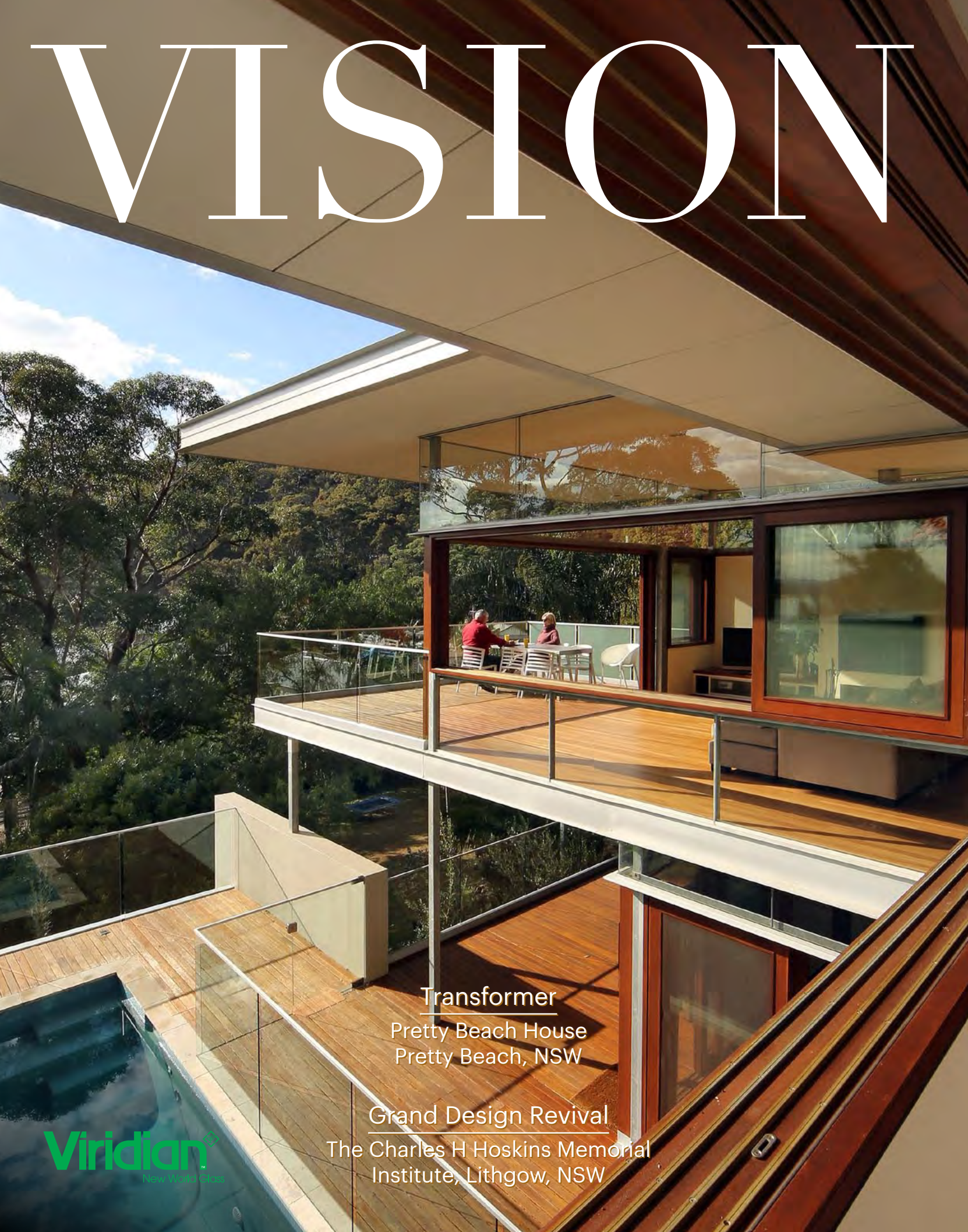
VISION



Transformer

Pretty Beach House
Pretty Beach, NSW

Grand Design Revival

The Charles H Hoskins Memorial Institute, Lithgow, NSW

Viridian™
New World Glass

CONTENTS

Transformer

Pretty Beach on the NSW central coast lives up to its name. It's a winning location just north of Gosford and a mere 90 kms north of Sydney. Despite its appeal, most housing in the area squanders the opportunity. Others lead by example and celebrate their setting in fine style.

04

Twitter Blog Subscribe Submit

VISION welcomes project submissions to our editorial team, please submit ideas and projects clicking the icon above.

24

Grand Design Revival

The Charles H Hoskins Memorial Institute at Lithgow in the NSW central tablelands recently underwent a major overhaul, courtesy of Tanner Kibble Denton (TKD) Architects. In the process the University of Western Sydney acquired the best of both worlds with a blend of history and cool glass modernity.

CARYN MCCARTHY'S DESIGN IS A MODEL OF CAREFUL SITING AND RESPONSE WITH LIGHTWEIGHT PLATFORMS, SLIDING WALLS AND WINDOWS AS KEY TO SUPER FLEXIBILITY AND TREE-TOP EXPERIENCE.

