

Project identification

# Western Harbour Crossing Hong Kong

Type of project

Immersed tunnel



Client

Western Harbour Crossing Company Ltd.

In co-operation with

Mott Connell Hong Kong

Ministry of Transport and Public Works Tunnel Engineering Department

Project assignment

Tender design for Build-Operate-Transfer (B.O.T) proposal

Country

Hong Kong

Location

Hong Kong Island - Kowloon

Project duration

December 1991 - June 1992

Project phase

Completed

Construction cost

€ 454.000,= (estimated)  
(excl. VAT)

Consultancy fee

€ 91.000,=  
(excl. VAT)

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Project description

In the new 35 km long airport connection between Chek Lap Kok and Hong Kong Island several bridges and a tunnel have to be built. This tunnel, the Western Harbour Crossing crosses Victoria Harbour at the West Kowloon reclamation. The tunnel alignment has a total length of 2750 m. At Kowloon the tunnel starts with a 650 m long approach, followed by 1290 m long immersed tunnel elements and at Hong Kong Island a 810 m long approach with an interchange. The Kowloon approach will be an in situ built cut and cover tunnel in the new reclamation. At Hong Kong Island the approach is built as a top down structure with diaphragm walls reaching 50 m deep onto the bedrock. The interchange is needed due to the limited area available.

The Western Harbour Crossing will be a privately financed BOT project. The Cross Harbour Tunnel Co. Ltd. was one of the competing franchises for this project. Together with Mott Connell Hong Kong TEC was invited to prepare a tender design for this tunnel project.

Scope of work

Based on the Highway Department Design Manual Terms of reference for the tunnel design were given. The tunnel alignment includes approaches with diaphragm walls, cut and cover tunnels, open through sections and immersed tunnel elements to be designed. TEC in particular concentrated on the immersed tunnel, alignment cross section, cut and cover tunnel and construction specifications.