Forton Lake Bridge

Forton Lake lifting bridge spans the mouth of Forton Lake, connecting the new museum at Priddy's Hard with the Town of Gosport. Part of Portsmouth Harbour Millennium Scheme, the bridge is designed as a pedestrian and cycle bridge but can also carry a road train and emergency vehicles.

The bridge was the subject of a design competition, which was won by the team comprising Maunsell Ltd, Bennett Associates, Percy Thomas Partnership and ERM. The objective was to produce a landmark structure that was in keeping with the historical setting and flat landscape of Portsmouth Harbour.

The client Gosport Borough Council commissioned Bennett Associates and Maunsell Ltd to design and produce detailed manufacturing drawings of the support structure and mechanical components.

The movable span of this bridge is a single leaf bascule bridge that utilises a counterweight with wheels which roll along a track, the shape of which is designed to ensure that the bridge mechanism remains closely balanced throughout the travel of the bridge. The bridge is lifted by means of chains each side of the deck which pass over the motorised chain sprockets on the top of the tower and which, in turn, support the counterweight.

The walkway of the bridge is 5.5m wide between parapets. The bridge deck weighs approximately 28 tonnes and the counterweight weighs approximately 23 tonnes. Operated by two 3 kW motors the bridge is designed to physically rise in 5 minutes and lower in 5 minutes. This small power requirement is achieved by the use of a well-balanced counterweight and the slow operation time.

Bennett Associates (originally founded in 1984) was acquired in 2008 by Atkins; bringing their proven technical expertise to the UK's leading engineering consultancy.

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