

Aero-Mod®

Pfeiffer Big Sur State Park

Old Activated Sludge Plant Rehabilitated into State of the Art Denitrification Plant Without Adding New Tankage



The scenic Pacific coastline provides the ideal backdrop for a plant producing high quality effluent.

Every year over half a million visitors experience the splendor of Pfeiffer Big Sur State Park in California. They take in the scenic views of the rocky Pacific coastline and Big Sur Gorge, hike through 800 acres of redwoods, conifers and oaks, catch a glimpse of a wild boar, raccoon, bobcat or other wildlife, and escape the congestion of urban life. An unsightly wastewater treatment plant is not a landscape visitors want to see.

When state engineers decided to rehabilitate the existing wastewater treatment plant at Pfeiffer Big Sur, they faced two big challenges: plant appearance and effluent quality. Because the plant is located along Highway One, its appearance had to be discrete. At the same time, because the plant is located in a state park, it needed to produce a very high quality effluent.

To meet these specifications, Aero-Mod engineers designed a 0.096 MGD biological treatment plant with aeration,

Plant Highlights

Project Location: **Big Sur, California**
Client: **Pfeiffer Big Sur State Park**
Challenge: **Designing a plant to produce excellent effluent without impacting the scenery**
Size: **0.096 MGD flow, 0.2 MGD peaking factor**
Solution: **ClarAtor® Clarifier with the SEQUOX™ Nutrient Removal Process, Radial Filter and DRAIMAD™ Solids Dewatering System**
Representative: **Steve Garnick, MISCO**
Engineer: **Gary Stephens, CA State Parks**
Contractor: **Kevin Couper, Auburn Constructors, Inc.**
Operator: **Al Velasquez**
In Operation Since: **March 1998**

clarification, skimming, surge control, nutrient removal, tertiary filtration and solids dewatering. Equipment for the 0.096 MGD plant includes the stainless steel ClarAtor clarifier with the SEQUOX nutrient removal process, Radial Filter and DRAIMAD Solids Dewatering System. More important, the design keeps the plant in exactly the same footprint as before.

“The main reasons we went with Aero-Mod were cost and appearance,” says plant operator Al Velasquez. “Another design had the digester tank in a different location. We would have had to hire archeological and cultural consultants about expanding the location.” Keeping the same footprint allowed the state to invest more into the system, resulting in higher quality effluent than the old system was capable of producing.

“With the new system, our effluent is better. The quality is more consistent,” says Velasquez. In fact, since start-up the plant has regularly produced excellent effluent with TSS and BOD levels less than 2.0 mg/l, considered undetectable. Following tertiary treatment, the effluent flows to a leach field so there is no direct discharge. The plant is also able to handle the shock

loads caused by rainy winters.

An aerobic digester was also added as part of the rehabilitation.

Further stabilization of the sludge is accomplished in the new digester that was originally the old plant’s clarifier.

Dewatering of the sludge was addressed during the time of design. The rainy, coastal climate made it difficult for the plant’s old sand drying beds to dewater effectively. With the new twelve bag DRAIMAD solids dewatering system, situated over the spot previously occupied by the drying beds, wet weather is not a problem. The unique material of the bags allows water to drain while keeping out rainwater. “Before, we were slaves to drying and to wasting,” says Velasquez.

The second reason Big Sur chose the Aero-Mod system was cost. By eliminating two RAS pumps in the old system that ran continuously, energy expenses were



The compact rectangular footprint of the plant makes the most of limited space.

reduced. In addition to saving money, the new plant has saved work.

“We spent a lot of time on repairs and had a lot of treatment downtime,” Velasquez says of the old plant. “Now we can take care of preventive maintenance.”

The plant provides treatment for all of the state park, which includes a lodge with cabins and a restaurant, camp sites and restrooms, US Forestry offices and dorms, and administrative offices for the park.

Careful consideration and planning by state engineers, combined with effective treatment technology from Aero-Mod Systems create an effective treatment solution that maintains the surrounding environment.



The unique material of the DRAIMAD bags allows them to be stored outside, even during California’s rainy winters.