

# Installation of OMNIFLO® SBR in Arizona

At the Pima Utility Wastewater Treatment Facility in Sun Lakes, Arizona, a three-tank OMNIFLO® Sequencing Batch Reactor (SBR) system has been installed. This SBR system replaced an existing lagoon that serves a growing retirement community south of Phoenix, Arizona.

The OMNIFLO® SBR developed and manufactured by Siemens is a fill-and-draw, non-steady state activated sludge process in which one or more reactor basins are filled with wastewater during a discrete time period, and then operated in a batch treatment mode. In a single reactor basin the SBR accomplishes equalization, aeration and clarification in a timed sequence. This wastewater treatment process produces a high-quality effluent with biological nutrient removal.

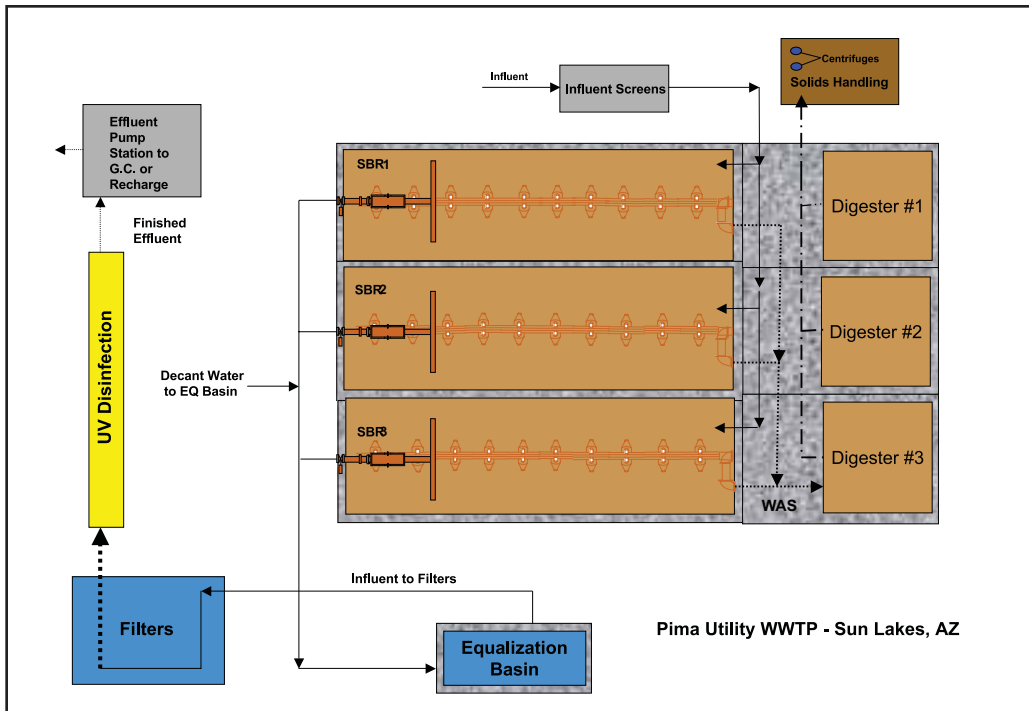
The engineering firm, Carollo Engineers provided the planning, design, and construction of this facility to treat approximately 2.4 million gallons per day (MGD) of wastewater. Along with the SBR process this facility also includes screening, filtration, post equalization, and an ultraviolet disinfection system. The Pima Utilities facility was designed to produce high-quality effluent that is disinfected and has low turbidity and nitrogen levels. This facility is also designed to meet Arizona Class A+ effluent quality, plus meet California's Title 22 effluent standards.

Since this wastewater plant is located near a retirement community, the final design had to take into consideration the small land area, the noise level of the equipment, and potential odors. The rectangular process basins were designed to be low profile and covered with the mechanical equipment housed in buildings below-grade to eliminate noise.

The biosolids produced from this wastewater treatment system are first treated by aerobic digestion, which provides stabilization and thickening of the waste sludge. Centrifuges then thicken and dewater the sludge for disposal in the local landfill. Effluent is discharged to recharge wells.

*Pima Utility Wastewater Treatment Facility*





### Performance Results

Average Daily Design Flow: 2.4 MGD

Average Daily Peak Flow: 4.8 MGD

	BOD		TSS		TN		Turbidity
	Influent mg/l	Effluent mg/l	Influent mg/l	Effluent mg/l	Influent mg/l	Effluent mg/l	NTU
Design	280	< 10	340	< 10	48	< 8	-----
Actual	180	< 3	220	< 1	32	2.2	0.9

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