

Hook-a-Gate Bridge – Deck Strengthening and Refurbishment



The bridge carries road over river



New stringcourses and parapets were built



Steel plate bonding on the deck



Carbon fibre plate bonding on the soffit



Spray waterproofing



Re-surfacing to deck and approaches

Combined steel plate bonding and carbon fibre plate bonding strengthening scheme gives new life to old bridge in Shropshire.

Client	Shropshire County Council
Consultant	Mouchel Parkman
Principal Contractor	Balvac
Value	£185,000
Programme	14 Weeks

After 13 weeks on site, the Hook-a-Gate bridge in Shrewsbury was re-opened to traffic after significant strengthening and refurbishment works. In fact, the bridge was only closed fully to traffic on the rural road between Shrewsbury and Longdon for 16 days! Prior to this time all works were sequenced to allow single lane vehicular access and pedestrian / horse access at all times.

The works involved the hydrodemolition of the existing reinforced concrete stringcourses and replacement with new, larger reinforced concrete stringcourses, together with the installation of new parapets.

All hydrodemolition work was undertaken within a protective canopy to segregate the work from passing cars and pedestrians, and to significantly reduce the noise nuisance at nearby houses. Noise monitoring was carried out throughout these works and no complaints were received from residents.

The bridge deck was also strengthened using 18 steel plates bonded to the deck, and 16 carbon fibre plates bonded to the soffit. The original design specified steel plates in excess of 13m in length, which would have presented significant handling difficulties.

After some early suggestions from Balvac, Mouchel Parkman agreed to split the plates into 6.5 metre lengths, and Balvac designed the end anchorage arrangements, resulting in more manageable sections on site.

The deck was protected using the Baytec waterproofing system, and the bridge deck and approach roads re-surfaced.

Balvac

Sherwood House, Gadbrook Business Centre, Rudheath, Northwich,
Cheshire. CW9 7TN

Tel: 01606 333 036 Fax: 01606 812 497

Email: enquiries.balvac@balvac.co.uk

www.balvac.co.uk