

CHALLENGES INTO TRIUMPHS

You aren't always presented with the perfect block of land on which to build your dream home. But with smart design, you can turn a difficult site into a gorgeous living environment.

BY VALERIE KHOO

Sloping sites, difficult access, weird angles, the list goes on. Your home site may be less than ideal but that doesn't mean you have to resign yourself to anything less than the home of your dreams. Smart builders and designers can work with seemingly impossible sites and turn them into architectural successes. Here are some examples of challenges that have transformed into triumphs.

ALL HEMMED IN

Challenge: Building on a site overshadowed by a steep escarpment.

Triumph: A coastal haven that makes the most of available sunlight without compromising on the view.

HOW TO MAKE IT HAPPEN:

When you have a home on the coast, you want to make the most of the water view. You also want a comfortable and cosy place to live. But what happens when most your site is overshadowed by a steep escarpment? That was the challenge faced by Jon King of architectural and design firm Design King Company, when he was asked to build a more sophisticated version of a fibro beach shack at Coledale on the coastline south of Sydney. He could have created a mammoth structure to make a loud statement on coastal living. Instead, King chose to create a simple, elegant home that paid homage to the architecture of the area.

Designing a building that echoed the area's vernacular was only one aspect of the process. The site posed some challenges. "It was a very complicated site geotechnically," says King. "We also wanted to find the right solution given

that there was a steep escarpment behind. That meant the site was overshadowed for a great deal of the day in winter."

As a result, King used the area with the most available sunlight as the final location of the house's main living area. "We wanted to create the centre of the house as a family zone, a place that was contained, safe and sunny for children. We ended up having the living room and deck where they used to have a veggie patch. That was the sunniest part of the site."

Unlike most coastal homes that use the water views as the main feature of the home, King wanted to utilise every aspect of the house. "There was a partial view of the ocean and quite a lovely connection back to the forest," he says. "When we first approached the site, it wasn't immediately apparent how it would work. But ultimately, the siting and planning of the house worked out quite beautifully. I think it does manage to capture the complexity inherent in the site. There is no one-off big view, which, in coastal houses, is generally in one direction towards the ocean. That's a fairly blinkered view. Here, it's far less obvious where this house should look. There is the escarpment and the trees, then as you journey through the house you are aware of all the intricacies of it and the site really grows on you. The house in the frame makes the view more noble." →



ARCHITECT: DESIGN KING COMPANY
PHOTOGRAPHY: BRETT BOARDMAN

Lightweight building materials like HardiFlex® sheets were used to create this coastal home that echoes the area's architectural vernacular.

TALK ABOUT TINY

Challenge: Building a family home on a small site.
Triumph: Smart design turned a 139 square metre building envelope into a 289 square metre house.

HOW TO MAKE IT HAPPEN:

At Murrays Beach in New South Wales, lot sizes vary considerably. But when Design Manager Peter Byfield from Greystone builders was presented with a small building envelope on which to build a display home, he knew he had to come up with an efficient, innovative design.

Although the lot was 407 square metres, the building could only be built on an area of 139 square metres. This is because the developer Stockland had clearly defined parameters on each lot, ensuring that significant trees were left intact and enough outdoor living remained for the ultimate inhabitants.

Byfield achieved a 289 square metre house by building three storeys over five split levels. "It was a desirable outcome based on the developer's design guidelines and

also appropriate for the kind of architecture we were trying to achieve," he says. "The five levels were necessary given the slope of the land. This was an economical and efficient solution."

One of the key elements in achieving this was the use of lightweight materials. This served a number of purposes. "Using the lightweight material allowed us cantilevered projections and helped achieve very large spans," says Byfield. "The variety of materials also allowed us to achieve a highly articulated built form – featuring recessed panels, projecting panels and interesting roof lines."

"Lightweight materials gives you flexibility and it's also much more attractive to use a mix of them in this situation. It's better than a monolithic appearance. The visual mass and scale of the building is broken down by the introduction of vertical and horizontal cladding."

