Always a Winner with HOBAS®

Record Sliplining in Illinois, USA

The Metropolitan Water Reclamation District of Greater Chicago (District) collects, treats and disposes the wastewater from 168 independently owned and operated local sewer systems. Evanston, Illinois, is directly north of the windy city and shares many common attributes and was also the site of the longest, large diameter sliplining project on record for the District.

One of the most recent projects was Lake Street sewer rehab, including 2,100 m of DN 3000 semi-elliptic cast-in-place concrete sewer. The concrete sewer pipe had cracked at a number of places and had lime deposits at cracks and 'cold' joints, and the concrete had corroded due to the action of hydrogen sulfide and flowing water. In order to restore hydraulic and structural integrity the sewer needed to be rehabilitated.

Bid documents for the project included various options: segmental sliplining, cured in place (CIPP) lining and insertion of panels. Kenny Construction of Northbrook, Illinois, submitted the bid with the intent to slipline the sewer. The job was awarded to them based on rehabilitation by sliplining with HOBAS CC-GRP Pipe Systems.

Jack Callahan, vice president of the underground group with Kenny, said, "We thought it would be the most economical option due to timing and the size. We do a lot of CIPP, but this was a little too large for that method, considering the water situation, the bypass pumping that would have been required and everything else. It would have been more difficult and expensive."

Rehabilitation projects have many goals: reestablishing the structural integrity of the pipe, preventing leaking joints, and providing a corrosion resistant liner all the while maintaining flow. The design of the sewer lining was based on several conditions and parameters. The existing sewer was in a fully deteriorated state, loading due to overburden and hydrostatic conditions were evaluated, and the liner needed the ability to withstand the corrosive environment.

As with many projects, there were obstacles to overcome. The size and alignment of the sewer presented challenges, but nothing that could not be conquered. Sliplining pipe of this size is not like sliplining with smaller sizes. This was an uncommon project and the first time it was done in the area. The project ran smoothly and installation progressed well. The first 610 m of sliplining had been completed using HOBAS OD 2900 mm flush relining pipes. Conditions prompted the installation of 0.7 m HOBAS pipes with an OD of 2740 to be used for the remainder of the rehabilitation work.

Kenny Construction worked to find the best option for the grouting, which included several grout lifts in stages to prevent uplift. Although the grouting took some critical thinking, the pipe has a high stiffness and is performing well. Large diameter sliplining projects can be complicated and this project posed challenges that were all successfully overcome. HOBAS manufacturers a unique product that meets the requirements of large diameter sliplining: smooth OD, hydraulic capacity, high axial compressive strength and multiple diameters including many in-between sizes.

Overview	
Year of Construction	2008
Total Length of Pipe	2100 m
Pressure Class	PN 1
Stiffness Class	SN 5000
Diameter	OD 2740, OD 2900
Installation Method	Sliplining
Application	SewerLine®
Client	Evaston
Contractor	Kenny Construction
Advantages	high hydraulic capacities, high longitudinal stiffness, many available sizes, lots of in-between sizes