

110

NOVEMBER 2011

ARCHITECTURAL

STEEL INNOVATION

WITH BLUESCOPE STEEL

STEEL PROFILE

30 YEAR
ANNIVERSARY
EDITION

PETER STUTCHBURY ARCHITECTURE
THE HANGAR

ENDURING ARCHITECT
GLENN MURCUTT

SUTERS ARCHITECTS
MARIBYRNONG SPORTS
ACADEMY

IN PROFILE:
ANDREW MAYNARD

EDITORIAL

Welcome to *Steel Profile* #110.

This issue marks 30 years since *Steel Profile* was first published, in 1981. This remarkable milestone is testimony to the relevance of steel architecture and it has been an honour for us to have documented such an important subject for so long.

To celebrate the milestone we have revisited some longstanding projects by a founding father of Australian steel architecture, Glenn Murcutt – who, fittingly, was also the subject of the lead story of our inaugural issue.

We are proud to also bring you a collection of contemporary buildings in which steel is used cleverly, practically and with inspiration.

Please also feel free to share your thoughts via info@steelprofile.com.au

Kristin Camery
BlueScope Steel editor



30 YEAR
ANNIVERSARY
EDITION

EDITORIAL ADVISORY PANEL

Steel Profile has established an editorial advisory panel to ensure that only projects of the highest calibre are selected for publication. The panellists are:



ADAM HADDOW

A director of SJB Architects Sydney, Adam attempts to achieve built solutions that positively activate their urban and individual environments.

More than anything, he loves to design and construct buildings and is most interested in achieving excellent multiple housing solutions. Adam was named a 'Future Leader' by the Property Council of Australia in 2009



FRANK STANISIC

Stanisic Associates founder Frank Stanisic is a Sydney-based architect and urbanist.

His work is fuelled by an evolving interest in the diagram and frame as a basis for architectural invention, and the aesthetics of permeability.

Frank's projects have won numerous awards including Australian Institute of Architects' Special Jury, Wilkinson, Aaron Bolot and Frederick Romberg



DANIEL GRIFFIN

Joint winner of the 2008 COLORBOND® Steel Biennale Prize, Daniel's award-winning architectural thesis at RMIT examined the urbanisation of Palestinian refugee camps.

He has taught at the University of Melbourne, RMIT SEEDS and been a faculty member at the University of Sydney. Daniel recently opened his architectural practice and works for Hassell Architects, Sydney

5



In an unorthodox yet ingenious approach, Peter Stutchbury has eliminated the secondary structure of The Hangar at Cessnock Airport, achieving incredible economy of form for this curvaceous beauty

13



In celebration of our 30-year anniversary *Steel Profile* spoke with Glenn Murcutt who, with his strokes of sculptured steel, has created some of the most defining and longstanding projects we have featured

19



With a handsome design, McBride Charles Ryan drew on its suburban setting to provide several remarkable faces for the new Penleigh and Essendon Junior Boys School

25



Driven to test the rules, exciting young architect Andrew Maynard is constantly searching for new and uplifting answers

29



Welsh+Major has opened up a previously cloistered Victorian terrace with an addition that provides light and space for a growing family

35



The concept of sports 'pre-visualisation' has cleverly informed Suters Architects' design for the Maribyrnong Sports Academy

43



Tanner Architects has applied some deft touches for a new pavilion in the form of an artisan-crafted standing-seam roof and slick guttering

Principal Corporate Partner



Australian Institute of Architects



COVER PROJECT The Hangar
PHOTOGRAPHER Michael Nicholson

NUMBER 110, NOVEMBER 2011

BLUESCOPE STEEL EDITOR Kristin Camery **MANAGING EDITOR** Rob Gillam **ASSOCIATE EDITOR** Rachael Bernstone

CONTRIBUTING WRITERS Rachael Bernstone, Tania Davidge, Rob Gillam, Peter Hyatt, Christine Phillips

CONTRIBUTING PHOTOGRAPHERS Peter Bennetts, Paul Bradshaw, Emma Cross, John Gollings, Kevin Hui, Peter Hyatt, Michael Nicholson, Lachlan Rowe, Bob Seary

ART DIRECTOR Natasha Krncevic **CORRESPONDENCE** *Steel Profile*, PO Box 961, Crows Nest, NSW 1585, AUSTRALIA

EMAIL rob.gillam@steelprofile.com.au; rachael.bernstone@steelprofile.com.au

SUBSCRIPTIONS For all subscription enquiries please visit the *Steel Profile* website at www.steelprofile.com.au

BlueScope Steel recommends the use of COLORBOND® pre-painted steel or ZINCALUME® zinc-aluminium alloy-coated steel for the majority of external cladding applications. For technical advice on the right product to use, contact your BlueScope Steel representative. BlueScope Steel recommends routine preventative maintenance for eaves and other "unwashed areas" of structures which may not be regularly cleaned by rainfall. For further information please contact your nearest BlueScope Steel office or consult www.bluescopesteel.com.au

BlueScope, COLORBOND®, ZINCALUME®, LYSAGHT®, CUSTOM ORB®, TRIMDEK®, KLIP-LOK®, SPANDEK®, LYSAGHT LONGLINE®, GALVABOND® and ® colour names are registered trademarks and ™ colour names are trademarks of BlueScope Steel Limited

Copyright © BlueScope Steel Limited ABN 16 000 011 058. No part of this publication may be copied, reproduced or distributed without consent. BlueScope Steel Limited, to the extent permissible at law, is not liable to any person for loss or damage arising from reliance upon information contained in this publication. The views expressed in this magazine are those of the authors and do not necessarily reflect those of BlueScope Steel Limited



TAKING FLIGHT

The economy of form of The Hangar at Cessnock Airport, designed by Peter Stutchbury, doesn't detract from its beauty. The uniquely curvaceous building looks immensely at home in its airport setting, because its form is entirely derived from its function.

Words **Rachael Bernstone** Photography **Michael Nicholson**

ARCHITECT Peter Stutchbury Architecture

PROJECT The Hangar

LOCATION Cessnock, New South Wales



5

For a building of its size and modest expense, The Hangar at Cessnock Airport embodies a lot of design consideration and logical thinking. According to architect Peter Stutchbury, he worked hard at the outset to convince his client, property developer James Johnson, to build a landmark hangar. Once he'd done that, Stutchbury and his team expended considerable mental effort to realise the most efficient structure possible, on a tight budget. "It wasn't easy for us to fine-tune the design," Stutchbury says. "It was amazing how much design thinking went into the building, which cost about 20 per cent of the price-per-square-metre of some of the houses we design."

The project arose when Johnson, for whom Stutchbury had previously designed a house in Vanuatu, started looking for a new location for his joyflight business, originally based at Maitland Airport. "With just two or three aerobatic and jet planes, he was flooded with people wanting to fly, so he started looking for somewhere to set up a larger business," Stutchbury says.

The small regional airport at Cessnock – located close to the Hunter Valley vineyards and adjacent to the Tourist Centre – heard of Johnson's plans and opened up a parcel of land on a 40-year lease.

"The relatively short lease period made this a sizeable commitment on Johnson's part, and it wasn't easy to convince him that it would be in his best interests to go for an interesting building rather than just a standard shed," Stutchbury says. "We had to prove to him that our solution would be as cost-effective as a standard off-the-shelf hangar."

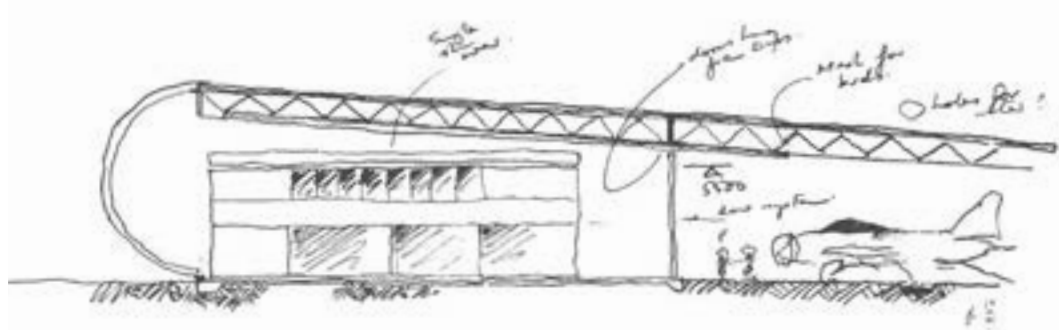
With an initial scheme in hand, Stutchbury commissioned a wind assessment from the University of Sydney to test the structural efficiency of the design, a process that cost \$12,000, but which he says saved five times that amount by helping to refine the design and reduce the building's steel content.

"We were able to eliminate the building's secondary structure – there are no purlins or girts, and the primary structure; the portal frame – is made from only two types of standard steel sections," Stutchbury says. "The roof holds the whole thing together."

"Another advantage of our design is that it offers more hangar space internally than an off-the-shelf hangar would have provided, and we were able to achieve 25 per cent savings on the overall steel content in comparison with a standard hangar."

This feat was largely accomplished by the rounded southern elevation, which curves upwards to become the roof, concluding with a 12.5-metre cantilever on the northern elevation. The curved section acts like an aerofoil to deflect the prevailing southerly winds – which can reach 100km/h – up and over the building. The steel roof is also slightly curved downwards from the centre to its eastern and western edges, to provide additional wind deflection.

"The two-way curve can be read subtly in the form, rather than as a dramatic statement, but it results entirely from function, to address the issues of wind loading and compression, and span," Stutchbury says.



The primary structural system comprises four curved trusses that incorporate roof brackets, so the roof cladding is directly attached to this frame, and the main portal frame on the northern elevation that provides the 30m span for the four sliding hangar doors to open to the taxiway. The roof sheeting – Aramax 800A100 G550 made from COLORBOND® steel in the colour Surfmist® – was rolled on site in 55-metre lengths before being strategically attached to the trusses.

"It wasn't straightforward to build because you don't have the secondary structure," Stutchbury explains. "It's only when the roof sheets are installed that the building becomes stable and structurally co-operative. We had to produce set-out drawings for all the brackets so that the builder could sequentially apply the roof sheets: it was quite experimental in terms of construction."

"Having said that, the erection of trusses and roof was completed within one week, so it was a quick build in terms of structure," he adds. "And we'd know where to save time and money if we were to build another hangar."

