

RoS2S Disk Thickener

Case Study:

Chiquita WWTP, Rancho Santa Margarita, CA.



Innovative RoS2S Disk Thickener Technology Replaces Gravity Thickener, Improves Performance of Digester.

“With our Gravity Thickeners we were lucky to get 2.3 % DS concentration on the thickened sludge. Our Digesters were too thin. Now with our Disk Thickener we are consistently producing 5.5% DS” Tracy Wallace, Plant Superintendent.

Starting in 2007 the Santa Margarita Water District’s Chiquita Water Reclamation Facility began planning and implementing a series of upgrades and improvements to their facilities. One of the areas of focus was upgrading of their existing gravity thickeners to improve performance of their anaerobic digester. The activated sludge (WAS) and the Waste Sludge (WSL) from Trickling filter and Solid Contact Basin is combined right before it enters the existing Gravity Thickener. Chiquita WRF adds water to be able to convey the sludge to the thickener. This technique creates different parameters than is typically found in other similar type installations. Feeding at a rate ranging from 0.4 – 0.8% DS the gravity thickener was only able to achieve a maximum result of 2.7% DS resulting in an under loaded digester.

Goals and Objectives

The sludge disk thickener was required to achieve the following performance of sludge thickening

- *Accept 0.4-0.9% DS inlet feed rate of sludge*
- *Produce 3-6% DS Thickened consistency (with an inlet of about 0.1-0.5%)*
- *Produce 5% DS output if supplied a 0.3% DS or better feed of activated sludge.*

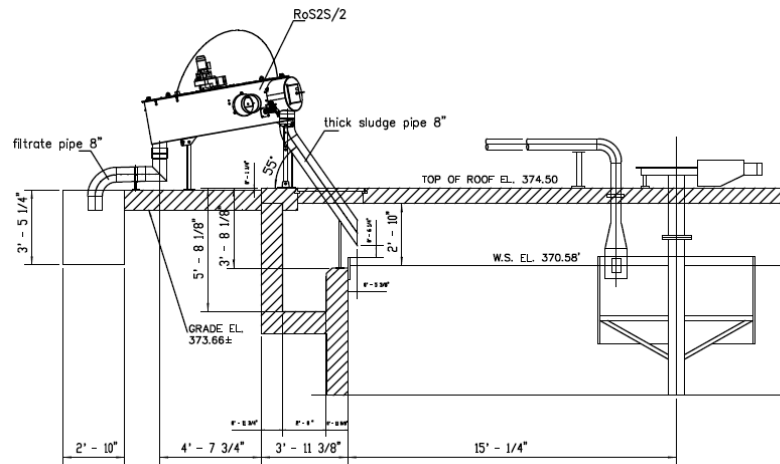


Tracy Wallace with his RoS2S Size 2 Disk Thickener at Chiquita WRF

Solution

After careful evaluation the Huber Technology RoS2S Disk Thickener was selected for further evaluation. Design of the equipment began in early 2008 with an order to build the unit in December 2008. The RoS2S Disk Thickener Size 2 was delivered installed and started up in the Fall of 2009.

The design of the new thickener at Chiquita is located on the edge of the existing gravity thickener. This allows the thickener output to be conveyed from the thickener to the storage tank by gravity. The thickened sludge will drop into a pipe that will convey the sludge into the old gravity thickener (storage tank) which is at a lower elevation.



Elevation view of Huber Technology RoS2S Size 2 Disk Thickener at Chiquita WRF

Performance

“Sure, we would add another machine if capacity needed to be increased, without any further thought.”

Response to the question: Would you buy from Huber again?

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After two years operation the plant reports that RoS2S Disk Thickener is consistently producing a 5.5% DS average with an ~0.6% DS average feed at a steady flow of 107 gpm (60 gpm activated, 7 gpm trickling, 40 gpm service water) running 24 hours a day. Earlier in the operation different combinations were tested. Operating at the factory set angle of inclination and feeding the unit at a rate of 170 gpm with an incoming sludge concentration 0.8% DS the RoS2S Disk Thickener produced a 6.5% DS average / 7% DS maximum output from the machine. In order to serve the production needs of the plant the staff experimented with a shallower angle to produce their current 5.5% DS.



Chiquita WRF

The plant, located near Ortega Highway just east of San Juan Capistrano, treats 7.5 million gallons of wastewater each day. Of that amount, 5 million gallons are treated, recycled and used for irrigation purposes throughout the district's 62,674-acre service area.

Opened in 1984, the Chiquita plant allows SMWD to turn wastewater into a valuable resource, reducing demand for imported potable (drinking) water and also reducing the amount of effluent released to the ocean.

Concluding thoughts

During our visit with Tracy we asked him a couple of key questions about his experience with Huber Technology:

[Huber] “After your experience with Huber would you buy from them again?”

[Tracy] “Sure, we would add another machine if capacity needed to be increased, without any further thought.”

[Huber] “Are you happy with Huber overall?”

[Tracy] “The machine, the people, and service responded well.”

The supporting cast

Huber’s experience with municipalities and with wastewater processes is extensive as is its knowledge of the technologies it provides. This industry-technology insight allows Huber to work with organizations to ensure that systems are geared to perfectly match up to immediate tactical challenges and long-term strategic goals.



Let us help you with your solution today.

Learn more about the **RoS2S Disk Thickener®** at
Huberforum.net

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