

# QUIGG'S BRANCH TREATMENT FACILITY

Because of growing demand, in 2002 Rockdale Water Resources (RWR) needed to expand and upgrade its water and wastewater utility system to accommodate up to 16 mgd for peak flow periods. To make this happen, the headworks at the Quigg's Branch Treatment Facility had to be rebuilt, which meant first eliminating the old grit removal system and replacing it with a new circular grit extraction system.

The headworks installed in 1987 were corroded and totally inoperative, and as a result significant levels of grit were accumulating in the aeration basins. RWR decided to upgrade to another grit removal system that would require construction of extensive above-ground tanks and channels that could handle the 16 mgd demand.

For the new extraction system, the engineering firm of Pendergrass & Associates, Inc. recommended installing a series of valves in piping to the existing splitter box to direct the wastewater flow to the new infrastructure. Because of the potential for increased levels of gases and H<sub>2</sub>S corrosion in the area of the plant's anaerobic pretreatment process, the firm chose to use Tnemec coatings. The firm's president, Richard Pendergrass, had worked with Tnemec before and knew the company could provide the desired protection coverage for the new concrete structure's surfaces.

Tnemec specified a thick film epoxy mortar system that included Series 218 MortarClad, Series 434 Perma-Shield H<sub>2</sub>S and Series 435 Perma-Glaze. The concrete surface was abrasive blasted and then Series 218, an epoxy modified cementitious resurfacer, was trowel applied as needed to fill all voids and bugholes. Series 434, a modified polyamine epoxy mortar, was applied up to 125 mils DFT and followed by a topcoat of Series 435, a modified polyamine epoxy lining, applied up to 15 mils for added protection. Both 434 and 435 are user-friendly, VOC compliant and offer outstanding resistance to corrosive wastewater environments.

"Our practice has observed many facilities where the headworks have shown significant degradation due to hydrogen sulfide and other corrosive agents. Our local Tnemec coatings consultant was most helpful in selecting the epoxy-based system that provides our client with the highest quality system available," noted Pendergrass.

## FEATURED PRODUCTS

Series 218 MortarClad

Series 434 Perma-Shield H<sub>2</sub>S

Series 435 Perma-Glaze



## PROJECT INFORMATION

**Project Location**  
Conyers, Georgia

**Project Completion Date**  
2002

**Owner**  
Rockdale Water Resources

**Engineer**  
Pendergrass & Associates, Inc. - Conyers, Georgia

**Fabricator / Applicator**  
Llamas Coatings - Smyrna, Georgia

For the Quigg's Branch Treatment Facility, Tnemec specified a thick film epoxy mortar system for corrosion protection specially designed for MIC and H<sub>2</sub>S headworks environments.