"We were able to eliminate the building's secondary structure – there are no purlins or girts and the portal frame is made from only two types of standard steel sections. The roof holds the whole thing together"

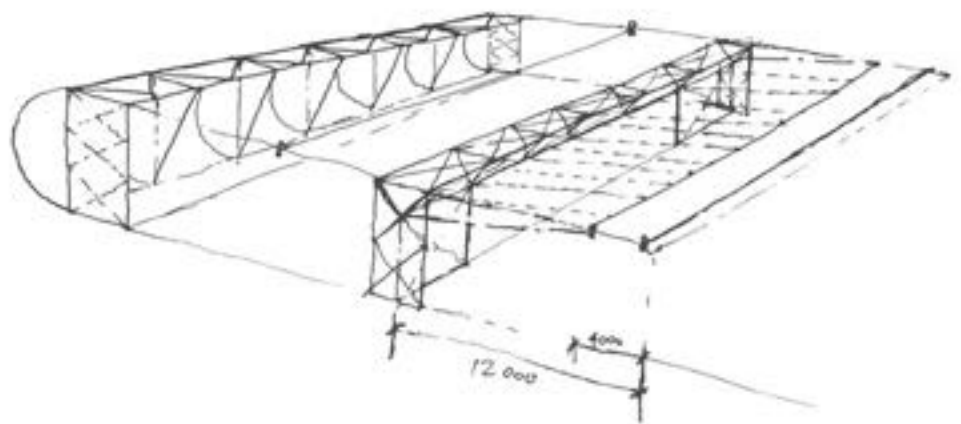
That may yet happen – Stutchbury says his office receives a phone call roughly every three weeks from potential clients whose interest has been sparked by the hangar, and the architects are currently considering a project for a Victorian airfield.

"We've had a lot of interest in the structural system that we developed for The Hangar, which eliminates the secondary structure," Stutchbury says. "It is not a common way to build and it provides an unusual solution because it achieves a significant cantilever in a location that experiences strong winds. The Hangar is designed to move 150 millimetres on the northern side: there is a lot of give in the building."

It's this attention to function and detail that sets The Hangar apart from Stutchbury's earlier works, including the Deepwater Woolshed near Wagga Wagga (which won the Australian Institute of Architects' National Commercial Buildings and COLORBOND® Award for Steel Architecture in 2005), which the architect says were largely inspired by and responded to their location and unique environmental conditions.

"The Woolshed was highly environmentally responsive, especially in terms of ventilation, because it provided natural distribution of heating and cooling," Stutchbury explains. "The Hangar does respond to environmental concerns, for example, it has sunshades to the west and the big overhang to the north, and cross ventilation at roof level to eliminate condensation, and it's made from lightweight and direct materials (the steel elements were affixed with screws and bolts so that the building can be disassembled and reused at any stage of its life)," Stutchbury says, "but it is more interesting for its structural and technological features rather than environmental attributes."

"This project doesn't play on sustainable design elements as much as The Woolshed did, it is much more focused on structural problems and the notion of structural agility," he adds. "In fact it took us months to evolve the structure using only two standardised steel sections, so that we could reduce the building's physical content down to just two or three main elements." ➔



BELOW: The rounded southern elevation curves upwards to become the roof and acts like an aerofoil to deflect prevailing southerly winds, which can reach 100km/h

BOTTOM: The steel roof is also slightly curved downwards from the centre to its eastern and western edges, to provide additional wind deflection

PANEL SAYS

More than three years in the making, this is a project that we've been monitoring for some time, so we are extremely delighted to be featuring it in this 30-year anniversary issue. The Hangar can surely take its place among some of the most extraordinary buildings to have graced these pages over the past three decades, and we are convinced that it will become a quintessentially Australian architectural icon. While we admire the building's simple yet curvaceous form, the most noteworthy aspect of this project is the economy of the design and construction, which results in large spans while eliminating secondary structure, producing an honest and direct building that manages to somehow transcend the sum of its parts.



Another aspect that sets this building apart from previous projects is the fact that the wall becomes the roof – effectively the COLORBOND® steel is the building's entire skin rather than just its facade. That meant the architects had to consider design issues of tension and compression in the one surface for the first time. "In contrast, at the Woolshed, the roof is simply that, although it does support the structure below," he says.

The rigorous simplicity and structural economy of this design allowed few prospects for decorative touches. "In a budget this tight, there is very little opportunity for aesthetics," Stutchbury says. "Essentially you have to rely on the structure to do the talking, which is why we chose to paint the steel trusses in red oxide. It's actually pretty tough going to get an aesthetic: it all had to derive from function, right down to the set out of the screws and the geometric patterns created by the form-ply walls and floors.


These can be found within the 'pods' situated at the eastern and western ends of the building, which house the hangar's ancillary functions. At the main entrance, the eastern pod is recessed to provide a welcoming veranda space that opens to reception and a small office downstairs, with a self-contained one bedroom apartment above. At the western end, the two-storey pod protrudes from the building to capture views across the airport. At ground level it comprises an instruction room for patrons alongside toilet facilities, while the upper level gallery was conceived as a club room or entertainment space for guests, complete with external balcony and observation deck overlooking the runway.

The two pods are externally encased with cladding made from BlueScope GALVABOND® steel and are linked by a suspended steel-framed walkway that provides the main upper-level circulation, and also acts as an observation platform for visitors overlooking the hangar's main floor, below.

As Stutchbury anticipated from the outset, the building's unusual attributes helped it to attract attention from people interested in more than just joy-flights: it has been used as a small museum for flying memorabilia, and a successful venue for major events. One of these included a Christmas party for 500 staff from a well-known merchant bank, who sat at tables scattered throughout the hangar amongst the planes.

At the time of writing, though, the client had closed the joy-flight business, sold his aviation collection and listed the building for sale. Now it is partially occupied by 'top gun' pilot Matt Hall and his two racing planes, but it is crying out for a new owner who will make the most of its many attributes. ➤





"Essentially you have to rely on the structure to do the talking, which is why we chose to paint the steel trusses in red oxide"

The primary structural system is made up of four red curved trusses which incorporate the roof brackets, enabling the roof cladding to be directly attached to the frame and the main portal frame on the northern elevation. It provides a 30m span for the sliding doors that open to the taxiway

Stutchbury remains confident the building will find its niche. "I think it is a remarkable building for \$830/m², because it is fully serviced with bathrooms. It has the apartment and office space, as well as the big hangar. It's a very flexible venue."

Naturally enough, Stutchbury concurs with the views of the NSW Australian Institute of Architects Jury, which toured the building before awarding it the state's 2011 COLORBOND® Award for Steel Architecture. In its citation, the jury said: "Its greatest achievement... is in its economy of form and material, with the enclosure defined by the span and radius of the Aramax steel roof sheeting, and the optimum span and cantilever of the trusses, providing maximum strength and enclosure for minimum material."

"Every time I go there, I enjoy its beautifully singular quality," Stutchbury says. "As well as being easy to read or understand, you can discover new things in the design the more you look at it: it's not all self-evident."

"The form is entirely derived from the structural system and the function of the big span and large opening, which is quite a different derivation of form. For me it is usual to prioritise landscape or environmental considerations," he continues. "The internal aesthetic is economic, but also beautiful, which demonstrates that you don't have to spend a lot of money on finishes if you carefully consider how to use them." **SP**

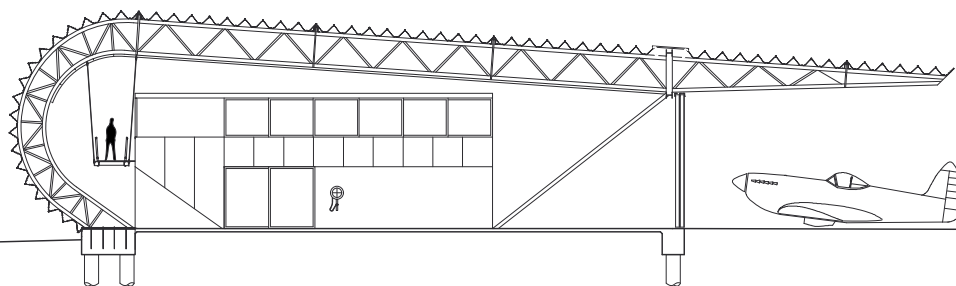


The suspended steel-framed walkway provides circulation between the upper level pods and acts as an observation platform for visitors

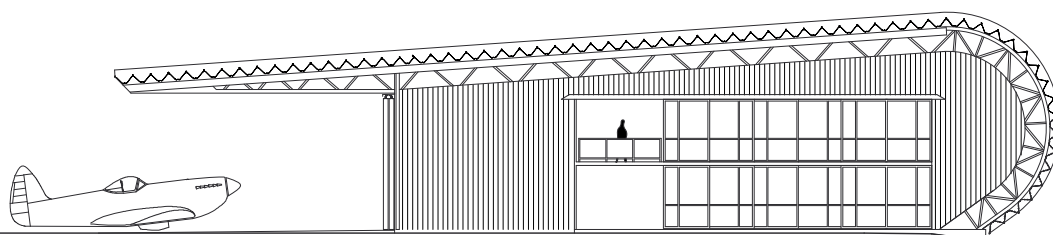


The 12.5 metre cantilever on the northern elevation is made possible – despite the prevailing strong winds – thanks to Stutchbury's innovative building system that eliminates secondary structure

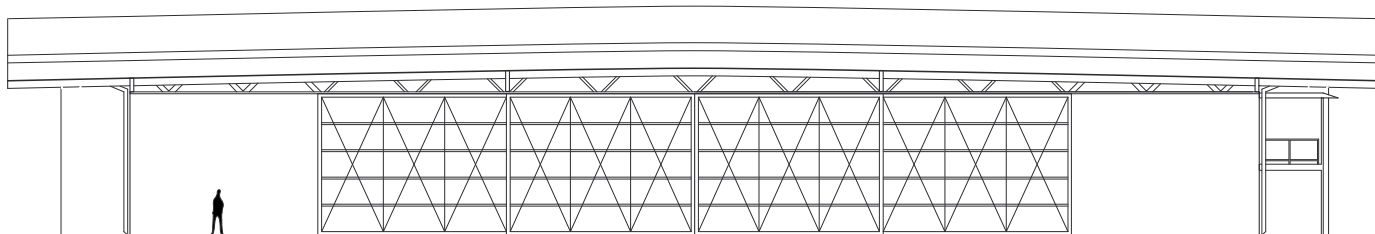
SECTION



WEST ELEVATION



NORTH ELEVATION



PROJECT The Hangar **CLIENT** James Johnson **ARCHITECT** Peter Stutchbury Architects **PROJECT TEAM** Matthew Markham-Lee **STRUCTURAL & CIVIL ENGINEER** Simon May & Associates **BUILDER** Babic Construction **STEEL FABRICATOR** Maitland Fabrications **SHOP DRAWING CONTRACTOR** Desweld Drafting **ROOFING CONTRACTOR** Litchfield Roofing **LANDSCAPE ARCHITECTS** Phoebe Pape **PRINCIPAL STEEL COMPONENTS** Roofing: Aramax 800A100 G550 made from COLORBOND® steel in the colour Surfmist®; Wall cladding: LYSAGHT CUSTOM ORB® made from COLORBOND® steel in the colour Surfmist®; Internal cladding: BlueScope Steel GALVABOND® steel; Structural steel: Top and bottom chords of curved frame 150 UC 37 and 100 x 12 flats; Webs to curved frames 150PFC. Steel painted Dulux Red Cross (now Red Box) and Dulux Ticking **PROJECT TIMEFRAME** Three years (construction) **AWARDS** Australian Institute of Architects NSW COLORBOND® Award for Steel Architecture 2011 **BUILDING SIZE** 1886m² GFA **TOTAL PROJECT COST** \$1.8 million



ENDURING ARCHITECT

In celebration of *Steel Profile's* 30-year anniversary, Peter Hyatt spoke with the father of Australian steel architecture, the unparalleled Glenn Murcutt, whose works are amongst the most longstanding and defining projects to have graced our pages.