TRAN

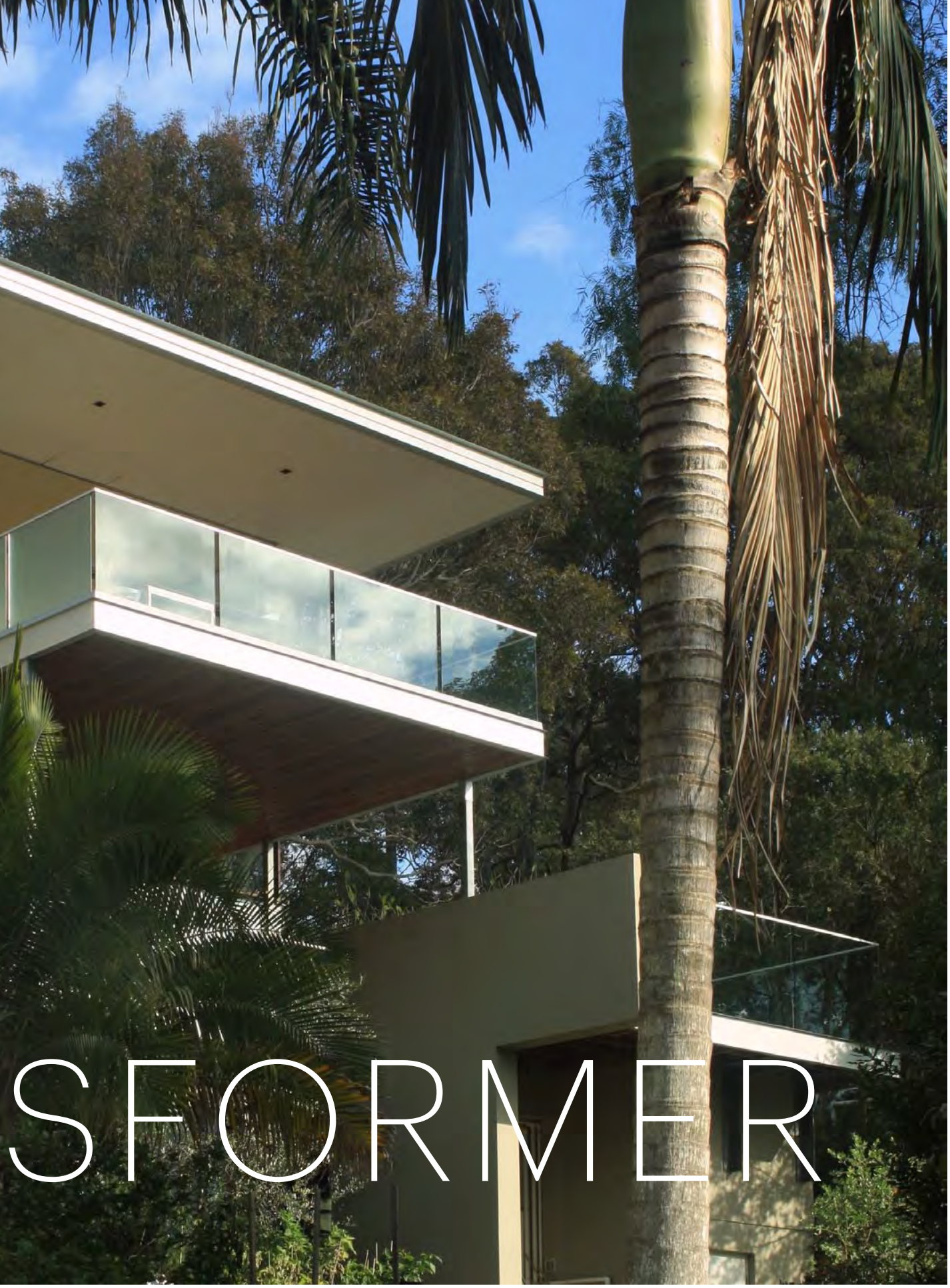
Pretty Beach House,
Pretty Beach, NSW

Architect:
Caryn McCarthy

Principal glazing resource:
Viridian ComfortPlus™

Photography:
Peter & Jennifer Hyatt

Text:
Peter Hyatt



SFORMER

Australia's eastern seaboard supports a housing sprawl mostly disconnected from place. Every so often architecture steps up to demonstrate a way out of the scramble. Difficulty converted from opportunity is one useful measure of design and engineering achievement. In this regard the Pretty Beach House stands out from the crowd.

McCarthy's design for this weekender deftly bridges town and country with a lightweight structure already a survivor of its first bushfire scare.

