



"AES created a practical wastewater treatment system that utilizes natural treatment systems combined with agricultural use. Creating the partnership with our school was an added bonus."

Orval Layton, Mayor
Town of Lakeview,
Oregon

2000 Honor Award:
American Consulting
Engineers Council

Grand Award, Engineering Excellence 2000:
Consulting Engineers
Council of Oregon

Client:
Town of Lakeview, Oregon



WASTEWATER TREATMENT FACILITY LAKEVIEW, OREGON Completed: December 1999

Project Parameters

Lakeview is a town of 3,000 in the arid high desert of southeastern Oregon. The town has suffered from the decline of its timber industry; agriculture is now the mainstay. Lakeview's existing treatment facility, constructed in 1959, was not able to meet current discharge requirements. The challenge was to design a treatment system that was affordable, expandable and fit well with the community.

The new treatment system utilizes a practical, cost-effective design. Fourteen acres of created wetlands polish the effluent after primary treatment in the old lagoons. The effluent then passes through a chlorination chamber and into a new 35-acre irrigation/storage pond. During wet weather, excess effluent flows from the pond through a five-acre wetland prior to discharge into a stream.

Challenges and Solutions

Wetlands are now often used for secondary treatment of effluent. However, this project's use of two sets of wetlands, one for 'polishing' the flow and the other for final treatment, is unique. In addition, through careful analysis of soil conditions, the project team determined that the wetlands did not require artificial linings to prevent excessive leakage, resulting in savings of half a million dollars.

The technical aspects are only a part of this project's story. The School District's Agricultural farm had lain fallow for several years. Sensing an opportunity, AES forged an alliance between themselves, Town staff and the Lakeview High School chapter of the Future Farmers of America to explore how the treated effluent from the plant could be used for irrigation on the farm.

As a first step, the students collaborated with the Town of Lakeview employees, the design team and soil/crop specialists to design the irrigation and crop rotation systems. The farm is now productive, due to the free treated water for irrigation as well as the renewed enthusiasm of the school and its students. The students manage all crop harvesting and marketing as well as soil nutrient and irrigation rate monitoring. All of the farm's profits are returned to the school district. Using the farm to recycle the treated effluent also saved the Town from having to purchase additional land for the treatment plant's expansion. The new trail winding through the created wetlands that links to the town's recreational trail system is an added benefit.