Words **Peter Hyatt** Photography **Bob Seary (portrait); Peter Hyatt**

13

Glenn Murcutt has already spawned great tomes. Lauded in the architecture media and blogosphere, he's also attracted anonymous criticism that comes with blistering success.

Even by the end of the post-modernist 1980s when many of his contemporaries were immersed in an architecture of symbols, Murcutt was swimming flat-out in the opposite direction. Those sculpted-strokes of steel and glass quickly stimulated international interest.

His call-to-arms to "touch the earth lightly" quickly found a worldwide audience.

The chord he struck was an approach that demanded less and offered more.

A refusal to subordinate the landscape was replaced with a Henri Rousseau-like innocence that celebrated the primitive, natural disorder. Murcutt's lightweight metallic pavilions shimmered by day and gleamed by moonlight. His Marie Short House at Kempsey on the New South Wales north coast (1974) *Steel Profile* #15 & #16 and Magney House (1986) *Steel Profile* #35, characterised his jeweller's eye.

The Magney House at Bingie Point on the NSW South Coast confirmed Murcutt's emerging international reputation. His reinterpretation of the Australian verandah defined a remarkably robust delicacy. Bingie's pre-fabricated elegance was at once lyrical and sustainable well before most architects clamoured to embrace the environmental opportunity.

The Marie Short farmhouse at Kempsey in NSW put Murcutt on the map as an architect of exceptional promise. A pair of elevated pavilions constructed from timber, steel and glass embodied the notion of permeable aspect and filtered light. The house became famous for his anthem to 'touch the earth lightly' as much as its feathered, rippled steel roof and operable screens.

The Marie Short House received the Australian Institute of Architects' national and New South Wales 25 year Awards in 2004 and the Magney House received the re-titled Australian Institute of Architects NSW Enduring Architecture award in 2011. Murcutt stopped entering awards in the mid-1990s "to clear the way and let a whole heap of other young architects receive their due. It's not on for me to shut the door on others."

Awarded *Steel Profile's* architect of the decade in 1991, his citation acknowledged Bingie and Kempsey's vital modernity: "Glenn Murcutt's houses, almost alone in contemporary Australian architecture, are neither copies nor pastiches... they are fresh. Full of inventive ideas... completed in 1986, Bingie is a building which sits comfortably alongside the best architecture this century has produced. It is possibly the only other building, besides the Sydney Opera House, which rises to this level of originality and authenticity. The essence of Murcutt's achievement has been to take one of the central Australian metaphors, the veranda, and convert it into an entirely new thing – the long thin verandah-house. The house represents the climax of the development of this type which began back in 1974 with the Marie Short farmhouse." ➦





It is possibly the only other building, besides the Sydney Opera House, which rises to this level of originality and authenticity



ABOVE: The Magney House is the poem born of the epic. Murcutt's design vocabulary fuses technical precision and lyricism

LEFT: Slender-waisted with floating, parasol roof, the 'thin-skin' approach to cladding house takes the 19th century verandah into the 21st century



ABOVE: Like the man from Remington, he 'liked the company so much he bought it'. Similarly Murcutt purchased the Marie Short House from his original client. As with all enduring architecture, the house retains an entirely convincing modernity 37 years on

And the recognition of his originality continued. "I'm still scratching my head about the Pritzker Prize in 2002," he says. Last year Murcutt received the American Institute of Architects Gold Medal and he sits on the Pritzker and Alvar Aalto medal juries.

Acknowledging the value of awards – "They can bring some very good work" – Murcutt has experienced a veritable award blitz. So many in fact that he says they're the last thing on his mind. There's Denmark's Green Pin Award, and another Danish award for Making the Difference. Then of course the Alvar Aalto Medal (1993) and Pritzker Prize are among the highest accolades world architecture has to offer. He has a string of professorships that tug him towards half a dozen places at once.

"The Laurie Short House in Terrey Hills (1971) was my first steel building," he recalls. "About the same time I visited Col Madigan's Warringah Library in Dee Why and it was just beautiful. I thought: 'My God, here is someone who really understands another way of dealing with steel'. That really set me on a path of seeing steel in another way. I wanted to express it perhaps without quite the same decorative quality. The Maison de Verre (1932) in Paris by Pierre Chareau and Bernard Bijvoet made me realise the finesse possible with steel.

"Steel is the skeleton that also sets the rhythm. It permits the flesh between it all. It sets the grid and real order. You can't make mistakes once you understand that order.

"Walls come off grid. Walls go between columns and on a particular axis to that column so 'tradies' never get that wrong. I've never had to pull anything out after some sub-contractor got it wrong. The frame sets the parameters and steel does that. It gives you a marvellous structural finesse as well as detailing finesse."

Despite being a household name, Murcutt can walk around with a level of anonymity most celebrities from the stage and screen would envy. "Being under the radar suits me," he laughs, aware he is pursued as a keynote speaker at architecture conventions the world over.

Success, though, has brought a level of financial security unusual in an increasingly challenged profession. As architects are aware, their services are too often regarded as discretionary.

His zeal for the natural world is well known. It's reminiscent of the 85-year-young David Attenborough. Always on a mission, Murcutt shares that boundless energy that contradicts his age (75). "I've been dealing with what are termed 'environmental issues' all the way through my work," he says. "Hearing it time and time again and how everything is given a green label these days gives me the s...s, quite frankly. I could put holes through all of that.

"Sensible structures survive. Buildings of 15th and 16th century Britain in the north country, and houses on the Dalmatian coast of Croatia of similar age are still working and real houses."

Even great men can be laid low, as Glenn was with the news 16 months ago that 46-year-old architect son Nick had terminal lung cancer. Nick's death in March 2011 saw Glenn slide into depression from which he's only just beginning to recover.



FRANÇOIS HALARD

Pierre Chareau and Bernard Bijvoet's seminal Maison de Verre (House of Light) in Paris (c.1927-32) influenced Murcutt among other design luminaries

“Steel is the skeleton that also sets the rhythm... it sets the grid and real order. You can't make mistakes once you understand that order”



MAX DUPAIN (1973)

Warringah Shire Civic Centre and Library, Dee Why

“It has been the worst experience of my life. It has crippled me. Quite frankly I feel like I've been in hell. I'd like to have had that time cut out of my life. I'm only just coming out of it,” he says. “Nothing prepares you for it. Nick was a non-smoker, very talented and with the best ahead of him.”

Public acclaim rolls off Murcutt like water off the proverbial duck's back. He's learned to deal with celebrity and criticism by shutting most of it out. He knows its potential for corrosive distraction. “Success is very nice,” he says, as if describing a pleasant afternoon tea under dappled shade. But rather than seeking it out, he says it simply increases his anxiety. “Every time I receive some award it makes me nervous and anxious.” Given the number of medals and decorations he's received, Murcutt by that measure should be a nervous wreck.

He says anxiety remains a constant companion. “It's a pretty good thing,” he chuckles. “If you're not nervous before stepping out on stage you just might send everyone to sleep. I don't think about what I've done, but I do worry about what I've got to do. I'm just little old me sitting here in Sydney knitting one plain and one purl with my eye-brows.” His laughter returns and speaks of gradual healing.

Always the voice of dissent, he continues to express an intense curiosity.

“Find a better solution,” he urges his students. “I've had 14 court cases, all about design. I've lost only one of them and I should have won that. As an architect, if you haven't had a court case or two by the time you're 45 or 50 then if not, why not?”

“Every good building has a very good client,” he adds. “Otherwise you get the same old stuff – concrete slab on grade, concrete block walls designed as a concrete box totally unthinking for those who have to occupy it.”

He likes to believe that on balance, his stay on earth has been for the better and a power for good over bad, and he likens his contribution to that of another great Australian, the artist Fred Williams. “I greatly admire his work. He completely understood place-making. His painting taught us about how the light levels here served to separate the elements in the landscape, the translucency of trees and the force of the environment in a very new way. Unbelievably he died of a similar disease to Nick. Fred was 56. Nick, 46.” The irony and coincidence of premature loss brings Murcutt snr back to earth.

My first meeting with Murcutt for *Steel Profile* took place in November 1980, in Mosman on Sydney's north shore. His house was a narrow-waisted villa bristling with horizontal louvres for breeze, striped light and shadow. He was then just 44 and well on the way to fulfilling his destiny. His conversation shifted like a pebble skipping across a pond, travelling on and on. He leapt from one thought to another – each an arc connected to a much bigger rhythm. He was Peter Pan-like except that he was tanned and with a physical presence quite unlike the pale, sedentary figure I imagined of most desk-bound architects.

Tough. Energised. He has skipped effortlessly across a glassy surface, creating delicate ripples that have bloomed into a new wave for world architecture. **SP**



IGNITED IMAGINATION

ARCHITECT McBride Charles Ryan
PROJECT Penleigh and Essendon Junior Boys School
LOCATION Essendon, Victoria



McBride Charles Ryan's handsome design for the new Penleigh and Essendon Junior Boys School provides students with robust facilities and an inspiring new public face. Words **Christine Phillips** Photography **John Gollings**

19

McBride Charles Ryan's design for the new Penleigh and Essendon Junior Boys School is an outstanding result of the Federal Government's Building the Education Revolution (BER) initiative. Drawing inspiration from its surrounding suburban setting, the silhouette of a federation house type is 'blown up' and distorted with wit and whimsy to spark the imaginations of the boys.

