

Ten Bridges and Retaining Walls in Kuwait International Airport

Client

Limak Holding Inc.

Scope of Work

Design Review

Location

Kuwait

Types of Activities

Structural

The project comprises ten post-tensioned box girder bridges with a length that varies from 70 m to 250 m, and free spans of approximately 60 m. ECG role is to review the structural design and issue structural integrity report based on the design drawings provided by the client for the bridges (1A, 1B, 2A, 2B, 3, 4, SA, SB, SC, and SD) and retaining walls (1A, 2A, 3A, 4A, 6A, 1B, 2B, 3B, 4B, and 6B).

ECG structural scope of work includes reviewing and validating the following:

- Analysis of the bridges through 2D/3D models
- Analysis of the substructure elements for the bridges/flyovers through 3D models and SAP2000 program (piers, abutments, and back walls)
- Detailed cross sections and elevations for the structural elements
- Abutments, piers, and pile caps' reinforcement details

The engineering consultancy studies are carried out in close conformity with "Highway Structures Design Manual" and the "AASHTO LRFD". In addition, the load effects detailed in AASHTO LRFD (Latest Edition) are assumed by applying a 100 year design with the associated durability as noted in these standards.

The software used for preparation of the structural designs are SAP2000/PROKON and CSI Bridge analysis. Also, the structural designs consider the results of roadway designs for levels, longitudinal and transverse slopes, and limitations of available construction depths.

