

S315 River Crane, Feltham

Client :
Network Rail

Designer :
Mott MacDonald

Location :
Middlesex

Date :
2009 -2010



Very heavy rainfall caused the London end abutment of Bridge 3/48 to fail as a result of the swollen River Crane scouring away the supporting gravel layer beneath the abutment. As a result, train services on the main Reading to London Waterloo lines across this bridge were interrupted.

BAM Nuttall worked closely with Network Rail to prepare and implement a plan to restore train services as soon as possible whilst permanent repairs were being carried out. It was decided to temporarily divert the railway onto an adjacent piece of land and install support to the failed abutment.

Following completion of these temporary works, train services were resumed, at a reduced speed, one week after the bridge was damaged.

A number of options for the renewal of the damaged structure were considered and a final decision made following close liaison with Network Rail and the Environment Agency.

The permanent bridge reconstruction featured a new bridge deck on new piled abutments using pre-stressed, pre-cast concrete beams.

Once piling works were completed and scour protection sheet piles were installed, the existing structure was demolished and new bridge beams installed during railway possessions using a 500t mobile crane. The remaining bridge components (robust kerbs, ballast walls, waterproofing etc) and walkway were then erected and the structure backfilled.

Over a three month period we successfully diverted the operational railway, designed and built a brand new structure complete with piled abutments, installed a sheet piled scour protection solution to prevent reoccurrence and returned the rail service onto its original alignment.

During the works we suffered no accidents, environmental incidents or complaints from local residents. We established and maintained good contact with the Environment Agency and local authorities.