McBride Charles Ryan (MCR) has proven to be a leading educational architect, having won a suite of awards for its innovative designs for Fitzroy High School (2009) and Templestowe Primary School (2004). In its infancy, the school still awaits the awards it deserves. It has been shortlisted for a yet-to-be-announced World Architecture Festival (WAF) Award and has already scooped the 2012 Horbury Hunt Award – Commercial (Built).

The school grew out of a commission the practice had previously received after winning a limited competition to design the senior school building for Penleigh and Essendon Junior Boys School (PEGS). The school felt MCR was an ideal candidate to also design the junior school after the rolling out of BER funding.

The PEGS Junior building provides an inspiring new home for the Year 5 and 6 boys. Where the practice's design for schools like Fitzroy High

School showcased flexible learning spaces in line with current teaching sciences, the brief for PEGS Junior called for a more traditional approach with well-defined, separate classrooms that suited the school's teaching methods. This demanded a simple two-storey building with four classrooms including breakout spaces on the ground floor for the Year 5 students, and similar upstairs spaces for the Year 6 boys, which the practice says "seems fair, a bit like a top bunk".

According to the Head of the Junior School, Dean McCarter, MCR "nailed the plan and functional requirements in the first go," but MCR also massaged the brief to further include outdoor learning spaces for the ground-floor classrooms facing north, along with a generous lockable breezeway space to the south.

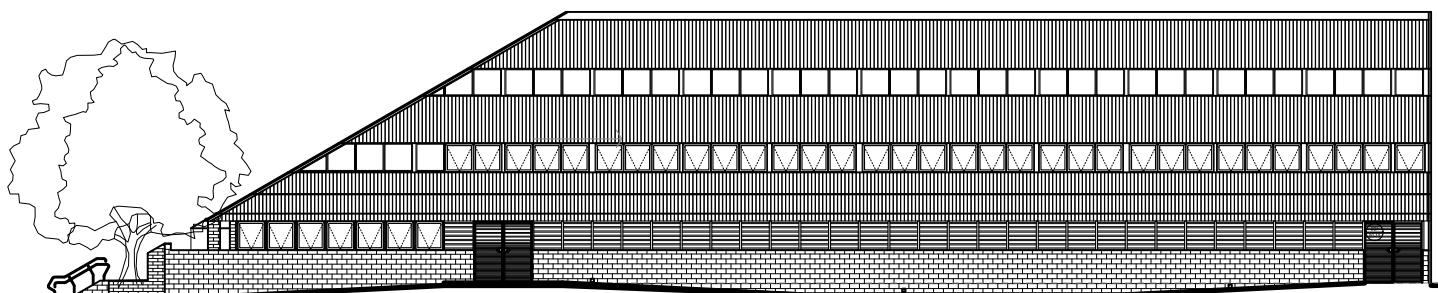
Like many school grounds, the PEGS Essendon campus has evolved organically, with an ad hoc collection of buildings that mostly cluster around a central sporting area. As McCarter explains: "We have buildings in all different styles at the school, so we asked the architects to design something that just fits." The challenge for MCR was to create a design that did not lie at odds with the existing buildings.

A challenge well met, PEGS Junior Boys really does 'just fit'. Situated on a quiet suburban street in Essendon where the Federation house is ubiquitous, the new school plays with the idea of neighbourhood character. A literal silhouetted squashing of a federation house that extrudes to the west, the school has four distinct facades with each providing a different narrative. MCR describes these as: the silhouetted haunted house (that faces east onto Nicholson Street), the 'Brutalesque' south facade, the Shinto Shrine-esque north facade and the circus-marquee-meets-federation-grandstand facade that faces west onto the sports area.

Nicknamed the '*Starship Enterprise*' by students, the western facade facing onto the sports area does not fall short on sparking imaginations. Its dramatic steel striped roof that diagonally slices the extruded form gives this facade its sci-fi appearance. Utilising a SPANDEK® profiled roof made from COLORBOND® steel in the striped alternating colours Headland® and Monument®, the SPANDEK® profile is well suited for the striated colours and sloping roofline which also give the facade a circus-marquee-meets-federation-grandstand aesthetic. With Windy Hill, the home of Essendon Football Club, right across from the school grounds, the red and black colours are also a cheeky reference to the Essendon jersey. ➔



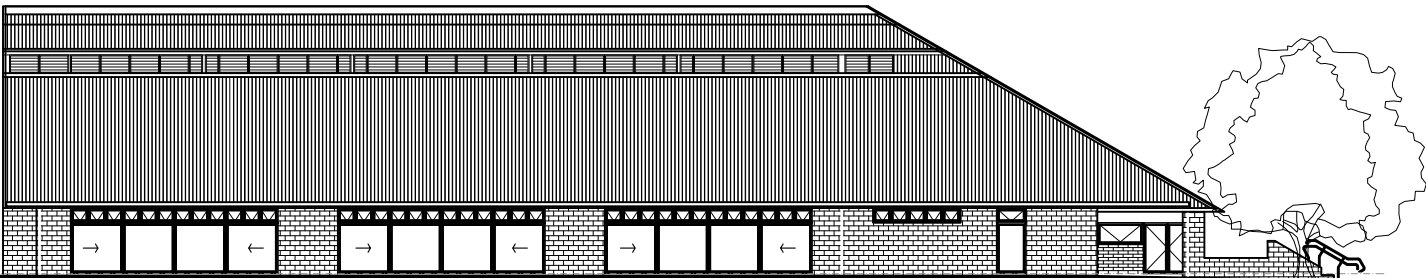
The silhouette of a federation house type is 'blown up' and distorted with wit and whimsy to spark the boys' imaginations



SOUTH

RIGHT: The western facade takes on a circus-marquee-meets-federation grandstand aesthetic utilising a SPANDEK® profiled roof made from COLORBOND® steel and is striped in the colours Headland® and Monument® – a cheeky reference to the Essendon football colours

BELOW: The southern facade employs LYSAGHT LONGLINE® profile roofing made from COLORBOND® steel, for the 'Brutalesque'-meets-*Time Machine* form





PANEL SAYS

This is a fabulous project that is playful without being flippant, informed by its context without being reverential. The concept of making a section into an elevation results in internal volumes that are elegant and inspiring for the students and staff who use them, and we marvel at the natural light that pours into these learning spaces from the overhead “chimney” and its adjacent skylights. We also love the striking use of striped roofing made from COLORBOND® steel which, as well as paying homage to neighbouring federation houses and the nearby Essendon Football Club, contributes to the very child-centric “circus marquee” atmosphere.

The vivid blue colour scheme along with the curved ceilings create a “floating in the clouds” experience, inspiring Year 6 students to dream sky high about their future aspirations



TOP: Curvaceous ceilings house the upper-level Year 6 classrooms and provide interesting pin-up spaces for the teachers

BOTTOM: A vivid green and red palette provides a different theme for the ground-floor Year 5 classrooms

The silhouetted Nicholson Street facade that provides the public front took McCarter by surprise. “Not too many things make me speechless but that profile did! But after Debbie [Ryan] and Rob [McBride] explained it to me, it all made sense.” The facade was created from a literal flattening and abstraction of a well-known federation house designed by Beverley Ussher. With its glossy dark bricks and oversized silhouette that lurks over the suburban street, it has an ominous, caricatured haunted house feel to it.

Students at the school have compared the facade to *Harry Potter's* Hogwarts School of Witchcraft and Wizardry, and as MCR director Debbie Ryan explains: “We wanted to ignite the imaginations of young boys and also provide a functional, sustainable and lasting legacy, and we looked at the context of our site. The street frontage for our building is largely federation in nature. We examined the streetscape and the role of the institution in a residential street.”

The building’s northern Shinto Shrine-esque facade and southern ‘Brutalesque’ elevations are equally as engaging. The northern facade opens out to provide outdoor learning spaces and the ‘Brutalesque’ southern facade offers a generous lockable breezeway space and place for the boys to eat or ‘hang out’ within a sheltered environment. Evoking imagery for the staff also, the southern facade looks to McCarter “like it has risen out of the ground like a spacecraft from *The Time Machine*”.

These northern and southern facades employ a steeply pitched roof made from COLORBOND® steel in LYSAGHT LONGLINE® profile. MCR selected this profile for its clean lines and “similarity in appearance to standing-seam metal roofing”. The practice also felt LYSAGHT LONGLINE®

profile “was the best product for accentuating the shading and hence the form of the roof”.

Chosen for its cost-effectiveness, the less visible northern and southern roofing is a KLIP-LOK® 700 profile system made from COLORBOND® steel in the colour Shale Grey™.

MCR explains that steel was extensively used “for its choice of colours, integrity, appearance and economy”, and that “the realisation of the form through combinatory geometry resulted in numerous bespoke junctions and details”.

The steel ‘sausage’ extrusion of the Nicholson Street profile creates an unusual roof form with engaging internal spaces, particularly for the upper-level classrooms.

Captivating, curvaceous ceilings house these classrooms and are a gracious nod to Jørn Utzon’s Bagsvaerd Church (1974-1976) in Denmark, but also provide interesting pin-up spaces for the teachers. Themed colours and materials differentiate the upper and lower levels internally. The vivid blue colour scheme along with the curved ceilings create a “floating in the clouds” experience, inspiring Year 6 students to dream sky high about their future aspirations.

On the lower level, Year 5 students experience a masculine space created by the vivid green and red palette offset by the hard brick and concrete materials.

The school also succeeds on the ecologically sustainable front with its passive solar design, cross-flow ventilation and chimney that actually ventilates. McCarter says the building works wonderfully in this way: “There isn’t one place where sun directly shines in where it’s unwanted, so the building stays cool throughout summer.”

