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SUSTAINABLE
KIT HOMES

Bayside beauties

These water-saving and savvy townhouses offer the best in modern living



All of the windows are double-glazed and most in the open-plan room are openable allowing for cross-breezes.



The enthusiasm that Luke Middleton has for environmentally sustainable design is infectious. As a founder in the EME Group design practice, Luke is changing the way people look at sustainable design, one client at a time. This series of four townhouses in the wealthy Melbourne bayside suburb of Brighton is emblematic of his approach.

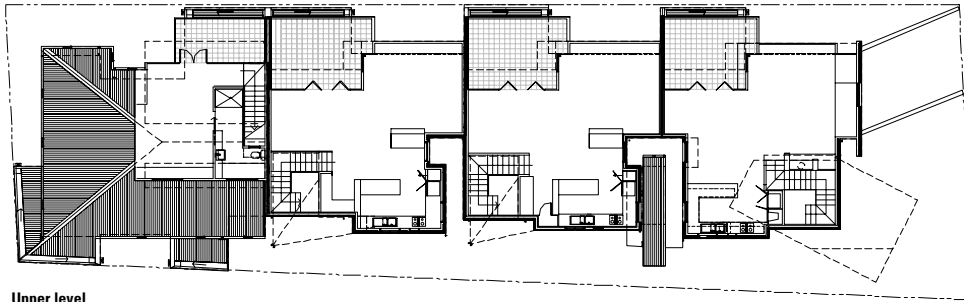
Brighton, and any suburb like it around the country, is redolent in huge waterfront mansions, sprawling suburban blocks, tennis courts, swimming pools and conspicuous consumption at every turn. The focus is on success and the mantra

is 'bigger is better'. This development designed by Luke turns that ideal on its head. The townhouses are luxe, make no mistake, but the design is the hero and attention to context and sustainable design paramount. "The people that live here have come from suburban homes with big yards, front and back," Luke explains. "But they have embraced these townhouses. It's a process to educate people as to what is possible."

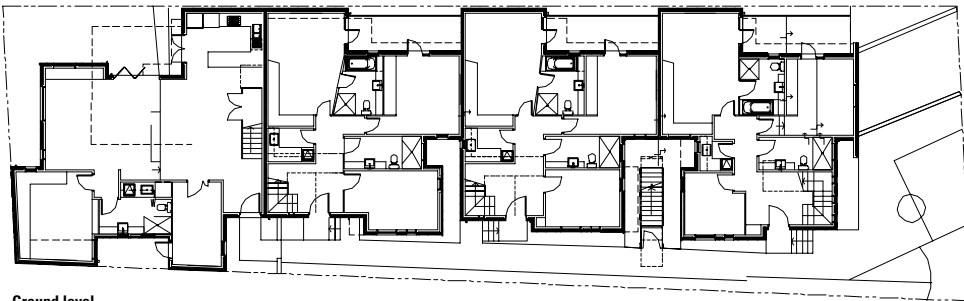
Two of the occupants, David and Carol, moved into their townhouse from a larger home in the suburbs. They were pleasantly surprised with the generous accommodation at their new abode. "Our

large table and most of our furniture fits beautifully in these rooms," David enthuses. "They are such open, bright spaces. We didn't expect them to be so roomy."

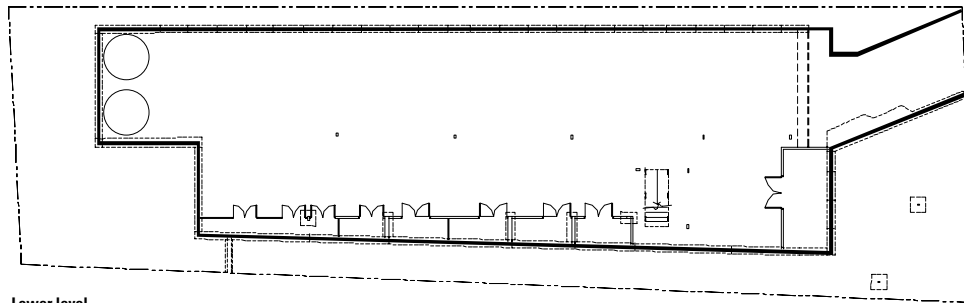
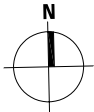
The first thing that strikes the visitor is the raking roofline that plummets from the top of the building to form a welcoming verandah over the entry court to the townhouses. "From the street, the project is expressed in two forms. To the right is a double-height window that echoes the proportions of the old bank up the road," Luke points out. "To the left is this roof form that mimics the verandah of the Edwardian house that once stood here. It brings



Upper level



Ground level



Lower level



the façade down to a human, approachable scale.” These features mask the sloping skillion roof that is integral to the resolution of the interior spaces. The roof is a key to delineating each of the townhouses from their neighbours as well as providing shade and rainwater collection.

