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WALTON BRIDGE, ENGLAND

Flint & Neill designed this 150m long highway bridge over the River Thames as part of a design & build tender for a major UK based contractor.

The design of this landmark tied arch bridge is the key element of a £15 Million scheme to replace an existing crossing along a scenic part of the River Thames in West London. The elegant steel arch has a diamond shape cross section with minimal cross bracing and springs from sculpted concrete plinths set back from the river bank. Inclined hangers at 9.3m centres support a shallow composite deck carrying two lanes of highway traffic, footpaths and dedicated cycle lanes. The deck is made integral with the arch to eliminate the need for bearings and to reduce horizontal loads on the foundations.

We introduced the architect, Marks Barfield, to assist us in developing the design which incorporates a subtle lighting scheme to illuminate the arch and the arch springing points at night. We also worked very closely with the main contractor and the steelwork fabricator during the tender period to develop the scheme design and, in particular, a construction philosophy that maximised offsite prefabrication. Erection of the arch and deck avoided the need for any temporary supports in the river channel, a key objective of the design. The deck also incorporated full depth pre-cast deck panels thereby substantially reducing work over water.

This project demonstrates a growing portfolio of design and build projects in which Flint & Neill has worked closely with contractors to develop designs during the tender period which integrate the firm's considerable knowledge of bridge design and construction.

Client:
Halliburton KBR

Location:
West London, UK

Service Dates:
2004-2005

Services:
Tender design