It’s hard not to be overwhelmingly impressed by this project. The building was robust, well planned, handsome, spatially sophisticated, felt good to be in and creatively engaged with its context. But the real success of the school is illustrated by the response from its users. Debbie Ryan says a Year 5 boy read a poem he had composed about the new building at its opening. “His insights were testimony that we had achieved what we set out to do,” says Ryan. “We had ignited his imagination. We had led him to see more of the world than he otherwise might have.” McCarter concurred he had received an overwhelming response: “It’s a great building for us and the boys love it, younger kids have walked past with wonderment and said ‘I’m going to be there one day.’ SP



PROJECT AND CLIENT Penleigh and Essendon Junior Boys School **ARCHITECT** McBride Charles Ryan **STRUCTURAL & CIVIL ENGINEER** Hive Engineering **BUILDER** Contract Control Services **STEEL SUBCONTRACTOR AND DRAFTSMAN** SGA Engineering **CLADDING AND ROOFING CONTRACTOR** DKL Roofing and Plumbing **PRINCIPAL STEEL COMPONENTS** Roofing: LYSAGHT LONGLINE® profile made from COLORBOND® steel in the colour Shale Grey™; LYSAGHT SPANDEK® profile made from COLORBOND® steel in the colours Headland® and Monument®, LYSAGHT KLIP-LOK® 700 profile made from COLORBOND® steel in the colour Shale Grey™; structural roof steel **PROJECT TIMEFRAME** March 2009 – January 2011 **AWARDS** Shortlisted, World Architecture Festival (WAF) Award (at the time of publishing, to be announced), 2012 Horbury Hunt Award – Commercial (Built) **BUILDING SIZE** 1200m²

OUT OF THE BOX

Andrew Maynard's star is on the rise, but this exciting young architect isn't about to let his success breed complacency. Words **Peter Hyatt**

Photography **Peter Hyatt (portrait); Peter Bennetts; Kevin Hui**

Andrew Maynard shrugs and smiles at his unfolding success. The Melbourne architect prefers not to be burdened with great expectations such as 'architect most likely' or 'next big thing'.

He agrees with famous US architect Richard Buckminster-Fuller that it's not important whether mistakes are made, but that we learn from those mistakes. "I'm still the pup and learning from my clients and the industry, so I've learnt that I'll continue to learn," he says.

Cynics have long held that the term 'architecture practice' is quite apt – that practitioners are on a client-sponsored career learning curve. "Yes that's right. That's exactly what it is," Maynard says. "We should be learning and building on every job, getting better and treating each one as a step that takes you to an even better place."

Maynard is already travelling quite nicely with a healthy list of commissions in the wings. Along with Amelia McPhee, he was also recently short-listed as one of five practices in the running for creative director of the 2012 Venice Biennale.

"I'm still learning. I'm still intimidated when people get ahead of me, but I'm acquiring a vocabulary," he says. "It's not linear for me. I always call it 'grinding'. If my work is any good it's because I've done maybe 10 concepts that are largely rubbish before I find that golden idea."

He considers self-criticism an important part of quality control. "Like anyone else I go through the stock-standard response, where I do a lot of very quick drawing and a lot of it's awful. I'll have a lot of ideas that seem un-related and when I start to marry those that's when the design begins to work," Maynard says.

"Many architects arrive at a certain point, then they simply hit 'repeat' and the same work just keeps coming out," he adds. "That's disappointing and something I really want to resist. If I'm ever really happy with a project then I should probably stop. Dissatisfaction pushes you to look for new ways of doing things."

Maynard's practice totals just five staff, but keeping it tight is a conscious decision. "I've decided I have more control and voice if I keep my practice deliberately small. That keeps me agile.



Vader House. So-called from the influence of *Star Wars* on the much younger Andrew Maynard

"Fame and success would boost the opportunities, but that's about it," says Maynard, who is happy to just spend time around the house with his eight-year-old son. He rejects the politically correct work ethic that has seen quite enough architects live and die on the job. "Maybe it's my age, but I don't see why I have to work around the clock. Quality time rather than quantity," he says of his philosophy.

He also hopes to encourage curiosity. "I heard a scientist recently say that we need to teach children to love the question rather than the answer, yet we're always pushing them to love the answer. That's the problem. Each project is a type of experiment that I like to solve and then get on to the next one."

He obviously 'gets' technology and is already expanding his presence and borders via the internet in a way that promises a far greater influence. ➤

"I always call it 'grinding'. If my work is any good it's because I've done maybe 10 concepts that are largely rubbish before I find that golden idea"

A portrait of a man with short brown hair and a light beard, wearing a brown jacket over a plaid shirt and blue jeans. He is sitting on a wooden chair, leaning forward with his arms resting on his knees. The background is a dark, textured wall with faint, light-colored silhouettes of architectural elements.

ANDREW MAYNARD

25



PB

Maynard's major early influence was Hollywood. "Growing up with George Lucas and *Star Wars* was incredible," he enthuses. "[Lucas' production company] Industrial Light and Magic created a huge impression."

His design for the Lucas-inspired Vader House in Melbourne's inner-suburban Fitzroy is a playful, moody nod to the famous film director. Less overtly it speaks to the monochromatic grid of Japanese rationalism. Mysterious outside, light-filled and highly functional within, the house is based around a fine charcoal-coloured steel frame. It's an unobtrusive extension to a two story Victorian villa and typifies an ability to re-imagine challenging sites.

Our climate and culture craves an outdoor connection, yet Maynard observes that newer super-sized houses simply penalise occupants. "Too much space can dislocate really interesting opportunities," he says.

"New Australian houses are now bigger on average than those of the United States. Ours are the biggest in the world and on top of that, 60 per cent of our population is overweight. It's as if we want to take on North America in this game of indulgence," he asserts.

"Japan and Scandinavia are intriguing. Japan because it works in such small spaces that are usually much richer than large ones. There is a necessity to be small due to lack of space and I like the idea of importing that approach to a country where space is not a problem.

ABOVE: Maynard's Tattoo House exhibits a playfulness without disregard to design rigour or strong environmental response

BELOW: Mash House. Every effort has been made to minimise the ecological impact of the extension

OPPOSITE: In a 'dance of cave and tree-house', Butler House features strong planar elements tempered with screening devices



KH

“Steel is really important because even if you apply a coat of paint it has honesty, integrity, temperature and tactility... I love its strength and capacity for slenderness”

“Australians are filling their allotments with huge houses, so Japanese conversion of tight sites is very impressive.

“Responding to and revealing the brief is crucial. In the minds of some clients they are making different rooms, and that can be problematic. Different functions don’t necessarily require their own, separate space. When you begin to overlay those functions you can create far more dynamic and rich spaces.

“I’m fortunate to attract clients versed in design who understand the potential and benefits of doing more from less,” he adds.

“You can economise, streamline space and achieve a smaller design. I believe the idea of overlapping and multiple functions creates better space, it combats that idea of excess,” Maynard says.

“If you have something small and spend a lot of time on the edge conditions it can be tailored.” A case in point is Maynard’s Mash House, in which walls simply slide away to create a pavilion that is deliberately ambiguous as to whether you’re inside or out.

Maynard is a strong believer in steel’s potential to provide a far slimmer, more responsive solution than the overweight, overwrought houses that define so much of suburbia.

“Steel has been fundamental to Australian architecture,” he says. “We have so many wonderful architects that have explored and intimately understand steel: Glenn Murcutt, Philip Cox and Sean Godsell among them. I talk to a lot of my clients about material honesty and urge them not to do design gymnastics without good reason, or to hide the materiality.

“Steel is really important because even if you apply a coat of paint it has honesty, integrity, temperature and tactility,” he adds. “I love its strength and capacity for slenderness. The Tattoo House has thin folded steel plate stairs for instance, and that is extrapolated into projects where whole window reveals made from steel become very deep and incredibly thin.

“I’m becoming more confident in using steel,” he reflects. “It’s a material that can provide a valuable reference point for human scale. Alvar Aalto’s use of raw, almost brutal forms, demonstrates how design can become poetic with careful thought to details.

“Architects are taught in a very left-of-centre way. We’re taught about the value of community and being egalitarian and the politics of architecture is left-of-centre. I find it interesting that graduates walk out of that straight into a system entrenched in real estate speculation and all of their enthusiasm is potentially exploited for financial gain, and I suspect that’s where the perception of the conservative industry arises. We’re often seen as simply there to decorate real estate.


“I’ve always enjoyed testing and breaking the rules,” Maynard adds. “All I ever seem to do is spend my time learning ways to twist the options. If you give council exactly what they’ve asked for they probably won’t like it – they’ll end up with barns everywhere because that’s how the residential code is framed. I try to use those constraints as the inspiration to react against, or work with, them rather than the old-school cliché that says ‘this is what I want to create but everyone is stopping me from doing it’.”

The slow-motion reality of design and construction is one of architecture’s least appealing aspects, he contends. “It’s very difficult because I have such a short attention span,” he concedes. “I play with ideas very quickly. I have that short burst of energy. And that’s why I deliberately have a team that is so painstaking and methodical: they have what I don’t.

“Architecture,” he laments, “is a lot more about losses than wins so it’s sometimes hard to keep your chin up, but recognition does give you a lift. A lot of the time projects just stop, whether for financial reasons or other factors. That’s life. You just have to keep soldiering on.”

Albert Einstein observed that anyone who never made a mistake never tried anything new. Experimental in so many ways, Maynard’s ‘practise of architecture’ constantly searches for new and uplifting answers. **SP**





AGAINST THE FLOW

Word-of-mouth led the owners of a Victorian terrace in Sydney's inner west to architects Welsh+Major, but they didn't want a typical terrace renovation. Rather, they wanted a home that would be perfect for their growing family.

Words **Rachael Bernstone** Photography **Paul Bradshaw**

ARCHITECT Welsh+Major

PROJECT House 6

LOCATION Sydney, New South Wales



29

Having fallen in love with the neighbourhood, the size of the land, and the traditional terrace house proportions, the couple who bought this home in 2005 – before having children – always planned to overhaul the rear section, where a series of poorly conceived additions housing the kitchen, downstairs bathroom and laundry didn't connect well to the home's greatest selling point: the "cricket pitch" garden.

After the arrival of their two children, now aged five and two, one partner went back to work full-time while the other stayed at home to look after them. It was during this period that the renovation became imperative. "Living here in the way it was configured, it was very dark and slightly oppressive, and because I was spending time at home with the boys, that precipitated the change," the owner says.

Having found their architects through recommendation, the clients gave David Welsh of Welsh+Major a loose brief: connect with the garden, provide a replacement bathroom and kitchen, and make the latter more functional. In taking on the project, Welsh aimed to preserve the aspects of terrace living that the family most enjoyed – such as zoned spaces and the big front rooms – while providing more efficient spaces leading on to the garden.

"Typically, terrace houses can be quite dark and often austere: we wanted a more informal atmosphere in the new spaces that took advantage of Sydney's benign climate, but also gave our clients a series of choices of different spaces to use throughout the house," Welsh says. "When we first looked at this job, we came up with the concept of arranging the house like a giant still life painting, using the old and new parts of the house to form a composition, and the owners liked that idea. In a way it seemed like a logical progression from other projects we've worked on, where we have tried to make our addition read like a chapter in the evolution of the building, rather than something that stands in its own right."

