

Construction of Diaphragm Walls, Jet Grouting, Grouting Freezing and Ground Investigation



The LDB201 project is part of the Kowloon-Canton Railway Corporation (KCRC)'s development to link the existing Sheung Shui Station to the Chinese border at Lok Ma Chau. In a Joint Venture, INTRAFOR Hong Kong Ltd. had completed in 2004 the specialist geotechnical and foundation works comprising:

- 30,950 m<sup>2</sup> of diaphragm wall as retaining structure for the Kwu Tong Station box, the TBM's extraction shaft and one ventilation shaft.
- 19,092 m<sup>2</sup> of sheet pile walls, nearby existing rail tracks.
- 4,097 m<sup>3</sup> of soil treated by grouting or jet grouting. These are temporary works for the construction of 5 Cross Passages between the up track and the down track tunnels.
- Piled foundation of the ventilation building using PIP piles.
- 3 TBM Break-In and Break-Out boxes.
- Ground freezing to allow the construction of three cross passages. Ground freezing is carried out from inside the tunnels. In this area, working from ground level was not allowed due to environmental concerns.
- Associated works such as ground investigation, pumping system and pumping tests; sonic testing and coring tests.

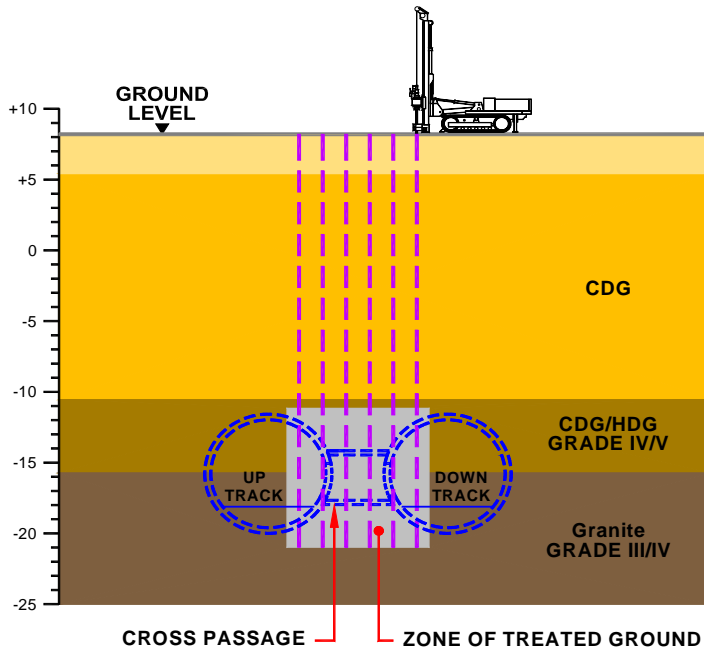
The utilisation of INTRAFOR's cutter BC40 for the Diaphragm Walling works was a key element to:

- complete the station box within the anticipated programme of works,
- excavate through the hard and bouldary soil of the ventilation shaft.



*Kwu Tong station box*

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