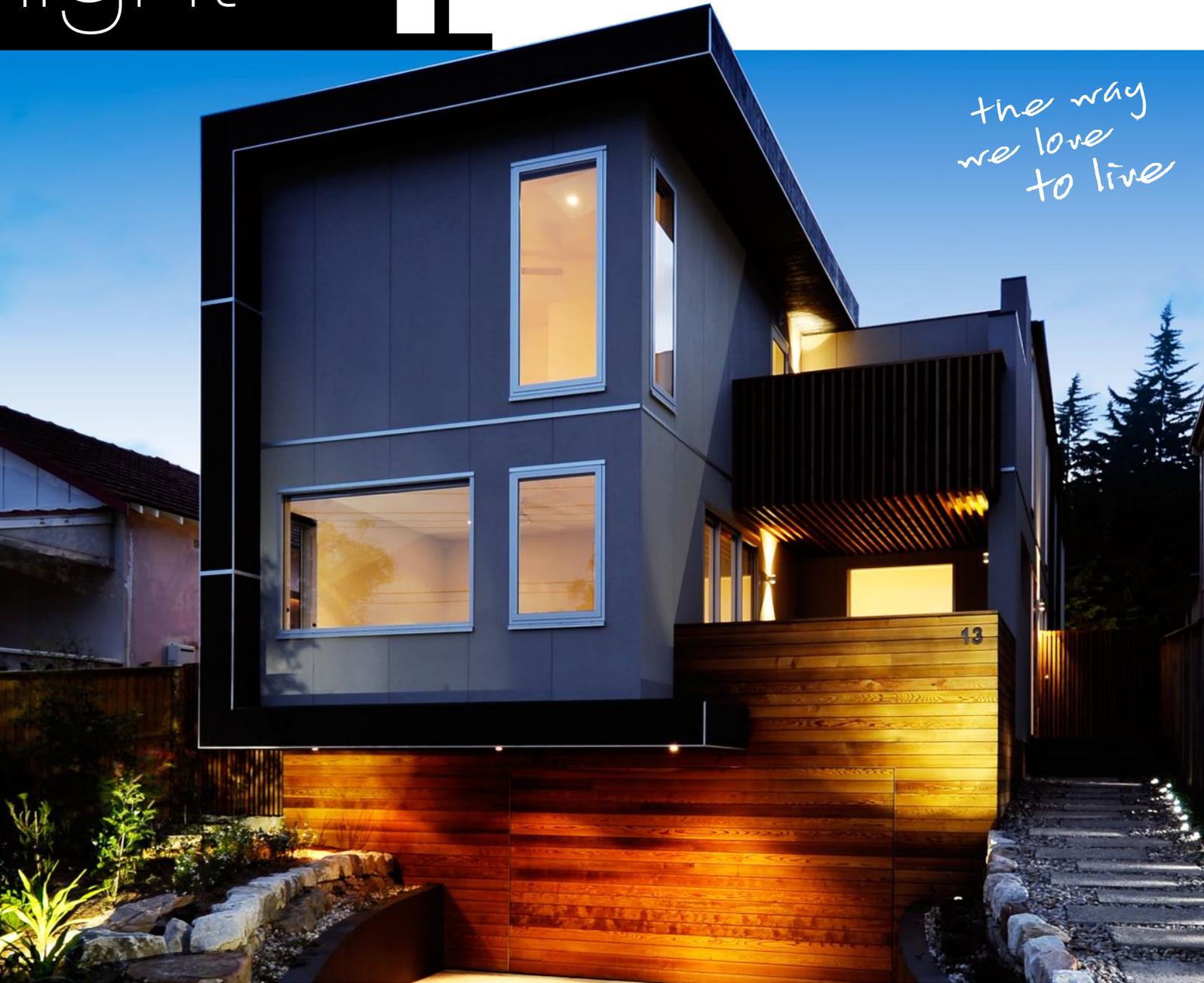


light

HOME

*the way
we love
to live*



the summer issue

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light box

A contemporary cubic form constructed primarily with glass and lightweight panels has become an adored family home brimming with light and style.

Words Nicole Szollos Photography Roger D'Souza

In the culturally diverse Sydney suburb of Earlwood, Darren and Gayle Macbeth knew there was much to improve about their three-bedroom 1920s Californian Bungalow. On 490 square metres of land, there was room to extend up and back, however they quickly realised an extension wasn't going to provide the spaces they wanted and made the decision to knock down and start again.

The couple compiled their wish list of space their family required – four bedrooms, study, kitchen, lounge and dining, double car garage and pool – and went about finding an architect to help them visualise it.

“We wanted a modern house that was environmentally sustainable and we didn't want brick; we wanted to use other materials,” says Darren. “We also knew that we wanted a box, with a flat roof and rooftop access.”