So where many renovators tear down the back of terraces to install new large, open-plan volumes, Welsh opted to maintain the integrity of individual rooms. Walking through the house from the front door to the rear boundary, one passes through a series of discrete spaces that can be closed off from one another for visual and acoustic separation: the formal lounge and dining rooms give way to a new powder room with shower, followed by a combined study/playroom, the rumpus room which contains the home's only television, and finally, the kitchen that opens to the grassy backyard. Three bedrooms are housed upstairs in the original terrace.

By appropriating space from the adjacent garage, Welsh was able to turn a former non-descript passageway into a small reading alcove overlooking the garden, dubbed the "nanna nook" because it doubles as a spare room for guests. In all of these new spaces, floor-to-ceiling joinery maximises storage and acts as a "ribbon" that lends a sense of cohesiveness to this latest addition.

Standing in the rear garden, it's easy to read the most recent stage, which features a specially selected silver palette to denote this "chapter" from previous work. The new roof was constructed with LYSAGHT



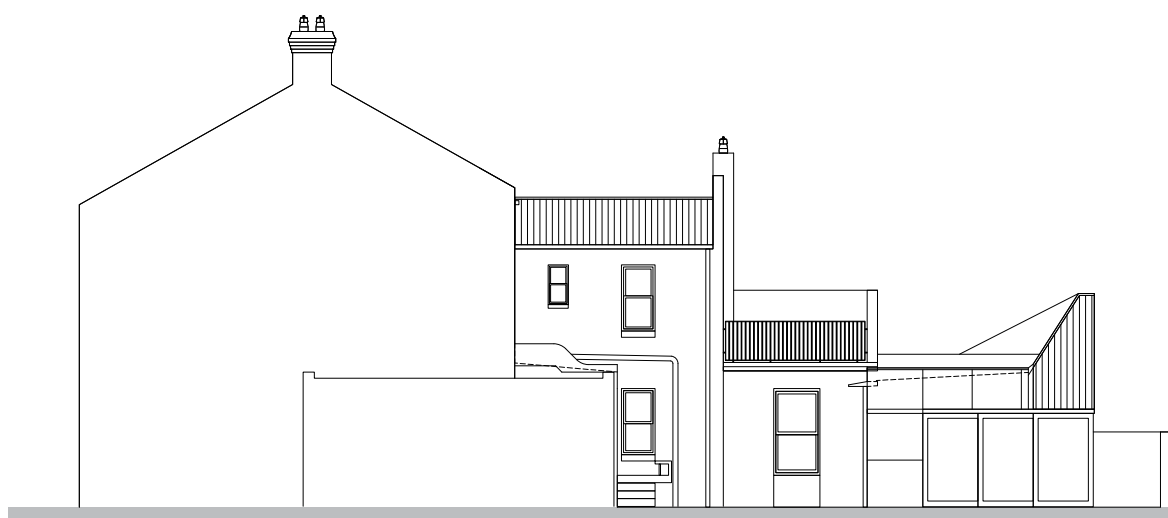
The new kitchen incorporates a double-height space with clerestory window that introduces eastern sun and expansive glazing that slides away to connect directly with the garden

LONGLINE® profile made from ZINCALUME® steel, which was also used as feature wall cladding to emphasise the vertical scale on the new double-height kitchen volume. ZINCALUME® steel was also chosen for the new gutters and downpipes, while a new steel balustrade on the existing second-storey terrace was left galvanised.

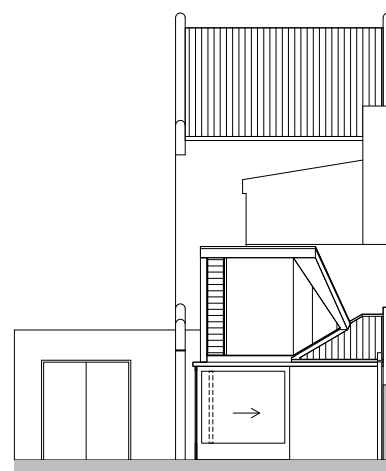
Although the renovation added only six square metres to the home's existing footprint, the new rooms feel more spacious than their predecessors thanks to their expansive glazing, ample connections to the outdoors, and – in the kitchen – the unique double-height space with clerestory window that introduces eastern sun.

Welsh says that steel was key to the successful realisation of this room, which has become the family's new focal point. "Steel was the only way that we could achieve the idea of the lantern, with glass wrapping around on two sides, seemingly unsupported," he explains.

"The steelwork became reasonably complicated considering it was needed for just one room," Welsh adds. "The fabricators essentially made a mock-up in the factory that we inspected, and said yes or no to things along the way. Using a one-to-one prototype and working as we went to achieve the desired end result was not the most efficient way to work, but it was an essential ➤



SOUTH ELEVATION



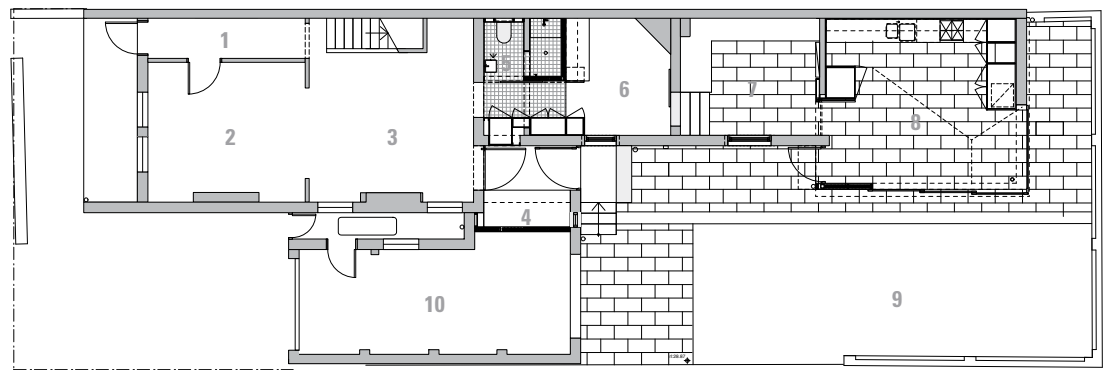
EAST ELEVATION

“Steel was the only way that we could achieve the idea of the lantern, with glass wrapping around on two sides, seemingly unsupported”

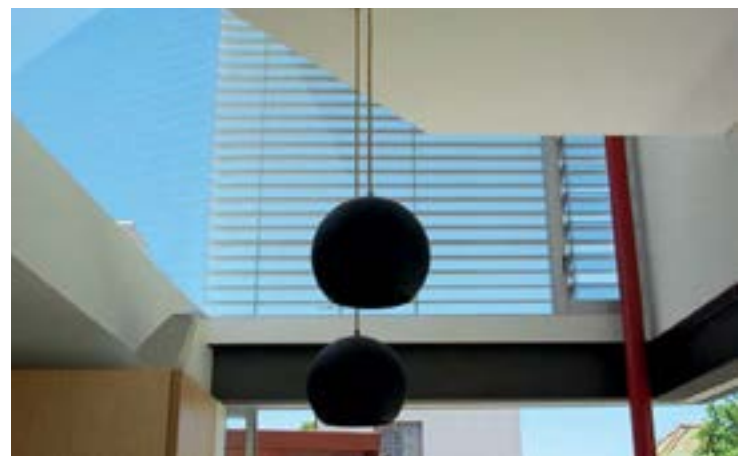
31

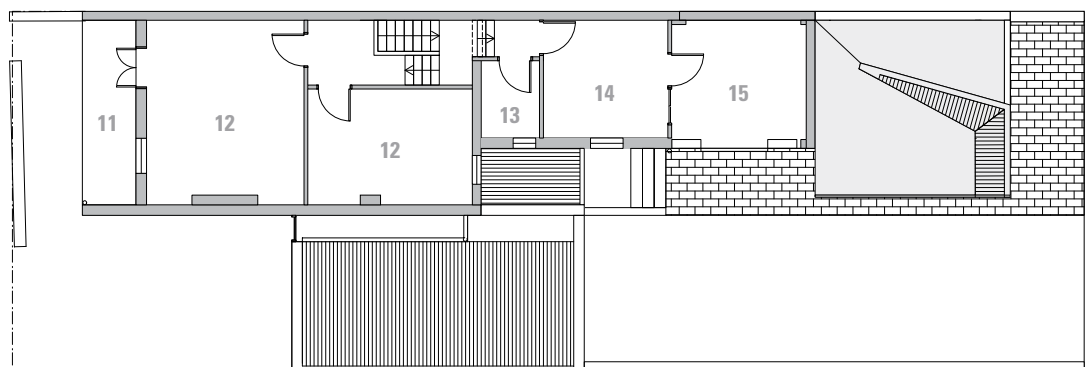
TOP: The structural steel for the lantern was mocked up in the fabricator's factory, allowing Welsh to refine the one-to-one prototype before it was realised

BOTTOM: The red column and I-beams in the south eastern corner were left uncovered to emphasise the clarity of the lantern idea



GROUND FLOOR





LEGEND

1. Hallway
2. Living
3. Dining
4. Daybed
5. Bath
6. Study
7. Living
8. Kitchen
9. Lawn
10. Garage
11. Balcony
12. Bedroom
13. Bath
14. Playroom
15. Terrace

UPPER FLOOR



The architects created a quirky bird-style light fitting made from folded COLORBOND® steel which is perched atop the kitchen joinery, where it appears ready to swoop

part of getting the clerestory right. Because the site is limited in facing almost due south, there wasn't much access to sunlight, and the geometry that we needed to follow to maximise that light into the kitchen was something we hadn't done before."

The I-beams that support the clerestory are visible around the south-eastern perimeter, and a steel round hollow section that supports the roof is painted red for emphasis. "There is not much in the way we utilised the steel that is standard in this project," Welsh says. "Although we have essentially covered up 90 per cent of the steel in the walls and ceiling, we still wanted to express the steel structure in some way because it is such an integral part of the solution. So the red column and the I-beams in the south-east corner help express the clarity of the lantern idea, while pulling the visible structure away at the corner gives the space a feeling of lightness.

"When the sliding doors are open, the stone flooring flows seamlessly to the outside, and the red column is neither inside nor outside at that stage."

The architects also had fun customising a quirky bird-style light fitting made from folded COLORBOND® steel in the colour Surfmist®,

which is perched above the kitchen cupboards, seemingly ready to swoop over the table.

