

Success story Australia



Achievement:

The biggest challenge that the Sandgate Avenue Drain Flood Mitigation Project had to face was the extreme risk of flooding. An assessment found that approximately 20,000 properties were affected by 'intolerable' or 'extreme' flooding, and as a result, Melbourne Water set a target to reduce this figure by ten per cent by 2013 and 30 per cent by 2018.

The tunnel traverses through a well-developed urban environment, passing under roads, parkland, sporting facilities and a railway reserve. Third party assets along

the route include residential and commercial structures, sporting clubs, car parks, roads, a railway and service pipelines.

It was necessary for the tunnel to run under the Nepean Highway with less than one meter of cover due to the required drainage outlet level at Kananook Creek. Tunnel design was another key challenge for the Pipelines Alliance. This was due to the size of the tunnel, length of the required tunnel drives, limited cover at the crown of the tunnel and the two 500 m radius curves. A dual slurry earth pressure balance (EPB) mts Perforator machine was chosen for tunnel excavation in order to deal with all of these challenges in an appropriate manner.

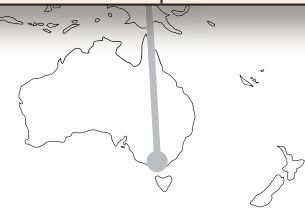
It was chosen because of its ability able to cope with all of the expected geotechnical conditions, including clay, sand, potentially high groundwater inflow and the constant variability of the geotechnical conditions.

The aim of reducing the likelihood of flooding was achieved in a safe, efficient, sustainable and innovative manner – and very importantly, the project was completed within the requested timelines.

This challenging project proved to be an outright success for residents and businesses within the area, and was named the **ASTT Installation Project** of the Year 2011.

Short facts

Customer	Pipeline Alliance Melbourne Water
Machine	mts2500S4
Max. torque	780,000 Nm
Max. drive length	600 m



Project background	
Client	Melbourne Water
Job site	Sandgate Avenue, Frankston/ Melbourne, Australia
Main contractor	Capacity JV, Jaydo and Fulton Hogan
Subcontractor	Sandgate Stage 1 — Sub Alliance, Winslow
Total project length	1,500 m
Geology	Sand, clay, gravel, high groundwater



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