

A13 River Lea Crossing Refurbishment Detailed Design

CLIENT: Road Management Services (A13) Plc

LOCATION: London

YEAR OF COMPLETION: Ongoing

We are undertaking detailed design of the refurbishment of the River Lea Crossing in East London. The bridge is a two-pinned arch structure comprising 16 riveted steel arch ribs.

Having previously undertaken a comprehensive programme of surveys, inspection and assessment we were able to demonstrate that refurbishment was a feasible option instead of replacement. The refurbishment scheme offers embodied carbon savings in the order of 50%.

The assessment of the existing steel superstructure and the mass concrete abutments was based on testing of material samples including tensile testing of steel coupons, and testing of concrete core samples. Test results were used to adopt 'worst credible strengths' for use in assessment and design.

The design was managed in two phases: an ECI phase in which the refurbishment proposals were developed with the input of a specialist steelwork contractor, to ensure the proposals were buildable and to identify specific risks to the project; the second phase comprised the detailed design.

Our appointment included fulfilment of the Principal Designer role and supervision throughout the construction phase.

KEY FACTS:

- Refurbishment of steel two-pinned arch
- Materials testing, inspection and assessment
- Significant embodied carbon savings

