Big Park Domestic Wastewater Improvement District in Arizona had constructed a new 500,000 gallons per day biological wastewater treatment system in 1997. As time passed, the aging plant was unable to keep up with increasing demands.

In 2012, the District started working with Sunrise Engineering to find a solution that would work in their existing plant. Sunrise Engineering partnered with Aeration Industries International to upgrade the equalization basin, as well as the sludge digester/thickener.

In order to upgrade the plant while still keeping up with demands, the Aire-O₂® Equalization Basin and Digester systems were installed. The equalization basin is a new addition at the facility that allows for large spikes in influent flows and loadings. This helps the influent enter the plant more uniformly.

The systems Aire-O₂ Tritons® allow for aeration and mixing to be done with one piece of equipment that can be easily accessed from the surface. The aerator also offers a slide rail assembly which can effortlessly handle changes in water levels with its robust stainless steel design. Anti-slip, fiberglass reinforced plastic/stainless steel walkways also make it possible to access the equipment safely without having to shut down or drain the basin.

Dissolved oxygen levels are monitored in the basin. When demand is low, the Aeration Industries' control system turns the equipment on and off to save energy. The Triton aerators/mixers allow the plant to reduce odors while keeping solids in suspension.
Sludge digestion/thickening occurs in one basin with the use of a Aire-O₂ Triton® aerator/mixer. The equipment aerates to achieve significant volatile suspended solids (VSS) destruction, as well as consistent treatment from mixing. To decant, the equipment is turned off and the solids settle to the bottom allowing the supernatant to be removed. Brad Bowers, Contract Operator, has been seeing a significant decrease in the amount of sludge due to this process. Previously, the facility ran the belt press approximately three times a week and now it only needs to operate once every two weeks. Less sludge and more energy savings!

The addition of sludge digestion and thickening has dramatically decreased the facilities need to land apply bio solids.

“I love my sludge thickener, it’s amazing!”

BRAD BOWERS, CONTRACT OPERATOR

The addition of both the equalization basin and the sludge digestion/thickening systems have greatly improved operation at the Big Park DWWID Wastewater Treatment Plant. Having a robust system that can handle influent changes seamlessly has made it possible to reduce time spent maintaining equipment, and more time spent optimizing the treatment process.

Questions on how we can help solve challenges you’re facing? Contact us at +1-952-448-6789 for more information. Together, we can create innovative solutions for your wastewater challenges.