

# Loudwater Viaduct

The viaduct is 500m long and carries the M40 over the Loudwater Valley. It was constructed in 1968 and UK Highways has a 30 year PFI concession for the M40 motorway. A recent survey identified a problem with reinforcement corrosion in the cross head beams.

## Scope of works:

- Major concrete repairs to all 22 reinforced concrete cross heads
- Design and installation of an impressed current cathode protection system using a titanium mesh anode system
- Refurbishment of the deck drainage system

Hyder Consulting recommended repairs to the spalled areas of concrete followed by the design and installation of an impressed current CP system for all cross head beams. CRL used scaffold to access all 22 beams under the viaduct which carried the M40 over



Loudwater Viaduct during works



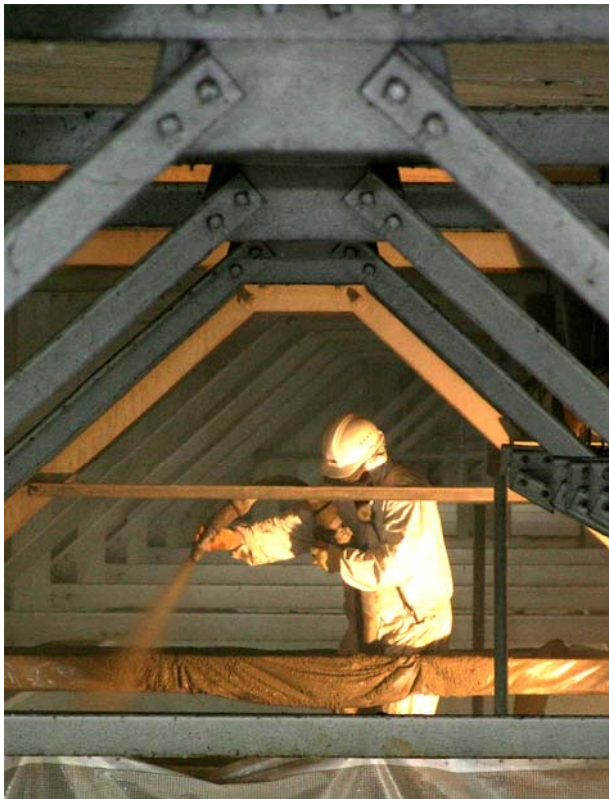
an industrial area and a local road.

The concrete repairs were undertaken using hydro demolition to remove the spalled areas of concrete and reinstatement using sprayed concrete. The beam surfaces were prepared using high pressure jetting to leave an exposed aggregate surface prior to fixing the anode mesh for the CP system. The mesh was overlaid with a sprayed concrete which was left as sprayed to avoid delamination of the overlay. The finished overlay was then protected with a waterproof coating.

All cabling was buried in the concrete overlay and then carried in the central duct between the two road decks. The computer control system was installed at the base of one pier for ease of access.

**Client:** UK Highways

**Contract Value:** £1.23M



Application of Spray Concrete



# Loudwater Viaduct

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