

Repairs

BEARING REPLACEMENT Butterley Station Bridge



FREYSSINET
SUSTAINABLE TECHNOLOGY

Client
Derbyshire County Council

Value
£120,000

Works Commenced
May 2013

Works Completed
July 2013



Butterley Station overbridge has a 15m span deck with eight riveted steel girders spanning onto concrete abutments. The existing bearings were badly corroded and needed to be replaced with new bearings which were manufactured by Freyssinet. Fortunately, the bridge abutment was deep enough that the 260 ton pot ram jacks could fit with only local modification of the abutment. The deck was lifted by only 2mm, controlled by dial displacement gauges, with no more than 0.5mm difference between adjacent beams. Once the load had been relieved from the original bearings, the concrete around them was removed by one of the company's specialist Aquaforce hydro-demolition teams. Fast setting, high strength grout and concrete was then used to bed in the new bearings.

Further work that Freyssinet carried out at Butterley included the removal, by hand breaker, of the concrete casement to the main steel girders where this had cracked. The steel girder was cleaned back to metal and epoxy corrosion protection applied before finishing off with new hand-applied repair mortar. The work beneath the bridge required Freyssinet to remove the existing smoke deflection barriers and these were replaced with new stainless steel baffles. Above the deck, brickwork repair to the parapets and pilasters, resurfacing works to carriageways and footways and replacement of the bridge deck joint completed the job.

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