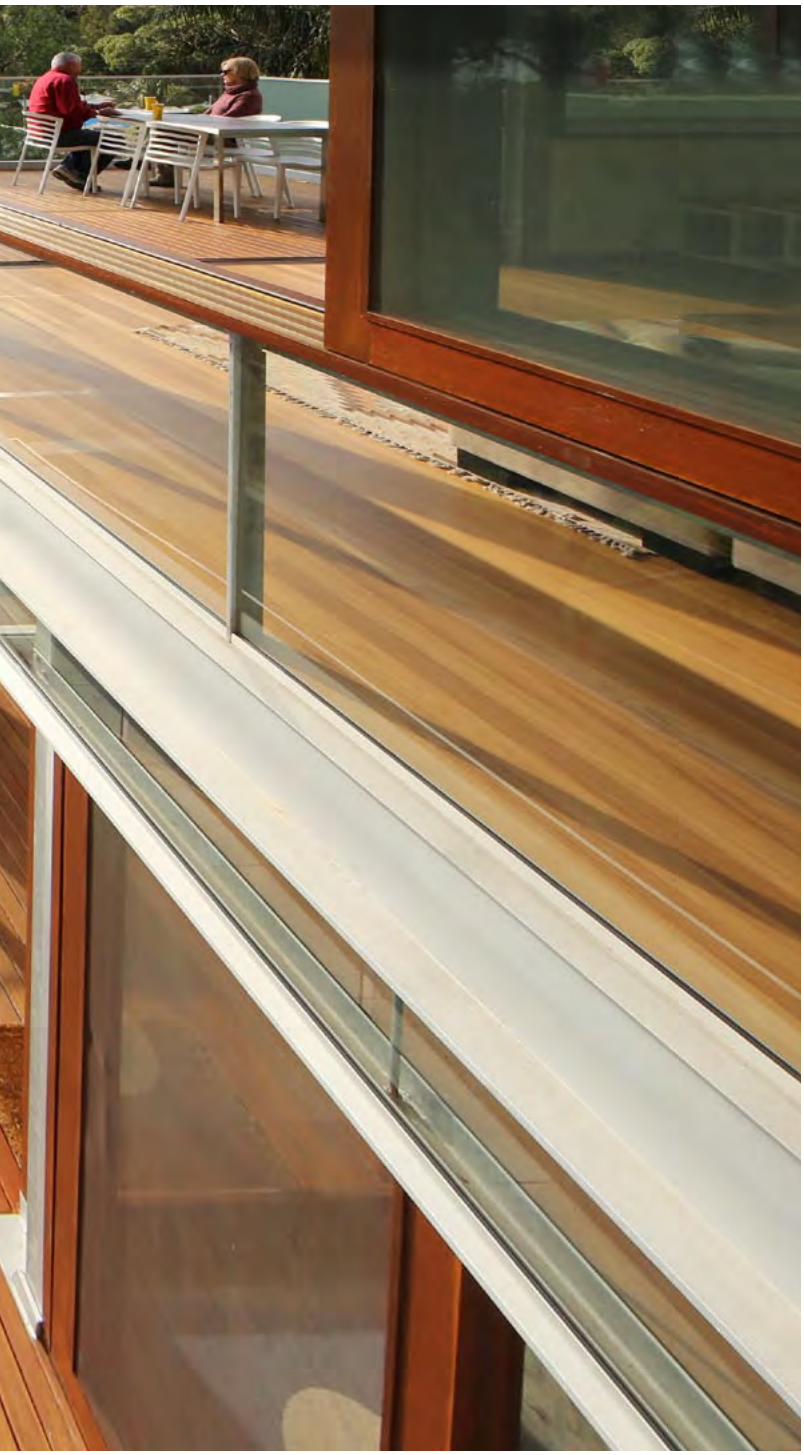
Peter Hyatt spoke with her about the challenges of site and her baptism of fire:

MCCARTHY'S DESIGN TRAVERSES ITS STEEP SITE WITH SKILFUL LAYERING OF LIVING ZONES AND LIGHT-CAPTURE. VIRIDIAN'S COMFORTPLUS™ FORMS A HIGH PERFORMANCE ENVELOPE FULLY TUNED TO SEA, ESCARPMENT AND SKY.

Views north-east from master bedroom towards living areas and beyond is enhanced by fully retractable glazing across major top floor elevations.

Transformer

The ocean-liner aspect north reveals slender, planar quality.



Was your initial reaction to capture the hero water views?
My clients had a house here previously and knew the site well. Yes, there is the view north towards Brisbane Water and Hardy's Bay but there were other aspects including an escarpment to the east and the National Park behind the house to the west. We didn't face the building in any particular way, we just ran with the site geometry.

But isn't that the impulse, to claim the obvious and miss other qualities?
It wasn't the sort of house in which you could capture one stunning panoramic view. There are definitely those features in the distance that become part of what the house finally is.

In a way you're straight-jacketed by your neighbors so there is the issue of privacy. Doesn't that restrict opening up fully on all sides?
We were building in suburban, central-coast territory. The neighborhood isn't necessarily one of pretty houses. That was a major issue.

What distinguishes good design from the typical builder's box?
It should move you. It has to make you feel something and I think this house has that lightness of touch you expect of a beach house in this sort of climate. It isn't a city house bought from a catalogue and just dropped in here. It's really tailored for the site and specifically for the lifestyle of the clients. One of the project's special qualities is its fantastic flexibility. There is that avoidance of the straight-jacket which some buildings tend to impose.

View into body of main living areas and bedrooms under broad eaves to permit air flow and light with minimal direct summer sun.

Is that flexibility the key?
Yes, absolutely. One of the main requirements was to have the kitchen, living and dining quarters all on one level. That was the main framework and where we started planning. Downstairs has massive room for flexibility. The open-plan scenario and spatial flow throughout is definitely part of that flexibility. There's a huge scope for user control. It's all about occupant control where you can adjust and have the whole open, completely closed, or fine-tuned depending upon the weather and sunlight.

Do they bother with that level of adjustment? Some people prefer to set the climate control and forget any manual operation.
The owners' actively operate those doors and windows. They're always changing them. I remember one really hot, humid summer's day and they were adjusting all of the openings to get a breeze through the house. Suddenly it was as if we were outside. Those operable, sliding windows allow you to do that. They are very against flicking a switch and cutting off from the outside world.

There is an overall absence of weightiness – even with the roof, but also connecting with some quite specific views to the escarpment for instance.
I wanted the roof to be a non-event and to hover above the house. Everywhere you are in the house means there is always a reference to the sky, ridge or trees. That occurs downstairs, not to quite the same effect, but you still see those key features.

How difficult is it to design in a way that celebrates the setting with so much glass, yet doesn't really sacrifice the energy management and practical functions?
The beauty of ComfortPlus™ is the way it helps to deal with direct and reflected thermal loads. In winter it allows the house to warm from the low sunlight. ComfortPlus™ allowed such an extensive use of glass and with such obvious benefits around daylight and views. Viridian clear toughened balustrades internally and around the pool continue that language of transparency.

