PROJECT SHEET

GBRA Stein Falls Water Reclamation Facility Expansion

2025

ABOUT THIS PROJECT:

Market Segment:
Wastewater Collection & Treatment

Owner/Developer:
Guadalupe-Blanco River Authority (GBRA)

Products Used:
Xypex Bio-San
Xypex Concentrate

Location:
New Braunfels, Texas, USA

Architect:
BWG Architecture – Van Alstyne, TX

General Contractor:
Rava Construction, LLC

The Guadalupe-Blanco River Authority (GBRA) expanded its Stein Falls Water Reclamation Facility to increase treatment capacity, improve solids management, and modernize chemical and electrical systems. The project also introduced a new administration building to support the facility's growing operational needs and accommodate future population growth in the New Braunfels region.

Given the facility's continuous exposure to hydrogen sulfide (H_2S) and harsh microbial conditions typical of wastewater environments, the design team required a durable waterproofing and corrosion-resistant system to protect critical concrete infrastructure. Specifications called for either a UV and chemical-resistant lining or an integral crystalline admixture, ensuring long-term structural integrity and reduced maintenance across high-exposure zones.

To meet these performance objectives, Xypex Bio-San was selected for use in approximately 1,585 yd^3 of concrete across key process structures, including the coarse screening and grit removal units, clarifier, RAS-WAS system, tertiary filters, effluent flow meter, sludge storage basin, chemical system, and lift station. Bio-San's unique crystalline formulation integrates antimicrobial technology that resists microbial-induced corrosion (MIC) while providing integral waterproofing protection.

In addition, over 32,900 ft^2 of interior surfaces received Xypex Concentrate to ensure complete crystalline coverage and long-term watertight performance.

The Xypex crystalline system delivered a permanent, self-healing waterproofing solution, eliminating the need for external membranes and reducing the project's lifecycle maintenance costs. Its proven resistance to chemical attack and hydrostatic pressure supports GBRA's long-term goal of maintaining a sustainable, high-performance wastewater facility designed to protect both infrastructure and the environment.