

TMS Maritime is a leading UK specialist in marine civil engineering, ancillary floating plant and diving services

Client: Dyer & Butler

Value: £2,050,000

Project: Rock Park Bridge, Barnstaple

Duration: 8 months

Working on behalf of Dyer & Butler, TMS were appointed to complete the in-river repair works to 2no. piles on the condemned pedestrian footbridge between Rock Park and the Severn Brethren Industrial Estate in Barnstaple. The historic bridge was the main access route for commuting school children whose route had to be diverted along a busy A-road. The former railway bridge had been closed for safety reasons since May 2020 after a routine dive inspection discovered significant damage to the in-river piles. The original scope of the project included:

- Design of temporary works system to maintain 50% of the deadload of the bridge throughout the works.
- Mobilisation of a 100t jack up barge and cantilever temporary works arrangement as an innovative solution to support the bridge.
- Bridge stiffening works to ensure the integrity of the bridge for the duration of the job.
- Procurement of 2no. steel strengthening bands.
- Dive works to clear the riverbed at the pile locations.
- Installation of 2no. steel strengthening bands using hollo-bolts as specified by the Designers for the load of the bridge to pass through the collar and back to the base of the pile.
- Underwater concreting works inside the piles once marine plant had been demobilised from site.

Once the jack up barge was maintaining the required dead load, divers completed an initial survey and discovered the extent of the damage was much more severe than original expected. The design was then progressed by the end Client, Devon County Council, while TMS remained on site, and the scope was extended to include:

- Installation of additional propping to support the deadload of the bridge.
- Design and installation of the underwater shuttering system for the new concrete pours.
- Construction of a large reinforced concrete cut-water base and 2no. concrete collars to surround the piles.

The project was logistically demanding due to the suspended sediment in the river causing lack of visibility for the divers and the strong tidal flow limiting their dive time. As much of the job as possible was prepared on land and then floated into position and lowered to the riverbed to reduce diving tasks. Due to the plant on the deck of the barge only being adequate for the original job, TMS had to undertake a number of tandem lifts using a temporary works beam, designed on the bridge deck, and the crane on the barge deck to lower the heavy lifts to the riverbed. The job was completed, including full project re-design, within an 8-month period to the satisfaction of the Principal Contractor, Dyer & Butler, and the end Client, Devon County Council.

https://www.youtube.com/watch?v=usSqU_yGLcA