“We thought about the surrounds, how the house would look in its street surrounding and within the suburb environment. We had to be careful and sympathetic to the area,” he adds.

Cube cues

With a shortlist of three architects drawn up, the Macbeths' first (and ultimately only) meeting was with Neil Mackenzie, Principal with Mackenzie Pronk Architects.

“Neil interpreted what we wanted into something that was modern and with the materials we wanted – a big glass and concrete box – and bought it together into a package that suited the environment,” Darren explains.

Taking the brief, Mackenzie understood that his clients wanted a “house of this century with contemporary volumetric architecture”. In addition, the use of glass allows a great amount of light into the house from front to back.



“There were some things they were clear on in terms of the look and finishes, but they wanted it to be a dynamic and open form. Simple, open-plan cubic forms was how we interpreted it,” he says.

“The disposition of the spaces and how they worked on the site gave us the chance to explore abstract composition that was volumetric and cubic from street presentation. To a degree, the house is sculptural, which really did come from the brief.”

A narrow block, a steep slope and relatively close neighbouring properties, on top of a design not too out of style with the mixed heritage streetscape, were all challenges Mackenzie took on.

“In these confines, the challenge was how can we sculpt forms that serve the spaces that met our clients’ brief, but also did all the right things in terms of not overshadowing the neighbours or the property’s own outdoor spaces. In many ways, the sculpting of the forms was in response to those points,” he says.

These forms include a strong angled line through the main living space that is the form of the roof on the inside of the internal void. While Mackenzie concedes this is a traditional roof form on some levels, the interpretation from the street is the cubic shape.

Keeping it light...

The Earlwood house is constructed out of three main lightweight materials: EasyLap™ panel, ECOply and Western Red Cedar. Mackenzie says lightweight



“the challenge was how can we sculpt forms that serve the spaces that met our clients’ brief”



construction was chosen for benefits including external performance, look and price. "It's a reasonably economic way to build."

"Lightweight construction was best suited to the arrangement of spaces and the forms between a timber-clad base, flat FC sheet and the enclosing bracketing of the dark plywood cladding. Heavy materials were employed only where the mass would work positively, that being in the polished concrete floor on ground," Mackenzie explains. "And the play between the different cladding materials is another layer of the sculpture of the building."

These lightweight construction materials also suited the clients' aesthetic preferences and they were open to hearing about alternatives to concrete.

"Neil explained that concrete cost four times more and he also extolled the virtues of what a light house is and how it works, and we were completely on board," says Darren. "We got the look and feel we wanted with better aspects of building by using the lightweight materials, so it was a win-win for us."

... and green

The house also features environmental sustainability elements, with Mackenzie's design incorporating cross ventilation. The large roof space void, where louvre banks run along more than half the building, plus highlight glazing, also give the house good stack ventilation. By employing these principles of passive solar design, the house does away with the need for air conditioning and the mass concrete floor retains heat, so minimal heating is required during winter.

"With a long thin block, you can have luck on your side and the orientation of this site is good for the living spaces," he says. "As an urban house, you're aiming



for getting passive solar design in place and it's achieved that. I think thermally the house will perform very well and be a very comfortable house to live in, in the Sydney climate."

In addition, remnants from the existing building were utilised in the new construction, giving the new family home a sense of the old house.

"Being able to reuse some materials was an added bonus and worked really well," says Darren. "We cut up the driveway – which was 1920s original concrete – into 1 metre by 45 centimetre tiles and reused them as the front path that leads down the side of the house."

Staircase sculpture

An important element of the internal space for Darren and Gayle – and one of their favourite features of the house – is the staircase. The couple had a clear idea that the stairs should be a functional but also practical part of the house.

"The clients had it in their brief that they wanted a striking stair that linked the levels. We designed about 10 stairs for them and the clients are happy with what they got and I'm happy with the way it turned out," says Mackenzie.

"I love the staircase, it was one of the hardest things we worked on," says Gayle. We wanted the staircase to spill into the lounge room and be functional. The kids sit on the stairs; it's not just for going up to the next level."

“we wanted the staircase to spill into the lounge room and be functional. **The kids sit on the stairs; it's not just for going up to the next level**”



Relationship building

The design and build of the Earlwood house sounds like a dream run in terms of the relationships between the clients, designer and builder, with everyone getting along well. A good thing, given the project overall was three years in the making, including 12 months spent on the design phase and about eight months for the build.

“Doing residential work, you work so closely with your clients. You go on a journey, and get into the minutiae of the aesthetics of the way they live and their relationships. It is a great privilege when you have clients who want a good product and outcome and work collaboratively like the Earlwood clients did,” says Mackenzie.

The builders were Sydney Building Corporation (SBC), a small-to-medium-sized company that has worked on about four of Mackenzie Pronk’s projects over the past five years. “Regardless of what we are looking for as a design intent, they build very well and we have good relationships with them,” says Mackenzie.

