R·M·D KWIKFORM

Bringing structures to life

Doha East Corridor Bridge

Client: Qatar's Public Works Authority
Contractor: China Harbour Engineering Design and Construction
Location: Doha, Qatar
Products: Rapidshor, Superslim Soldier, GTX

Case Study

Comprising of four interchanges, including the tallest bridge in Qatar, the $612.5m contract awarded by Ashghal, Qatar's Public Works Authority, to China Harbour Engineering Design and Construction, will see tens of thousands of tonnes of formwork and shoring from RMD Kwikform used to create six bridge structures for the project.

Built as a five-lane 11km long bypass in Doha, the capital of Qatar, the project will also cater for a new rail line into the city; this will connect with the China Harbour Metro Bridge and intersect with the southern elevated red-line railway. With the largest of the six bridges reaching up to a height of 33 metres and a length of 840 metres, the site team required a robust safe formwork solution for the project, that was both flexible and capable of withstanding the environmental and concrete loading pressures.

With the varying heights and cambers on the interchange sections, RMD Kwikform utilised its Rapidshor shoring was also integrated with steel Superslim Soldiers and GTX timber beams to form the shape of the interchange deck structures. As part of the shoring design, RMD Kwikform also developed safe access and egress solutions to support the site teams and shift patterns, in addition to the design of special steel pier formwork.

Commenting on the project and the importance of safety, CHEDC Health Safety & Environment Manager, Eamonn Toland said: "There are four major interchanges on this project, which are critical to its success. From a health and safety perspective, in order to create these structures we had to manage a lot of heavy lifting and working at height tasks, using strict safety controls. This is why we engaged with the RMD Kwikform team early on in the project, as the standard of their equipment and processes delivered confidence to the team.

"From a technical perspective, the engineering solution needed to accommodate the clover leaf shape of the interchanges; this required a great deal of integration between the site team and the RMD Kwikform engineering staff. From a design perspective we also had to consider the positioning of tower cranes onsite and the integration of the phased lifting process.

"Equally we spent time with the RMD Kwikform team designing the access towers for the structures, landing platforms and rest areas for the site. When it came to training and support, we had onsite supervisory support from RMD Kwikform who trained the erection teams and were also responsible for signing off the completed formwork and shoring arrangement, working closely with our safety and structural engineers.

"Throughout the project RMD Kwikform also understood and supported our fast-track field action safety talks, helping to highlight safe working and how to work in changing conditions, looking ahead to identify associated hazards. With all of this support, our team developed confidence in the RMD Kwikform equipment, engineering and service, which really helped to deliver the project."

With a large amount of equipment used onsite, in addition to site supervision and engineering design, RMD Kwikform provided the CHEDC team with logistical support to meet the challenging timeframe of the project, as Keith Palmer, Business Development Manager of RMD Kwikform explained: "With so much equipment required for the project, we had to co-ordinate delivery to site to match the sequencing of the erection phases. This involved a large amount of truck movements and organisation from our local yard with some equipment also sourced from other parts of the RMD Kwikform global businesses.

"When it came to the special steel pier formwork, we were also able to design, fabricate and supply these units to the site in less than 12 weeks, helping to keep the project on programme."