



Tradeston Bridge, Glasgow

The 106m span Tradeston Bridge is the newest crossing of Glasgow's River Clyde, and is an essential component of the development programme for the Tradeston area. It was designed by Dissing+Weitling, a Danish architectural firm, with UK engineers Halcrow. It was built by contractor BAM Nuttall. Halcrow's health and safety team, under a separate commission, provided Construction Design and Management Regulations (CDM) co-ordinator services.

The project reflects Glasgow City Council's objectives to improve accessibility across the river and create a landmark waterfront structure. It connects Tradeston and Glasgow's international financial services district and provides a focus for activities and events, promoting Tradeston as a new urban quarter.

cycle and pedestrian bridge was secured on the basis of the future investment it will encourage on both sides of the Clyde.

Tradeston Bridge has been dubbed the 'Squiggly bridge', due to its lazy 's' shape. It was designed in this way to accommodate the River Clyde's tidal range and aid navigational clearance. It provides a navigation channel of channel 16m in width, with a vertical clearance of 5.4m.

The bridge is set to act as a catalyst for investment, promoting confidence in the city, and will have a fundamental role in the river's regeneration. Funding for the

Putting health and safety first

Throughout the design process, a number of key areas were identified which would have a significant influence on health and safety risk management and would influence the structural form and construction methodology.

Piled foundations, using large diameter steel tubes recycled from a previous project, were engineered to minimise foundation works in the river, thereby reducing the work over water and associated noise pollution.

Key decisions were made to ensure the design fully reflected a construction methodology based around safety of personnel, public and the environment. Temporary works were integrated into the permanent works design to further enhance the health and safety benefits.

Hollow Pre-cast shells used to form the piers thus removing the need from formwork over the river.

Prefabricated elements were transported on the river to avoid transporting sections through the city, whilst temporary supports in the river reduced the environmental impact and noise pollution.

The deck was designed to be wide enough to ensure free movement of both cyclists and pedestrians with parapets detailed to contain both users in the event of an accident. Integrated handrail lighting provides a safe environment while being readily accessible for maintenance.



Durability and maintenance

The use of weathering steel for key structural elements will ensure no significant structural deterioration over time, whilst the paint system, originally developed for the harsh environment of the off-shore oil industry, ensures a life expectancy of over 30 years.

All external surfaces have been designed to be readily accessible. Access to the bridge deck column and fins can be facilitated using a scaffold system or light weight vehicle operating from the bridge deck. Access to the soffit of the deck is via scaffolds suspended from the structure. Connection locations to facilitate the hangers have been detailed along the deck plate.

Bearings are Duplex stainless steel and have a design life of 120 years.

