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SUSTAINABLE TECHNOLOGY

Repairs

Deck lifting and Elastomeric Bearings Replacement

Gharaffa Bridge,
Doha – Qatar

The four bridges subject for bearings replacement are part of Qatar Primary Routes North Road, and consist in an overpass roundabout junction DOHA (south) - QATAR UNIVERSITY (east) - MADINAT AL SHAMAL (north) - AL GHARAFFA (west). All four of which have same geometry, superstructure and substructure.

Thorough site investigation were carried out, defining the extent of damages and required rehabilitation works. Actual condition of the bridges were also noted prior to the replacement of the elastomeric bridges.

The bridge deck is a "beams and slab" type, consisting of 11 nos. of precast pre-tensioned beams, with a concrete top slab cast-in-situ on permanent formworks. The diaphragm beam connecting the precast girders in supporting area. The static system of bridge is simple supported beam with span of 15.4 m.

All four Gharaffa bridges should be lifted for bearings replacement, using temporary steel scaffolding formed preassembled elements brought on site and connected together to form a rigid supporting structure. All operations have to be performed and finished on one abutment (bearings on one side of the bridge), same procedure applies on the other side of the bridge.

Client

ASHGAL - Doha public works

Consultant

Dar Al Handasah Shair & Ptr

Contractor

Al Darwish Engineering WLL

Construction

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Freyssinet Gulf LLC, PO Box 36211, Dubai, UAE www.freyssinet-me.com
Tel: +971 4 2094 900 - Fax: +971 4 2094 910 fme@freyssinetme.ae