

# AquaticEngineering

Working Above Water, On Water & Under Water

## Case Study : Hampshire River Stour – Bridge Pier Scour Protection



Client: Network Rail

Contractor: Dyer and Butler

Duration: July 2012 – 10 weeks

Consultants: JBA Consulting

AquaticEngineering were approached by JBA Consulting in 2011 to look at the feasibility of installing a silt (and grout) retention curtain around a supporting pier of a bridge crossing the River Stour, the bridge carried the London Waterloo to Weymouth line operated by South West Trains. It was proposed that grout mattresses were to be placed in situ by divers and then filled with cement.





A survey was undertaken during low water of this tidal stretch of the River Stour – however things didn't remain so 'calm' as it began to rain in early July and didn't appear to stop! Floods!



Aquatic Engineering designed the containment curtain to encapsulate the works, due to the change in site circumstances as a result of the high flow rates and flooding a temporary submerged deflector revetment made from 140 one tonne bags of shingle stacked three high in a pyramid formation.





Once it was safe for the AquaticEngineering dive team to enter the water there were old wooden revetment piles to be removed below water.



Silt around the bridge pier required removing and the riverbed reprofiling before the underwater grout mattresses could be installed and filled – these would also require being attached to stainless eye bolts which were drilled into the submerged pier.



Finally as river levels began to ease it was possible to begin the task at hand – installing the grout mattresses and filling them under water.





*"Throughout working on the railway for the last 8 years, I have come across hundreds of small to medium size sub-contract organisations. The majority have been to a reasonable standard. I have to say the organisation that you run and operate is exemplary from the management, right down to the operatives.*

*"I also look forward to working with (your dive team) on future projects. I will gladly recommend (your dive team) to other major construction companies when attending safety forums"*

**(SHEQ Advisor)**

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Kingarth Lodge, Church Road, Binstead, Isle of Wight PO33 3SZ

[www.aquaticengineering.co.uk](http://www.aquaticengineering.co.uk)

Tel No 1: 01983 616668

Mob No: 07891 438666

[caroline@aquaticengineering.co.uk](mailto:caroline@aquaticengineering.co.uk)

The **AquaticGroup** : **AquaticEngineering** : **AquaticResponse** : **AquaticConsultancy**