Isn't there a high thermal price to be paid for such grand glass walls along the north and west elevations?
Not in our experience. The house performs very well thermally and I would put that down to the coating on ComfortPlus™. We didn't use double-glazing because the climate isn't extreme enough. We have the best of both worlds in that this glass lets in plenty of winter daylight and warmth to remain comfortable.

Are there any surprises or lessons about the experience of this project that makes you a better architect?
We are always learning. Usually by completion you've already worked out a list you may try differently, or improve on next time, or make more efficient. You can learn from previous projects but they can never be repeated because no one site is the same. My architecture is site responsive, site specific, with special attention to the connection with landscape. This project reinforced these principles.

So what were the lessons?
Good lines of communication with all contractors – from the local builder who was very honest and hardworking through to the engineer. That was key. Next time a flat site would be good – and a bigger budget!

The foundation work was complex here. It appears to be equivalent to an iceberg in terms of the below surface mass that supports the exposed peak, is that how it works?
The house required an anchor point. The site was very steep and it's on a reactive clay site that needed stability. We anchored it as close as we could to the road within council setbacks. These two heavy, masonry, u-shaped anchor points were cut-in and embedded in the site. We used the former house cut out. We didn't have to expand it too much further. Two anchor points then allowed two lighter weight platforms to extend out from this base.

THE HOUSE PERFORMS VERY WELL THERMALLY AND I WOULD PUT THAT DOWN TO THE COATING ON COMFORTPLUS™.

Caryn McCarthy
Architect

Fine window adjustment permits optimum catch of prevailing breezes.

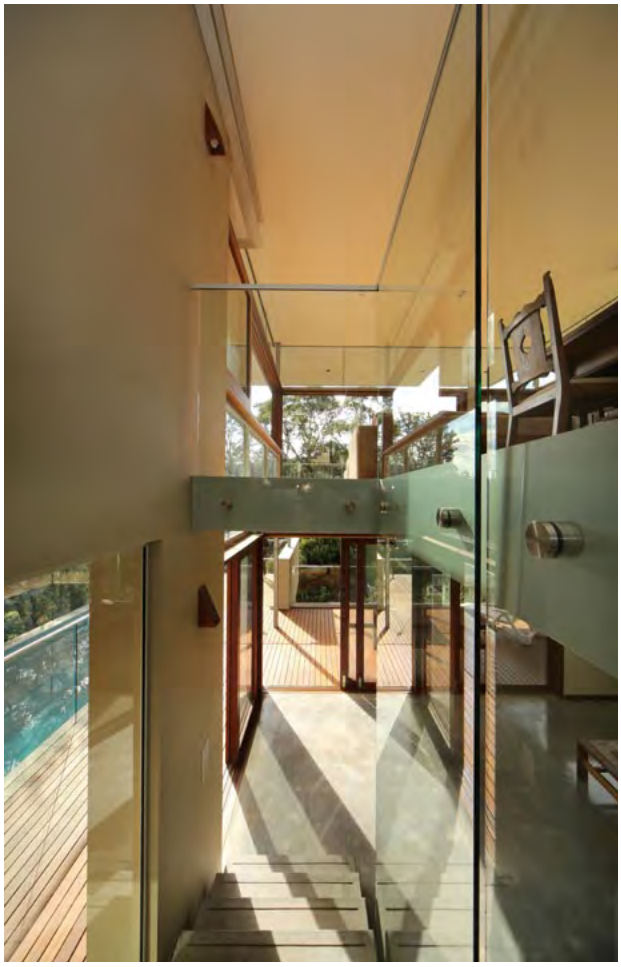
What was the main reason for choosing Viridian glass?
We considered a whole series of glazing combinations – whether to double glaze or to double glaze just highlight glass. Whether to single glass some areas and Low E in others. In the end we decided that ComfortPlus™ was pretty well the one stop shop for what we wanted. That's how it turned out, which was great.

Was there something specific about the product range that swayed you?
It was always going to be Viridian because it's a tried, tested and trusted company. I've used them before on other projects as had the builder. We didn't really look too much further past them and we have a general policy of keeping purchases on-shore.

How important are the sliding glass windows and walls?
That operability goes back to that whole quality of the occupant being in control as well of those different degrees of open or closed spaces.

Do you rely on the thermal chimney effect operating through the central void of the staircase?
The lower level concrete slab offers a big thermal mass that warms up in winter and generates warmth well into the night. A combustion heater and ceiling fans also work very efficiently.

Isn't there a legacy of design failure along so much of the coast?
People often revert to the obvious by seeing how a site faces a certain way and so they simply face the outlook. The old house here faced across the site and wasn't working with the site or the slope. Most people don't realize the potential of their property and the results achieved just by correctly cranking their design.



Polished concrete flooring provides thermal mass while glazing delivers a high level of visibility and legibility of clear design intent.

Upstairs bathroom and lower level living area benefit from a high quality glazing that keeps occupants fully connected with their setting.

IT SHOULD MOVE YOU. IT HAS TO MAKE YOU FEEL SOMETHING AND I THINK THIS HOUSE HAS THAT LIGHTNESS OF TOUCH YOU EXPECT OF A BEACH HOUSE IN THIS SORT OF CLIMATE.

