

This case study was written at the time when OneSteel was part of BHP. In that context, in some instances within this case study, reference may be made to BHP.



*Left: Bondek flooring supported on steel beams*

## QUT Child Care Centre

Unpropped floor construction overcame construction problems associated with a steep sloping site at Kelvin Grove, in Brisbane. Black and Wilson Architect's colourful design of this two storey child care centre for QUT Kelvin Grove Campus fits neatly into the suburban landscape of 'timber and tin' dwellings. Bright colours, steel roofing, lattice balustrading, timber battens and wall cladding, and generous eaves overhangs give the impression of an oversized 'Queenslander' style dwelling providing a cheery destination for children.

The cost of traditional concrete slab construction using timber formwork and shoring at a height of almost 5m above ground was prohibitive. Consulting engineer Paul Joseph overcame this problem by choosing an unpropped, in situ concrete slab on Bondek spanning 2.8m between steel beams. The beams are supported by SHS columns. The builder was Rohrig Constructions.

In conclusion, both Centenary Pool Redevelopment and the QUT Child Care Centre feature the use of an in situ concrete floor slab cast on Bondek steel decking and supported on BHP steel beams. This form of construction proved cheaper than alternative propped reinforced concrete solutions and simplified on-site construction. Particular benefits were, in the case of Centenary Pool Redevelopment, the ability to construct over the heritage listed bathhouse areas without compromising their integrity, whilst in the case of QUT Child Care Centre, eliminating the need for expensive floor propping on a steeply sloping site.

*Below: QUT Child Care Centre, Brisbane.*

