



KCRC Kowloon Southern Link Contract KDB200 Excavation for Cut and Cover Tunnel Independent Geotechnical Review

Description of Work

The Kowloon Southern Link will connect the KCRC WestRail and EastRail operating railways. KDB 200 is the contract for the design and construction of the tunnels between East Tsim Sha Tsui Station and West Kowloon Station together with the new West Kowloon Station at Jordan Road

At the most northerly section of KDB200 the alignment passes beneath an extension to Jordan Road that was formed as part of the 1990's West Kowloon Reclamation. The tunnels were constructed as cut and cover cellular boxes within a temporary cofferdam approximately 100m long and 25m wide. The depth to formation level for the tunnels was approximately 19m. During excavation a number of intensive localized inflows of groundwater and ground instability were recorded which were sufficiently severe to necessitate extensive remedial work.

GCG (Asia) Ltd were commissioned by the contractor to carry out an independent geotechnical review of the works associated with the cut and cover tunnel box and asked specifically to comment on the following:

- the nature of the ground that was reasonably foreseeable at the time of the temporary works design for the cofferdam
- the external constraints that could have influenced the selection of the cofferdam temporary support system
- the suitability of the cofferdam scheme selected and other options that were available
- the performance of the actual as-constructed cofferdam
- possible explanations for the occurrence of the groundwater inflows and ground instability observed during the excavation

GCG (Asia) Ltd were able to produce a report that addressed these objectives and also that drew upon their experience gained on the design and construction of the West Kowloon reclamation and the also the general design and performance of temporary support systems for deep excavations in Hong Kong.

Client: Link2000 JV

Dates: 2007

Estimated Project Cost: N/A

