

# Western Gateway Infrastructure Scheme

**Client:** Howard Civil Engineering  
**Location:** Manchester Shipping Canal  
**Products:** Ascent-S

## Case Study

RMD Kwikform supplied Ascent Screen Formwork and a range of bespoke solutions to concrete specialist Howard Civil Engineering, to construct four complex 30 metre high concrete towers, which will support a 38 metre high lifting bridge over Manchester's Shipping Canal.

This project was part of a £30 million Western Gateway Infrastructure Scheme (WGIS) currently being undertaken by main contractor HOCHTIEF (UK) Construction / Buckingham Group Contracting Ltd Joint Venture (JV) for client peel holdings.

### An Integrated Solution

The first phase which included several rail over road bridges and various new link roads, the challenge faced by Howard Civil Engineering was the safe delivery of the lift bridge structure within a tight programme time. Due to the location of the site, underneath the live M60 motorway and adjacent to a ship canal, RMD Kwikform collaborated with Howard Civil Engineering from the project's inception.

Through early onsite engagement, the RMD Kwikform engineering team from the local Haydock branch were able to create an integrated solution using specialist Ascent climbing formwork, along with cleverly designed internal wall formwork sections. To cope with various changes to the interior voids of the columns, which change shape numerous times throughout the build, the wall formwork frames were designed to accommodate various 'add-on' sections.

With the programme demanding that each of the four towers is to be constructed simultaneously, there is very little room for error and therefore an extra focus on Health and Safety, as Robert Forrest from Howard Civil Engineering explains: "Due to the constraints of the programme and the complexities of the projects, it was crucial that we used a system that ensured maximum safety and efficiency."

Howard Civil Engineering engaged with RMD Kwikform at the very early stages, which allowed its design team to engineer a flexible solution where all eventualities could be controlled by one system. Without this collaboration, we would have had to dismantle and make changes to the formwork system in the middle of the project, which would have cost a great deal more time and money."



The reinforced concrete lift bridge comprises of four 30 metre high concrete towers, the cores are made up of RMD Kwikform's traditional Superslim Soldiers and Alform beams, with the Ascent climbing formwork arriving to site pre-assembled and ready for erection. After the third lift and concrete pour, the shape of the towers alters with each consecutive pour. RMD Kwikform provided four different solutions for the internal formwork, all formed from just one set of equipment; this consisted of aluminium beams, internal spragging columns and lifting beams.

By combining the internal sections with the built-in access system of the Ascent climbing formwork, the Howard Civils' team was able to significantly reduce the need to work at height.

Robert continues: "We needed a solution that was flexible enough to accommodate multiple unique shapes for the inner workings of the bridge, without the need to dismantle equipment and remake it onsite. Using the RMD Kwikform solution, our carpenters were able to prepare all of the formwork sections and the plywood inserts on the ground before the project started, using wooden base frames to ensure accuracy. All of this was made possible thanks to the level of planning put into the project, which gives us confidence that we can achieve the tight programme time."

Dermot Donelon, RMD Kwikform representative from Haydock branch, said: "We first started working with Howard Civil Engineering 18 months before the project got onto site. With our local branch just 20 minutes away, we held regular meetings to discuss and understand which solution would suit each phase of the project. Our branch engineering team were then able to put the designs together for each phase of the project. Due to its unusual nature we also helped the team onsite, supporting the fabrication of frames and erection sequencing of the Ascent climbing system."



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