

# WITHERS & RAVENEL

ENGINEERS | PLANNERS | SURVEYORS

October 20, 2005

Mr. M. Travis Blake  
Blake and Associates  
9668 US 15-501 North  
Chapel Hill, NC 27517

RE: Williams Corner Reclaim Water Treatment Plant  
W&R Project # Po5257.0

Dear Mr. Blake:

Per our discussion of the requirements of the Chatham County Board of Commissioners and Planning Board, this letter presents Withers & Ravenel, Inc.'s certification of the suitability of the reclaim water treatment facility for the Williams Corner Development project north of Pittsboro near Chapel Hill, North Carolina.

Our understanding of the scope is Blake and Associates desires that Withers & Ravenel design an influent pumping station with equalization basin and fine screening, a package MemJet Xpress Membrane Bioreactor wastewater treatment plant (WWTP) with UV disinfection capable of meeting reclaimed water treatment, a sludge digester holding basin, chemical feed system and appurtenances, odor control facilities, and an effluent pump station. The manufacturer of this WWTP shall be USFilter. We have reviewed the manufacturer's information, as well as other membrane technology, and conclude that the biological treatment followed by submerged membrane filters is capable of meeting, and exceeding, the desired reclaim water standards of the State of North Carolina. The final disinfection by ultra-violet disinfection will render the fecal coliform content to less than the 14/100 ml reclaim water standard. Achieving a treatment level equal to or better than the reclaim water standards will allow Williams Corner to dispose of the reclaim water in areas typical to some indirect human contact such as for fire protection, evaporative cooling towers, landscape irrigation, fountains, street washing, etc.

It is our understanding that Blake & Associates will be designing a reclaim water distribution system to include evaporative cooling, water landscaping, retention ponds for storage and landscape irrigation of common area and dedicated spray areas for final disposal by non-discharge methods. Based on preliminary design numbers it appears that 100% of the influent wastewater generated at Williams Corner can be treated to the reclaim water standards and disposed of on-site.

Withers & Ravenel will coordinate the submittal of the non-discharge permit application, plans and specifications for the WWTP and the plans and specifications for the effluent force main, storage ponds, spray irrigation pumping system and reclaim water distribution and irrigation system provided by others to the Division of Water Quality for an Authorization to Construction and Non-Discharge Permit.

The proposed project appears to be an excellent for reuse of wastewater and suitable for the proposed development needs.

If you have any further needs for addressing Chatham County please contact me.

Sincerely,

**WITHERS & RAVENEL, INC.**

*Michael C. Wicker*

Michael C. Wicker, P.E.  
NC PE 11325

