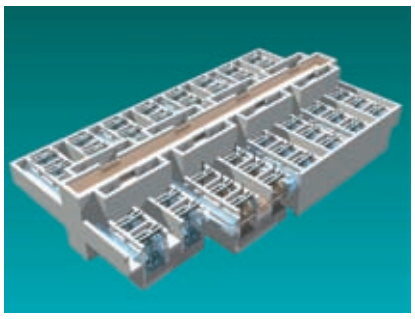
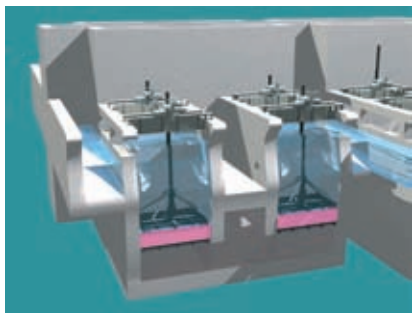
FUZZY FILTER
Compressible Media Filter

A unique and innovative system for filtration rates of 30 gpm / ft^2 and up.



48 - 8 ft square cells
West Area, Atlanta, GA



Cutaway of 8 ft square cells

CSO / SSO
(Combined Sewer Overflow / Sanitary Sewer Overflow)

Columbus, GA - WERF	21 MGD
Atlanta, GA - Intrenchment Creek	20 MGD
Atlanta, GA - West Area	85 MGD

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PRODUCTEMPHASIS

HIGH-SPEED TECHNOLOGY Brings Low Costs

By replacing aeration blowers, the DePere WWTP reduced operating and maintenance costs and experienced other unforeseen benefits

By Gerald Shumaker

The DePere Wastewater Treatment Plant (WWTP) is located on a 23-acre site on the west side of the Fox River at the north end of DePere, Wis., and services DePere and the city of Ashwaubenon, as well as part of the town of Hobart, and the Lawrence, Ledgeview and Oneida townships. The plant has a two-stage activated sludge process with tertiary filtration and UV disinfection designed to treat from an average of 9.5 million gal per day (mgd) up to a 30-mgd peak flow rate.

Since 1997, the plant has been undergoing a series of upgrades designed to enable it to provide the highest quality treatment at the lowest cost to its customers. The last of the planned upgrades was completed in October 2004 with an aeration system upgrade. The goals of the project were to increase the efficiency of the aeration system, increase the reliability of the power supply system by eliminating the need for medium voltage switchgear, reduce air supply system maintenance and reduce operating costs.

Turbocompressor replacement

Because 80% of the energy costs associated with an activated sludge plant is directly related to the blowers that furnish air to the aeration system, the plant's five aging, multistage blowers that had reached the end of their useful life were targeted for either a major rebuild or replacement. The plant manager, Mike Kiersten, decided that replacement was the best option and began searching for replacement blowers that would meet the project goals.

When the evaluation was completed, six model S9000-1-H-5 high-speed technology (HST) integral turbocompressors manufactured by High Speed Technology Oy (a company owned by ABS) were chosen. The evaluation included not only the blowers' initial capital cost but also installation costs, energy usage costs, maintenance costs, system reliability and supply voltage. It was estimated that the turbocompressors would decrease the plant's energy cost by $40,000 to $50,000 per year—a 35% reduction—and reduce maintenance costs by 45% while meeting or exceeding all other project goals. The turbocompressors could do this because they virtually eliminate maintenance and provide the highest available reliability through the use of a non-contact magnetic bearing design.

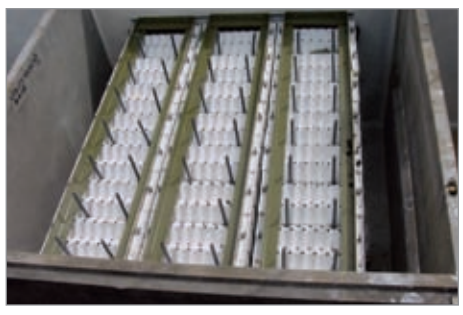
The units also have VFD speed control that automatically keeps the technology operating at optimum efficiency while meeting process demands, as well as real-time monitoring system that assures the HST will operate reliably.

The Stormwater Management StormFilter

The StormFilter meets stringent regulatory requirements by removing the most challenging target pollutants from stormwater. The system's proven, field-tested performance has led to hundreds of stand-alone regulatory agency approvals nationwide. This passive filtration system is highly reliable, cost-effective and easy to install. Its siphon-actuated surface cleaning mechanism extends the cartridge life cycle and maintenance intervals.

