

COMPANY CASE STUDY

Brougham Bridge Recovery & Reconstruction (Design & Build)



AT A GLANCE

Client: Cumbria County Council

Location: Brougham near Penrith

Value: £1,150,000

Duration: 2016/2017



THE PROJECT:

This structure was severely damaged during Storm Desmond, working from the bottom up, the scoured formation was underpinned with waterproof concrete, the pier was shuttered, and in-situ concrete placed to engage the upstream undercutting, cropped back with hydro demolition and shaped to receive stone facing.

WORKS UNDERTAKEN:

All Design & Build works completed by the Metcalfe Plant Hire/Curtin's & Capita Team.

In-river working included; dumpy bags of aggregate placed in the river, wrapped in terram, and weighted down with small bags of aggregate, insertion of steel piles either side of the structure, pumps set up on the riverbank, but suction and discharge pumps were placed and secured to dumpy bags in the river, mesh placed around the suction pump head to stop debris entering the pumps excavation of sump hole for the suction pump, in-river, excavation of the riverbed for access to damage and removal locally of excavated material, subsequently replaced, placing of concrete into voids in the river below the piers and scoured areas.

- Rock armour aprons were placed as additional protection. A centering system was installed to the centre span.
- This scheme was notable for the number of technical, design and construction challenge we overcame in a sensitive but effective way, the team worked together (collaboration) to achieve the rehabilitation of the bridge.
- River levels assessed prior to each shift, flood warnings were noted and assessed prior to any working shift or river entry
- Safety lines, life buoys and oil booms installed downstream, checked after any adverse weather
- Disturbed the riverbed as little as possible, regular monitoring of fish and wildlife during over pumping/river disturbance
- Emergency works undertaken in Autumn/Winter months during very unpredictable and inconsistent weather conditions
- Liaison and interaction with EA/LDNP/Natural England/CCC Local highways and Landowners

The project was an award-winning scheme received the Northwest Construction - Project of the Year - Civils in 2018

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