

OMNIFLO® SBR for Municipal Facility

In Park City, Kansas a two-tank OMNIFLO® SBR system by Siemens Water Technologies is installed at their municipal wastewater treatment facility. This SBR system replaced an existing plant that included; three trickling filters and three polishing lagoons that were no longer meeting permit requirements. By installing an SBR system, the Park City plant has been able to maintain a very flexible and efficient wastewater treatment facility.

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. The SBR process accomplishes equalization, aeration, and clarification in a time sequence, in a single reactor basin. Mr. Randall Harris, Project Manager with the Park City facility states, "I appreciate the fine effluent quality that SBR plants produce, and the fact that there are not a lot of other tanks to operate, such as separate clarifiers, and all the maintenance headaches that go along with them. The flexibility of the SBR is also greatly appreciated."

The Park City plant consists of two 0.475 million gallon reactors with VARI-CANT® jet aeration equipment, solids-excluding floating decanters, state-of-the-art control system, two 0.13 million gallon aerated digesters with coarse bubble diffusers, ultraviolet disinfection, and a post equalization basin between the reactors and the UV channel. There is also an aerated grit chamber and mechanical bar screen. All the influent flow is pumped to this facility with the effluent flowing by gravity over cascade re-aeration at the outfall. Figure 1 (reverse side) shows the layout schematic of this facility.



This plant was started up in January of 1994. With the flexibility of the SBR to allow the operator to vary the top and bottom water levels, settle times, and to add an anoxic mixing stage, the plant has been able to overcome the shortage of sludge storage capacity. Currently this facility is in the process of adding a sludge thickener in order to increase sludge storage without purchasing additional tanks.

Mr. Harris states, "I am very pleased with the performance of the Siemens SBR and would recommend them to any municipality looking to build a new facility."

Case Study

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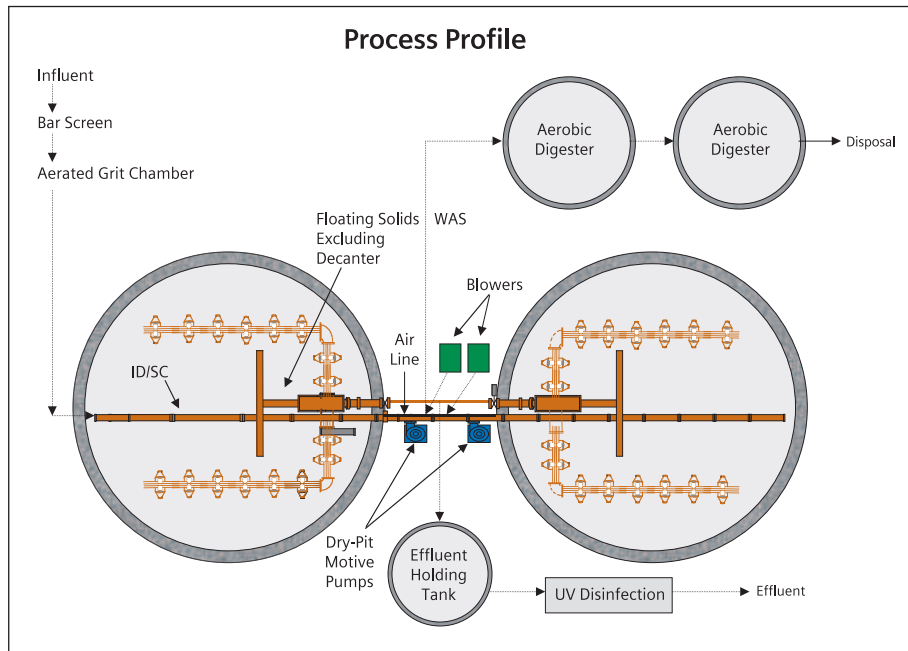


Figure 1 – Schematic of the Park City SBR system

PERFORMANCE PARAMETERS:

	FLOW	BOD		TSS		AMMONIA	
		Average Flow (MGD)	Influent mg/l	Effluent mg/l	Influent mg/l	Effluent mg/l	Influent mg/l
Design	1.08	241	30	241	30	36	2 - 9*
Actual (startup through April 2000)	0.613	197	7	206	12	26	0.5

* The permitted weekly average ammonia levels vary seasonally from 2.0 - 9.0 mg/l.

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