References

Renovation of reinforced concrete sewer - relining method



Uponor involvement

- Weholite pipes SN8 dn800 -1000 mm - 1419 m. VipLiner modules SN8 dn560 mm - 216 pcs.

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Renovation of 1.5-kilometer section of reinforced concrete sewer was carried out in 2013 in Chełm.
In early 2013, the Municipal Services Office in Chełm launched a sweeping renovation project of the city's water supply and sewage network. Worth 24 million euros and partly financed from the EU's Cohesion Fund, the project is set to solve a number of problems that have been plaguing the city's water supply and wastewater treatment system for some time.

Project Facts:

Location
Chełm, Poland

Completion
2013

Vrsta objekta
Municipal

Product systems
Sewer Municipal, Storm water

Project Type
Renovation

Partners

Investor:
Miejskie Przedsiębiorstwo
Gospodarki Komunalnej Sp. z o.o. in
Chełm
Contactor:
Przedsiębiorstwo Bezwykopowej
Renowacji Sieci Podziemnych Sp. z
o.o. in Kielce

The main tasks include expanding the existing water supply and sewage networks to cover the greater Chełm area, and the modernisation of the Bieławin wastewater treatment plant. The project also called for the renovation of a 1.5 kilometre section of an old sewage pipeline passing between Lubelska Street and the Bieławin treatment plant.

Work on-site began in January 2013, with the construction of temporary working chambers and the hydrodynamic cleaning of the old concrete channel. Next, the new PEHD pipes were laid out at surface level, welded together into longer sections and pulled into the host pipeline. The pipes were manufactured and delivered in 12.5 metre sections and welded into sections ranging from 20 to 150 metres in length. The welding was carried out by welders from PBRSP Sp. z o.o., who had been trained beforehand by Uponor Infra service staff. Uponor Infra also lent out a welding machine for large-diameter piping. After a considerable section of the pipeline had been installed, bottoms were crafted by slicing off the top portion of the piping at selected intervals. The annular space between the host pipe and the new liner was filled with specially formulated, impact-resistant grout able to withstand in excess of 5 MPa. In all, between February and August 2013 Uponor Infra delivered 1,419 metres of Weholite DN 800–1,000 pipes to the installation site. An additional 216 pieces of short VipLiner DN 560 modules in 0.5-metre sections were delivered for the renovation of the pipeline at the river crossing.

The renovation provided for a leak-proof and reinforced channel structure. Resistance to wastewater flow has been minimised and the network’s parameters have considerably improved. The pipeline is once again fully operational, with its life-cycle extended by at least several decades.

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