INTEGRATED WATER SERVICES

Clean Water. Clear Choice.

CASE STUDY

Critical Wastewater Solution for Arizona's Grand Canyon Airport

Project Type: Hospitality, Airport

Location: Grand Canyon West, Arizona

HIGHLIGHTS

Construction was completed within 45 days of mobilization to meet need for rapid deployment.

The system is designed to handle a flow of 30,000 GPD to meet the demands of the airport.

Required complex technical engineering to blast through solid bedrock to depths of 16 feet.

CRITICAL WASTEWATER SOLUTION FOR ARIZONA'S FIFTH BUSIEST AIRPORT

Grand Canyon West Airport serves as a vital gateway for the Hualapai Indian reservation, primarily driven by the popular Grand Canyon Skywalk attraction. As Arizona's fifth busiest airport, it currently hosts up to 5,000 visitors daily. To support a long-term $45 million expansion intended to accommodate larger aircraft, Integrated Water Services, Inc. (IWS) was brought in to construct a specialized onsite wastewater treatment facility.

CHALLENGES FACED

- **Difficult Geological Conditions**: The site geology was formidable, consisting of only two feet of topsoil followed immediately by solid bedrock.
- **Deep Excavation Requirements:** To properly set the necessary tanks and run interconnecting piping, rock had to be cleared to depths of 16 feet in specific areas.
- **Critical Path Scheduling:** The wastewater project was on the "critical path" of the overall airport expansion, meaning any delay would stall other concurrent site improvements.

SOLUTIONS IMPLEMENTED

- **Precision Blasting:** IWS partnered with Show Low Construction, who provided expert blasting services to penetrate the bedrock and create the necessary space for the system infrastructure.
- **Advanced Treatment Technology:** The team installed twelve treatment pods and tanks specifically set into the excavated bedrock.
- **Environmental Adaptability:** Due to the high desert environment and bedrock, the disposal area was designed for Geoflow drip disposal to take advantage of natural evapotranspiration.

OUTCOME AND IMPACT

- **Exceptional Speed to Completion:** Despite the geological hurdles, IWS successfully completed construction within 45 days.
- **Robust Infrastructure:** The facility now supports a massive infrastructure including three 25,000-gallon septic tanks, a 20,000-gallon recirculation tank, and a 15,000-gallon dosing tank.
- **Operational Readiness:** The successful installation allowed the airport to meet the needs of thousands of daily visitors and proceed with its multi-million dollar expansion.

By leveraging strategic partnerships and advanced engineering, IWS overcame extreme geological conditions to deliver a high-capacity wastewater system on an accelerated timeline. The project stands as a testament to the value of collaborative construction in challenging environments.

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