

By Craig Mandli

Biofilter used to eliminate odors from sewer interceptor

Problem

A Southwest community was concerned about odor from a new sewer interceptor being built near a walking and bike path. They sought a reliable, low-maintenance odor control system that would also be unobtrusive and blend into the parklike environment.

Solution

The community chose a **BOHN BIOFILTER** to eliminate 1,200 cfm of foul air from the interceptor. This environmentally friendly system biologically oxidizes the odor-causing compounds and does not require regular nutrient addition.



RESULT:

The community now has highly effective odor control in a trouble-free system that goes essentially unnoticed by the public. **520-624-4644**; www.bohnbiofilter.com

System helps eliminate hydrogen sulfide odors at pump station

Problem

High hydrogen sulfide levels at the Forest Hills Pump Station in Pikeville, Kentucky, were creating a nuisance odor and a possible health risk. The station is at a major intersection and across the street from a high school and football stadium. Operators had tried various chemicals and other types of odor control with limited success.

Solution

The operators tried a **Phantom odor control system** from **Anue Water Technologies** that uses sidestream wastewater to draw in concentrated oxygen and ozone. The aerated/ozonated stream is delivered back to the wet well through well washing systems, uniformly transferring the oxygen and ozone for FOG and odor/corrosion control.



RESULT:

The hydrogen sulfide levels dropped to 9 ppm after the first day of operation and to zero during the second day. **760-727-2683**; www.anuewater.com

Granular activated carbon helps drinking water provider achieve compliance

Problem

Shelby County Water Services in Westover, Alabama, needed help complying with the EPA Stage 2 Disinfection Byproduct Rule, or DBPR.

Solution

The plant installed four **Calgon Carbon** 14-foot-diameter **Model 14 pressure vessels** containing granular activated carbon. The carbon adsorbs the total organic carbon, leaving less material in the water for reaction with the disinfectant chemical and reducing potential for DBP formation.



RESULT:

Since installation, DBP levels throughout the distribution system remain in compliance. Installation pre-empted the impact of the Stage 2 rule. **800-422-7266**; www.calgoncarbon.com

Odor control cover ends neighbors' complaints

Problem

The South Dearborn Regional Sewer District in Lawrenceburg, Indiana, is in a growing area and is surrounded by retail and other commercial developments. Odor complaints became an issue, and efforts to mask odors from the primary clarifiers were unsatisfactory.

Solution

The district chose **Evoqua Water Technologies' Geomembrane Technologies** structurally supported covers for the clarifiers. Each custom-designed cover is tensioned over a series of aluminum support arches. The retractable covers allow operators to easily access tank internals for inspection and maintenance. The covers were installed in less than a week without taking the clarifiers out of service.



RESULT:

"Odors have disappeared from our plant," says Dennis Feichtner, district superintendent. "Odor complaints used to arise so frequently that it was a standard agenda item in board meetings. Now we receive positive comments from the public." www.evoqua.com

City uses 'green' technology to control odor in collections system

Problem

The Taylorville (Illinois) Sewer Department faced severe hydrogen sulfide odor issues caused by heavy FOG deposits and matting buildup in several lift stations. Farther down the line, at several manholes, hydrogen sulfide readings exceeded 700 ppm, showing heavy signs of corrosion and sparking major complaints from residents.

Solution

The city purchased three **Little John Digesters** with UV Ozone from **DO2E Wastewater Treatment**. Within the first month of running the digesters, hydrogen sulfide levels dropped by 94 percent, and FOG and matting dropped by 99 percent.



RESULT:

“We have been operating these digesters for over 18 months, and they have by far exceed our expectations not only in odor control, but also in FOG, matting removal, and corrosion control,” says Richard Wiseman, street and sewer superintendent. “We anticipate a return on our investment in less than 24 months. We have budgeted for more digesters this year with UV ozone.” **850-698-6805; www.do2e.com**

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Turnkey system helps eliminate treatment odors

Problem

Expanding population in the Atlanta area had the largest of the city's four wastewater treatment plants in need an additional system to alleviate odors, improve reliability and comply with environmental regulations.

Solution

Indusco Environmental Services proposed a turnkey **odor control system** consisting of a custom-designed vertical packed bed scrubber, chemical storage tanks, exhaust stack, platform and ladder, centrifugal fan, recycle and chemical feed pumps and skids, control panels, and instrumentation.



RESULT:

The system is up and running operating with a more than 99 percent removal efficiency. **251-621-2339; www.induscoenviro.com**

Ionized-based odor control used at industrial dairy farm

Problem

The wastewater treatment system at Mayfield Dairy Farms in Home-wood, Alabama, had a conventional extraction carbon-based odor scrubber that required media replacement three times a year at an average cost of \$45,000 annually. Plant personnel realized the existing system could not consistently reduce odors to an acceptable level.

Solution

Kusters Water, division of Kusters Zima Corp. provided a **Terminodour ionization-based system** to treat the odors inside the building before the external scrubber. Each system includes an air-handling unit outside the building. Air is drawn in through louvers and passes through filters. Then a blower moves the air into the plasma reactor chamber, where it flows over corona discharge tubes and oxygen molecules are ionized. As air exits, it is fed through a series of galvanized steel ducts on the building exterior.



RESULT:

The system brought a noticeable improvement in interior air quality and an estimated 90 percent reduction in odors. The reduced odor load to the scrubber led to fewer carbon media changes, saving about \$30,000 a year. Odor complaints from neighbors have stopped and the working environment is much improved. **800-264-7005; www.kusterswater.com**

Grease-busting system help eliminate lift station odors

Problem

The in-plant lift station at California's Carmel Area Wastewater District wastewater treatment facility had a foul odor along with grease buildup that required frequent clean-outs.

Solution

Ed Waggoner, plant operations superintendent, chose the **Pulsed Hydraulics grease-busting system**, which creates beach ball-sized air bubbles at the bottom of a basin. The bubbles rise quickly and fracture the grease cap, roll the grease over, and carry it to the bottom, where it is pumped with the wastewater. Because the lift station is a long rectangle, the company recommended a pair of bubble diffusion forming plates installed on the basin floor. High-pressure air (50 to 100 psi) is supplied by a Kaeser rotary screw compressor, and bubble-forming air pulses are controlled by a Pulsed Hydraulics 350 mixer.



RESULT:

The process was effective within 30 minutes of startup. With the grease cap formation eliminated, the odor was gone. **800-641-1726; www.phewater.com**

Containerized unit solves plant's odor issues

Problem

A water treatment works in Yorkshire, U.K., experienced a significant rise in taste and odor complaints.

Solution

Plant operators chose a **TransPAC unit** from **Transvac Ejector Solutions**. The fully containerized unit was lifted by a truck crane driven to the site. Transvac engineers installed the unit and set the powdered activated carbon dosing rates to site requirements. No PAC is wasted, and the flow can be adjusted as conditions change. The unit came with a bulk bag dosing frame and silo feed chute, allowing the site engineers to choose their method of transferring PAC into the hopper.



RESULT:

The client was pleased with the quick turnaround. Thanks to the stock unit, the time from order placement to delivery was just one week. **www.transvac.co.uk tpo**