



# MEDIUM DENSITY, HIGH PERFORMANCE

Fringed by conservation bushland, these sensitively built townhouses prove that medium density development can be achieved sustainably.

story > Gabrielle Chariton

Six townhouses sit close to the ground, sheltering beneath their own deep shade, cooled by the site's prevailing monsoonal breezes. The 2015 GreenSmart Townhouse/Villa Project of the Year works in synergy with its site to optimise thermal comfort, reduce energy consumption and slash power bills.

When the experts from Killarney Homes discovered the site upon which these townhouses sit, they knew they could do something special with it. Located in Palmerston, near Darwin in the Northern Territory, the block was slightly elevated – perfect for capturing breezes – and edged in on two sides by conservation-zoned bushland.

'We saw a real opportunity for that block; we knew that it was a good fit for us. Not everyone would have known how to make the most of responsive design and techniques to really maximise its benefits,' says Killarney Homes' chief executive, Damien Moriarty.

'We acquired the land as a crown lease from the government – but it came with a number of conditions that were reasonably stringent during construction, because it was backing onto conservation zoning and creek catchment, so erosion

and sediment control procedures had to be really spot-on, and at a much higher level than what you'd normally see in residential development.'

Damien says that while site management is always a large part of Killarney Home's building practice – particularly with regard to waste management – generally there's some sort of buffering between conservation and residential areas. 'In this case we had very strict, closely monitored control procedures in place to protect the surrounding natural areas.'

Alongside the environmental considerations, Killarney Homes was also required to deliver 'a high-quality development in a reasonably tight timeframe to help address some of the shortages of housing in the Northern Territory at the time'.

For Killarney Homes, 'high quality' is synonymous with 'high performance'. 'If people walk into a home and it's wonderful and tropical and cool, that is a major part of the purchasing decision.'

In the far north of Australia, the weather is hot year-round – sometimes oppressively so. Killarney Homes has become adept at applying design and construct principles that shield





## IDEAS ANYONE CAN USE

Build with locally sourced materials to reduce the project's overall carbon footprint and minimise transportation costs.



## CONSTRUCTION DETAILS

and protect occupants from this heat, reducing their reliance on energy-hungry airconditioning.

'For the townhouses, we implemented our preferred construction method, which is concrete slab with core-filled masonry,' Damien says.

This is, in part, because of the company's philosophy of sourcing materials locally – 'we have quite reasonable access to quarries in the Darwin locality so we can produce the concrete' – and in part because of cyclone requirements. When combined with a light-coloured roof and deep porches to keep the sun's heat off the walls, the thermal mass works to keep the interior of each unit cool.

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The development comprises six units housed in four buildings, placed to attract the north-easterly breezes that prevail during the monsoonal season. 'That's when the houses are at their hottest and the energy management is at its most challenging,' Damien says. 'The buildings were designed to allow the breeze paths to take their course: they're not going around the site, they're going through the site.'

All six of the townhouses sold before construction was completed, and have now been lived in for a full 12 months. So, how are they performing? 'The number one feedback we get is the energy bills are lower; people are commenting about how cool the units are.'

Killarney Homes has been implementing GreenSmart principles into all its housing projects since the company's inception in 2005. 'Every project we do, we approach [from a GreenSmart perspective], and that company-wide focus allows for profound gains and understanding in how to absolutely maximise energy efficiency and sustainable principles,' Damien says.

Ultimately, the company is aiming to set the benchmark for energy-efficient home design in hot climates, and to educate the wider industry about how to manage energy consumption within the home. 'I think as long as we're demonstrating products and possibilities, we're helping foster change within the local industry.' **gs**

**BUILDER** Killarney Homes

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- > Colorbond roof in Surfmist
- > Deep shading porch at front of homes

**PROJECT COST** \$2.4 million including land

**TIME TAKEN TO CONSTRUCT** 6 months

**ENERGY EFFICIENCY RATING** 7.5 stars

