

Dismantling Forge Island Pedestrian Footbridge



Location:	Forge Island, Rotherham Town centre
Scope:	Dismantling Forge Island Footbridge, processing, and clearance of materials
Disciplines:	Bridge Dismantling
Client:	Rotherham Metropolitan Borough Council
Programme:	May-July 2022
Value:	£500,000

The 100t Forge Island footbridge spanning 45m over the river Don has been dismantled by the specialist Ron Hull Demolition decommissioning team. The work was an enabling stage for Rotherham Metropolitan Borough Council, paving the way for future regeneration of the Forge Island area of Rotherham into a new Cinema, Hotel and Restaurant leisure complex offering improved visitor experience utilising the waterside location.

The footbridge was a major link from the Forge Island car park and shopping areas into Rotherham town centre and was of steel framed construction with a cast in-situ concrete deck.

Within the early planning stages, application was submitted into the Environment Agency for award of an environmental permit to work over the river Don. The Environmental Agency reviewing proposed methodologies and scaffolding designs as part of this process.

A bespoke designed scaffold crash deck system was installed to the underside of the bridge deck that had two purposes:

- (1) To provide access to facilitate preparatory work on the bridge prior to lifting operations taking place.
- (2) To prevent debris entering the river Don from the preparatory work.

Following structural engineer loading assessments and verifications, demolition plant was tracked over the deck and used to break out the cast in-situ concrete and East and West brick facades, preparing the bridge for later lifting. Brick and concrete arising were loaded into dumper truck, taken to holding area and loaded into lorries.

The bridge structure was prepared in readiness of crane arrival, where selected non-structural steel railings and steel deck shuttering were removed to reduce the weight of the bridge back to skeleton structure.

The bridge was lifted over a single day by a 1000t mobile crane and lowered within a dedicated landing area on the former Tesco supermarket site. The scaffold walkway was stripped before the steel superstructure was cut up into manageable pieces by 21t D-Rig with shear. All arising were removed off site.

The main regeneration building contractor now takes over the site to construct the new footbridge that is in keeping with Rotherham Councils masterplan of the area.

Sequence of Works

- Obtain EA permit
- Bridge structural assessments
- Scaffolding design assessments
- Installation of scaffold crash deck system
- Bridge preparatory works:
 - Remove timber parapet
 - Remove select non-structural angle iron
 - Break out & remove concrete deck
 - Dismantle & remove steel deck shuttering
 - Demolish & remove brick facades
- Scaffolding alterations:
 - Remove crash deck
 - Install central walkway to slinging points



Project Challenges

- The logistics of moving a 1000t mobile crane with ballast trucks through a busy town centre environment, whilst avoiding key “no go” routes. This was managed with the main contractor, crane supplier and Rotherham Council Highways team under traffic movement order. A dedicated route was established and the 1000t crane with supporting vehicles delivery times were scheduled for 5.30am to avoid peak traffic times. Banksmen were available to marshal HGV movements onto the Forge Island site.