# Market Sector Use
Bridges

Kurilpa Bridge - Brisbane

The bold design - a multi-mast, cable-stay structure based on principles of tensegrity – is the result of a creative partnership between Arup, Cox Rayner and Baulderstone Hornibrook, who were inspired by the concept of tensegrity, a modern art form and structural system to create a bridge that is both lightweight and incredibly strong.
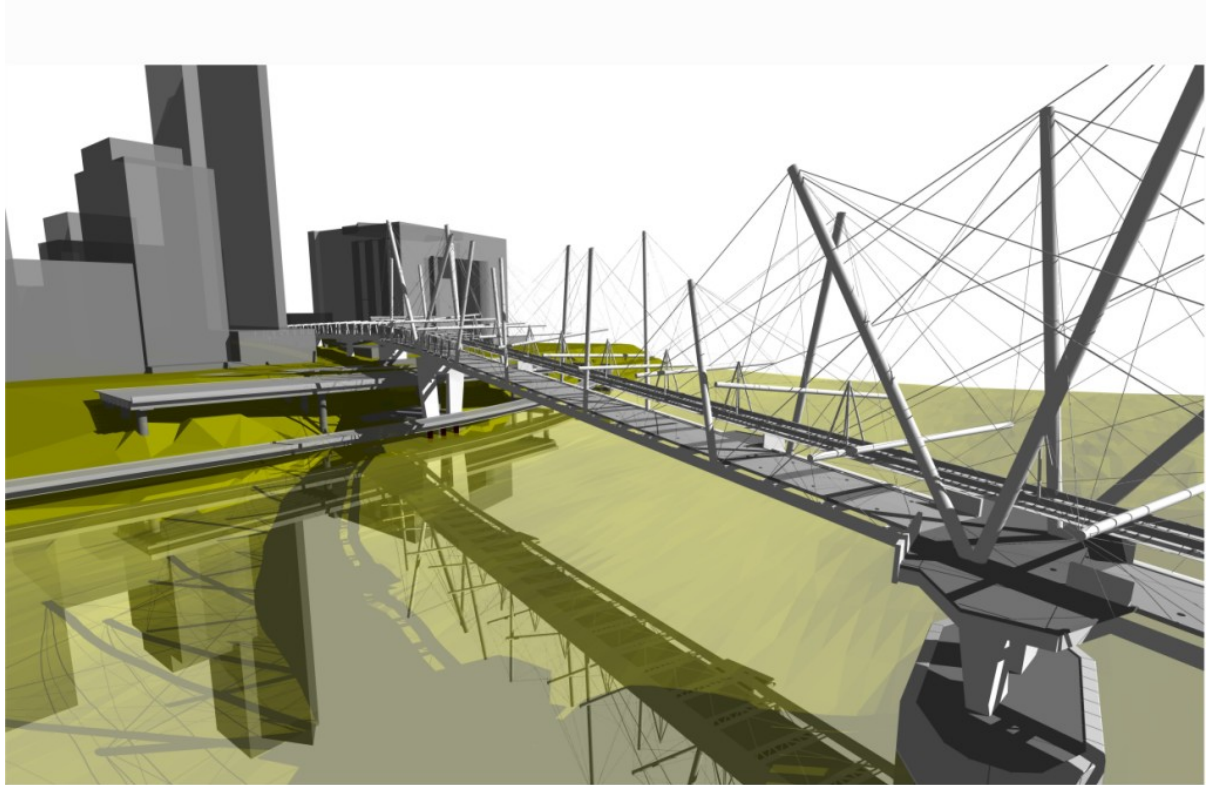
It is the world's first tensegrity pedestrian bridge and when fully completed, in late 2009, the $63m bridge is a true landmark for Brisbane – a bold iconic symbol of the city's ambitions, successes and aspirations.

In dimensions, the bridge is 470m long with a main span of 120m and will feature two large viewing and relaxation platforms, two rest areas and a continuous all-weather canopy for the entire length of the bridge.

More like an art installation at first sight, the Kurilpa Bridge appears to defy gravity, with its 'floating' elements above the walkway.

