

# Bescot Footbridge

**Client:** Network Rail

**Location:** Walsall, West Midlands

**Value:** £104k

**Duration:** 5 Months

## In Brief...

Barhale were awarded this contract by Network Rail to undertake the refurbishment of Bescot footbridge. Works included the removal of the substandard existing timber and plywood parapet extension and replaced with a galvanised steel containment system.

The works were a result of Network Rail identifying an issue in regards to the potential for the general public to come into contact with energised overhead line equipment. Also the footpath and the stairs were in need of a major refurbishment.

As this was a new steel structure in proximity to the OLE, an earthing design had to be commissioned and implemented as part of the works.



## Technical Features...

The scope of works included:

- Remove vegetation growing on or within 3m of the bridge including Himalayan balsam
- Repair structure where vegetation removed - concrete repairs / crack stitching
- Remove graffiti and moss growth etc, jet wash and clean
- Apply anti-graffiti coating
- Clear existing drain, traps and rainwater pipes and replace damaged or traps/pipes and fixings
- Carry out repairs to concrete structure
- Refurbish surfacing on bridge
- Repaint existing handrails
- Remove timber parapet extension and dispose
- Manufacture and fit new parapet extension and caging
- Provide new surfacing to stair treads, landings and bridge deck
- Earth bond all metalwork

The new caging was manufactured by BCS Group, Barhale's in house fabrication workshop in Walsall.

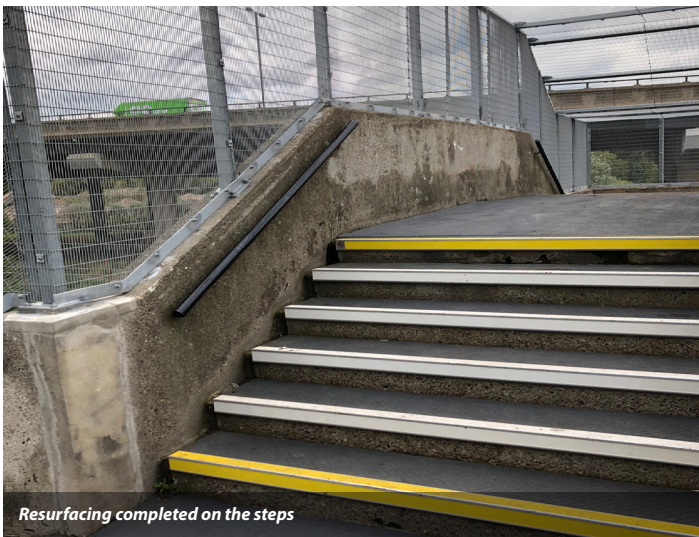
Works were undertaken during short ROR (Rules of Route) possessions and isolations of the railway and was completed safely and efficiently. The team required, alloy towers (situated trackside to allow repair works to span soffit and stair supports) which are proprietary systems and as such do not require a formal design; operatives erecting them however do require PASMA accreditation. The new steel encapsulation required earthing to counter the effect of the proximity of live OLE equipment. Prior to the installation of the final earth bonding, temporary earthing had to be designed and installed after each of the steel installation possessions.

Earthing details were submitted to the client as part of the Health & Safety files / Operation & Maintenance manual.

Structural cracks had been surveyed and assessed by Network Rail's designers and the type of concrete repair specified. These ranged from simple rapid set mortar repairs to break back to reinforcement, pin and concrete re-case. Surfacing and fixing of new nosings were undertaken during normal working hours as the footpath was closed (formally with Walsall and Sandwell Borough Councils) for the duration.

## Possession Planning...

Non disruptive ROR possessions and electrical OLE isolations were utilised, providing the team with approximately 7 hours work time. We were however signing in with a larger work site comprising re-electrification works and Permanent Way works. To ensure that our works went ahead during the possession, we attended joint planning meetings prior to each weekend possession to ensure no clash of access requirements, personnel or equipment.



Resurfacing completed on the steps



Showing high voltage cables within close proximity to the bridge

### Constraints...

Barhale had to contend with a number of constraints whilst undertaking this project including:

- High voltage cables and overhead lines within close proximity to the bridge - isolation required for the majority of the works
- Access to the site was restricted due to the closure of the footpath leading to the bridge
- All materials had to be carried out by hand to the site due to the limited access
- Design modified to be modular to ease assembly on site
- Major signalling and electrification and upgrades were also being undertaken during our contract period, thus meaning we had to interface with multiple contractors for all track side activities, weekly planning meetings were instigated to ensure efficient delivery of works by both parties were met
- Several design issues were identified during the contract, however these were successfully resolved during the fabrication and installation period by BCS Group and Barhale site staff

### Subcontractor Coordination...

To meet the time critical handback date set by Network Rail, the Barhale team coordinated their programme to ensure the various trades and disciplines engaged on this project had un-obstructed access to the structure. This removed the risk of the different trades and disciplines impeding one another in this restricted working area. De-vegetation, graffiti removal and concrete repairs to the structure were carried out during the first series of possessions. Installation of the steelwork was carried out by BCS during the latter ROR possessions as their team required full access to the structure.

By working to detailed possession programmes which were split into 30 minute segments, the Barhale team were able to effectively manage the various disciplines engaged within this project. This provided the teams with adequate time and space to complete their work; ultimately ensuring the works were delivered successfully in accordance with the agreed handover date.

### Competency of Personnel...

- Devegetation operatives held appropriate brush cutter and chainsaw licences and were licensed to use herbicides as well as disposing of the Himalayan Balsam
- The team worked collaboratively with an external COSS to complete the works within the live rail environment
- Barhale's in house Engineering Manager acted as our Contractor's Engineering Manager (CEM) and Contractor's Responsible Engineer (CRE) on the project

### Environmental...

Himalayan balsam is a highly invasive annual weed, which has spread rapidly throughout the UK. This vigorous growing annual has the ability to reduce biological diversity by out competing native plants for space, light and resources. For the removal of the weed this had to be double bagged and the area treated to avoid regrowth. This process had to be undertaken by a licensed contractor following recommendations from Barhale's environmental advisor.

### Customer Benefits...

- To reduce costs we utilised our welfare facilities at head office, which is within close proximity to the site
- Reduce the OLE hazard to users
- The footpath has been opened up and vegetation removed creating a more open, lighter space for users
- Improved underfoot conditions on bridge using antislip surfacing and access for all (AFA) compliant nosings and treads
- Improved aesthetics by removal of heavy graffiti and water staining
- The project was completed on time and within budget, with satisfaction from the client
- 2 audits were carried out by Network Rail, to which both had a satisfied outcome