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‘SOMEBODY DIFFERENT LIVES HERE’

Perhaps the most eye-catching finalist in the 2007 Australian Timber Design Awards was a residence in Geelong created for ‘deep green’ clients demanding the highest level of sustainability, including maximum use of low-maintenance timber.

The Queens Park home – designed by Third Ecology Architects and winner of the ‘environmental commitment’ category – is a 3-bedroom, 230 m² residence located on a sensitive site falling steeply towards the Barwon River to the south. Based on a linear ‘cranked’ timber framed roof form, the design follows the site’s east-west gradient, taking advantage of a limited solar window, directing roof catchment to the underfloor water storage, and providing a suitable base for the roof-mounted power supply and solar hot water service.

The vibrant colour aesthetic was inspired by the work of Friedensreich Hundertwasser, the controversial Austrian artist and champion of natural materials and design, he believed bright colours were a pure reflection of nature, announcing to all that ‘somebody lives here who is different to everybody else’. In this case, the colours also highlight the natural qualities and timelessness of the vertical timber cladding.

The Queens Park structure responds to the dominant southerly aspect, while respecting the principles of passive solar design (and the client’s desire to integrate a winter garden to the north) to achieve the superior energy efficiency required by the brief.



Historically, it has been difficult to achieve the minimum statutory energy rating requirement on south-facing sites because of the lack of thermal mass (e.g. concrete slab). But the design achieved 6+ stars (29 points) using the First Rate Energy Rating software and included a 50 mm concrete screed slab in the living area. This innovative floor system was laid over a traditional elevated and thoroughly insulated timber floor structure – providing the necessary thermal mass. The strategy demonstrated that difficult south-facing slopes can still achieve high levels of energy efficiency.

Also integral to the brief was the inclusion of low-maintenance exterior timber cladding and recycled and plantation-grown timber, which featured heavily as part of the interior palette of finishes. The specification required extensive research to ensure all timber products met or exceeded the timber sustainability aspect of the brief – including exclusion of all rainforest and/or old-growth forest wood.

Recycled timber was used for internal and external stairs, external handrails and balustrades, t&g hardwood flooring, internal bench tops and kitchen joinery posts and external fencing. The vertical timber cladding was screw-fixed to enable deconstruction.



Other notable features of the timber commitment included plantation pine framing, engineered timber subfloor structure, FSC-certified red Nordic pine timber windows and door frames, radially sawn silvertop ash (durability Class 3) cladding and decking, sugar gum (durability Class 1) internal lining and bathroom hob, cypress macrocarpa pine structural post to rear deck, plantation pine plywood internal feature panelling and feature joinery, 'Thermowood' garage door lining and laminated cypress pine exposed roof framing.

Additional sustainability features included: subfloor 'coolth' ventilation in south bedrooms, passive heating greenhouse with integrated heat-shifting system, 100% portable water saving, 2040-watt photovoltaic grid interactive power supply, high-performance gas-filled double glazing, onsite stormwater retention, low VOC internal paint, 'all waste' vermiculture wastewater treatment system, integrated flexible sun shading, and energy and water-efficient appliances.

FAR LEFT

Colours highlight the natural qualities and timelessness of the vertical ash cladding, screw-fixed for deconstruction

LEFT

Plantation pine plywood was chosen for internal feature panelling and feature joinery

ABOVE TOP

Innovative concrete floor system was laid over traditional elevated timber floor structure

ABOVE BELOW

Overcoming energy rating challenges that often prove difficult on south-facing sites

PROJECT Queens Park residence, Geelong

ARCHITECT Third Ecology Architects

ENGINEER PJ Yttrup & Associates

BUILDER Daran Construction

WOOD PRODUCTS Red Nordic pine, silvertop ash, engineered timber, plantation pine framing and appearance ply, sugar gum, cypress macrocarpa, Thermowood, laminated cypress, recycled and waste hardwoods

PHOTOGRAPHY Richard King and Neville Wright