

Michigan Wastewater Facility Receives Recognition for Operational Excellence

EnviroMix presents award to City of Warren WRF

WARREN, MICHIGAN, UNITED STATES, November 29, 2022 / EINPresswire.com/ -- [EnviroMix](#), Inc. recently presented their Operational Excellence Award to the water recovery facility (WRF) staff for the City of Warren, Michigan. The award recognizes operations staff who demonstrate a high level of commitment to outstanding plant performance and the success of their EnviroMix solution(s). The [Warren WRF](#) was recognized for their excellence after upgrades in 2014 and 2021 that led to profound reductions in chemical and power usage, saving dollars and reducing environmental impact. Bryan Clor, Warren's wastewater treatment division head, commented, "Working with a team like EnviroMix, whose goals align with ours to protect the environment, has been one of my greatest pleasures."

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*Bryan Clor, Warren WRF
Division Head*



Tyler Kunz (left), EnviroMix VP of Sales, presents the Operational Excellence Award to Bryan Clor (right), Warren WRF Division Head.

As part of a plant upgrade in 2014, the City of Warren modified their conventional activated sludge process to an anaerobic/oxic (A/O) process, converting from chemical phosphorus removal to biological phosphorous removal. EnviroMix's BioMix Compressed Gas Mixing was installed to mix the anaerobic biological selectors. After the implementation, the plant realized more than \$150,000 in yearly operational savings through the reduction of costly chemicals.

With BioMix installed, the Warren facility saw an improvement in biological phosphorus removal, but the performance was not consistent enough to eliminate the need for periodic chemical

addition. Working with the Warren facility, EnviroMix developed [BioMix-DC](#) Enhanced Anaerobic Mixing — a new technology that heightens biological phosphorous removal. The team at the Warren WRF was instrumental in collecting data and providing onsite support for the development of this new technology.

Launched in 2021, BioMix-DC optimizes biological phosphorus removal by transforming a traditional anaerobic selector into an intensified fermentation tank by alternating a short mixing cycle with a long deep cycle. The deep cycle stratifies the solids in the reactor to create a fermentation blanket that increases solids retention time and maximizes volatile fatty acid (VFA) production and utilization. During the short mixing cycle, intermittent mixing of tank contents is provided by bursts of compressed air fired through engineered nozzles located at the floor of the tank. Compared to continuous mechanical mixing in anaerobic zones, BioMix-DC provides energy savings of 90% or greater. Notably, BioMix-DC was selected as a 2022 Water Environment Federation (WEF) Innovative Technology Award winner.

After being implemented in Warren's west side anaerobic selectors, BioMix-DC:

- Increased efficiency and consistency of biological phosphorous removal
- Eliminated more than 70% of the demand for chemical addition
- Reduced sludge production, operating costs, and sludge disposal costs
- Reduced energy while minimizing phosphorus discharged to the environment

As a designer and manufacturer of mixing and process technologies for the water and wastewater industry, EnviroMix works closely with plants to provide solutions that reduce energy consumption and enhance performance. Working with the Warren staff, EnviroMix developed an award-winning product that will help many facilities improve biological phosphorous removal and reduce reliance on chemicals, creating substantial operational savings and protecting local waterways.

"The BioMix-DC process has been one of the best innovations in biological phosphorus removal that we have ever seen. We look forward to working with EnviroMix again in the future and trying any other new innovations that they present to us," Clor said.

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