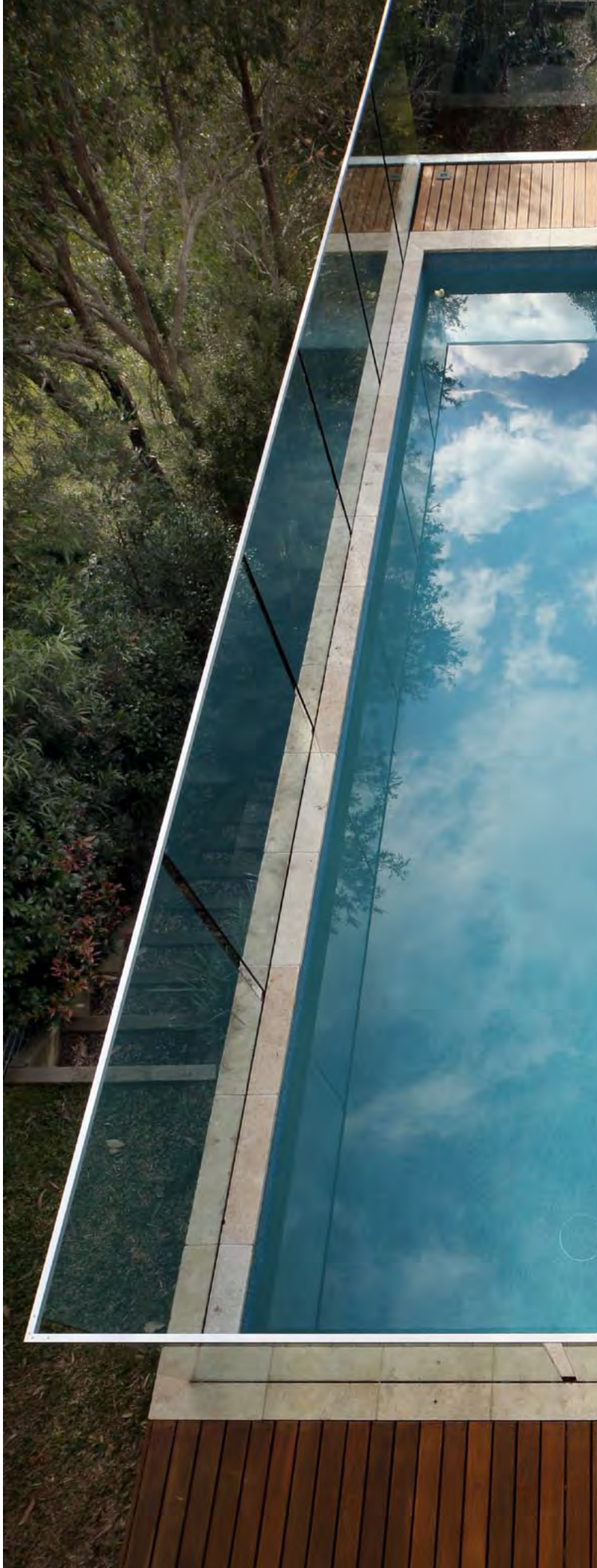
Caryn McCarthy
Architect

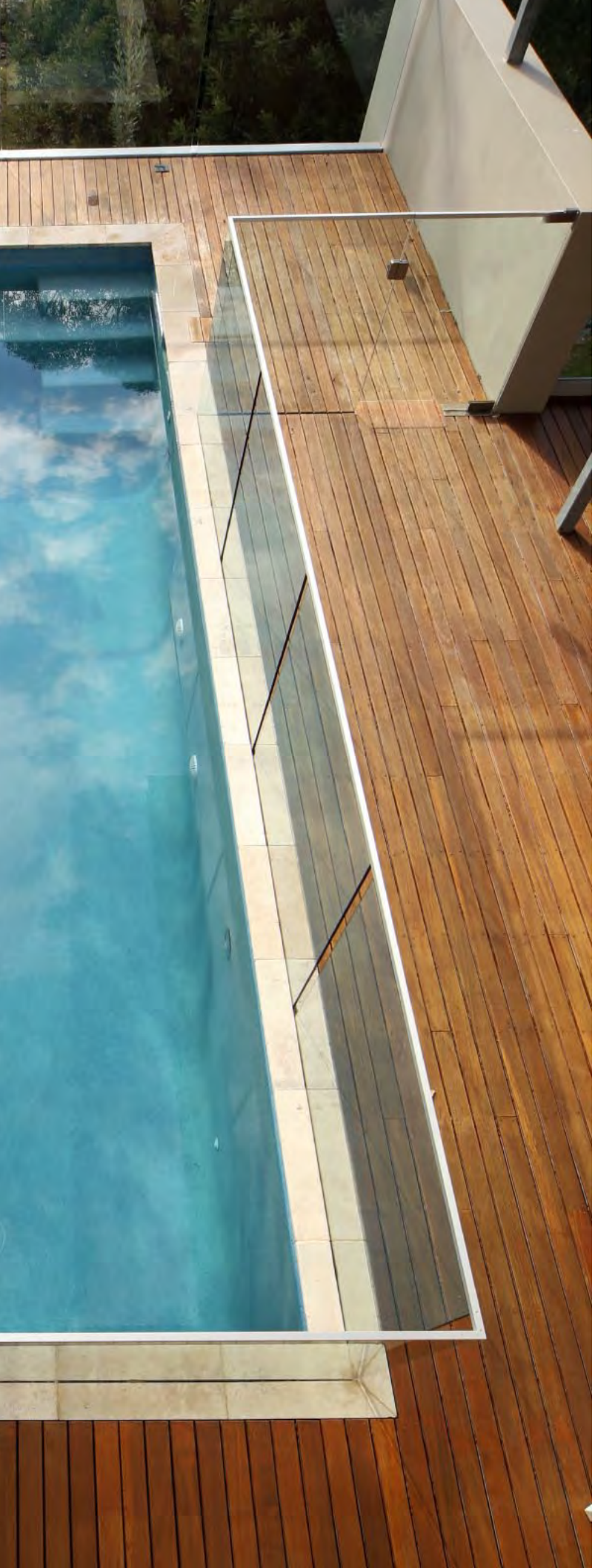
What is the bushfire risk and response here?
You would have noticed the contrast between the size of wall openings to the west versus the rest of the building. That is a direct response to privacy, but it also faces the national park on that side. It was designed to level two in the bushfire construction category. We had to use a certain class of hardwood for anything external which is why we chose Jarrah. There is a very large water capacity on site that the fire-fighting services now have access to.

