

Design and Special Feature of Lusail Ring Bridge

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Summary

The Lusail Development (LD) will comprise residential buildings to house 195,000 residents, retails, a commercial center, hotels, community facilities and recreational areas. It is bounded to the east by sea and to the west by the Al Khor Expressway. The construction Package 3A, Phase 2, is for the construction of Bridge 3, 4, 5, 7 that inter-connect the Qetaifan Islands and Bridge 8& 9 that connects the Qeitfan Islands to the mainland. Symbolic suspension bridge, referred as Bridges 8 and 9, are a steel composite box girder bridge with a hoop shaped tower and cable suspension system which is a combination of earth-anchored and self-anchored types. The total construction cost is approx. 100 million US dollars, and the total construction schedule is 24month; construction began at 2011 and is scheduled to be by 2013.

Keywords: Suspension bridge; combination of self-anchored and earth anchored, complex asymmetric geometry and shape; fabrication and erection of steel deck and pylon.

1. Introduction

The Lusail development project is comprised of constructing an artificial island and two symbolic 200m long bridges connecting the main land and the new artificial island, separated by a channel.



Fig. 1: Illustration of Lusail Development Plan

Along the inside of the artificial island, seven conventional concrete bridges with ascetical feature are crossing channels around the artificial islands. The construction is carried out by Samsung C&T, and Engineering Consultant for the Client is performed by Parsons. The bridge was designed by the COWI and Dissing & Welting architects.