"We've made light fittings out of COLORBOND® steel before, but nothing as zoomorphic as this," Welsh says. "We had it made by the Roofing Supermarket in Waterloo. We showed them a prototype made out of cardboard to explain what we wanted to do, and after seeing it they were only too happy to make the real thing for us."

Now that the house is finished, the owners couldn't be more pleased with the outcome, which offers a sense of openness and freedom that was severely lacking in its previous iteration. In warmer weather, for example, when the sliding doors are open, the boys can ride their bikes through the kitchen if they want to.

The renovation has totally transformed the way they live in and enjoy their home, the owner says. "Both in aesthetic and functional ways," he explains. "We live in these two rooms [the kitchen and rumpus] now, and the boys are spending more time outdoors, because I can cook a meal and they can play outside at the same time," he adds.

"Also, having a kitchen with a table in it has been a simple dream for a long time: it's so good for family life because it means we no longer eat meals in front of the television.

"Having this series of great rooms out the back has also increased our enjoyment of the rest of the house," the owner continues. "The formal lounge gets more use now and it's a toy-free zone: a grown up room with no TV, where we enjoy reading and talking.

"We love the idea of shutting rooms down as required, so that during the day the place is more open and interactive, but at night time rooms can be zoned off.

"Aesthetically, the house is just a delight," he asserts.

"The test came when we had been away down the coast for a few weeks. We got used to living in another place, and when we came home, we said: 'Wow, is this our house?' We are so lucky, when we compare this place to other terrace houses, because it's light and warm, and tailored to the way we live." **SP**

PANEL SAYS

This is an impressive yet modestly scaled alteration to a typical terrace house that carefully integrates a series of complex interior spaces to create a well-considered family home. The fact that the architects were able to inject so much amenity and functionality through the addition of just six square metres to the existing footprint is to be commended in this age of overblown houses. We particularly admire the expression of the innovative lantern-like form through a profile change in the steel sheet cladding, and the seemingly free-standing red column which accentuates the floating nature of the lantern. This eloquent attention to detail is apparent throughout the rest of the renovation.

PROJECT House 6 **ARCHITECT** Welsh+Major **PROJECT TEAM** David Welsh, Christine Major, Min Dark **STRUCTURAL & CIVIL ENGINEER** Simpson Design Associates **BUILDER AND CLADDING CONTRACTOR** Laser Building Services **STEEL FABRICATOR** Silvan Engineering **PRINCIPAL STEEL COMPONENTS** Roofing: LYSAGHT LONGLINE® profile made from ZINCALUME® steel; Light fitting made from folded COLORBOND® steel in the colour Surfmist®; Structural steel **PROJECT TIMEFRAME** Design: 12 months; construction: eight months **BUILDING SIZE** 165m²

Inspired by the sports science concept of 'pre-visualisation', where athletes envisage details of the competitive process to develop performance strategies, Suters Architects has designed a facility imbued with the essence of sporting prowess.

Words **Tania Davidge** Photography **Emma Cross**

FUTURE VISION

ARCHITECT Suters Architects
PROJECT Maribyrnong Sports Academy,
Maribyrnong College
LOCATION Maribyrnong, Victoria



35

Maribyrnong College has great ambitions for its Sports Academy. As Victoria's first state-funded, specialist sports secondary school it has had high hopes and aspirations from its inception. This strength of purpose is clearly articulated by its striking new sporting facility, the Maribyrnong Sports Academy (MSA), designed by Suters Architects.

The Sports Academy is part of a vision for 'building community' in Melbourne's western suburbs. In the early 2000s, the Victorian government identified a need to invest in community infrastructure in western metropolitan Melbourne. As Maribyrnong Sports Academy sport director Rob Carroll explains, the state government was interested in: "Raising the whole community by investing in iconic buildings and iconic programs."

Stage one of the building is complete and comprises a double-height foyer/reception volume and sports hall. The foyer contains a strength and conditioning area, recovery rooms, consultation spaces, change rooms and, at the upper level, teaching, learning and staffing areas. To the west of the foyer, the sports hall contains a large flexible court for basketball and volleyball, a smaller specially lit hall for badminton and table tennis, plus sports science, reception, storage and amenity areas. When the second stage of the building is finished, an additional sports hall will bookend the foyer to the east.

From Gordon Street, to the east, the building presents a monolithic, 10-metre high, folded and inclined facade comprised of LYSAGHT CUSTOM ORB® profile made from COLORBOND® steel in the colour Deep Ocean®. This elevation, punctured by a white fenestrated box, gives the first indication of another

of the design drivers for the building. Reminiscent of corporate boxes in sporting stadiums the world over, it is one of several design moves inspired by the sports science idea of 'pre-visualisation'.

Pre-visualisation is an integral element in the training and competition preparation of elite athletes, who are taught to visualise all stages of the sporting process to prepare them to compete. The key to good visualisation technique is attention to detail – what might an athlete see, hear and feel? Pre-visualisation focuses the mind of the athlete and helps them to develop strategies to cope with fear, distraction and a myriad of other obstacles they might face at an elite level.

Suters has replicated details of the constructed environment that an athlete might encounter during competition throughout the building. According to the design statement: "As a form of spatial precognition, the design provides early spatial hints and snapshots of the moments that an elite sports star will experience. The underbelly of a stadium, entering a sporting arena, the running track, the corporate box, the hall of heroes: all are experiences that will form the psyche of every sports star. This sampling of built forms was achieved through the use of a structural steel system, allowing for the replication and combination of these spatial experiences." ➤

"The building sends a really clear message to athletes, parents and visitors about what we are on about – it's front and centre as soon as you walk in the door"



The entry foyer is not only a circulation space but also a training and teaching space





Suters Architects has utilised LYSAGHT CUSTOM ORB® profile made from COLORBOND® Metallic steel to create a dynamic facade that expresses the kinetic nature of the Maribyrnong Sports Academy

From the outset Suters was made aware of the extensive community partnering involved in the project and how the shared aspirations were being given physical form by a series of new developments. The Maribyrnong Sports Academy – along with the community-oriented redevelopment of Whitten Oval (home of AFL's Western Bulldogs), Victoria University's Learning Commons and Exercise Sports Science building and the Maribyrnong Aquatic Centre – forms part of the built infrastructure for a high-performance sport, education and active living precinct.

The MSA is an integral component and is the result of an intensely researched brief and a rigorously developed masterplan for the secondary college. Suters won the project

through a competitive selection process and was involved in the masterplanning and briefing process from the beginning. As the flagship project of its kind in Victoria, the stakeholders and the architects were acutely aware of the need to deliver a 'sporting centre of excellence'. The building had to articulate a vision that the College and the state government had for the Sports Academy and to act as a marker in the landscape promoting this aspiration to the wider community.

The MSA certainly delivers. It provides world-class training facilities and is also used after hours by community groups that focus on junior athletic development. Briefed as a 'whole-of-life' learning centre it combines playing courts with training and

educational facilities to provide the support students need to balance their sporting and academic goals.

The school's motto, 'Pride in Performance', is particularly appropriate as efficiency of performance is a theme explored throughout the building. The facility certainly provides value for money. Completed for \$1900/sqm it economically delivers the additional height and area required to meet international training standards and also educational facilities not included in a typical school sports hall.

The requirements of cost, material efficiency and design intention all came together to enable the building to take on a volumetric form. Suters chose steel as the most effective material for both cost



and performance. Steel is utilised throughout the building structurally to deliver the required spans and as the primary cladding material on the facade.

The overall form of the sports hall – inspired by the section of a grandstand and the sports hall roof and clad in LYSAGHT KLIP-LOK® profile made from COLORBOND® steel in the colour Surfmist® – falls dramatically away from the entry volume. The material was specified for its proven weather-proofing performance over long-span, low-gradient roof falls.

Suters consciously evoked the idea of a sporting stripe as patterning for the sports hall facade. The stripe elicits powerful emotions that an athlete draws upon while competing: the pride of wearing the yellow jersey or the green and gold, the loyalty that a football jumper inspires. As Suters principal John Schout explains: “The question for us was: ‘How could we employ the stripe, on the north and south elevations, as a positive dynamic addition, that spoke of movement and would usurp the need for advertising?’”

To address this question, Suters created a dynamic composition of fibre cement sheet,

polycarbonate and LYSAGHT CUSTOM ORB® profile made from COLORBOND® Metallic steel in the colours Facade® and Axis®. In combination, these materials express movement and compression – the kinetic nature of sport.

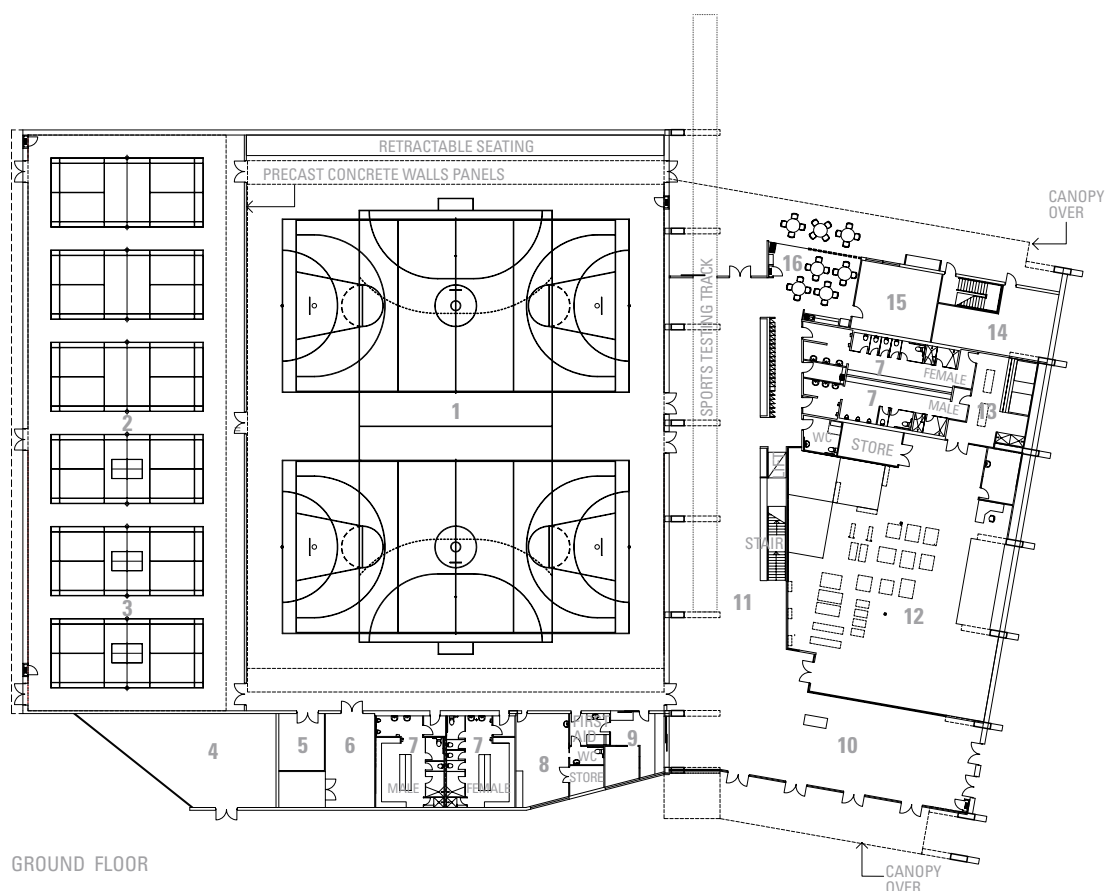
The clever detailing of the steel cladding adds a further level of interest to the facade. Suters devised a stepped cladding system to create shadowlines in the composition that accentuate the angularity of the patterning and add depth. This was achieved by deliberately varying the dimension of the wall framing and fixing the cladding to offset girts. “There’s not just one dimension to the cladding – we’ve angled it and stepped it to add that level of interest. The stepping is not random but deliberately detailed to be as cost-efficient as possible,” says Schout.