Wasn't there a big fire through here recently?
In October 2013 a bushfire started at Lobster Beach just to the north, across near Palm Beach. Before long it was threatening homes at Pretty Beach. The authorities made everyone evacuate, except for my client who decided not to take their advice. No-one was allowed to access it by car or anything so he walked there. Talk about a resident trying to defend his property. We were on the phone insisting he should leave: "Don't do this. Come home." He ended up being on the evening news chatting with the fire-fighters and hosing the roof and those of his neighbors and getting right into it. He had one of those sub-titles that said, "And some residents chose to stay."

He's obviously quite an advocate of your architecture.
I think so. It was really lovely that he went to those lengths to protect the house.

A suitably unobtrusive pool 'fence' reinforces the architect's desire for transparency where it matters.





Credits

Project
Pretty Beach House, NSW

Architect
Caryn McCarthy

Structural Engineer
John Carrick

Builder
Scott Booker (ST & SG Booker)

Door and Window Joinery
Russell Pugh – Acacia Joinery

Principal Glass Provider
Viridian

Principal Glazing
Viridian ComfortPlus™
– Windows and walls

Toughened Clear Laminate
– Balustrades and swimming pool surround.

GRAND DESIGN REV

CORE PRODUCTS ENERGY NOISE CLEAR VISION DECORATIVE BUSHFIRE STRUCTURAL STORM SECURITY

IVAL

RECYCLED BUILDINGS ARE A TEST FOR THE MOST SKILFUL ARCHITECTURE PRACTICES. IT'S A GAUNTLET MANY PREFER TO AVOID WHEN CHALLENGED TO CARRY OUT SUCH A CONVERSION.

The Charles H Hoskins Memorial Institute, Lithgow, NSW

Architect: Tanner Kibble Denton (TKD) Architects

Principal glazing resource: Viridian Thermotech E Double Glazed Units incorporating EVantage™

Photography: Tyrone Branigan

Text: Peter Hyatt

INTEGRATION IS VITAL, WITH THE NEW RESPECTING, RATHER THAN APING THE OLD.

Alex Kibble
Architect

A centrally located steel and glass box infuse and activate the building core with daylight.

THE CHARLES H HOSKINS MEMORIAL INSTITUTE AT LITHGOW IN THE NSW CENTRAL TABLELANDS RECENTLY UNDERWENT A MAJOR OVERHAUL, COURTESY OF TANNER KIBBLE DENTON (TKD) ARCHITECTS. IN THE PROCESS THE UNIVERSITY OF WESTERN SYDNEY ACQUIRED THE BEST OF BOTH WORLDS WITH A BLEND OF HISTORY AND COOL GLASS MODERNITY.

Bringing a creaky, worn-out building up to speed, demands control and imagination. A modern façade slapped onto a piece of history can be disfigurement rather than integrated, classy update.

Early 20th century buildings often suffer from serious daylight deprivation – hardly a stage for 21st century education. The insertion of elegant glasswork revives the fortunes of a once proud dame. Crisply delineated steelwork and high-performance Viridian glass are now among the project's jeweled highlights.

Project principal Alex Kibble of TKD Architects discusses the project's transformation from fading dowager to sparkling, grand dame:

How do you honor history and make it relevant for the university and community?
The transformation speaks of today. It reflects a sustainable approach that should make it last for at least another 50–70 years. It's a building with important cultural connections that go right back into Australian iron and steel making. There was the opportunity to rescue it from disrepair and respect its age, yet make it modern.

Is there a project highlight?
Although this is a quiet and understated renewal, it's not a building that stands out as showpiece architecture. We've taken a really run down, unloved and derelict building and given it a whole new life. It's an historic, working-class town that didn't feel like it had a lot going on. The university's arrival brought some life back into this part of town. The other more architectural quality is its sustainability. With some simple tactics such as insulation, new windows and re-working the interiors, it actually feels like a really lovely building. It's bright, open and new. If there is an architectural highlight it's that whole revival and re-connection with the city.

The original echoes the tough, post-industrial revolution. How does the new redeem the old?
In many buildings of this era there was a formal front and a progression of lesser quality spaces towards the rear. We put a new value on the forgotten rear with the new lobby for better planning balance. This has become an equivalent front door. It transforms a very lop-sided building into one that's multi-faceted.

Do you have a general view on adaptive re-use versus demolition?
There were times on this project when we wondered whether demolition might really be preferable. What we delivered is unique and the university received great value. In this instance adaptive reuse was the right option even though there might have been an economically easier route. The university now has a presence it might not have otherwise had.

