HS2 Victoria Road Ancillary Shaft (UK)
Sheet Waterproofing

Country	United Kingdom
Type	Railway
Client	High Speed Two (HS2) Limited
Main Contractor	SCS JV (Skanska Costain STRABAG)
Execution of the work	Renesco UK Limited
Designer	Design House JV (Arup, Typsa, Strabag)
Construction Period	2021 - 2022

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Project Description

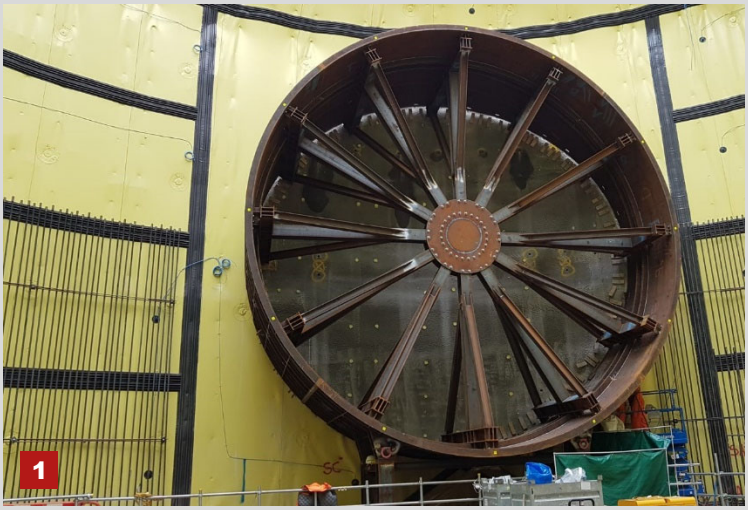
High Speed 2 (HS2) is a planned high-speed railway running between London in the South and Manchester and Leeds to the North. Phase1 involves the route between London and Birmingham with approximately 200km of new high-speed rail being laid. The two Main Works Civils lots start from Euston Station in London. S1 includes two 9km twin bored tunnels between the new HS2 stations, Euston and Old Oak Common. S2 continues from Old Oak Common with 15km of twin bored tunnels to West Ruislip where there is approximately 5 km of open route before transitioning into C1 lot.

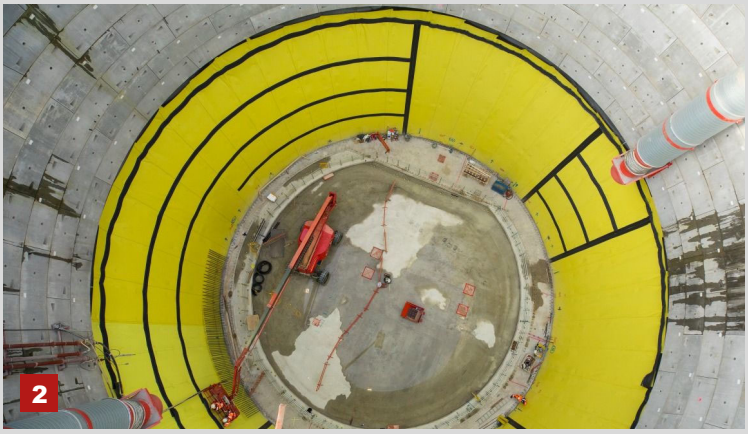
The Victoria Road Ancillary Shaft in Acton, West London will be used as a ventilation, evacuation, and intervention shaft for the tunnelling works. The shaft will have an internal diameter of 25m and will be constructed using cavity wall, retaining wall, a poured concrete collar around the shaft, precast rings at the top (11m) and using a sprayed concrete lining technique (23m) at the bottom. The base slab is 3.3m thick and constructed in three different pours.

Scope of Service

Supply and Installation of a loose laid waterproofing sheet membrane system under pressurized water conditions, primary lining with fiber-reinforced shotcrete, sheet waterproofing according to BS8102 (British standard), full-round (360°) sealing, secondary lining via cast-in-place concrete and the option for remedial grouting/ injection works.

- Shaft waterproofing
- Sheet membrane, PVC-P, 2mm
- 1'200g/sqm PP protection geotextile
- Protection sheet membrane, 1.5mm
- Water barriers, 400/30/6, PVC-P
- Termination at pre-cast-concrete-elements with adhesive strips/tapes
- Injection system, active control sockets, injection hoses, hydrophilic swelling profiles
- BA-Anchors
- Temporary underslab drainage





1. Cross-passage opening/ Shutter Pipe
2. Shaft waterproofing
3. Shaft/ pre-cast segments/ sprayed concrete lining (SCL)