CASE STUDY

Sunrise Beach Packaged Wastewater Treatment Plant

Extended aeration plant designed to treat municipal waste for discharge and for reuse as grey water

- **Project:** City of Sunrise Beach WWTP
- **Location:** Sunrise Beach, Missouri, USA
- **Client:** City of Sunrise
- **Technology:** Advanced Extended Aeration with Nitrification/ Denitrification and Rapid Sand Tertiary Filtration
- **Solution:** Domestic Wastewater Treatment

Background

Sunrise Beach, a small city on the shores of Lake of the Ozarks in central Missouri, is a popular vacation destination in the summer months. The town's original, very basic wastewater treatment system was unable to keep up with higher effluent quality requirements. In addition, the existing plant couldn't keep up with increased flow during the summer, when it doubled.

Challenges

The city needed a larger system that could treat effluent for discharge into the lake and could handle increased load from summer visitors. The plant's output had to meet a stringent ammonia limit.

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CASE STUDY • Packaged Wastewater Treatment for Lakeside City

Technology

Fluence provided a packaged wastewater treatment system treats up to 50,000 GPD. The dual-train design that provides advanced wastewater treatment during periods of fluctuating inflows. After equalization, the flow is split between two treatment trains, each comprised of a pre- and post-anoxic chamber, a sludge-holding chamber, an aeration chamber, and a clarifier. After secondary treatment phase, the waste stream enters the tertiary filter which includes a biological screening process that further reduces total suspended solids (TSS). Fluence provided a fiberglass building, prewired and fitted with all blowers and controls, saving the contractor time and money during the installation.

Results

By providing a dual-train system, the operator can isolate one train during the winter to treat the 25,000 GPD flow rate, and use both trains in the summer months when the population increases. This design provides a higher degree of treatment, operational flexibility, and significant energy savings.

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