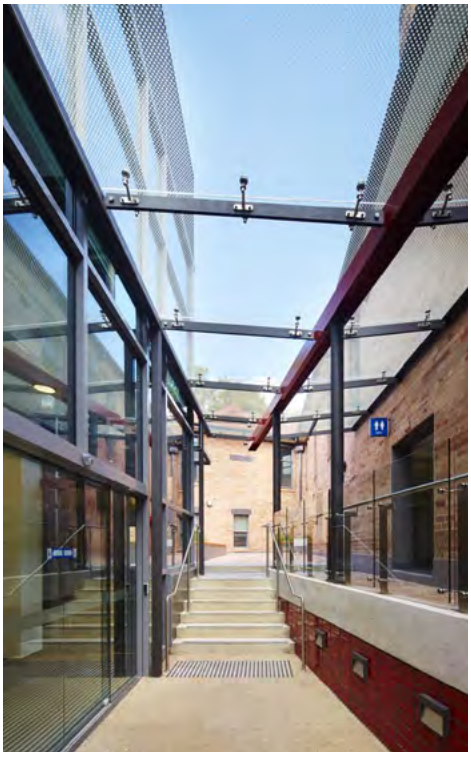
What, in summary, are the main changes?
The biggest change is the addition of a new lift lobby and entry on the building's northern side. This saw the demolition of an ancillary wing and replacement with a glass lobby. This lobby is connected to the main entry via a new steel and glass gallery on the western side of the main hall. Large open hall spaces become teaching classrooms or laboratories, with the largest used for a new lecture theatre. The western hall becomes a new blended learning commons area and library. And of course, it finally relates to the street and wider community.

How important was it to retain a sense of history and level of authenticity?
We strived to maintain the building's history yet provide a contemporary edge. Glass gives a vital contrast against the old stonework. We developed the idea of the glass canopy and red painted steel beam to connect the new glazed lobby. There was a need for weather protection between the lobby and toilets across from the building. We folded the glass above the diagonal steel beam as a powerful reference to Charles H. Hoskins' AIS steelworks. The building has enormous, existing riveted steel beams encased within the structure and so the new steelwork continues that vocabulary.

A broad palette of glass is finely tuned to specific need, from fritted butterfly roof to self-cleaning window glazing.


Level LG
Toilets
Bridge St and Town Centre

The open courtyard ‘corridor’ is made possible with the lightweight roof not as oppressive ornament but highlight void.

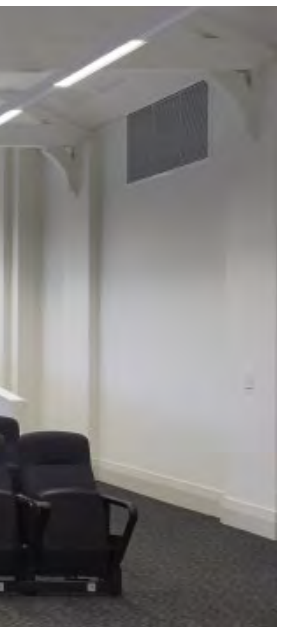


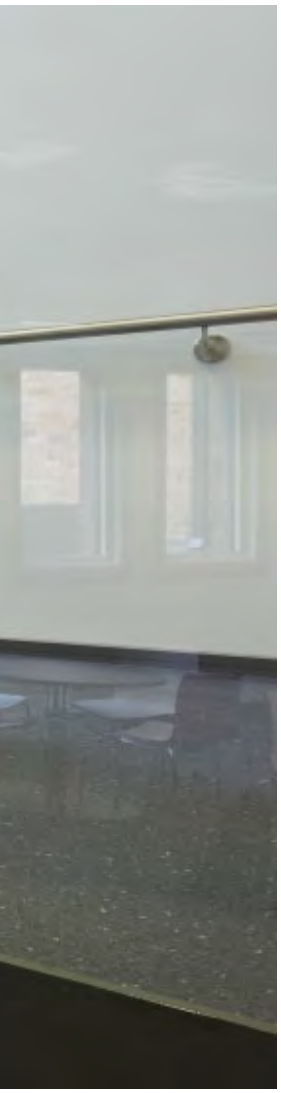
The glass balustrades suggest a more corporate or residential character. Typically we might expect a tougher, more industrial aesthetic in such a setting.

The real reason was daylight. It tends to be dark and in the middle of winter it was miserable. Thankfully the client also wanted as much glass as possible. There is a lift on the corner. A pragmatist would have said: “This needs a concrete lift-shaft.” The university wanted a glass corner to bring light into the foyer by as many means as possible.

It’s better understood that these incidental spaces are where staff and students connect and where higher levels of learning occur other than the classroom. How much does that influence your design work?
It’s the driver for a lot of tertiary and secondary education work. These break-out spaces are of course where people congregate between classes and it’s a vital part to these buildings. It’s especially important here because it’s a remote campus of the university. It needed even more of that interactive quality because there wasn’t another campus nearby. We needed a lot more of those milling spaces and places where students could hang-out between formal classes. It’s why the quality of light is so important to those areas and the efficiency and pleasure they can bring.

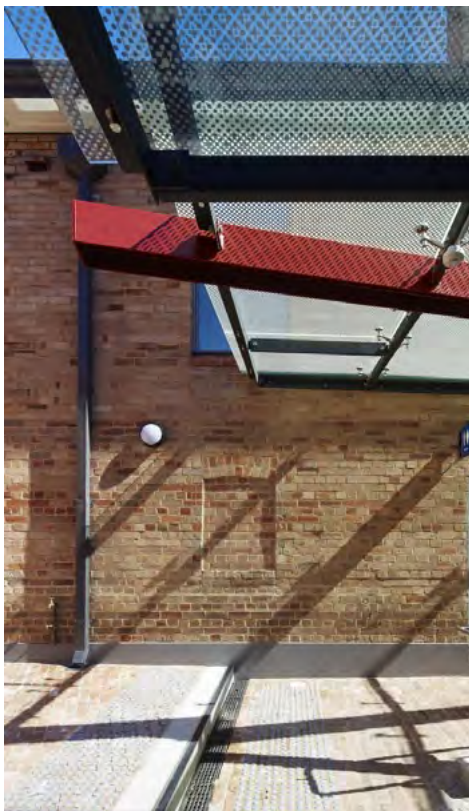
The market is really benefiting from this process of specifying performance glass to bring about those changes.
That’s true. These buildings need to be receptive to daylight and respond to how they are inhabited. No-one wants to occupy dimly-lit spaces or classrooms. The fact that we could create an outlookand sustainably feature so much glass really changes the aesthetic here.