The townhouses sit over an excavated, vented basement car park. “The venting along ground level means that no artificial, mechanical ventilation is required underground,” says Luke. The parking basement also features a generous and well-used bicycle storage cage, encouraging pedal power for those shorter trips. The subterranean volume

also allowed Luke to stow the airconditioning compressors in the cool rather than on the roof, maximising their efficiency.

At the rear of the garage, tucked away from vehicular and pedestrian traffic, are **two enormous water tanks. Each tank holds 10,000 litres and is used for toilet flushing, garden irrigation and outdoor washing (house, car or pet).** Provision is made for the tanks to be connected to the washing machines, further reducing reliance on mains water. The rainwater is collected from the roof and is filtered of debris before entering the tanks.

“Having two large interconnected tanks shared

“The townhouses are luxe, make no mistake, but the design is the hero and attention to context and sustainable design paramount”



across the four townhouses has some advantages. Firstly, no need for individual pumps for each townhouse reduces the need for maintenance and use of energy. Secondly, it enables the sharing of the water across the townhouses, so when demand in one of the units is low as the residents are away, excess water can be taken up by the residents of the other townhouses. When there is rain, one of the tanks continues to supply the building while the other one continues to collect water,” Luke explains.

Assistance from the Smart Water Fund, a Victorian Government initiative fostering innovative

and sustainable water use, has enabled ongoing monitoring of the townhouses’ water-efficiency.

The property runs east-west and shares its northern boundary with another two-level development next door. This presented issues for Luke in terms of light and living amenities. “We did shadow analysis on the site and decided that the best way to structure the floorplates for each of the townhouses was according to the light we could introduce to the living spaces. With this in mind, the first three houses have the bedrooms on the ground floor and the living, dining and kitchen upstairs. The fourth (townhouse) at the rear of the

Light, liveable, intelligent, responsible and funky, the townhouses are a winner on many fronts.



→ With their water saving design and features, the homes will alltogether save more than 250,000 litres of drinking water a year



development has north-westerly light later in the day, so that has a more traditional house layout, with the living, dining and kitchen downstairs.”

Each of the first three townhouses has upstairs and downstairs private courtyards. The downstairs courtyards can be accessed by the adjoining bedrooms and introduce a soft, borrowed light into the lower floor. The bathrooms are also located downstairs and fitted with water-saving nine-litre-a-minute shower roses.

Ascending the stairs to the upper level, a striking geometric ceiling plane unfolds above. The angled, origami-like panels keep the double-height void cosy and human, much like the roofline at the front of the house. “The ceiling in the stair also lowers the roof on the southern border to the building, lessening the impact of the structure on the neighbours at that boundary,” Luke proffers.

The upstairs level is light and open, with slot windows that wash the space with natural sunshine. The skillion roof slants up to greet the sun, affording glazing along the top of the northern wall. All of the windows are double-glazed and most in the open-plan room are openable, allowing cross-breezes. **The need for airconditioning is further reduced with high-quality ceiling and wall cavity insulation.** In researching the site, Luke discovered that it lies in a small valley that alters the wind direction in the area. Rather than the predominant Melbourne south-westerlies, the valley alters the

breeze to a predominant westerly. Luke quickly factored this into the location of the windows in the townhouses.

These townhouses are being used by the local council as an example of what can be achieved in their municipality. Luke Middleton has married sound environmental principles with corresponding design principles to create a townhouse development that is light, liveable, intelligent, responsible and funky. He is winning them over one client at a time, and perhaps one *Sanctuary* reader at a time as well. ◀



Designer: EME group

Builder: Shustin Developments

Location: Brighton, VIC

Photographer: Scott Haskins

- Features:**
- Bosch instantaneous gas hot water
 - 2 x 10,000 litre Bushmans rainwater tanks
 - Insulco wall and ceiling insulation
 - Miele dishwashers
 - Nulite hardwood windows with Moen double-glazing
 - Caroma water-efficient toilets
 - Zucchetti water-efficient water fittings