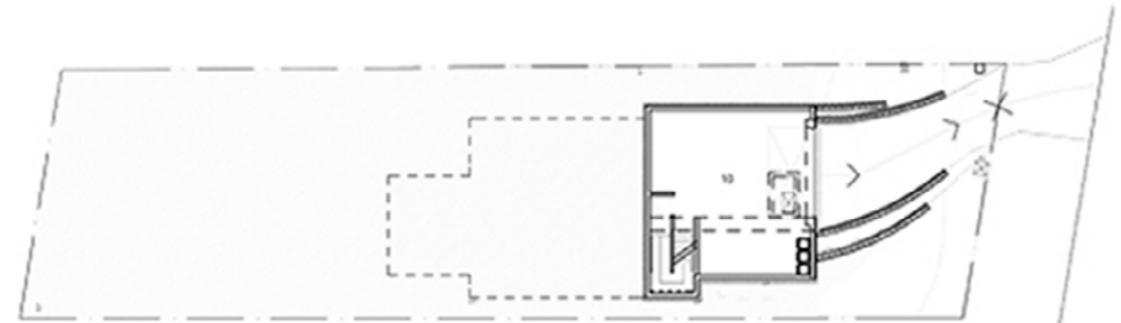
“It’s such an important thing – the relationship between architect and builder and the relationship between client, architect and builder. Even when you have detailed and documented a house thoroughly, there is a process that happens on site that is a continuation of the design development as you build. We, as architects, always want to ask a builder’s opinion; we want the best building outcome as well as the best design outcome, so it’s got to be collaborative,” he says.

Owners Darren and Gayle Macbeth agree it was a successful partnership all round. “We had fortnightly on-site meetings, everyone was prepared and managed the expectations of others,” says Darren. Adds Gayle: “After the project finished, we got some lovely emails from Neil and the builder and it seems all three parties enjoyed the experience.”

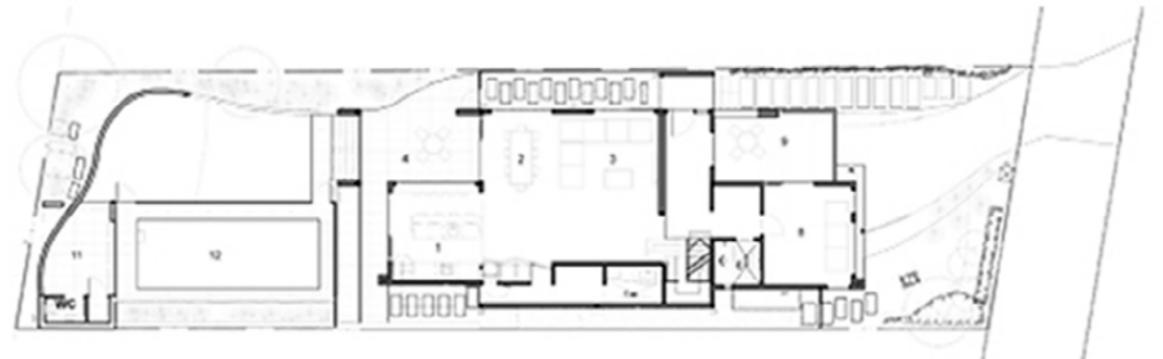
Mackenzie Pronk

Neil Mackenzie and his partner Heidi Pronk formed Mackenzie Pronk Architects in 2004. With more than 10 years’ experience across many different sectors and building types from public building to urban design and adaptive re-use, the practice, which includes the two principals and five architects, aims to produce high-quality sustainable architectural design by working closely with clients to craft unique, appropriate and cost-effective design solutions. The practice is small enough to ensure the principals’ involvement in all aspects of project design and procurement.

specifications



lower ground floor



ground floor



first floor

Designer: Neil Mackenzie,
Mackenzie Pronk
www.mackenziepronk.com.au

Builder: Sydney Building Corporation.

Roofing: Corrugated steel.

Insulation: Ceiling R4 and Walls R3.

External walls: EasyLap™ panel;
ECOply (see earlier note) and
Western Red Cedar.

Flooring: Polished concrete.

Water management: 5,000-litre water tank
used for swimming pool and toilets.

Energy management: Mass concrete
floor and well-insulated lightweight
construction, designed with both cross
and stack ventilation and a pool as the
only cooling system. Provision for solar
panels. The house employs passive
solar design, covered outdoor living
spaces and a solely native garden.

Heating: Thermal heater.

Budgeted cost: The build was
reasonably cost effective. It is a big
bespoke house over three levels that
was priced under the \$1 million mark.

Actual cost: n/a.

Long-term cost reductions: Passive
cooling from cross and stack ventilation
plus glazing eliminates the need for
air conditioning. A concrete slab floor
retains heat during winter.