Project Brief

Design Supply and Install Suspended Access Platform to allow removal and replacement of a cable band bolt on the Forth Road Bridge.

The Forth Road Bridge (FRB) cable bands follow the traditional US style of being split vertically and stressed together using tensioned bolts, with a pair of wire rope hangers looped over the top. The number of bolts and the tension in them is determined so that there is sufficient resistance against slippage down the cable. In the main span most cable bands have 4 bolts and this increases to 6 bolts near the main towers where the cable is steepest. In the side span the number of bolts per cable band varies from 4 to 8 as the deck is heavier and the cable is inclined more steeply.

In autumn 2007 FRB inspectors decided to utilise the access provided for the dehumidification project to check each cable band bolt for loss of tension whilst undertaking these checks, a cracked nut was discovered one of the cable band bolts.

Further inspections carried out by FRB have revealed a further nine cracked nuts. A total of 10 bolts/nuts have been replaced by FRB personnel during 2008/2009 utilising the access platforms provided for the dehumidification project.

A further cracked nut has been discovered at PP32NE by rope access personnel carrying out snagging work for the dehumidification contract.

The access platforms provided for dehumidification works have now been removed.

The contractor will be required to design, supply and install a suitable access platform to allow removal of this latest damaged bolt/nut.

The contractor will also be required to lift and secure a temporary cable band which has been designed to protect the cable band against slippage during bolt removal. Details of this temporary cable band will be provided. Final tensioning of both the temporary and permanent cable band bolts will be carried out by FRB personnel.

Design, certification and approval of the platform will be as per the criteria laid out in The DMRB, Volume 1, Section1, Part 1 BD2 05. This will include all lifting and containment arrangements.

The contractor will be required to provide a design certificate for the platform.

The design will be subject to a fully independent design check, details of the organisation responsible for the check will be forwarded in due course.

The contractor will be required to install the platform at Panel Point 32 NE on the North Side Span of the Forth Road Bridge, at an exact date to be determined, ideally sometime during April/May 2010

On completion of the installation and prior to use the contractor will be required to provide a construction compliance certificate.

The platform is required to provide suitable access to allow positioning of the temporary cable band by the contractor's personnel. FRB personnel will then utilise the platform to carry out de-tensioning/ tensioning work required to replace the damaged bolt/nut. Loading requirements for the platform are as detailed in the AIP.

The platform is expected to be in use for approximately 5 days; however it may be required for further work on cable band bolts in future. The contractor will be responsible for the operation of the platform for the duration of the works.

On completion of the works the platform and all associated equipment will be removed from site by the contractor.