



photo: Ian Alexander
https://commons.wikimedia.org/wiki/User:Chiswick_Chap

Pier shells for Dukes Meadows Footbridge - Barnes, South London

Background

Dukes Meadows is one of the largest open spaces in London and attracts over one million visits per year. As part of the Dukes Meadows masterplan, a much needed bridge was required which would allow pedestrians to walk under the Barnes Bridge rather than having a lengthy diversion around the railway line to continue their way along the famous Thames Path.

According to its designers, Moxon Architects, the bridge is one of the lowest carbon and most environmentally conscious bridges in the UK, partly due to the use of hollow fabricated sections rather than the original planned use of solid steel.

Main Contractor



The bridge was brought in to position in sections, either by road, or via river by Red7 Marine floating the spans in at high tide and then allowing them to seat themselves on the foundations as the tide receded, using two hydraulic jack legs. This negated the need to require a rail line possession which would have resulted in significant disruption to the 2 million passengers that use the associated railway every year.



Solution

Pier shells were created in order to provide a safe and secure platform for the bridge spans to sit on. These were placed over the reinforcement cage. The use of precast concrete pier shells, rather than constructing on site using shuttering and in situ methods, offered significant time savings, as well as reduced wastage of materials.



Once in position the pier shells were filled with concrete.

How we helped

We supplied a total of 9 pier shells which were constructed using wooden moulds, carefully constructed to provide their unique curved shape. Each of the units were 2.05 meters long by 1.1 metres wide and weighed approximately 1.8 tonnes.

The units were manufactured using a 40% GGBS mix cement replacement due to the saline conditions the units would be operating in. One of the hidden benefits of using this mix was that it also offered carbon savings compared with using a mix with a higher percentage of cement in it.



Photos kindly supplied
by Knights Brown

