First metro breakthrough at North Sydney

Tunnel boring machine (TBM) Wendy broke through a wall of rock at the new Victoria Cross Metro Station. Victoria Cross is the biggest station cavern across the entire Sydney Metro City & Southwest project.

Three roadheader tunnelling machines took 12 months to carve out 360,000 tonnes of rock to create the large cavern, which measures about 270 metres long, 25 metres wide and 20 metres high.

So far TBM Wendy has excavated about 450,000 tonnes of sandstone and shale – enough to fill about 69 Olympic swimming pools.

TBM Wendy will undergo maintenance before being re-launched to complete the last 1.7 kilometre section of the 6.2 kilometre tunnel between Chatswood and the edge of Sydney Harbour.

The 150 metre-long TBM Wendy is named after Wendy Schreiber, a volunteer at Bear Cottage.

Sydney Metro is Australia’s biggest public transport project. It will transform Sydney, delivering more trains and faster services for customers across the network.

Sydney Metro City & Southwest extends the new metro network from the end of Sydney Metro Northwest at Chatswood, under Sydney Harbour, through the CBD, and west to Bankstown.

John Holland CPB Ghella (JHCPBG) is building the 15.5 kilometre long twin railway tunnels between Chatswood and Sydenham and excavating six new metro stations.
Three-month look ahead

<table>
<thead>
<tr>
<th>Activity (subject to change)</th>
<th>September</th>
<th>October</th>
<th>November</th>
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<tbody>
<tr>
<td>TBM Wendy traverse through station cavern under Miller St</td>
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<tr>
<td>TBM Mabel breakthrough and traverse through station cavern</td>
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<tr>
<td>Excavation of pedestrian adit (tunnel) at North site shaft</td>
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<td>Lining the North site shaft pedestrian tunnel</td>
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<td>Construction of form work in cavern in preparation for remaining cavern lining work</td>
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<tr>
<td>Stormwater works on Miller Street</td>
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</tbody>
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**TBM Kathleen begins first under-harbour rail crossing**

The historic first rail crossing deep under Sydney Harbour is underway after TBM Kathleen launched 30 metres below ground from Barangaroo.

The 975 tonne TBM has already tunnelled the first 250 metres of its one-kilometre journey underneath the harbour, linking metro rail from the city’s northwest, through the CBD and on to the south west.

TBM Kathleen at Barangaroo before launching under Sydney Harbour

Once the first tunnel is complete, Kathleen will be retrieved from Blues Point where she will travel by barge back to Barangaroo and be reassembled to build the second tunnel under Sydney Harbour.

The machine is expected to tunnel through rock, clay, silt and sediment and will use state-of-the-art tunnelling technology to safely make its way under the harbour.

**Historic first breakthrough under Sydney City Centre**

History was made on the Sydney Metro City & Southwest project with the first TBM arriving at the Pitt Street Station site in August.

After launching in October 2018, Nancy has so far carved through approximately 600,000 tonnes of rock and about six kilometres to reach Pitt Street Station.

TBM Mum Shirl was only two weeks behind, also breaking through into the Pitt Street cavern in August.

The two TBMs will now undergo maintenance before being re-launched towards the future Sydney Metro station at Martin Place, before travelling on to Barangaroo.

There, the TBMs will be lifted by crane to the surface, having delivered 8.1 kilometre tunnels.

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- sydneymetro.info
- www.facebook.com/SydneyMetro
- www.sydneymetro.info/tunnelling to follow the progress of the TBMs
- Sydney Metro City & Southwest PO Box K659, Haymarket NSW 1240
- If you need an interpreter, call TIS National on 131 450 and ask them to call 1800 171 386