



Texas City Treatment Plant Texas City, TX



Project Profile

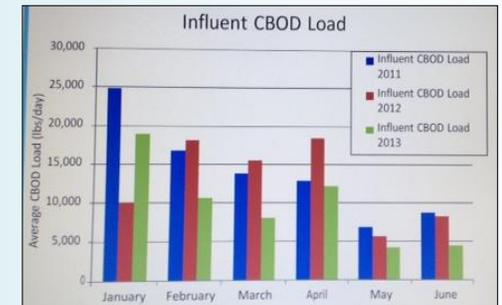
Summary at a Glance

Project Installed: November 2012

Plant Size: 5.7MGD

Service Objectives:

- Control Collection System FOG and Odor
- Reduce Influent CBOD and TSS Load
- Improve Effluent Quality
- Reduce Energy Use and Sludge production

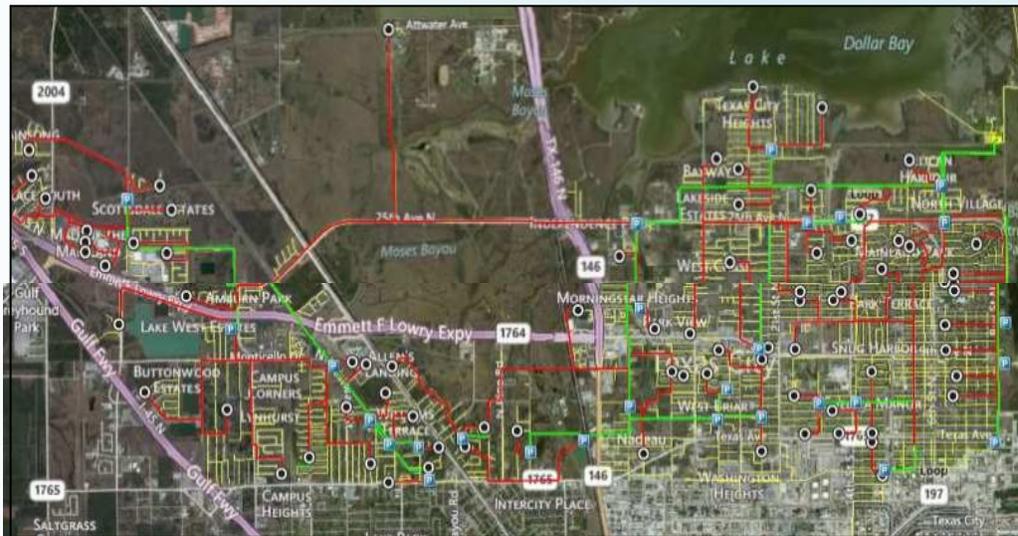


Performance Summary:

- 45% Reduction Collection System H2S
- Successful Collection System FOG Control
- 50% Effluent Ammonia Load Reduction
- 22% Reduction Effluent CBOD Load
- 19% Reduction Effluent TSS Load
- 11% Reduction Influent CBOD Load
- 28% Reduction Influent TSS Load
- 9% Reduction Sludge Hauled

AFORDABLE EFFICIENCY

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Performance History and Discussion

Texas City selected biological dosing throughout the collection system, a bioaugmentation program to control fats, oil and grease (FOG) and H₂S odor in the sewer system. The program is also designed to reduce influent load to the wastewater treatment plant (WWTP), improve the quality of the effluent water, improve the operating efficiency and reduce operating costs at the plant.

Biological Dosing Strategy

A special formulation was designed and a treatment strategy was provided, installed and maintains ninety-six dosing units for the collection system which add a consortium of bacteria throughout the Town's wastewater collection system. The engineered blend of facultative anaerobic bacteria form a biofilm inside the sewer pipes which initiates treatment of the wastewater in the sewer system during conveyance to the WWTP. The bacteria also inoculate the influent wastewater with heterotrophic wastewater bacteria that enable a greater degradation of organics and lower oxygen requirements than normal wastewater bacteria.

Results

After the first three months of bioaugmentation treatment in the collection system the WWTP the following changes were observed:

- Average H₂S concentration at a hot-spot in the collection system has decreased by 45% while peak values have fallen by 38%.
- Effluent CBOD and TSS have decreased by 22% and 19%, respectively
- Sludge production has decreased by 9% (based on cubic yards disposed)
- Effluent ammonia load has decreased by 50% Influent CBOD and TSS have decreased by 11% and 28%, respectively.