

City of Atlantic Grit Washing Process Showcases Flexibility and Performance of HUBER's RoSF4



"The HUBER grit washer can handle anything we throw at it. While our standard flow averaged about 1 million gallons per day (producing perhaps 5 gallons of grit), starting the machinery up after its annual maintenance could force more volume on it. We have experienced two days of heavy rain after two years of drought flows. Our flow through the plant increased to about 4.5 million gallons for those days with significant grit due to the long drought. The HUBER grit washer didn't miss a beat."
-Tim Snyder, WPCD Superintendent

The City of Atlantic has a very impressive set-up that brought it from a very manual, labor intensive, chain and bucket system to an integrated and automated, high tech and clean grit washing component.

The resulting benefits that the City of Atlantic has experienced are the typical ones that are associated with HUBER's grit washer technology.

- Savings on hauling
- Reduction – almost elimination of odors
- Easy integration into process
- Cleaner by-product
- Cleaner biosolids

Challenge:

The situation in which the HUBER RoSF4 is operating is a little different and it presented the City with unique set-up between its grit removal system and the RoSF4.

Solution:

Unique circumstance call for creativity. HUBER's RoSF4 Grit Washer at the City of Atlantic WWTP follows a grit removal system that maintains a high level of performance in the washing and classification of very fine particles. Grit removal runs 24 hours and the RoSF4 does not as a standard practice, so their configuration must give both components opportunity to operate at optimal levels.

“The City of Atlantic now has a very impressive set-up. It has come a long way from a very manual, labor intensive, chain and bucket system to an integrated and automated, high tech and clean grit washing component.”

-Clint Roland, Grade 2 Wastewater Treatment Operator

Flexibility without Sacrifice

Because of the HUBER RoSF4's flexibility, it can accommodate non-standard configurations – such as its coupling with the continuous grit removal system



at the City of Atlantic – and still perform to its maximum. For instance, the City of Atlantic decided to continue to batch run the RoSF4. This works well for them because they have installed 2 pumps that work between the HUBER grit washer and the grit removal chamber.

Pump One delivers a “batch” of flow to the RoSF4 for about 10 minutes in hourly intervals while Pump Two recirculates the grit slurry to keep the grit slurry moving through the grit chamber so it doesn't get plugged and concentrates the slurry between washer cycles to obtain a high grit removal efficiency out of each single washer cycle. Adjustments can easily be made in several areas to perfect this process, whether in pump rate, auger level or pump timing. These adjustments can be made without sacrificing performance of the HUBER Grit Washer or other channel components.

The RoSF4 grit system is designed to easily handle maximum flows from headcells of 15 MGD. The system removes grit from the flow that continues on – in the City of Atlantic's implementation – to secondary treatment and the storm flow that is lifted to the Equalization basin. Many other centrifugal/ vortex flow grit removal technologies would require multiple units to treat such a wide range in flow. The annual inspection of the plant's tanks (noted above) reveals an obvious absence of grit. The components work extraordinarily as a team: The grit removal system removes grit from the flow and the

"I've never seen grit washing that is cleaner in the end process and produces such clean grit. And I've been fortunate to see several other types and brands of grit washers in action. The difference is unbelievable. It makes you want to ask 'Where did the grit go?' because of the drop in volume. Without the presence of organics, the volume is reduced tremendously. And because wash process is so proficient, we were able to go back to using outside haulers. And that takes lots of stress off of our own people."

-Tim Snyder, WPCD Superintendent

HUBER RoSF4 cleans it up, reduces the volume and makes it a much better end-product to deal with.

Far Cry from Chain and Bucket

The grit system combination is night-and-day from the 1971 chain and bucket system used by the City of Atlantic until 2012. The system consisted of dragging a bucket through a grit tank and then auguring the putrid mess into dumpsters. Once in the dumpsters, the substance was so nasty that the City employees would use their jet vacuum to haul it to the landfill. The grit chamber was always dirty. In fact, the organics often attracted flies and rats that would scatter whenever it was time to "process" the chamber. The ever-present dirty grit produced a horrendous odor that circulated throughout the plant and wafted into the surrounding area.

Excellence that Can't Be Ignored

The City of Atlantic benefits from:

- Better smelling facility
- Lower volume of cleaner grit
- Minimal maintenance
- No unscheduled downtime
- Better, hands-on process management
- Durable materials, construction and design
- Robust, dependable performance

The City of Atlantic can be confident in the durability and dependability of the RoSF4 unit that they operate. Its design and construction are practically incomparable in the industry – a fact to which Tim Snyder can attest since he has seen most every type and brand of technology in his 40 years of wastewater treatment industry experience.

"I've been very impressed with the HUBER grit washer. The most obvious difference to everyone who was within the vicinity of the old grit chamber is that there are no longer flies that would scatter and then land all over everyone because the filth is gone along with the stench. From my perspective, it's virtually maintenance-free and is so durable that it will probably look brand new for its lifetime."

-Clint Roland, Grade 2 Wastewater Treatment Operator



HUBER serves the municipal and industrial wastewater treatment market with high quality liquid-solid separation technology. HUBER Technology offers the complete chain of screening, grit and sludge handling processes. The company is an original source manufacturer specializing in stainless steel fabrication of technologies for water and wastewater with proven experience and expertise with over 40,000 installations worldwide.