

Tollbar Island Water Main Diversions

Project Profile

Client: Morgan Sindall/Severn
Trent Water

Designers: MWH

Value: £1.3m



Diversion of existing Severn Trent Water trunk and distribution water mains to enable Highways Agency contractors Galliford Try to reconstruct the busy Tollbar Traffic Island at the junction of the A45 and A46 near Coventry. In summary 1.75 km of 450mm and 600mm ductile iron water main diversions were required together with connection work to the existing clean water distribution system. Much of the new pipeline installation was in carriageway requiring extensive traffic management and high quality reinstatement. The work was split into 4 main areas as follows;

- 190m of 450mm Ductile Iron pipe in 6.0m lengths across grassed school playing fields at a depths 750mm to 1.8m and connected into 2 No. existing mains;
 - Existing 450mm main isolated, drained and cut to complete new connection with Tee and Valve assembly
 - Existing 600mm main connected by an under pressure connection with a Tee and Valve assembly
- 350m of 600mm Ductile Iron pipe in 5.5m lengths across arable farm land at depths 1.8m to 2.6m. included: 1 No. Sluice Valve, 3 No. Wash Out / Hydrants and 2 No. Air Valves
- 1230m of 600mm Ductile Iron pipe in 5.5m lengths in highway, depths 1.8m to 3.0m, included; 3 Sluice Valves, 4 Wash Out/Hydrants and 2 Air Valves. The 600mm DI pipe was connected into 2 No. existing mains;
 - 450mm main isolated, drained and cut to complete new connection with Tee and Valve assembly
 - 600mm main isolated, drained and cut to complete new connection with Y Branch, Valve, Wash Out and Puddle Pipe assembly.
- Diversion of existing 450mm/600mm water main across highway bridge by constructing a temporary pipeline on the outer face of the bridge parapet to allow highway and bridge refurbishment works to be completed by other contractors. On completion of refurbishment works the water main was reinstated across the bridge with new pipework. Water main diversion works across the bridge included;
 - 2 No. connections to the existing main - existing 450mm main isolated, drained and cut to complete new connection with Tee, Valve, Wash Out and Puddle Pipe assembly, existing 600mm main isolated, drained and cut to complete new connection with Tee, Valve, Wash Out and Puddle Pipe assembly.
 - Installation of 150m of 315mm HDPE pipe in 12m lengths, Butt Fusion Welded together and laid across grass land either side of the highway bridge. The pipe was then pulled across the bridge and supported on metal brackets fixed to the bridge parapet,



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On completion of the bridge refurbishment and installation of the new 600mm main across the bridge, the temporary main was removed together with the supporting brackets across the bridge.

Connection works to the existing system were mainly completed at night and required extensive liaison and programming with Severn Trent Water and Morgan Sindall.

All pipelines were subject to testing on completion of installation including;

- Pressure testing to 1.5 times the working pressure (13.5 Bar)
- Pipe swabbing
- Chlorination and disinfection
- Pipe flushing 24 hours after completion of chlorination works
- Water sampling and testing by STW

The scheme also involved extensive traffic management including;

- Rowley Road traffic management for the 600mm Ductile Iron pipe-work installation;
 - ◇ 2 Way Traffic Light Signals provided and maintained by Traffix UK. Traffic management setup in approx. 200m lengths along carriageway.
 - ◇ 3 Way Traffic Light Signals provided and maintained by Traffix UK. 3 Way lights were used at two locations along Rowley Road at T Junction locations.
- A45 Stonebridge Highway traffic management for the bridge diversion main works;
 - ◇ Works completed with Lane 1 off peak closures on the A45 dual carriageway. Off peak lane closures were 0930 -1500hrs and 2000-0600hrs. Traffic management provided

