



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

### CASE # 3 - SUCCESS STORY : REHABILITATION

#### PLANT NAME AND LOCATION

#### **Hartford Township Wastewater Treatment Plant in PA**

Design: *Daily Flow / Peak Flow* 0.050 MGD / 0.100 MGD



The Hartford Township's existing Wastewater Treatment Facility is in the process of being completely rehabilitated to function using modern SBR technology from Pleasant Mount Welding, Inc.

#### **THE SOLUTION**

Hartford Township's facility, constructed in 1993, is an Extended Air Activated Sludge WWTP with conventional aeration tanks and clarifiers - incapable of removing  $\text{NO}_2\text{-N}$ ,  $\text{NO}_3\text{-N}$  and Phosphorus. As such, it cannot meet the new Chesapeake Bay nutrient removal requirements on its own. Hartford's new NPDES permit requires two years of monitoring total Nitrogen and Phosphorus nutrient levels. In anticipation of the new nutrient effluent requirements for the Chesapeake Bay initiative, Hartford Township directed their environmental engineering consultant, to be proactive and move forward with a

complete rehabilitation of their existing plant. This rehabilitation will eliminate the existing Extended Air Activated Sludge WWTP and replace it with a new SBR, capable of total Nitrogen and Phosphorus removal. To conserve precious land space, Pleasant Mount Welding Inc.'s solution will enable Hartford's new system to accommodate community growth. While currently achieving low effluent TSS,  $\text{NH}_3\text{-N}$  and Total Phosphorus without the addition of aluminum or other chemicals, the treatment scheme is designed to allow for possible future adjustments to the Total Nitrogen limits.



## 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](http://www.pmwi.net)

**PLEASANT MOUNT WELDING, INC.**

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