AQUA-AEROBIC SYSTEMS, INC.
A Metawater Company

SUCCESS STORIES

PLANT NAME AND LOCATION
ROCKMART, GA WWTP

DESIGN DAILY FLOW / PEAK FLOW
3.0 MGD (11356 M³/DAY) / 7.5 MGD (28391 M³/DAY)

AQUA-AEROBIC SOLUTION
DUAL-BASIN AquaSBR® SYSTEM

AquaSBR® SYSTEM REPLACES AGING PUROX SYSTEM - INCREASES CAPACITY, ADDS FLEXIBILITY, AND IMPROVES OVERALL EFFICIENCY

From 1980 to 1995, the City of Rockmart, GA operated a high rate Purox system to treat the city's wastewater. The plant was designed to treat 860,000 gpd on average with the ability to handle a peak flow of 1.2 mgd.

With continued residential growth and the neighboring commercial laundry, poultry processor and chemical plant, the system began to experience inconsistencies that the aging Purox system was not able to handle. The city realized that the aging plant was becoming inefficient and would not accommodate the future demands that would be imposed on the facility.

One of the two AquaSBR® basins during the React Phase of treatment.

City planners began to look at alternatives to insure that the wastewater treatment plant would serve the city's current and future needs. The first alternative was to expand the existing plant by converting the clarifiers to aeration basins and build two additional clarifiers. Another alternative was the installation of an AquaSBR system. A cost analysis was conducted on both options and concluded that an AquaSBR system was more economical than upgrading the existing Purox system.

The new AquaSBR system went online in 1995 and has provided the city of Rockmart, GA and the surrounding area with efficient and economical wastewater treatment. According to Dan Kay, Plant Supervisor, "*General effluent from the AquaSBR system is usually in the single digits." He adds, "For once our treatment system is running itself, and not running us.*"

AquaSBR® SYSTEM PROCESS

The AquaSBR system operates on a simple concept of introducing a quantity of waste to a reactor, treating the waste in an adequate time period, and subsequently discharging a volume of effluent plus waste sludge that is equal to the original volume of waste introduced to the reactor. 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.

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

AquaSBR® SYSTEM HANDLES SUDDEN OVERLOADS

Approximately 3-4 times a year the chemical plant located across the street from the Rockmart treatment facility overloads the plant in the middle of the night. Because of the AquaSBR system's ability to automatically adjust to varying loading rates, only one of the two basins is affected during each of these events allowing the plant to stay online without operator attention. "*A flow-through system would never handle that type of loading,"* says Kay. *"It would just go over the weir."*

Dan Kay, Plant Supervisor.

"*With simple adjustments, I can make the AquaSBR system do what I want it to do. Its flexibility is something that a flow-through system just doesn't have.*"

AVERAGE MONTHLY OPERATING DATA

LOADING	DESIGN INFLUENT	AVG INFLUENT	DESIGN EFFLUENT	AVG EFFLUENT
AVG Flow mgd	3.0	1.1	----	----
Peak Flow mgd	7.5	2.7	----	----
BOD_5 mg/l	250	171	30	5
TSS mg/l	250	195	30	3
TKN mg/l	35	20	4.7	0.11

AquaSBR® SYSTEM ADVANTAGES

- All components retrievable and accessible
- Tolerates variable hydraulic loads
- Controls filamentous growth
- Tolerates variable organic loads
- Provides quiescent settling
- Separation of aeration and mixing
- Lower installation costs
- Return activated sludge pumping eliminated
- Small footprint
- Simple to expand or upgrade
- One company accountability