HUBER TECHNOLOGY
WASTE WATER Solutions

Contentnea Leverages HUBER's Q-Press Screw Press to Overcome Operational and Compliance Challenges

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-Chuck Smithwick, CMSD's District Manager

Contentnea Metropolitan Sewerage District (CMSD) Wastewater Treatment Plant serves an area of several small communities in eastern North Carolina. CMSD receives intake from collection facilities at Grifton, Ayden, and Winterville and is responsible for biological nutrient removal from the collective flow. The plant has its challenges but sees daily progress toward overcoming them.

Rising to Challenges

The plant's challenges are its:

- Need for greater digester storage capacity.
- Increasing need for biosolids storage capabilities.
- Limited ability to eliminate biosolid build-up.

By repurposing old structures, CMSD was able to meet the storage and capacity challenges. For example, the plant increased digester storage capacity from 1 million to 2.4 million gallons. Historically, CMSD discharged biosolids through land application. With miles of agricultural fields nearby, land application had never been a problem. Due to ever-increasing restrictions on the land application programs, CMSD needed to find alternative discharge methods for its biosolids.

The two phases of plant construction in 2010 and 2013 gave CMSD increased capacity and efficiency and the ability to meet the stringent effluent requirements of the nutrient sensitive Neuse River.

"Citizens have expectations for clean water to play and fish in and use for everyday life, but they don't realize everything that we have to do to protect our water supply. In its simplest form we are manufacturers of biosolids and if we can't dispose of them, we can't operate our plant. Today, we operate with much higher efficiency and are compliant with our NPDES (National Pollutant Discharge Elimination System) permit. The HUBER screwpress has been one of the enabling technologies in our operational improvements."
-Chuck Smithwick, CMSD's District Manager

CMSD had a small window of opportunity running from March to October for dispersing its biosolids. Weather placed an additional limitation on haul-off and could close the March-to-October window even more.

Fitting Technology to the Playbook

What technology was the best fit for CMSD's situation?

"HUBER's screwpress offered us the opportunity to simplify our processes and become a more efficient plant. We're always looking at ways to improve efficiency and - in the end - cut costs, so HUBER's screwpress fit perfectly into our playbook."

- Chuck Smithwick, CMSD's District Manager

The HUBER screwpress has one benefit in particular that outweighed benefits of other screwpresses: simplicity.

HUBER's screwpress fulfilled CMSD's needs because its simplicity of design and operation enables it to:

Have a smaller footprint in the plant.
The HUBER screwpress has a compact design that fits in practically any plant design or geography.

Require fewer operators.
Simple design reduces operator need from multiple to one whose required attention is only to check the screw for large items with potential for clogging.

Have a simple design with fewer moving parts that require maintenance.
The maintenance needs of other technologies such the beltpress require a full time maintenance technician while HUBER's screwpress requires little maintenance at all.

Allow a much cleaner atmosphere
The screwpress design totally encloses the process

areas so that the plant is cleaner (no splattering or sloshing) and less odiferous (smells are mostly contained within the process).

Operate without regard for weather or otherseasonal restrictions.
The biosolids separation process went from a limited March to October window with weather limitations to 360 days of potential operation.

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Set up faster and produce results faster.
The screwpress is simply turned on and within 15 minutes we are processing end-product. Other technologies take significantly more time for start-up and shut down regardless of how long you intend to run it.

Offer the most effective processing of biosolids.
The year prior to implementing HUBER's screwpress, CMSD discharged 2 million gallons of biosolids on fields. The first year with HUBER's screwpress, CMSD reduced its land application to 730,000 gallons of biosolids.

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.

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