Wastewater Treatment Plant in Texas Renovated With HOBAS® Pipes, US

Year of Construction
2012-2014
Construction Time
2 years
Total Length of Pipe
211 m
Product Range
Pipes, elbows, tees, concentric reducers
Diameter
DN 1348, DN 1800
Stiffness Class
SN 9000
Pressure Class
PN 1
Installation Method
Open cut
Client
Brownsville Public Utilities Board (BPUB)
Contractor/Designer
CH2M Hill (design-builder), Haskell (installation subcontractor)
Advantages
Leak-tightness, high stiffness, constant outside and inside diameter, easy connection to other pipe materials

In the US state of Texas, a design-build project was initiated to rehabilitate and expand the Robindale Wastewater Treatment Plant in the city of Brownsville. The contractor chose HOBAS GRP Sewer Pipes DN 1348 and 1800 for building a perfectly reliable sewerage system.

Brownsville is a city on the southernmost tip of Texas and the northern bank of the Rio Grande. Its urban area is projected to become one of the fastest growing in the United States. The local Robindale Wastewater Treatment Plant (WWTP), which is owned by the Brownsville Public Utilities Board (BPUB), was built in 1980 and first expanded in 1995. In 2010, the plant had to be renewed and expanded once again due to a growth in population as well new requirements concerning ammonia nitrogen discharge levels. BPUB decided to renovate the WWTP using a progressive design-build method, meaning that the work would be streamlined under a single contractor from concept to completion to save costs and ensure faster delivery. CH2M Hill was selected as the design-builder and chose HOBAS Pipe USA to supply the necessary high-quality sewer pipes.

The project included 211 m HOBAS GRP Pipes DN 1348 and DN 1800 with a stiffness class of SN 9000 as well as several custom-tailored GRP fittings such as elbows, tees, and concentric reducers. The pipeline was to be installed in open trench and connections to existing PVC and steel pipeline structures had to be provided. Construction works started in August 2012. The maximum depth of the buried pipes was 2.4 m and the shallowest 30 cm.

The native soil consisted of expansive clays and required wetting to achieve the necessary compaction and moisture content for a reliable pipe cover. Thanks to perfect prepa-

ration as well as the premium pipe quality and high stiffness, the potentially high traffic loads (HS20) were no problem for HOBAS Pipes.

"Due to the pipe's fixed outside diameter and a fixed inside diameter seal on the FWC couplings, field adjustments in length to the standard 6 m pipe lengths are easily accomplished to connect to concrete structures or a fitting," explained Rene Garcia, engineering supervisor of HOBAS Pipe USA. Due to the complexity of installation and the fact that the pipe was installed in conjunction with other materials, a visual water leakage test was required. The sewer pipeline was filled to the maximum liquid level that it would be subjected to by allowing the water to reach high levels in the associated structures they were connected to. The new pipeline passed the initial testing with success.

The HOBAS Installation Support Team played a key role during the installation process, for example where two 45-degree HOBAS Fittings were installed in a relatively short distance. "I found the HOBAS Sales Staff and engineering group to be valuable team members regarding clarification of how HOBAS Systems would successfully transition into other systems. They provided fair pricing, delivery that met our expedited schedule, valuable engineering assistance, and onsite representation helping to leverage past successful installations in Haskell's favor," said Jason Plauche, project manager for the Haskell Company, installation subcontractor.

All works were successfully finished in July 2014. The Robindale WWTP now operates in accordance with the local ammonia nitrogen effluent discharge limitation and can ensure high-quality effluent water through 2025.

Tweet

Fmd: hobas.usa@hobas.com