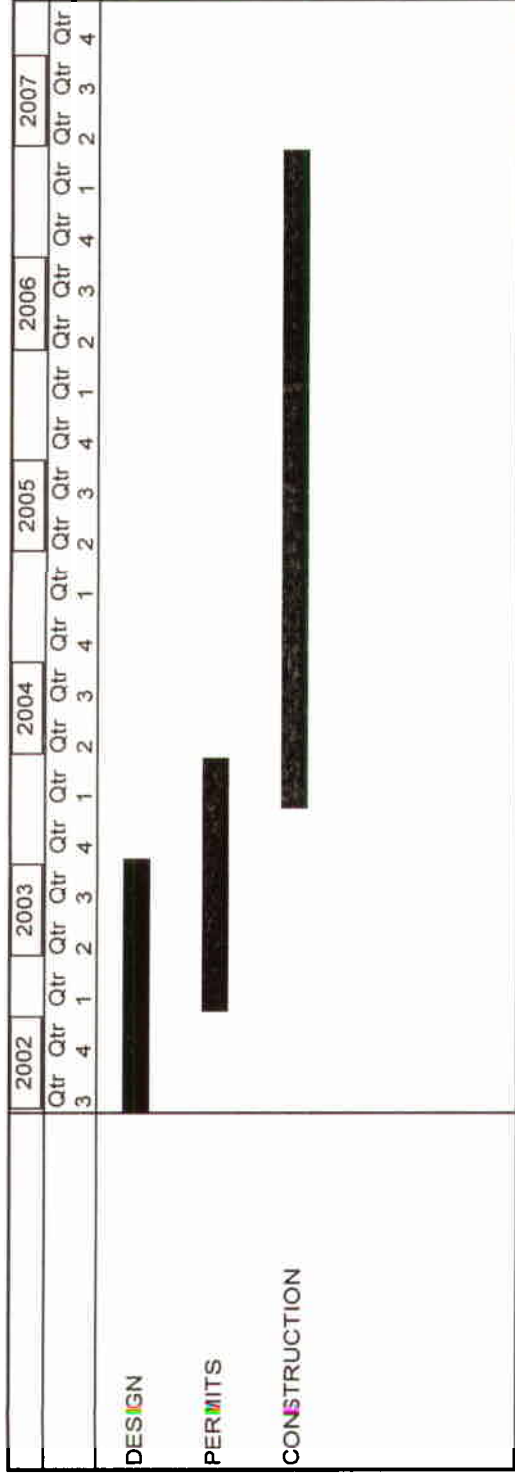
c: Mr. Roger Waldon, Chapel Hill Planning Director
Imtiaz Ahmad
John Greene
Walter Gottschalk

Attachment 1

Mason Farm Wastewater Plant Actual and Projected Flows vs. Treatment Capacity



ATTACHMENT 2



IMPORTANT PROJECT MILESTONES

June 2005 – Expand Standby Power:

A new emergency generator to be installed and operational by June, 2005.

September 2005 – Improved Effluent Quality:

New filtering and Ultraviolet light disinfection process to be operational by September 2005, thereby improving effluent quality.

September 2005 – Renovation of Digesters:

Renovation of sludge digesters to be completed by September, 2005, which will greatly improve odor control management.

March 2007 – Final Project Completion:

Overall project to be completed by March 2007, providing a 14.5 MGD treatment capacity.

