

BioCon™: A Class A Solution

Biosolids | Case Study

Alderwood Water and Wastewater District

The Client

The Picnic Point Wastewater Treatment Facility is located in Edmonds, WA and is operated by the Alderwood Water and Wastewater District out of Lynnwood, WA. The BioCon™ dryer has been operational since 2013. The plant has a design flow of 4 MGD, expandable to 6 MGD.



The Benefits

- Reduces biosolids disposal rate
- Produces Class A biosolids
- Doubles sewage treatment capacity
- Allows for alternative sludge disposal options

The Client's Needs

The Picnic Point Wastewater Treatment Facility was faced with reaching their plant processing capacity. The plant was sending its biosolids to be incinerated and part of this challenge was to find a way to manage the biosolids produced by this facility. Hauling and disposing of this sludge was difficult and becoming expensive. It was desirable to have a Class A biosolid to alleviate this concern and be more environmentally conscious.

The Solution

The Picnic Point WWTF is a new activated sludge plant using MBR's and a Veolia BioCon™ Dryer. The facility also includes a headworks facility, UV disinfection and a plant operations building.

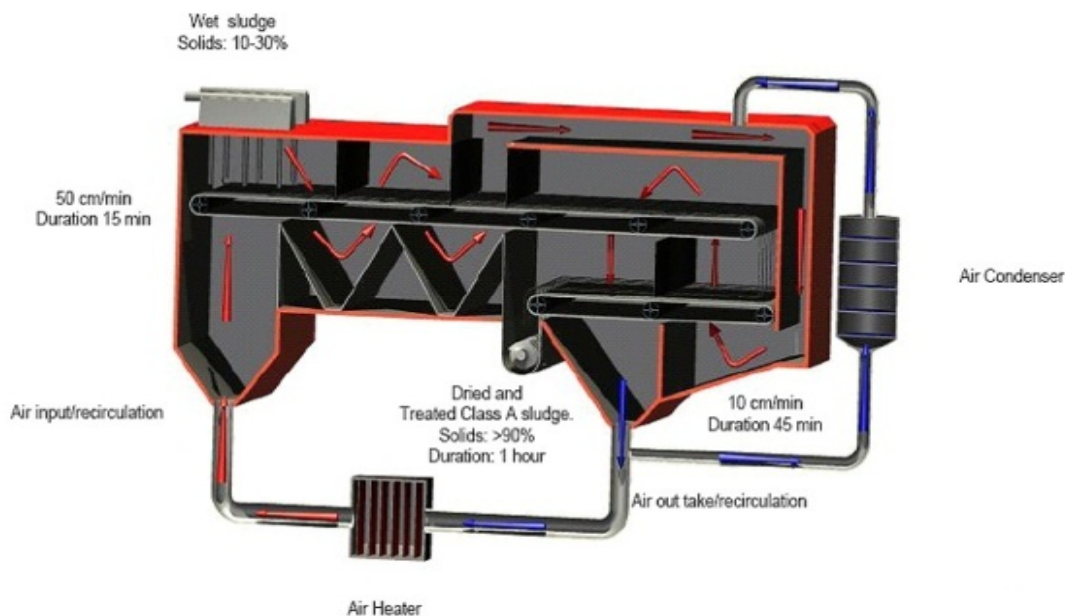


Upgrading the facility with Veolia's BioCon biosolids dryer has reduced the amount of biosolids to be disposed of as well as producing a Class A biosolid. Having a Class A biosolids allows the Alderwood Water and Wastewater District to explore other sludge disposal options. In this case, dried biosolids from the BioCon are utilized by a third party to fertilize nearby agriculture. With the help of the BioCon dryer, the plant doubled its sewage treatment capacity, ensuring the site will be able to handle increased biosolids loads for the foreseeable future.

Process Description

BioCon operation is safe, simple, and efficient. Dewatered sludge cake is pumped into the drying system through oscillating sludge depositors on top of the dryer cabinet. These depositors are used to distribute the biosolids onto a slow moving belt for drying. BioCon is a dual-belt dryer. Biosolids are deposited onto the first dryer belt and fall to a second belt where the desired dryness is reached before being removed from the dryer by a screw conveyor. BioCon uses hot air circulation to evaporate water from biosolids, in much the same way a convection oven speeds up the baking process in the kitchen. The air drying temperatures in the BioCon range from 350°F to 175°F as the biosolids complete the drying process. The BioCon indirectly heats the biosolids with drying air that is recycled in a closed circuit and the entire dryer is operated under negative pressure to prevent any odor from escaping the dryer.

The operation of a BioCon is entirely automated from startup, to monitoring operation, to shut down. Start-up procedures consist of starting the burner and feed systems and will take approximately 30 minutes to start drying sludge. Shut down is also automated and is set to dry and evacuate all sludge from the dryer and cool down.



Results

The effectiveness of Veolia's BioCon Dryer allows the Alderwood Water and Wastewater District to reduce the amount of biosolids that are safely and easily disposed. This solution was executed in a small footprint and allows the municipality to produce a valuable end product, meeting Class A requirements. The newly constructed BioCon building includes an odor control system which eliminates odor. This system coupled with the production of Class A biosolids has earned the plant the support of the surrounding community.

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