

Sensibly Sustainable

An efficient, sustainable approach toward design has created a unique home in the port town of Lyttelton.

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Photography **Lisa Gane**



THE SPECS

Lyttelton
\$200,000 - \$300,000
154 Sq m



1



3



1+ toilet

ARCHITECTURAL DESIGNER STEVE MARTIN has a flair for sustainable design concepts, and it was a theme he was determined to draw on when it came to creating his own new home. Set on a challenging 300 square metre site, the house pairs unique lines and angles with efficient design principles. It is also a practical family home to Steve, wife Vicki, and children Jackson (4) and Leita (1).

“We were living a few houses up the road,” says Steve, “so we were very familiar with the section and the area.” One major benefit of the site was the amount of sun it received, which is important in Lyttelton. While it did have limitations due to the actual size and shape of the land, Steve was not afraid to tackle the challenges head on.

In his quest to incorporate as many environmentally conscious choices as possible, Steve started with using his favourite construction material, concrete. He prefers to use insulated concrete panels, which are incredibly thick and have great insulation properties, to make a home very efficient to heat.

In the home’s entrance, Steve’s love of raw construction materials is immediately apparent. “I like to utilise the natural elements of the construction within the interior,” he says. “There’s an element of truth to these materials.” The foyer is softened somewhat by the appearance of timber on the ceiling above, but once again this is a practical choice too. The timber was in fact used to hold up the heavy concrete floor that dominates the upper living area.

The concrete construction is excellent in terms of thermal mass, most especially when coupled with a good internal heating system. This house is heated by ceiling radiant heaters placed in every room, with thermostats used to set an exact temperature at pre-determined times. Even the dog doors in the home have been designed to be efficient. Rather than installing a dog door on an exterior wall, Steve designed a door that leads the family pooch into the garage and then outside through a second door. This eliminates any potential draft the door could create when in use.



LEFT Thermally broken joinery was used where critical thermal control was necessary, to eliminate condensation and aid overall insulation in the home. Seagulls that flock into the harbour negate the need for weather forecasts. As soon as they arrive, squawking and flapping, Lyttelton residents know a weather change is near.



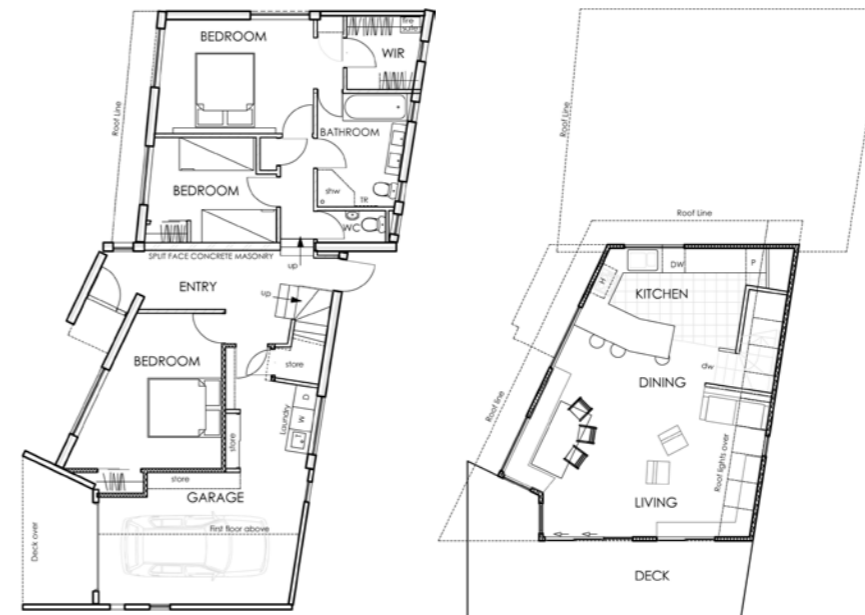
Internal steel beams, rough and soft portions of concrete and a very white colour theme all add to create a very unique style of home. The living area and kitchen on the upper level also makes it very different. The bedrooms and bathroom are located downstairs, with the living area gazing out over

Lyttelton port. A large deck adds space to the room over the summer months, and furniture from Steve's own range dominates the space. He has translated his sustainable goal to the furniture he designs, preferring to use leather, timber and recycled products for his creations. "I like being true to the

ABOVE Resene colour Mt Aspiring was used for all the home's painted surfaces. **OPPOSITE PAGE** The hallway borrows light from other rooms, with glass panes featured in the internal doors leading to the bedrooms. It also obtains light from the exterior glass door. Steve did not want to install a skylight, and his design provided the hall with enough light not to require one.

environment, and being sustainable is something we should all be aware of." And despite the compact size of the section and home, there is still a surprising amount of space outside. There is room for the kids to play along the timber deck, and a clever tree house designed by Steve makes use of the cabbage tree that was retained. "It's more like a crow's nest," describes Steve, "with a rope ladder and a deck to stand on." Jackson loves taking friends up there for pirate-style adventures, and the fact that Dad built it makes it even more exciting. ■

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ABOVE The ground and first floor design of the home. With such a challenging site, the shape of each room is influenced by the angled exterior walls.



Q&A with Steve Martin of Formation Design

What design brief did you create for yourself?

I wanted to design a comfortable, three bedroom, energy efficient, practical family home. It also had to be low maintenance, and capture as much sun as possible. The budget of \$300,000 was also important, and using sustainable materials was crucial.

Were there any design constraints?

Yes. The size of the section was the biggest constraint, as it is only 300 square metres, and 10% of that is the driveway! The shape of the section also influenced the design, and this is reflected in the shapes and angles of the home. The site may not have appealed to many people because of these constraints, but I was happy to embrace it.

What is unique about the design?

The type of construction. The concrete panel system is something I am passionate about, and it has many benefits. Not only does it have incredible thermal mass, it also has a high fire rating, is great for heat retention, and the sound insulation is good too.

Best features?

The fact that we achieved what we set out to. A light, bright, warm home that has great views and is energy efficient. The solar hot water system is fantastic - it's so nice being in the shower and knowing the hot water is free! And the living spaces and overall design work really well for our family.