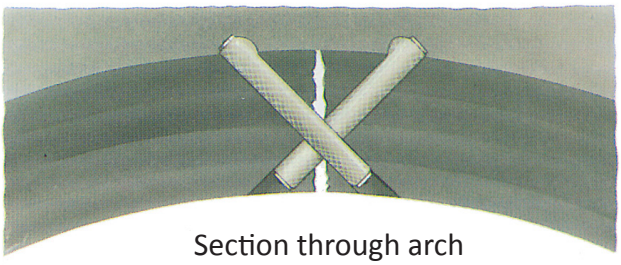
Case History

CINTEC™ REINFORCEMENT SYSTEMS

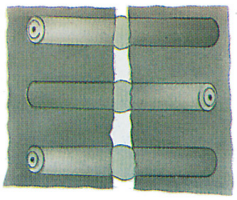
Worcester Viaduct

Worcester Viaduct comprises sixty-five brickwork arches rising from approximately two storey height near the railway station to over three storey height as it approaches the river. Lack of proper draining within the arch had led to the spandrel walls being forced away from the intrados arch with longitudinal cracks close to the longitudinal edges of the bridge. Water penetration had contributed to cracking at the springings of some spans and delamination of external parts of some columns. These problems had been exacerbated by weathering, particularly freezing and thawing. Previous efforts to restore the structural integrity were evident, but had proved ineffective.

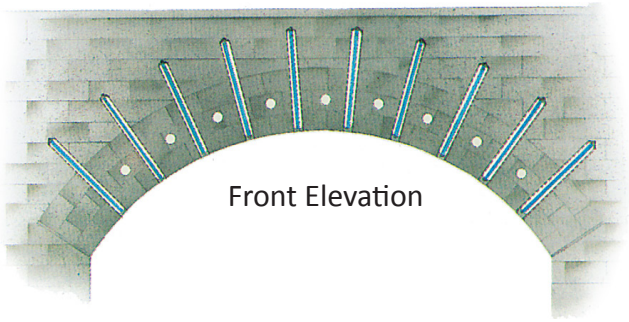
Transverse 30 x 30 x 3 SHS stainless steel WSA anchors were installed to restore the integrity of the spandrel wall/ intrados arch connection at approximately 750mm centre-to-centre and alternate lengths of 2.0m and 2.5m. Stitching anchors were angled across the longitudinal cracks to restore structural integrity and the cracks were then filled. Transverse and diagonal stitching anchors, type RWT, 15 x 15 x 1.5 SHS stainless steel, were installed to restore the strength of the delaminated columns and the cracks filled. Drainage holes were drilled through the intrados and plastic pipes were installed to help relieve the existing water pressure. To date five spans have been renovated using the Cintec system and further spans will be renovated as part of an ongoing maintenance programme.



Section through arch



Plan view of stitching anchors



Front Elevation

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