

## Nashua, NH WWTP

## Case Story of Success

### Nashua, NH Retrofits Sludge Holding Diffused Aeration and Mechanical Mixing System with BioMix™ Compressed Gas Mixing System for Reduced Maintenance and Energy Efficiency

Location: Nashua, New Hampshire	Solution: BioMix™ Compressed Gas Mixing
Design Engineer: Wright-Pierce	Design Flow (ADF): 16 MGD
Application: Sludge Mixing - 4% Primary, 2% WAS	Compressors: Two (2) 7.5 HP Rotary Screw
Mixing Efficiency: 0.13 HP/1000 FT <sup>3</sup>	Quantity of Mixing Nozzles: 25

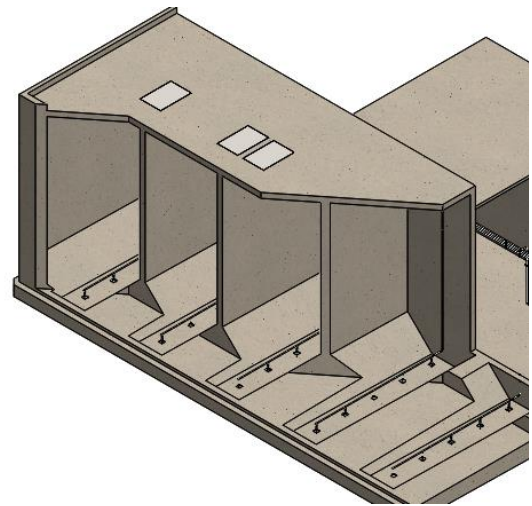
As part of the sludge dewatering process upgrade at the Nashua Wastewater Treatment Facility, plant staff and their consulting engineering firm Wright Pierce selected EnviroMix's BioMix™ Compressed Gas Mixing technology. BioMix™ was provided to mix four (4) tanks of 2% solids waste activated sludge and one (1) tank of 4% mechanically thickened sludge.

The BioMix™ System, which consists of two (2) 7.5 HP rotary screw compressors (one duty and one standby), an automated valve control panel and five nozzle headers, one per basin, replaces five positive displacement aeration blowers, five coarse bubble aeration systems and six top entry mechanical mixers. The BioMix™ System at the Nashua WWTF provides a straight-forward, energy-efficient mixing solution as part of this plant upgrade.

The total estimated power required for BioMix™ to achieve homogenous mixing in this application is approximately 6 BHP and represents power/energy savings of 80% or more versus the previously installed diffused aeration and mechanical mixing technology.

John Adie, the Plant Operations Supervisor for the City of Nashua stated "We are excited to implement the BioMix™ technology here at the Nashua plant. Energy costs in the Northeast are some of the highest in the country and the money saved through the use of an efficient mixing system will have a significant, positive impact on our O&M budget."

As facilities look to incorporate energy-efficient technology into their operation and maintenance strategy, the savings offered through use of BioMix™ for sludge mixing is an excellent alternative to conventional diffused aeration or mechanical mixing technologies.



#### BioMix™ Compressed Gas Mixings Advantages for Sludge Mixing Applications

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