Buildings & Structures

Client:
Hatfield Station Footbridge

Location:
Hatfield

Summary

Hatfield footbridge is a 2 span structure located at the south end of Hatfield Railway Station and provides a vital pedestrian link between the Town Centre and outlying facilities in the town separated by the East Coast Railway serving from London to York, Newcastle and Edinburgh.

Project Overview

Built in 1972 of steel construction with a precast concrete plank deck overlaid with a lightly reinforced concrete layer, consisting of two almost identical spans each 24.38m long. An assessment of the capacity of the footbridge carried out by Network Rail identified that the footbridge was not capable of carrying the loading required under current standards.

The main work items comprised replacement of the existing concrete plank deck with a GRP panel deck, upgrading of the deck support steelwork and total repainting of the remaining bridge steelwork.

Challenges addressed in carrying out these works included managing a suitable diversionary route for pedestrians, and carrying out all works in a series of 6 No. consecutive 24 hour possessions of the railway. Further challenges were presented due to the time of year scheduled for delivery, with winter conditions presenting further constraints on paint application techniques.

Scope of work

- 3.2 tonnes of new steelwork was installed to strengthen the deck and piers.
- Existing concrete deck was removed and replaced with 97sq.m of new GRP deck.
- 525 sq.m of steelwork prepared and repainted with a new 3 coat moisture cured paint system.
- Various concrete repairs undertaken to piers and steps.
- New GRP coping units applied to span over railway.

Successes

Innovative use of electromagnetic induction paint removal system which avoided the need to grit blast the structure, reducing costs and minimising environmental risks.

Innovative use of a moisture cured paint system which allowed painting to take place when conditions would have prevented other systems from being used.

Use of lightweight GRP coping units avoided the use of more traditional heavy pressed steel sections – reduced programme, reduced cost and reduced risk with regards to site operations.