



Case Study

Structural rehabilitation of a sewer network using UV lining technology

How OnSite supported Clancy Docwra with rehabilitating a 1200m diameter sewer using UV lining.

The challenge

OnSite was contracted by Clancy Docwra to undertake rehabilitation works on a sewer under the HS2 SCS Joint Venture scheme in Ruislip, Hillingdon.

The project involved the installation of two UV liners, including a 90m long, 10 tonne liner along Bridgewater Road and a further 30m section extending towards the adjacent field. Both installations were completed via temporary sheeted excavations.

Strengthening of the sewer was also required to mitigate the effects of predicted ground settlement associated with the passage of the HS2 tunnel boring machine beneath the asset.

Action

Prior to installation works, the team spent three days cleaning the sewer using a specialist water

recycling jetting unit operating at pressures of up to 400 psi. The sewer was jetted several times until a satisfactory condition was achieved. A pre-installation CCTV survey was completed to confirm the sewer was in a suitable condition for lining. Sewer dimensions and lengths were also confirmed to enable procurement of the correct liner size.

An Impreg GL16 UV liner was delivered directly to site in a refrigerated vehicle. The 23mm thick liner was maintained at a controlled temperature of between 5°C and 15°C throughout transportation and storage to prevent premature curing before installation.

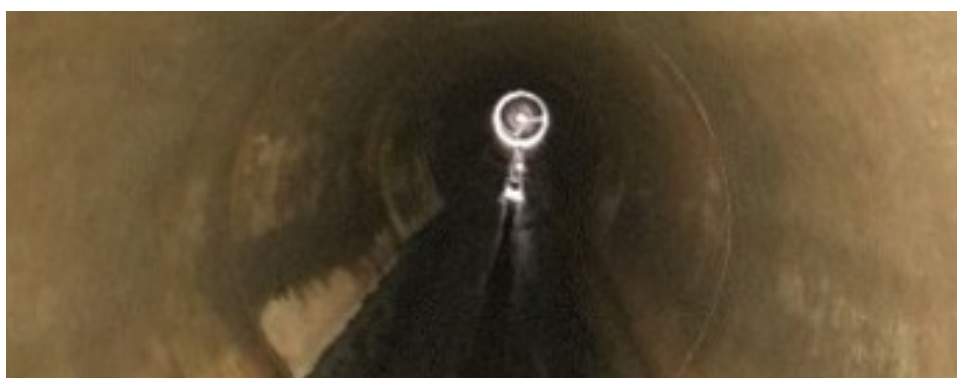
Once the liner had been delivered to site, it was positioned at the access point and prepared for installation.

It was carefully pulled through the sewer and positioned within the existing pipe.

After installation, the liner was expanded to fit tightly against the inside of the sewer. A specialist light system was passed through the liner to carry out final inspections and cure the material, forming a new structural lining within the existing sewer.

Throughout the curing process, the installation was continuously monitored to ensure the liner was performing as expected and that the required quality standards were achieved.

Once the liner had cured, the ends were trimmed and any remaining joints or connections were sealed using patch liners, creating a fully watertight rehabilitation solution.





Results

OnSite successfully installed approximately 120m of UV-cured structural liner within the programme constraints of the HS2 SCS Joint Venture scheme. The rehabilitation works strengthened the existing sewer, providing protection against predicted ground movements associated with tunnel boring operations. The works were completed safely, with no reported incidents, whilst maintaining compliance with project quality and environmental requirements.

Health and safety

Due to the nature of the works, key health and safety considerations included:

- confined space entry
- working within deep temporary excavations
- lifting and handling of heavy liner materials
- operation of high-pressure water jetting equipment
- winching activities
- the safe handling of peroxide-based liner materials.

Detailed risk assessments, permit-to-work systems, gas monitoring, rescue arrangements, lifting plans and temporary works procedures were implemented throughout the project to ensure the safety of all team members and successful delivery of the works.

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