

South Adams County WSD, CO Williams Monaco WWTP Case Story of Success

Williams Monaco WWTP Upgraded Treatment Performance and Enhanced Treatment Capacity with BioMix™ Compressed Gas Mixing System

Location: Henderson, CO	Solution: BioMix™ Compressed Gas Mixing
Design Engineer: Burns and McDonnell	Design Flow (ADF): 8 MGD
Application: BNR Anaerobic & Anoxic Mixing	Compressors: Two (2) 15 HP Rotary Screw
Mixing Efficiency: ≈ 0.1 HP/1000 FT ³	Quantity of Mixing Nozzles: 128

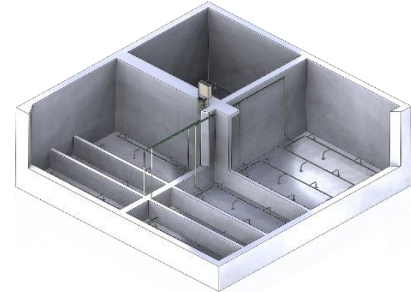
The SACWSD Williams Monaco WWTP located in Henderson, Colorado was recently upgraded to provide improved treatment and increased capacity. The new plant design replaces the existing MBBR secondary process with an 8 MGD Integrated Fixed Film Activated Sludge (IFAS) process in an A2O configuration for biological phosphorous removal, as well as nitrogen reduction.

BioMix™ Compressed Gas Mixing technology was selected by the Engineer and the District to be an integral part of the plant upgrade, whereby BioMix™ replaced inefficient and maintenance intensive submersible mixers in existing biological nutrient removal anoxic selector basins and was installed in newly constructed anaerobic and anoxic selectors.

The BioMix system, utilizing a duty and a standby compressor, will allow the facility to avoid significantly higher operating and maintenance costs associated with competitive mixing technologies. In addition to centralized and reduced maintenance, one of the key benefits and performance results of the BioMix system includes mixing efficiency of ≈ 0.1 HP/1000 ft³ of tank volume.

The Williams Monaco WWTP utilizes EnviroMix proprietary Zombie™ PLC back-up. The Zombie provides redundancy to the PLC without the expense of a hot back-up. It is programmed to operate with factory settings for firing sequence, frequency and duration. It monitors the PLC heartbeat and lies dormant as long as the heartbeat is detected. In the event the PLC heartbeat is lost, the Zombie automatically takes over to ensure uninterrupted mixing, thereby maximizing system uptime and reliability.

Andrew Waddoups, Associate Environmental Engineer with the engineering firm of Burns & McDonnell, stated, "We are very excited about this project and the benefits EnviroMix will provide from the perspective of both energy efficiency and ease of maintenance. The EnviroMix system is a key part of the BNR Upgrades Project."



BioMix™ Compressed Gas Mixing Advantages

- Bottom up mixing in any size tanks
- Uniformly distributed mixing energy
- Improved mixing versus alternatives
- Operator adjustable mixing parameters
- Optimized energy consumption
- Lowest energy consumption mixing technology
- Non-clog maintenance free in basin nozzles and nozzle headers
- Minimized and localized maintenance requirements