



CWMBACH RAIL BRIDGE

A470 Cwmbach to Newbridge-on-Wye

Client

Welsh Government

Location

Builth Wells

Date

2010-2011

Value

Total Project
£36m



The Cwmbach Bridge crosses the Central Wales line just North of Builth Road Junction, near Builth Wells. The structure comprised a three span bridge, with reinforced concrete abutments at each end and two centrally located reinforced concrete piers, the over deck was a structural steelwork concrete composite.

The structure was designed as a Category 3 structure due to the proximity to the railway. The bridge was constructed over the railway line, during a series of arranged Network Rail T3 possessions at night and between trains under a T2T block possession during the day.

The contract required the client to set up the basic all party agreement (BAPA) with Network Rail, with resultant costs paid directly by the client.

As principal contractor Alun Griffiths (Contractors) Ltd. were charged with direct liaison with Network Rail when obtaining permissions and possessions to carry out the works in proximity to the railway infrastructure.



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Meeting with Network Rail helped to establish the requirements that were needed to allow the works to proceed without any delay to the contract or disruption to the service provided by NR.

As an outside party the principal contractor was required to submit methods of work to NR for approval, and supplement any temporary works design with a form "C" Category 3 check.

A site clearance operation was carried out at the commencement of works, using a preferred sub-contractor that had operatives holding the sentinel PTS cards.

The Northern pier was piled in close proximity to the railway. Works were carried out with the railway fully operational after necessary measures were put in place to safe guard the rail infrastructure. Prior to the piling works, during and after completion of the works, track monitoring was arranged and managed by the principal contractor using one of the NR approved companies.

The bridge has a 70m central span which required a 1200 Tonne crane for the erection of the structural steelwork. This was due to the restricted access afforded by both the Dulas Brook SAC and the railway environment.

Erection of the structural steelwork was undertaken during a block of weekday and weekend night possessions, primarily due to the significant loads and cranes that were employed to complete the works.

Subsequent construction operations to construct the deck and install the permanent parapet barriers, was all undertaken during daytime working between trains.