As part of the tensegrity structure the members (ties) and cables work in tension and shift continually in angle, length and dimension. No two part of the bridge structure are alike, yet they all form part of a single cohesive structural system.

The Kurilpa Bridge project was built upon the proven central workflow of a streamlined flow of information between various packages used in the design process.

Programs utilised:
- Generative components with Bentley structural immersed (flexible documentation model)
- Drawing production was done using Bentley Structural and Microstation
- Clash detection, construction staging and visualisation was done using Navisworks

- The structural and construction sequence analysis took place with Arup's own Oasys GSA
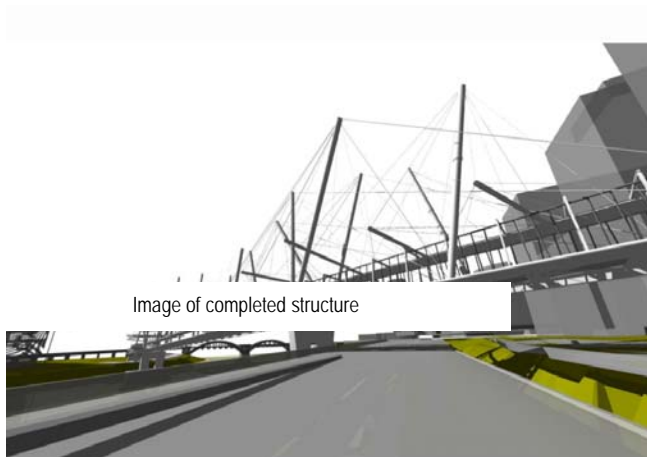- The connection models were exported for use as geometry to begin analysis
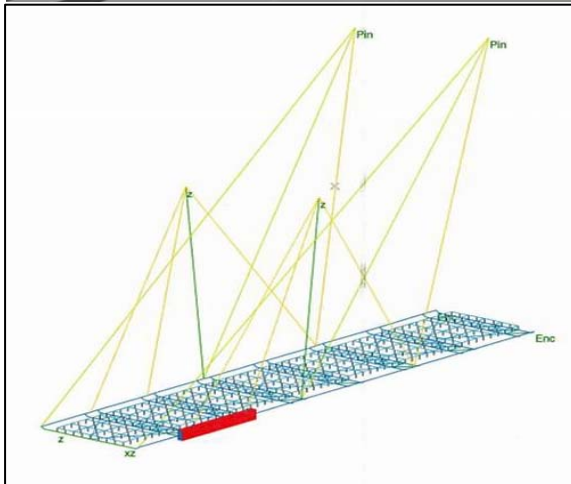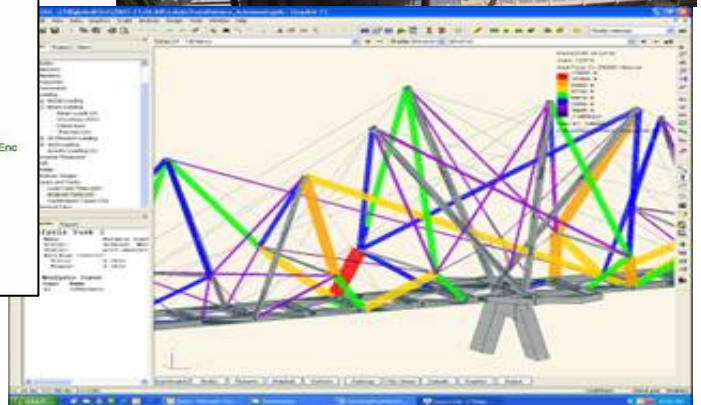- Finite analysis connection design was completed in Strand.
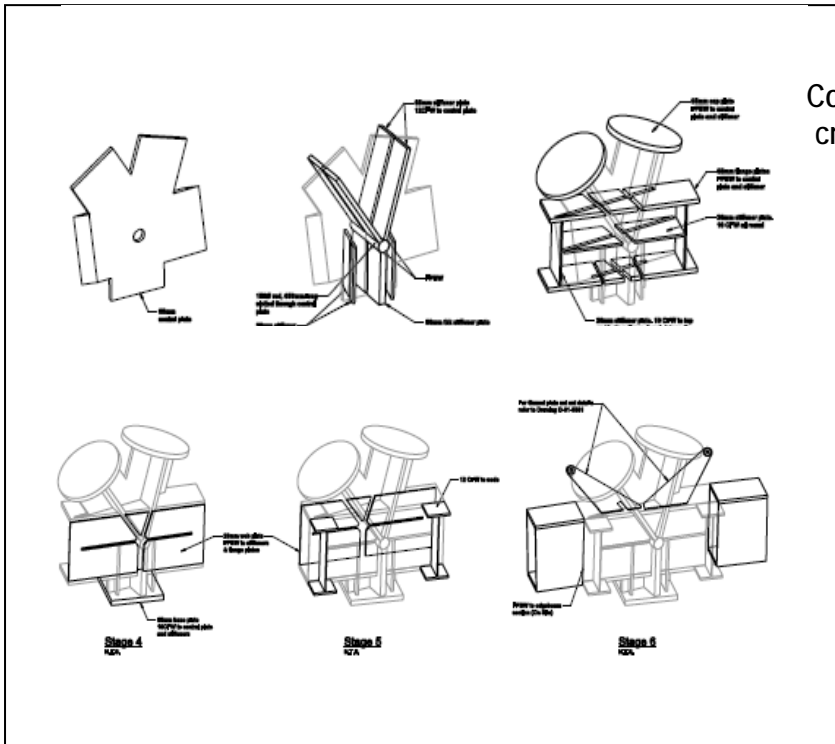
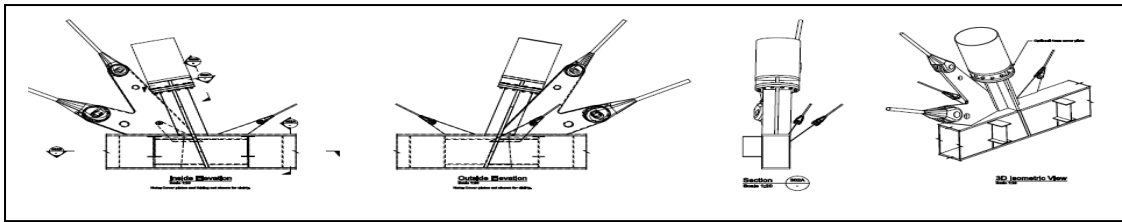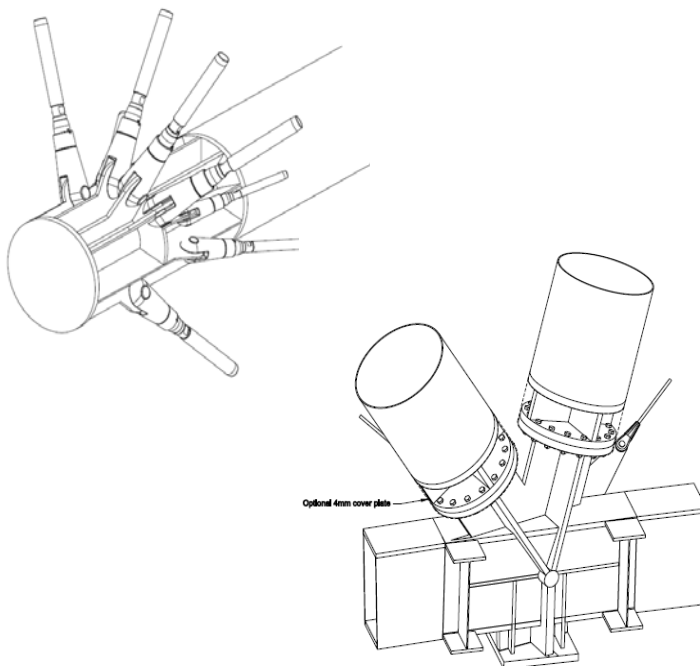Image of completed structure

Bridge under construction

Finite analysis output

Construction sequence images created with the aid of the 3D model

Isometric views generated by the 3D model