

Railway Risk

Accessing Land for Development

OSBORNE

Opening up land for development that is locked by the strategic rail network can be a risky business.

Third party abnormal rail closures on main rail routes can take up to 3 years

Balancing the needs of network operators and their customers, with the needs of residents, businesses, local authorities and the ultimate asset adopter is essential for success



PROJECT

Apsley Bridge

CUSTOMER

Bovis Homes

LOCATION

Hemel Hempstead

CONTRACT

Design and Build NEC 3 - Lump sum

VALUE

£7.3M

Issue

Gaining Network Rail third party approvals is a rigorous process and securing abnormal rail closures on main rail routes can take up to 3 years.

The Bovis Homes development at Apsley, in Hemel Hempstead, is an excellent example of how early appointment of a specialist infrastructure contractor can reduce programme risk.

Solutions

Secured on a lump sum Design and Build contract the bridge over the West Coast mainline route from London to Glasgow passes within metres of residential property.

Early engagement and collaborative relationships has been essential. Exploiting the team's thorough understanding of stringent rail requirements, they have worked with Bovis Homes, Network Rail, the planners and residents to develop smart methodology and design that satisfies every party.

The approach from design conception has been to develop a method that maximises the standard 6 hour overnight maintenance

closures. These closures are booked weeks in advance, instead of the years required for longer closures, which significantly de-risks the programme.

From design outset, off-site manufacture and off-line assembly has been exploited, allowing the bridge to be lifted into position in a single overnight line closure. The pile design and methodology focussed on selecting a piling option that could be carried out during normal daytime working with the operational railway fully functioning. With 87 piles designed to a depth of 20m, rig selection was critical to minimise vibration and noise impact on some neighbours residing less than 10 metres away.

Whole life considerations were also a critical element to gaining smooth Network Rail approvals and final adoption by the highway authority. By designing a steel 'U' shaped 'half through deck' in weathering steel, the need for access to the operational railway during construction and future maintenance was eliminated, which satisfied Network Rail.

The collaborative design approach brought the same team together from the recent successful Leigh Road Bridge over the Great Western Railway for SEGRO. Initially the idea was to mimic Leigh Road's innovative 'launch' technique where essentially a 1000T of steel was 'pushed' over the railway in a

short 5 hour window. But as this was a lighter single carriageway bridge we opted for a simpler craned solution.

If you would like to further explore this approach for your business, please contact malcolm.atrill@osborne.co.uk

Outcome

Due for completion in Spring 2018, the new Featherbed Lane bridge has been constructed 'under the radar' with safety, programme and budget critical at every stage.

Close community engagement has been critical at every stage and in collaboration with Two Waters Primary School, Bovis Homes and Dacorum Borough Council a new outdoor play area leaves a project legacy.

