

MR88 Underbridge Replacement

Client: Transport for London

Location: Rickmansworth

Value: Confidential

Duration: 7 Months



In Brief...

Barhale were awarded the construction project by Transport for London to replace the railway bridge along Metropolitan line in Rickmansworth, Hertfordshire.

The bridge is part of the railway line between Rickmansworth and Moor Park station. The major concerns with the existing structure were the capacity to resist to horizontal loads, vertical displacements and the load capacity of the old deck.

Customer Benefits...

Barhale carried out a detailed work programme for the possession period including contingency plans to ensure that the works will be completed on time.

During the bridge replacement works, not only Barhale succeeded with its works but also made up third parties delays and also provided other subcontractors with their own resources to achieve the target delivery.

Along the project Barhale demonstrated a hands-on spirit with a permanent collaboration with the client on the several design issues and challenges.

Technical Features...

The original bridge deck carried out two track lines used by and a disused side road. There's was one span of 7 meters and 9 meters wide and two non-reinforced abutments.

The foundation of the west abutment has been strengthened with stitch piling and the east one has been disused as a new reinforced concrete wall has been build, founded in bored piles.

The bridge deck was replaced by a composite deck 9 meters wide and 8 meters long which includes two track lines and a platform to replace the disused line. New precast concrete cills formed part of the existing abutment which has been cut and demolished and precast retaining walls were installed on the top of the disused abutment.

The new bridge deck has been built in the top of trestle that has been installed in a temporary slab and moved into place with a self-propelled modular transport.

Some highways modifications were done to allow the transportation of the bridge deck from the trestles to its final location.

A scaffold gantry has been erected to hold the cable support in position during the deck replacement.

The overall replacement works were undertaken during a 96 hour possession, while the timeframe between the removal of the old deck and the installation of the new one was 35 hours, which included the demolition of the top of the abutments and the installation of precast units by using 95 ton cranes.

The old steel bridge was cut in smaller pieces by burning while sit on the trestles and then disposed.