

# North Connex Tunnel Exit



## PROJECT SUMMARY

North Connex is a 9km tunnel in Sydney linking the M1 at Wahroonga to the Hills M2. The client Lend Lease / Bouygues JV (LLBJV) was looking for a cost and time efficient solution for the excavation of the exit ramp (cut and cover) from the tunnel to the M1. Due to the proximity of the running M1, installed concrete piles as well as nearby residences the solution needed to be environmentally and safety friendly.

GCM mobilised a Wirtgen 2500 Surface Miner (2500SM) to undertake the work in a working area of approx. 250 metres long x 12 metres wide. The 2500SM progressively milled the sandstone up to the edge of the tunnel exit working closely with other plant for the material to be removed from site for use as fill. Material excavated was on average under 100mm and well suited for engineered fill.

The Surface miner was fitted with GPS to ensure level control and location of the work was to exact requirements. GCM also fitted the surface miner with a dust control system to ensure environmental requirements were met, working alongside a running freeway as well as residences, minimising dust was a key point in delivering the project.

The project was delivered well ahead of estimated timeframes and in turn the client LLBJV will be engaging GCM to return to site to complete the excavation once the roof has been installed on the exit ramp.

**Case Study**  
GCM17-011

**Year**  
2018

**Client**  
Lend Lease / Bouygues JV

**Site/Location**  
Sydney

**Region**  
NSW

**Scope**  
Excavation for tunnel exit

**Volume**  
15,000 BCM

**Production**  
162 bcm per hr.

**Rock Type**  
Sandstone

**Rock Hardness**  
30 to > 80 MPa

**GET Consumption**  
12 bcm per pick

**Mechanical Availability**  
93%

**Safety**  
Zero LTIs

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