Apart from the improved transparency and daylight what are the other benefits?
To make it work as a four star, green-star rated project is not easy in a retro-fitted building of its age. There are a lot of sustainability initiatives, not least remediation of the site contaminated by industrial use. There was an understanding that the building could become an asset and a contribution to the social fabric of Lithgow.

You use a wide selection of glass types from fritted, acoustic to energy performance. What was behind that selection?
We had various heritage and architectural issues. We worked very hard to ensure the right glass ended up in the right place. The stippled glass relates to its particular area where we need filtered daylight. There were also sustainability values and compliance with Section J of the building code. In addition there were green-star ratings. We chose performance glass on west-facing facades where there is plenty of solar penetration. We didn't want to rely on an overly air-conditioned space, so the right glass ensured the air-conditioning and mechanical systems perform to their best. Then there are other areas where we wanted double-glazing for sound proofing from the street. There is a whole range of specific glazing responses and Viridian was able to cover every one of those.



The design is not so much a story of inside or outside, but about the transitional zone reminiscent of the traditional veranda. The stippled glass canopies for instance, perform a similar role to the veranda that feathers its building edge.
You're right. Apart from a small, storm lobby that was it. We've added those intermediate spaces that you really need and I think they're the places where people now experience that transition. That glass canopy provides a lovely inside out quality shelter.

Red steel beam as reference to structure's steel-making origins is contrasted by high end transparency.

What are some of the lessons you will take to other projects?
We learned a lot about performance glass and finding solutions for thermal performance. We found ways to redeem the structure and overcome problems that were initially perplexing. We found timber framed double-glazed windows that perform exceedingly well in the cold climate. We found ways to achieve a very crisp new extension with readily available aluminum sections and available glass. That provides us with skills for a whole range of other building types to take with us.

What technical assistance did Viridian provide?
They supported our team from the outset and helped calculate thermal loads and light transmission for instance. We were grateful for that reassurance knowing we had the best glass for a given application.

Credits

Client
University of Western Sydney

Project
The Charles H Hoskins Memorial Institute, Lithgow, NSW

Architect
Tanner Kibble Denton (TKD) Architects

Design Team
Alex Kibble, Alicia Pozniak, Angelo Casado, Christy Wong, Phillipa Ward

Structural Engineer
Mott MacDonald

Builder
Cockram Constructions

ESD Consultant
Umow Lai & Building Services

Timber Windows
Evolution Window Systems

Aluminium Windows
AWS (elevate contractor)
Series 826
Commercial, Thermal Heart

Principal Glass Provider
Viridian

Principal Glazing
Viridian Thermotech
E Double Glazed Units
incorporating EVantage™

Butterfly Roof
Viridian VLam™

Windows
Viridian Renew™

Viridian Seraphic
Design – White dots.

VIRIDIAN (Australia)

VICTORIA
Melbourne (03) 9562 9562
Mildura (03) 5021 2921
Morwell (03) 5134 3586

NEW SOUTH WALES
Sydney (02) 9756 2100
Albury (02) 6021 4333
Coffs Harbour (02) 6658 4500
Erskine Park 1800 810 403
Newcastle (02) 4940 3700
North Ryde 1800 810 403
Tamworth (02) 6763 3600
Wollongong (02) 4271 5888

QUEENSLAND
Brisbane (07) 3365 0500
Cairns (07) 4031 5777
Townsville (07) 4775 4099

TASMANIA
Hobart (03) 6245 0470
Devonport (03) 6424 1816

AUSTRALIAN CAPITAL TERRITORY
Canberra (02) 6203 0500

SOUTH AUSTRALIA
Adelaide (08) 8348 9200
Mt Gambier (08) 8721 0000

NORTHERN TERRITORY
Darwin (08) 8981 9411

WESTERN AUSTRALIA
North Perth (08) 9444 5333
(Viridian Glass Selection Centre)

Jandakot (08) 9411 0111

Myaree (08) 9317 0417
(Viridian Glass Selection Centre)

ALL AUSTRALIAN SALES ENQUIRIES
Freecall 1800 810 403

VIRIDIAN (New Zealand)

NORTH ISLAND
Auckland (09) 573 1427
Hamilton (07) 846 0725
Tauranga (07) 547 4280
Palmerston North (06) 358 8937
Wellington (04) 568 5251

SOUTH ISLAND
Blenheim (03) 578 0850
Nelson (03) 543 9077
Christchurch (03) 341 5007
Dunedin (03) 455 2280

VISION welcomes project submissions by our editorial team. Please send ideas and projects to:

viridian@csr.com.au

Find us online

www.viridianglass.com

Twitter

Blog

Subscribe

Submit

VISION welcomes project submissions to our editorial team. Please send ideas and projects by clicking the Submit icon above.

Text & Photography
Peter Hyatt, Jennifer Hyatt
www.hyattgallery.com.au

Graphic Design
Nexus Designs
www.nexusdesigns.com.au

Viridian
New World Glass