



PLEASANT MOUNT WELDING, INC. SEQUENCING BATCH REACTOR (SBR) TECHNOLOGY

CASE # 1 - SUCCESS STORY : RETROFIT

PLANT NAME AND LOCATION

Greenfield Township Sewer Authority (GTSA) Wastewater Treatment Plant in PA

Design: *Daily Flow / Peak Flow* 0.140 MGD / 0.280 MGD



By installing an SBR and eliminating final clarifiers with return and waste sludge equipment, the GTSA saved over \$2 million in project construction costs.

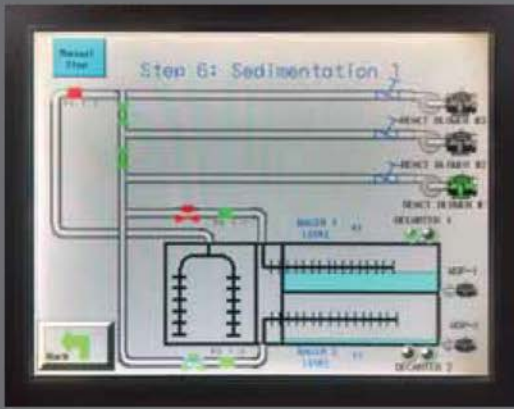
THE SOLUTION

The GTSA utilizes a Sequencing Batch Reactor (SBR), built in 1989, with an average daily flow of 0.072 MGD. At the time, the National Pollutant Discharge Elimination System permit required these removals: BOD₅, TSS and NH₃-N. The new Chesapeake Bay initiative demands reductions of additional nitrogen components: NO₂-N, NO₃-N and TKN and Phosphorus removal.

For a solution, GTSA turned to an outside environmental engineering firm to evaluate retrofit options and provide recommendations. After considering several options, a decision was made to retrofit the facility using Pleasant Mount Welding Inc.'s decanters, actuators and controls.

"Demanding effluent requirements are forcing communities to reassess budgets, priorities and resources. However, there is a solution and we have it..."

Bob Non, President, PMWI



DESIGN CHARACTERISTICS

The upgraded Pleasant Mount Welding Inc. SBR system allows the plant to handle storm flows while meeting the State's stringent effluent requirements for ammonia and phosphorus.

< Screen for PMWI System Overview

PMWI SBR SYSTEM PROCESS

Pleasant Mount Welding Inc.'s SBR system operates on a simple concept: introduce a quantity of waste to a reactor, treat the waste in an adequate time period and discharge a volume of effluent plus waste sludge equal to the original volume of waste introduced.

This "Fill and Draw" principle of operation involves the basic steps of Fill, React, Settle, Decant and Sludge Waste.

The system may be designed to include seven individual phases of operation, but the inclusion or duration of any individual phase is based upon specific waste characteristics and effluent objectives.

When nutrient removal is required, a simple adjustment to the SBR permits nitrification, denitrification and biological phosphorus removal. Optimum performance is attained when two or more reactors are utilized in a predetermined sequence of operations.

PMWI SBR SYSTEM ADVANTAGES

- All components are retrievable and accessible
- Tolerates variable hydraulic and organic loads
- Controls filamentous growth (a type of foaming common to traditional activated sludge treatment)
- Provides quiescent settling
- Saves energy via separation of aeration and mixing
- Lower installation costs
- Eliminates return activated sludge pumping and secondary clarifiers
- Small footprint
- Simple to expand to upgrade
- One company accountability



Call (570) 282-6164 or learn more at www.pmwi.net

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