While Byfield believes that the same outcome might have been achieved with traditional building approaches, he says this would have been at a higher cost and a less attractive result. "If we had used materials such as timber cladding, owners would need to be more diligent with maintenance in the future."



Innovative materials such as Scyon™ Linea™ weatherboard, Scyon™ Matrix™ cladding and Scyon™ Axon™ cladding were key elements in being able to create this family home on a tiny site.

GREYSTONE HOMES

FRANK NEWNHAM CONSTRUCTIONS
 DESIGNER: ML DESIGN

BUILDING ON STEEP SLOPES

Challenge: Designing a house on a site with a 10 metre drop.
Triumph: A stunning home that works perfectly with the slope of the land.

HOW TO MAKE IT HAPPEN:

Some builders and designers avoid working on sloping sites. Others simply chop the site up until there is a flat area on which to build, thus disturbing much of the earth and losing much of the natural environment. Instead of these approaches, Frank Newnham Contructions and architectural firm ML Design took a different tack when they had to design a home at Queensland's Brookwater golfing estate. It was on a steep slope with a full 10 metre drop from the front to the back of the home.

Instead of flattening the earth, the house was built by incorporating the slope into its design. This was done while ensuring living and bedroom spaces were

oriented towards the outstanding view, which takes in one of the fairways, densely wooded valleys and abundant wildlife.

To create the raised ceilings and the home's upper level on such a challenging site, Newnham chose to use lightweight materials like Scyon™ Linea™ weatherboard and HardiTex® system. In particular, Newnham avoided the extra cost and time that would otherwise have been incurred if masonry was used. This would also have required digging deeper foundations on this site. The products also allowed the home to have a larger internal space, giving the owners more room to move inside the home.

ML Design's project leader Joakim Willemsen says that the steep slope of the site also presented opportunities to incorporate generous ceiling heights and extensive glazing as distinguishing features throughout the home. "An advantage of steep sites is that we are able to design more substantial floor-to-floor heights, which translates to improved ceiling heights and more opportunities for volumetric interplay, because you're chasing yourself down the hill," says Willemsen. →



This stunning Queenslander, featuring Scyon™ Linea™ weatherboard, was built using the slope of the land.

HIGH ON A HILL

Challenge: Building a house on a cliff with limited road access – and limited budget.

Triumph: An affordable home with expansive views of the ocean.

HOW TO MAKE IT HAPPEN:

When Jon King, from architectural and design firm, Design King Company was asked to design a house perched on top of a steep hill, he knew there would be multiple challenges during the construction process. In order to get materials and machinery to site – and keep within a young family’s tight budget – comprehensive planning and prefabrication was necessary.

To capture the views meant building a house about 30 metres up and 30 metres away from the road. “It’s difficult to get many machines to that height and to handle materials,” says King. “Of course you can do anything if you have the money but we didn’t want to destroy the notion of building an inexpensive house.”

To this end, King devised a simple construction grid that could largely be built off site. “We wanted to have

the steel frame prefabricated in a way that it could be lifted by the crane. So we designed a very simple plan which was the key to its success,” he says.

King created a simple rectangular plan with the house’s verandas cut into it rather than added on. “It had a very simple roof that went over the whole lot. The house levels change as the slope drops away so, over the length of the building, we get three changes in the floor level – but one roof plane. The result is a variable space under what is a simple roof.”

This approach required meticulous planning and measurement. The straightforward prefabricated solution was essential because King had to limit the number of crane lifts to two in order to keep the project on budget.

The simple design also meant the house does not distract from the expansive views so the ocean. “One of the things that arose from the planning was that we wanted to ensure that every room in the house – whether it was the laundry, bathroom or bedroom – had a magnificent view of the ocean. We also have a protected courtyard behind the main living space so that when coastal breezes blow, there is somewhere to retreat to. Everything connects back to the ocean view because we’ve planned it that way.” ■

Lightweight materials were vital elements in building this home on a site with restricted access.

