

Project identification

Busan-Geoje Link

Type of project

Immersed tunnel, bored tunnel in hard rock and cable stayed bridges



Client

Daewoo Engineering & Construction Co.

In co-operation with

Halcrow Ltd.

Project assignment

Technical Advisor for all aspects of the project during design and construction.

Country

South-Korea

Location

Busan

Project duration

2002 - 2010

Project phase

Design and construction phase

Construction cost

Appr. US\$ 1.100.000.000,=
(excl. VAT)

Consultancy fee

€ 5.000.000,=
(excl. VAT)

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Project description

The Busan-Geoje Link Project provides an 8.2 km highway link between the southern city of Busan and the island of Geoje in South Korea which has been realised under a Build Operate Transfer (BOT) agreement.

The overall link comprises two major cable stayed bridges, with main spans of 230 m and 475 m respectively, and a 3.4 km long immersed concrete tunnel, located in a water depth of up to 40 m.

As Technical Advisor to the, by the Concessionaire appointed Contractor responsible for the design, engineering and construction of the Link, TEC/Halcrow provided all technical advice, assistance, consultations and other consulting services required and/or desirable for the proper execution of the project and preparation, planning, design, construction and operation of the Fixed Link including, specifically, the immersed tunnel comprising among other things, an artificial island, and a cable-stayed bridge comprising, among other things, an approach bridge.

Scope of work

Technical Advisor for all aspects of the whole of the project and during all project phases, for example preparation and construction periods, including:

- Cable stayed bridges
- Immersed concrete tunnel
- Dredging works
- Reclamation
- Approach roads
- Bored tunnels in hard rock
- Electrical and mechanical installations

The main advisory services have been as follows:

- 1) Preparation Period
 - (i) Design - Selection and Contract with the Employer for the Basic and Detail Designers including RFP preparation; Preparation of Design Standard and getting approval from the Authorities; Development of the Basic and Detail Design; Value Engineering; Coordination of the Design Team to ensure Workability and save Construction Cost
 - (ii) Implementation Plan
 - (iii) Selection and Contract with the Employer for the Design Checker and Supervisor including RFP preparation
 - (iv) Pre-casting yard for Immersed Tunnel and Cable Stayed Bridge) - Review for Propriety of Design and Construction of PC yard
 - (v) Consortium related - Cooperation Agreement; Construction Contract;
 - (vi) Preparation for Construction - Site Organization for Construction; Progress Schedule of the Project; Working Method; Equipment for the Construction; Preparation of check points of main work items; Selection and contract of outside (international) subcontractor including bidding work; Procuring of equipment and material.
- 2) Construction Period
 - (i) Design - Design Management System; Design Review before Construction; Review of Design Change items and Presentation of proper Alternative; Value Engineering
 - (ii) Construction - Site Construction Management System; Construction Plan and programme; Working Method for each work items, Equipment and Manpower to be used; Process Management; Quality Control; Safety Management; Cost Saving; Selection and contract of outside (international) subcontractors including RFP preparation; Procuring of equipment and material.