

CASE STUDY

Hard Rock Fire Mountain Casino

Project Type: Hospitality / Wastewater Treatment

Location: Wheatland, CA

HIGHLIGHTS

Water and wastewater systems were built to support the 40-acre complex.

A new system, sourced from on-site wells, provides 650,000 gallons of treated water storage.

MBR treatment system handles 175,000 GPD for 100% wastewater reuse, meeting Title 22 standards.

ENVIRONMENTALLY RESPONSIBLE WATER REUSE OPPORTUNITY

Hard Rock Fire Mountain, a California casino, is a new 40-acre entertainment complex near Sacramento. The property had no access to public water for wastewater services. Veyra was contracted to design and build a self-contained, 100% wastewater reuse system to provide all necessary water services and promote conservation.

CHALLENGES FACED

- **Comprehensive Planning:** The project demanded a full-lifecycle solution, from initial design and permitting through to construction and start-up, on a property with no existing public utilities.
- **High-Volume Treatment & Compliance:** The system required processing of a significant daily wastewater volume of 175,000 GPD while meeting the strict regulations of Title 22 for water reuse.
- **Self-Sufficient Infrastructure:** Veyra was tasked with creating a reliable, on-site system for both potable water and fire protection, which also needed to incorporate advanced technology to minimize sludge.



SOLUTIONS IMPLEMENTED

- **Advanced MBR Treatment:** An advanced bioreactor membrane treatment system was installed to treat all wastewater to a superior standard, enabling 100% on-site reuse for irrigation and toilet flushing.
- **Waste Minimization & Storage:** The system included a digester and screw press for sludge minimization and a 100,000-gallon holding tank to ensure a consistent supply of treated water.
- **On-Site Water & Safety Infrastructure:** Potable water is drawn from on-site wells and stored in three steel tanks totaling 650,000 gallons, featuring disinfection, hardness treatment, and a fire flow pump to ensure quality and safety.



OUTCOME AND IMPACT

- **Operational Success:** The project was successfully completed, establishing a fully integrated and highly sustainable water management system.
- **Site Independence:** The new infrastructure effectively addressed the challenge of a greenfield site by providing all necessary services on-site.
- **Industry Leadership:** The 100% wastewater reuse system highlights the project as a model for water conservation in large-scale commercial developments.

The implementation of this project demonstrates that self-sufficient water and wastewater infrastructure can be achieved through smart planning and advanced technology. The wastewater reuse system ensures the complex's operational viability and sets a new standard for sustainability in the gaming and entertainment industry.

