



A14 HUNTINGDON BRIDGE VIADUCT

SYNCHRONISED HYDRAULIC JACKING

PROJECTS

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CONTRACT SERVICES - HIRE - SALES

PROJECT DESCRIPTION

Hydra Capsule have recently completed a major synchronised jacking and grout bags works for the viaduct half joint strengthening. The project involved working with the Highway Agency and Network Rail hand-in-hand due to the unusual bridge structures.

The A14 bridge viaduct was part of the A14 Ellington to Fen Ditton major improvement scheme, but due to the ongoing deterioration of the half joints on the central span of the bridge, without intervention, the bridge would be incapable of carrying the type and volume of traffic that uses the A14. were becoming deterioration carrying the type and volume of traffic that uses the A14. .



Client

Highway Agency and Network Rail

Type of Works

Synchronised Jacking
Design and Manufacturing of Hydraulic Cylinders
Real-time Monitoring
Grout Bags

Commence Date

August 2013

Completion Date

January 2014

“Fully synchronised monitoring and controlled systems allow precise lifting and pre-loading



Once the defined loads and displacement was achieved, all the hydraulic jacks were mechanically “locked-off” by the screw-ram locking collar. Once completed, Hydra Capsule installed custom-made grout bags which were inserted at each bearing location and inflated by our grout pump, to wedge the gap.

Once the grout bags had cured and reached the specification compressive strength, the hydraulic jacks were energised, locking collars untightened and all jacks loads were de-energised under controlled pumping. Which transfused the loads into the newly installed elastomeric bearings.

PROJECT WORKS

Hydra Capsule were appointed to design and manufacture 84 number 50 tonnes screw ram locking-collar hydraulic jacks. All were manufactured in the United Kingdom and to EN BS ISO 9001:2008.

In addition, these jacks were interlinked and energised by Hydra Capsule’s synchronised jacking system. Which allowed all jacks to be individually controlled by our own computerised system, using precise load and movement displacement (LVDTs) real time monitoring units at each installed strengthening beam position.



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