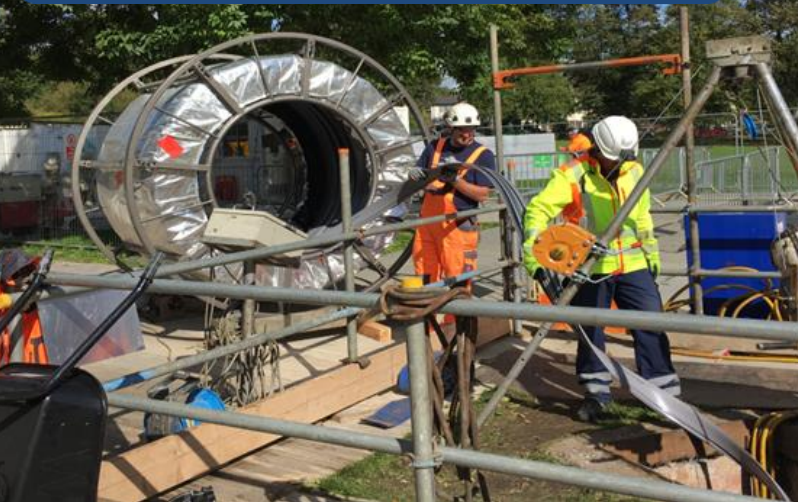


Spiral Wound Lining (Sekisui SPR™) - Another first and exclusive for OnSite



Client: Environment Agency

Main Contractor: VBA Joint Venture

Location: Worsley, Manchester (Under the Bridgewater Canal)

Requirement: Repairs to 6m of H2.7m x W3.1m arch brick culvert with structural failure under the Bridgewater Canal

Solution: Sekisui SPR™ with newly constructed transition walls at each end of the repair to reduce flow turbulence

Duration: 4.5 weeks (including 2 weeks of silt cleaning)

A major breakthrough in culvert rehabilitation as the first culvert in the UK is repaired using spiral wound lining technology by Sekisui SPR™.

OnSite was tasked with the rehabilitation of a 6m section of arch brick culvert (2700mm wide by 3100mm high) running under an historic building. The culvert was suffering from serious structural degradation and deformation and was subject to a 4m red-carded exclusion area.

Issues:

- Excavation was not an option due to the building above and adjacent canal.
- The footings of the building were on railway sleepers, which intruded into the crown of the culvert.
- The nearest access points were either side of the Bridgewater canal; a manhole 30m upstream and a sluice gate 40m downstream.
- There was a heavy build-up of silt throughout the length of the culvert exacerbated by bends in the asset.
- The culvert shape, size and access constraints hindered the use of many traditional lining methods.

Solution – Sekisui SPR™:

Patented, spirally wound thermoplastic liner for gravity pipe rehabilitation.

- Applicable to ANY shape, in sizes from 150mm up to 5500mm.
- Truly no-dig with a low environmental footprint; all materials/equipment enter via manhole & are assembled in-pipe.
- The process can be temporarily suspended by cutting the profile and reconnecting later should operational conditions dictate.

- Bypass or overpumping is not always required as lining can be undertaken without disrupting flow (depths <30% of the diameter). In this case, some overpumping was required which was conducted within the culvert.

Sekisui SPR™ was favoured in this scheme due to the following additional advantages:

- Health & Safety: OnSite could complete the rehabilitation without anyone having to enter the 4m red carded area.
- Minimal cleaning: The process of winding the pipe in situ meant that only a 12m section of culvert had to be cleared of silt as opposed to the full 70m between the access points.
- The maximum culvert capacity was maintained whilst allowing for the void & sleepers to be structurally supported.
- Construction Duration: The entire process (winding, bracing, grouting) took just over two weeks as planned.

A first for the UK:

Sekisui SPR™ has enjoyed tremendous success in Japan, USA, Australia and continental Europe. This scheme was the first in the UK.

Exclusive to OnSite

OnSite is the exclusive installer of Sekisui SPR™ in the United Kingdom.

