

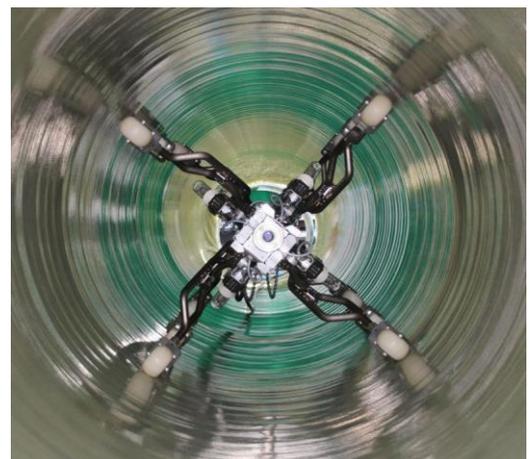
OnSite install 250m x 800mmØ diameter structural pressure liner in Weymouth, for Wessex Water, during lockdown.



During a periodic inspection, a major utility company had noticed large quantities of standing water within one of their electrical sub-stations at Knightsdale Road, Weymouth . This issue was reported to Wessex Water as, it was suspected, this may have been caused by an issue with a local sewer. On investigation the only sewers passing within the vicinity of the sub-station were twin rising mains. Wessex Water immediately commissioned a CCTV survey of the rising mains around the sub-station. The survey found that the 800mmØ rising main had deteriorated considerably and that sewerage was escaping through a defective joint adjacent to the sub-station. The main was shut down immediately and Wessex Waters reactive team was deployed to dig down 9m onto the defective joint and carry out a repair.

Once the defective section of pipe had been removed a more extensive CCTV inspection was possible. These surveys showed similar deterioration within the rising main over a length 250m, including the section running immediately under the sub-station. To prevent further failures replacement by open-cut techniques or a suitable “NO DIG” rehabilitation solution was required. The depth of the rising main and the location under the sub-station made open-cut an extremely expensive and politically difficult option. Wessex Water quickly engaged framework lining contractor OnSite Central Ltd to investigate if a “no dig” solution was available that could withstand the 10bar operating pressure of the main.

OnSites’ “Sewer Rehabilitation” Department, market leaders in Cured-In-Place-Pipe Lining solutions, have considerable knowledge and success in delivering rising main rehabilitation projects. Emergency design works were undertaken, in partnership with material suppliers. Due to manufacturing constraints caused by European “lockdowns”, two suppliers were required to deliver the project in the required timeframe. RelineEuropes “AlphaLinerPN” & Saertex “Pressure Liner”, both UV cured liners, were offered to the client.



Both liners are seamless GRP liners with specific technical properties, designed for the renovation of waste water pressure pipes. In order to accommodate the extreme loads in pressure pipes, the liners are fitted with special polyethylene interior coatings. These coatings are resistant to pressures of up to 16 bar, withstand pressure surges and the associated

friction loads. Both solutions are statically self-supporting and designed as stand-alone pipe liners. They were a perfect fit for this project.

The offered solution was accepted by Wessex Water. Materials were immediately ordered, manufactured and delivered to site within a two-week period.

Due to bends within the rising main additional excavations were required to enable the liner installations. These were completed, whilst the liners were manufactured, by Wessex Waters own “reactive works” teams. These teams worked “24/7” to provide the safe working excavations OnSite required for the installations.

The first of three installations was completed from a 9m deep excavation, for 60m terminating at the Knightsdale pumping station. The 5 ton liner was winched into position and then cured utilising the new REE4000 autonomous UV light curing system. The system has 6 No. 3000W bulbs enabling the liner to be cured at a speed of 1.3m per minute. This enabled the lining ends to be removed and bespoke pressure “end seals” to be fitted in 4 hours. Two further installations of 70m & 120m were then completed in similar timeframes. The pipework was then reconnected, excavations backfilled and the rising main returned to service.



Collaborative working between client & framework contractor allowed this project to be completed in “double-quick” time. “No Dig” lining minimised impact on the local community with regard to both disruption and environmental issues. In addition a huge cost saving was made by the client. That the entire scheme was completed during “lockdown” whilst maintaining the required social distancing was a credit to all concerned.

For further details, contact:

OnSite Central Ltd
Unit 14 W & G Estate
Faringdon Road
East Challow
Wantage
OX12 9TF

Tel: +44 (0)1235 772882
Fax: +44 (0)1235 770782

Email: solutions@OnSite.co.uk
Website: www.OnSite.co.uk