

First stay cable installed on Mersey Gateway

The first of 146 stay cables has been installed on the Mersey Gateway bridge in north-west England.

Construction teams installed the 52m-long cable at the south pylon in the Mersey estuary yesterday. The cables supporting the four-span, 1,000m-long reinforced concrete bridge vary in length from approximately 41m to about 226m.



Gareth Stuart, project director of the Merseylink construction joint venture, said: "This marks a momentous occasion for the project. The stay cables will be an iconic feature of this landmark structure making it one of the most recognisable bridges in the UK. We're now entering a new, very visual phase of the bridge construction, where people will be able to see the stay cables connected to the bridge deck as it emerges across the river week by week."

Merseylink was appointed by Halton Borough Council in 2014 on a 30-year contract to design, build, finance and operate the project. Its equity partners are Macquarie Capital Group Limited, BBGI, and FCC Construcción. The

construction joint venture is made up of Kier Infrastructure and Overseas Limited, Samsung C&T Corporation and FCC Construcción.

Form traveller machines are casting the deck segments from each side of the three pylons and once the concrete has reached the required strength the stay cables will be installed. Each cable consists of up to 91 individual steel strands inside a stay pipe. The stay cables are light green - the same colour as the nearby Silver Jubilee Bridge.

Every strand needs to be installed individually. "The first two strands are threaded through the stay pipe then the tower crane lifts the pipe up to the anchor point in the upper pylon where the top ends of the strands are fixed into place," said Merseylink's design manager, George Moir. "The bottom ends of the strands are then attached to the anchor point in the bridge deck and stressed using a hydraulic system. This enables us to get the correct level of tension needed to support that segment of bridge deck. We then use a winch system through the stay pipe to winch the remaining strands up one by one. Once all of the strands have been installed they sit in parallel inside the stay pipe to form the stay cable."



The bridge's three pylons have different heights. At 80m, the central pylon will be shorter than the two outer pylons, which are 110m high (north pylon) and 125m (south pylon).



Stay cable strands and anchor samples are on display at the project's visitor centre in Widnes.
