

October 26, 2000

Mr. Dale Schepers
Division Manager
Water & Wastewater
1601 Graham Road
College Station, TX 77845

Re: City of College Station
Carters Creek WWTP
Odor Control Improvements Project
Change Order No. 1

Dear Mr. Schepers:

This letter is in regards to Change Order No. 1 for the cover system for the Headworks Facility at the Carters Creek WWTP. Plans and specifications were sent to Bryan Construction Company for pricing regarding the addition of the cover system work to their existing construction contract.

As you are aware the incorporation of the cover system has resulted from a study and analysis of how best to treat the headworks odors. Three alternatives were considered for treatment of the odors, which are as follows: Return Activated Sludge (RAS) recycle, Containment and Treatment and Chemical Addition to the Collection System.

Based on costs and the potential to control the headworks odors, the RAS recycle was believed to be the best option. Prior to full implementation of RAS recycle, a RAS recycle pilot study was performed to determine if the effectiveness of this approach was the best alternative. The RAS pilot study was implemented and data gathered for approximately six months. From the pilot study, it appeared that the headworks odors could be controlled. However, the balancing of solids inventory immediately became a problem for the plant. The plant also experienced sludge bulking which created biological foaming and decreased solids settleability. Due to the problems associated with the RAS recycle, the remaining two alternatives were investigated.

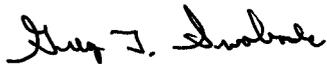
The second alternative of containment and treatment with biofiltration is a proven technology, which has been implemented at other treatment facilities with success. The third alternative of chemical addition to the collection system has also been implemented at other treatment facilities with success. However, based on the particular requirements to treat odors for the Carters Creek WWTP, the chemical addition alternative has a greater annualized cost than the containment and treatment alternative. Therefore, based on costs and effectiveness to control odors, the containment and treatment option is the recommended alternative for the Carters Creek WWTP.

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The change order price provided by Bryan Construction Company to provide and install the cover system at the Headworks Facility is \$147,700.00. Our estimated construction cost was \$165,260.00. Therefore, based on the price proposal from Bryan Construction Company and the effectiveness of the containment and treatment alternative to treat odors we recommend that the City proceed with this change.

If you have any questions or comments, please let me know.

Sincerely,
Camp Dresser & McKee Inc.



Greg T. Swoboda, P.E.
Principal

xc: Allen Woelke, CDM
Lynne Moss, CDM