

# Reduced Chemical Dose, Improved Water Quality

## Forced Draft Aerator



### CASE STUDY

**Location:** Columbus, Texas  
**Owner:** City of Columbus  
**Engineer:** John D. Mercer & Associates  
**Contractor:** Matula & Matula Construction

Columbus, Texas, located roughly 70 miles west of Houston, receives its drinking water from multiple wells. Well water is treated at three (3) treatment plants operating throughout the city.

The City Park Water Treatment Plant utilizes aeration and detention to remove hydrogen sulfide gas. Well water is pumped to the elevated aerator and, after aeration, is gravity fed to a clear well for distribution.

The existing aerator was outdated and needed to be replaced quickly. Water quality from the existing aerator met EPA regulations but the tower was structurally at risk. Working with John D. Mercer & Associates, the city began plans for a new aerator.

In 2009, WesTech was selected to supply a new forced draft aerator (7 ft square x 10 ft high) and support tower (30 ft tall). With

Forced Draft Aerator	
Quantity	1 aerator
Size	49 ft <sup>2</sup>
Peak Capacity	1,200 gpm
Water Loading Rate	24.5 gpm/ft <sup>2</sup>
Air/Water Ratio	3.0 cfm/gpm
Media	PVC slats 2" c-c
Blower Rate	3,600 scfm

few moving parts and minimal maintenance, forced draft aerators reduce the need for chemical additives and minimize treatment costs.

During aeration, hydrogen sulfide is stripped and off-gassed from the water. To eliminate iron oxidation, iron is held in suspension through the injection of a polyphosphate prior to aeration.

By employing WesTech's forced draft aerator, hydrogen sulfide was reduced below the taste and odor threshold. In addition to providing high quality water, issues with gas in underground storage tanks were eliminated.

Immediately following the commissioning of the WesTech forced draft aerator, a demolition crew removed the previous aerator, allowing Columbus to continue to supply high quality water, with a safer system.

WesTech supplied a quick, long term solution for the City of Columbus. With unmatched customer service, WesTech continues to build a solid reputation for reliable process equipment and superior service worldwide.



Existing and New Forced Draft Aerators

**WESTECH**  
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