Write in 400

VortClarex Oil/Water Separator



The VortClarex oil/water separator now employs Facet International's market-leading coalescing media, MPak, to remove free oil from contaminated stormwater runoff. Using the highly efficient modular MPaks, the VortClarex has been reconfigured resulting in a number of improvements, including smaller, more compact structures and quicker turnaround times for customers. The system is typically sized to remove oil droplets as small as 60 microns and achieve an effluent concentration of 10 mg/L or less.

Write in 401

Vortechs Hydrodynamic Separator

Using an effective combination of swirl-concentrator and flow-control technologies, the Vortechs system captures pollutants from runoff, even at high flows. Backed by comprehensive lab, field and third-party testing, it is the best hydrodynamic separation solution available. Easy to install and maintain, the Vortechs system delivers proven, site-specific results.

Write in 402

CDS

Using patented continuous deflective separation technology, the CDS system effectively screens, separates and traps debris, sediment, and oil and grease from stormwater runoff. The indirect screening capability of the system allows for 100% removal of floatables and neutrally buoyant material, without blinding. The system is available in both offline and inline configurations.

Write in 403

CMP Detention/ Retention Systems

CONTECH's corrugated metal pipe detention/retention systems capture and store surface runoff, then release it at predevelopment flow rates. With versatile layout, material type, coatings, shapes and sizes, CMP solutions provide almost limitless opportunities to match individual site requirements. Variable sizes, material economy, faster installation and durability combine to make CMP systems an economical method for controlling stormwater runoff.

Write in 404

STORMWATER RUNS IN THE FAMILY.

The most trusted names in stormwater management are now under one roof.

The Stormwater Management StormFilter®

Designed to meet stringent regulatory requirements, the StormFilter system targets a full range of pollutants in urban runoff, including fine solids, soluble heavy metals, oil and grease, and total nutrients.

CDS

Using patented continuous deflective separation technology and the hydraulic energy of water, the CDS system effectively screens, separates, and traps debris, sediment, and oil and grease from stormwater runoff.

Vortechs®

This high performance hydrodynamic separator features a shallow design and uses an effective combination of swirl-concentrator and flow-control technologies to remove finer sediment and oil and grease.

CONTECH® CMP DETENTION SYSTEMS

Variable sizes, material economy, faster installation, and durability combine to make our industry leading corrugated metal pipe detention systems an economical and flexible method for controlling stormwater runoff.

CON/SPAN® DETENTION SYSTEMS

With an innovative, economical design, CON/SPAN stands apart from other products through the strength of its distinctive arch design, fast set-in-place construction, and extensive technical support.

Get a comprehensive stormwater solution for your next project. Work with our engineers and technical experts for personal, customized plans to meet any challenge, anywhere. You can count on our support from design to installation to maintenance.

To learn more, visit contechstormwater.com or call 800.925.5240.

Write in 405

CONTECH® STORMWATER SOLUTIONS INC.

Write in 710

Write in 714

TOP: DePere Wastewater Treatment Plant

RIGHT: Plant Manager Mike Kiersten decided aeration blowers replacement was the best option to meet the project goals.

As a result of installing the turbocompressors and other similar innovative equipment, the DePere WWTP has received five prestigious awards. They include the U.S. Environmental Protection Agency Regional Award for excellence in operation and maintenance, the WDNR Brogan Award for excellence in environmental achievement, the National Energy Watch Award, the Clean Bay Backer Award and the Brown County Conservation Alliance Award.

Additional benefits

Along with reduction in costs, the DePere WWTP has experienced a significant reduction in noise levels in the blower building since installing the six turbocompressors. The previous noise level was in excess of 100 dBA, and now it is less than 75 dBA with all six blowers operating. Magnetic bearing technology used in the turbocompressors eliminated the vibration that existed in the previous blowers that had conventional bearings, which made being in the blower building very difficult for any length of time.

Other benefits are the elimination of periodic lubrication system maintenance and an automated control system that assures the blowers will always operate at their best efficiency. Also, efficiency remains constant throughout the compressors' useful life because there is no contact of rotating parts, eliminating wear of critical parts that reduced efficiency over the lifetime of previous blowers.

Meeting the goal

This new replacement technology has not only helped the DePere WWTP receive several awards but has also assisted in meeting its primary goal of providing its customers with the highest quality treatment at the lowest cost. WWD

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