

CASE STUDY

Water Reuse at Tesuque Pueblo Casino

Location: Santa Fe, New Mexico

HIGHLIGHTS

The MBR system has a design capacity of 80,000 GPD and produces tertiary water for landscape irrigation.

IWS provided a full-service solution, from permitting to the construction of all treatment systems.

Included a new domestic water facility with a 200K gallon tank and a complete pump and disinfection system.

FULL-SERVICE SOLUTION FOR WATER REUSE

The Tesuque Pueblo sought a sustainable water management solution for their new 75,000-square-foot casino and a future hotel. They partnered with Integrated Water Services (IWS) to design, permit, and build a state-of-the-art wastewater treatment system capable of producing high-quality, reusable water.

CHALLENGES FACED

- **Tight Timeline:** The project had to be completed on a demanding schedule to align with the new casino's construction timeline.
- **Strict Regulations:** The system needed to meet stringent Class 1A New Mexico Reuse Permit standards for the production of high-quality disinfected tertiary water.
- **Complex Permitting:** IWS was responsible for securing all necessary permits, including the WWTP design, permit application, and NPDES discharge permit application.
- **Stakeholder Coordination:** Success depended on careful coordination with the Tesuque Pueblo, the engineering team, and the future operations and maintenance provider.



SOLUTIONS IMPLEMENTED

- **Advanced Treatment System:** A state-of-the-art membrane bioreactor (MBR) treatment system was implemented. This advanced technology was critical for meeting the high-purity water requirements for reuse and was designed to handle up to 80,000 GPD.
- **Comprehensive Infrastructure:** The project included building a new metal building to house the WWTP, installing a headworks rotary bar screen, and constructing a complete pumping and piping system. A 45,000-gallon storage tank was installed to hold the treated effluent for irrigation.
- **Water Management:** To manage excess treated water, a low-pressure dispersal (LPD) system was installed, featuring 18,000 feet of disposal trench. This ensures that any surplus treated water is safely and efficiently returned to the environment.



OUTCOME AND IMPACT

- **Water Reuse:** The new system produces high-quality, disinfected tertiary water that is reused for the casino's landscape irrigation, significantly reducing the demand for potable water.
- **Future-Proofing:** The facility is designed to support the casino and a 150-room hotel, demonstrating a forward-thinking approach to sustainable development.
- **Strengthened Partnership:** The successful completion of the project reinforced the long-standing relationship between IWS and the Tesuque Pueblo.

This case study demonstrates how a holistic, well-coordinated, and technologically advanced approach can solve complex engineering and logistical challenges. By implementing a modern MBR system and comprehensive infrastructure, IWS enabled the Tesuque Pueblo to open its new casino with a sustainable, long-term water management solution that benefits both the facility and the environment.



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