

## Port of Brisbane Visitors' Centre

Building Name	Port of Brisbane Visitors' Centre
Location	Whimbrel Street, Port of Brisbane (Fisherman Island)
Owner	Port of Brisbane Corporation
Building functions	Information centre, conference facility, Eco Café and On the Lake Restaurant
Features	Timber construction on timber piles next to a wildlife lake. Long sides face north and south. Saw tooth roof provides south-lit interior spaces. Modular construction with repeat blade columns and hybrid gang nail trusses. Mixed mode ventilation system.
Architects	Bligh Voller Nield Pty Ltd (Andrew Bock), Fortitude Valley, Brisbane, 4006
Engineer	ARUP
Builder	AB Group
Partition Lining	Plywood sheeting (CHH Texture 2000 ecoply)
Other	Exterior Grade A Hoop Pine ply Perforated Grade A Hoop Pine veneer ply
Roof Trusses	Hybrid gang nail plate trusses
Awards	2002: Sustainable Architecture: <i>High Commendation</i> (Qld Awards)
Date Constructed	2001

### Key Words

*displacement air conditioning system, ecoply, hybrid gang nail trusses,*

### General Intent

The Port of Brisbane is Australia's only purpose built capital city port. Fisherman island (partly reclaimed land) sits adjacent to the Moreton Bay Marine Park and amongst mangroves and sea grass beds, which are vital breeding grounds for many bird and marine species. Amidst the clamour and activity of maritime activities, the Port of Brisbane Corporation has developed a four-hectare lake environment, which provides many migratory bird species with a safe haven for feeding and roosting. The Visitor Centre on this site is also a quiet and light-filled haven for migratory and feeding humans.

Visitors can wander through the static and interactive display area and learn about the operations of a working port, enjoy a coffee and cake at the Eco Café, or dine in the On the Lake Restaurant, with views over the water and the abundant bird life. The Centre offers conference and meeting facilities and has a 100-seat theatre, with a large-screen video projection system, ideal for presentations. The Centre is connected to Brisbane's public transport system, through a bus service that picks up passengers at the Wynnum Central Railway Station.

### Design Intent and ESD considerations

Bligh Voller Nield won this project through a design competition, the focus of which was to produce a building with a strong environmental agenda. This is addressed, on a broad scale, through several key design initiatives, such as passive solar control, solar water

heating and north-south orientation. The roof, on this orientation, opens to receive southern light into the exhibition space; at this latitude 'cool' southern light is much kinder to exhibition materials and provides adequate lux for viewing and reading, with minimal artificial lighting required on darker days. A low-energy displacement air conditioning system (with extract vents in the roof) reduces the reliance on artificial cooling. Natural air can also be used for cooling and ventilation on milder days as there is a constant breeze passing over the lake and through the open decks into the exhibition spaces.

When viewed from the entrance drive, the centre appears to rise out of the lake; its materials, form and colours replicate the details of lake, sky and reeds. The rear external landscaping contains species of the original wallum scrub and swamp of the littoral zone. Paperbarks, Bottlebrushes, Banksias and *Lomandra* spp. are planted around and through a series of dry, pebble-lined watercourses, which channel all surface and roof-gathered water back into the lake. The *Typha* sp. on the lake edges is an excellent filterer of impurities and the lake remains unpolluted.

### **Materiality**

On a smaller scale, timber is used to great effect. The building is supported on timber piles, which are largely concealed. The effect of clever design with timber is evident internally. Hybrid gang nail plywood-sheeted trusses supported on repeated blade columns define a structural module. The benefit of nail plating is that these trusses can be efficiently and economically detailed and constructed.

Hybrid gang nail plywood-sheeted trusses are a relatively available domestic scale technology; they are faced with plywood sheeting to conceal the proprietary nailing system underneath. The joints in the plywood attach easily to the timber underneath. These simple beam elements have a timber face which breaks down long views in a room, reflect light and provide a warming aspect in the room (not available in an open trussed environment). Multiple trusses are concealed by light coloured ply, with a neat bottom trim. This reinforces the architectural lightness while concealing a potentially visually complex series of structural elements (which are individually light, but, in combination, visually 'weighty').

There is in this building a strong Japanese connotation, which is evident in the commodity, lightness and minimalism in the use of, and respect for, materials and forms. For example, in terms of materials, the slip matched figuring on the ply door panelling subtly reflects light from the clerestory windows. The reception desk is faced in a peeled veneer with a swirling 'cathedral pattern'. This is eye-catching and more distinctive than sliced veneer; an appropriate 'dressing' for a focal piece of furniture. Elsewhere in the building, timber is used more perfunctorily: in the theatre, perforated pine panels reduce and absorb reverberations off the back wall. Hoop Pine is also used in a series of perforated screens through the building, due to the excellent acoustic qualities of its fine light graining.

To continue the Japanese theme, alternating dimensioned slat screens, which separate off the eating areas, are a darker stained hardwood to contrast with the light ply of the door panels. A series of these modules breaks up the central internal space into smaller units for exhibition displays and foyer/reception. To one side of this central space is a 100-seat

theatre; to the other, a boardroom, café, and dining room, which open out onto generous decks overlooking the water. An outdoor amphitheatre with deep hardwood timber stairs (or seats) provides a relaxed foil to the more formal interior spaces.

Plywood sheeting on partitions is Carter Holt Harvey 'Ecoply' Texture 2000 with a natural stain to seal. The use of pale coloured timbers (Hoop Pine internal perforated and exterior ply) accentuates the excellent quality of light in this building. Hoop Pine (*Araucaria cunninghamii*) is a traditional Queensland building timber, much undervalued until recent times and now plantation grown along the coast. Hoop Pine is rated soft (it has a Janka Hardness of 3.4kN for native forest material) in relation to indentation and working with hand tools. From an ethical and sustainable point of view, Hoop Pine is highly favoured as plantation-grown, exotic softwood. Hoop Pine has had a long use in Queensland as its wide (pre-plantation) availability, easy workability, very uniform, straight grain, and light colour meant it had a wide range of applications including packing cases, house framing, joinery flooring and boat planking, fine furniture, and carving.

Light flows in from everywhere in the exhibition and dining spaces – from wide, framed apertures that enclose the decks and from clerestory windows that define the modules in the third dimension. The pale, light theme is extended into door and counter joinery, café and restaurant furniture and light-stained timber decking. This is a building that celebrates the history of timber in this region, provides a series of viewing points over the adjacent lake in well-lit dining and meeting spaces, and which operates as an informative, metaphoric entry point to visitors to Brisbane.

## References

RadarAwards (Queensland), (2002) *Architecture Australia*, September/October, p. 18.

## On the Internet

*Port of Brisbane Visitor Centre:*

<http://www.portbris.com.au/visitorscentre/>

*Working with Hoop Pine:*

[http://oak.arch.utas.edu.au/tbia/tech\\_species\\_info.asp?speciesID=49496](http://oak.arch.utas.edu.au/tbia/tech_species_info.asp?speciesID=49496)

[http://www.rainforestinfo.org.au/good\\_wood/bld\\_hoop.htm](http://www.rainforestinfo.org.au/good_wood/bld_hoop.htm)

## Glossary

**CHH Texture 2000 ecoply:** see <http://www.chhwood.com/index.cfm>

**Gang nail plate** (on truss): A steel plate attached to both sides at each joint of a truss.