



**CASE STUDY: ADVANTEX AX 100
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O R E N C O

C A S E S T U D Y

AdvanTex® AX100 Installations:

Commercial-Sized, Recirculating Textile Filter Solves Difficult Wastewater Problems



Paradise Cove Beach Café, a popular tourist destination, is upgrading its wastewater treatment system with 30 AX100s.

“Next spring, we’re installing another 20-pod AdvanTex system, capable of treating up to 60,000 gpd peak flows, at the mobile home park next door.”

Steve Braband
BioSolutions, Inc.

Paradise Cove Beach Café, California

Malibu’s Paradise Cove — the setting for “Gidget,” “Beach Blanket Bingo,” “Rockford Files,” and numerous commercials — is highly picturesque. But its wastewater problems are not. Realizing they needed to upgrade wastewater treatment for their large beachfront restaurant and adjacent mobile home park, Paradise Cove’s property owners hired Steve Braband, a local wastewater consultant.

Braband and Engineer John Yaroslaski (john@ensitu.com) began by crafting a solution for the restaurant: the 300-seat Paradise Cove Beach Café. The design challenges were daunting: high-strength, variable waste flows along with extreme space constraints. In addition, the Café was a well-known tourist spot, so the site required a visually elegant solution with no odors.

Braband and Yaroslaski narrowed their choices down to two technologies but chose AdvanTex for its treatment performance and low power costs. Yaroslaski designed a system in which the effluent was pumped 100 feet upwards to the bluff above the restaurant, where ten AX100 textile filter pods provide secondary treatment before dispersal. Additional tankage was specified to trap grease, and an Orenco remote telemetry monitoring and control system was installed for round-the-clock supervision.

“The system started up smoothly and was trouble-free within the first week,” says Braband. “Next spring, we’re installing another 20-pod AdvanTex system, capable of treating up to 60,000 gpd peak flows, at the mobile home park next door.”



Design features make it easy to access and service the AX100’s textile filter pods.



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Hebo, Oregon

The small, coastal community of Hebo, Oregon had a big wastewater problem. Its collection system had tremendous infiltration and inflow during winter storm events, resulting in peak daily flows that were triple the dry weather design flow. This additional flow overloaded and eventually caused failure of the existing treatment facility. As a result, Oregon's DEQ placed a moratorium on all new construction, putting a number of important projects — including a community hall, fire station, child care center, and ballpark — on hold.

In 1999, the Hebo Joint Water and Sanitary Authority contracted with Westech Engineering to analyze the problem and recommend solutions. Engineer John Yarnall recommended Orenco's AdvanTex Treatment System. Said Yarnall, "We wanted a technology capable of producing high quality effluent that was modular in nature, to accommodate future growth. AdvanTex also has a small footprint, and the treatment media is covered, so rainfall doesn't cause an increase in flows. Also, since it works like a recirculating gravel filter, the operator was already familiar with the technology."



Three Rivers flows past the Hebo Wastewater Facility, thirty feet from the new septic tanks and fifty feet from the rows of AdvanTex® AX100 filter pods.

Westech designed a system with average annual design flows of 17,000 gpd and with a peak daily design flow of 80,000 gpd, to account for I&I contributions into the collection system. Twelve AX100 textile filter pods and a new, 35,000-gallon recirc tank were installed in winter, 2002 to provide secondary treatment for the community's 73 connected properties. A UV disinfection unit and an

Orenco remote telemetry monitoring system were an important part of the package, because Hebo's system discharges directly into the Three Rivers waterway.

After two months of effluent testing, five-day BOD and TSS were averaging 3.1 and 5.8 mg/L, respectively. According to operator Gerald Poulsen, the AdvanTex effluent looks like drinking water, and test results from a recent sampling showed nondetectable levels of E. coli,

BOD₅, and TSS. "That's a pristine river it discharges into, a salmon spawning river," says Poulsen, "and what we're putting in is cleaner than the river itself."

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Gerald Poulsen, Manager
Hebo Joint Water and Sanitary Authority

Seven Feathers Hotel & Casino Resort, Oregon

The Canyonville, Oregon resort owned by the Cow Creek Band of the Umpqua Tribe of Indians is a luxurious, full-service destination attraction with three restaurants, a 145-room hotel, full casino, 450-seat bingo hall, 22,000-square-foot convention center, and 32-space RV park. The Resort's large, four-quadrant recirculating gravel filter (RGF) was designed to handle flows of 86,000 gpd, but a big holiday or a special event could drive flows up to 150,000 gpd, overloading the treatment system.

The Cow Creek Band asked Orenco for a solution to handle overload events and preserve the life of the RGF. "We showed them our AX100 prototype,"

said Systems Engineering Manager Grant Denn, "and they said, 'How soon can we get it?' So we sold them the prototype and five more."

The six AX100s were set on grade and plumbed right into the RGF, without requiring additional pumps, controls, or tanks. This fast "plug and play" custom retrofit is providing the Resort with an additional 30,000 gpd of treatment capacity for high periodic flows, while allowing the Resort's operator to rest the RGF's zones, if necessary. Ten months of sampling after the June 2002 installation showed outstanding treatment performance: cBOD₅ and TSS were averaging 4.9 and 4.4 mg/L, respectively.



Seven Feathers Hotel & Casino added 30,000 gpd of treatment capacity to its recirculating gravel filter by plumbing six AX100 filters into the existing system.

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