One of the primary difficulties Suters faced was the sheer size of the building and its relationship to the school campus. The substantial building envelope had the potential to form a barrier between the academic buildings to the south and the soon-to-be-completed playing fields to the north. ➔

PANEL SAYS

The design agenda is obvious from first glance at this bold and uplifting project: the architects intended to produce a building that expresses excellence and accomplishment for a wide range of stakeholders. The clarity of that idea is evident throughout the entire project from the steel-clad facade with its racing stripes, to the playful gestures that allude to grandstands and corporate boxes. The large spans of the clearly expressed steel trusses create opportunities for generosity and openness within the internal street, which connects the school with its sportsfields. It’s a little bit Venturi-meets-transformers, and quite unlike any shed we’ve seen, which makes us like it all the more.

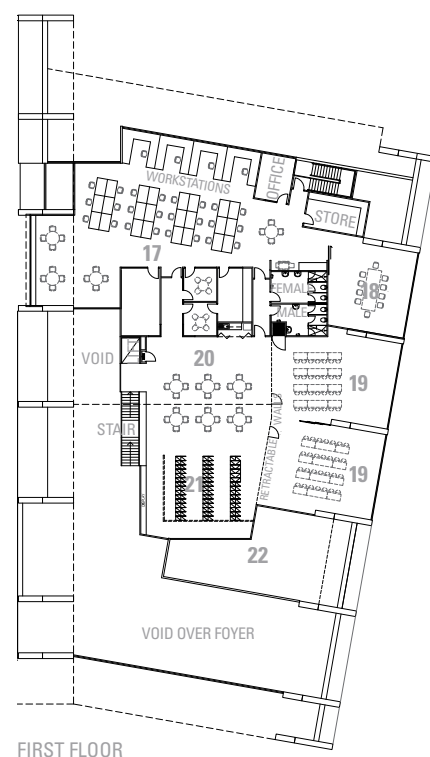
Suters consciously evoked the idea of a sporting stripe as patterning for the sports hall facade



GROUND FLOOR

LEGEND

- | | | | |
|----------------------|-------------------------|--------------------------|---|
| 1. Sports Hall 1 | 8. Sports Science | 14. Outdoor Sports Store | 20. Student/Staff Breakout Space |
| 2 & 3. Sports Hall 2 | 9. Administration | 15. Store/Future Kitchen | 21. Lockers |
| 4. Services | 10. Foyer | 16. Cafe | 22. Community Group Future Tenancy Area |
| 5. Community store | 11. Circulation | 17. Staff Area | |
| 6. P.E. Store | 12. Physical Prep Area | 18. Meeting Area | |
| 7. Amenities | 13. Rehabilitation Area | 19. Curriculum Delivery | |



FIRST FLOOR

"As much as the sports fields are for the students in the elite athlete program they are also active spaces for all the students. The question became how to get to these spaces without having to traverse right around the building," Schout explains. "This question resulted in the generous width of the internal [foyer] space. It is more of a street than just a circulation space. It is very much an indoor/outdoor space wide enough to create a strong connection to the new outdoor facilities for the school. Not just for sports students but for all students."

From this internal street, students, teachers, coaches and visitors are reminded, at every turn, of our fascination with sporting spectacle, which is captured on many levels throughout the building. Internal sightlines showcase the sporting activity and the process of training elite athletes. This thoughtfully designed, transparency of program enhances the feeling of being 'part of the action'.

"The building sends a really clear message to athletes, parents and visitors about what we are on about – it's front and centre as soon as you walk in the door," elaborates Carroll. "The design and the layout work really well in terms of articulating how central sport is to our entire concept. You walk in that front door and you can see athletes training straight ahead of you, when you look through the glass panels you see athletes working, there is a running track for training in the foyer."

The building has certainly fulfilled its brief, not only providing peak training facilities but also capturing the imagination of the community and wider public. Positions in the program, at both student and staffing levels, are eagerly sought. The Sports Academy already has 10 Olympians on staff and students from as far as New Zealand and Hong Kong.

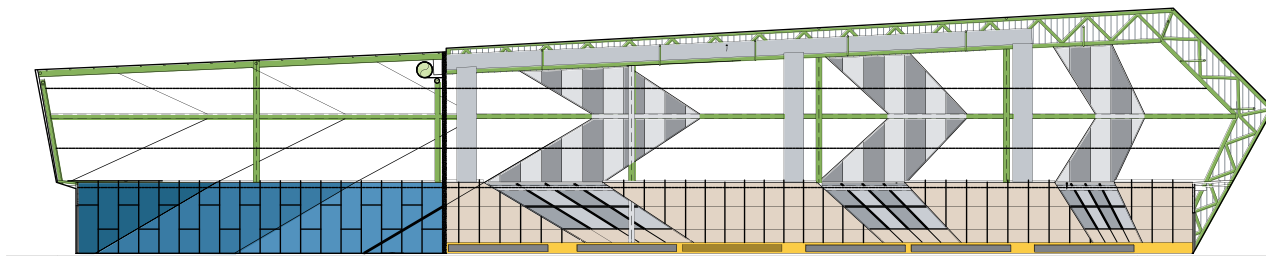
The public reaction to the building "has been a real buzz," says Carroll. "You drive past the facility and it is an iconic design – that is deliberate. We wanted to convey that this is a modern sports facility. The profiles reflect what you would find in a modern sports stadium. The arrows on the facade convey a sense of speed and direction. The building sends a message to the community that this is about high-performance sport, that this place is going somewhere. You know before you actually see any signage what this place is about." **SP**

BELOW: The endurance and performance of steel is at work in the structure of the building. Design intention, performance and cost-efficiency come together to create strong structural elements in the space

BOTTOM LEFT: The running track extends from the reception desk to well beyond the building's exterior. The double doors open up and students can use its entire length for training

BOTTOM RIGHT: On the second level, classrooms and meeting rooms look out over the sports hall in a similar manner to spectator and coaching boxes

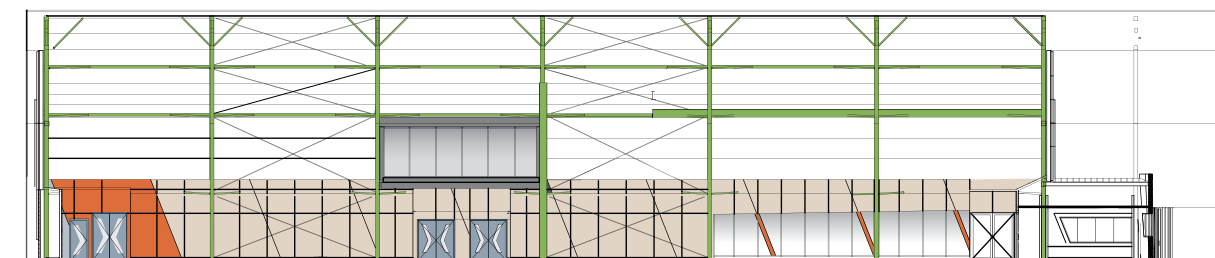




WEST SECTION



Painted a vibrant green, the trusses span the sports hall, working at the limits of their endurance in a manner similar to that of an elite athlete



SOUTH SECTION

PROJECT Maribyrnong Sports Academy, Maribyrnong College **CLIENT** Department of Education and Early Childhood Development, and Maribyrnong College **ARCHITECT** Suters Architects
PROJECT TEAM John Schout, Mark van den Enden, Heather McQueen, Kris McIsaac, Belinda Hodgkinson, Alex Hotchin **STRUCTURAL & CIVIL ENGINEER** Brown Tomkinson
BUILDER Behmer & Wright **STEEL FABRICATOR** Melsteel **SHOP DRAWING CONTRACTOR** Dunsoft Drafting **CLADDING CONTRACTOR** Beaconsfield Roofing **LANDSCAPE ARCHITECTS** Rush Wright **PRINCIPAL STEEL COMPONENTS** Wall Cladding: LYSAGHT CUSTOM ORB® profile made from COLORBOND® Metallic steel in the colours Facade® and Axis®, and LYSAGHT CUSTOM ORB® profile made from COLORBOND® steel in the colour Deep Ocean®; Roofing: LYSAGHT TRIMDEK® profile made from COLORBOND® steel in the colour Surfemist®; Sports Hall roofing: LYSAGHT KLIP-LOK® profile made from COLORBOND® steel in the colour Surfemist®; Roof cappings and flashings made from COLORBOND® steel in the colour Surfemist®; Gutters and downpipes made from COLORBOND® steel; structural roof purlins and wall girts **PROJECT TIMEFRAME** February 2008 to June 2010
AWARDS Victorian State School Design Awards – Ministerial Award / IDEA Awards – Public Design Commendation **BUILDING SIZE** 5535m² **TOTAL PROJECT COST** Approximately \$11 million



PB

Slick guttering and an artisan-crafted standing-seam roof are some of Tanner Architects' deft touches for a new pavilion on a tree-laden site. Words **Rob Gillam** Photography **Paul Bradshaw; Lachlan Rowe**

Charged with creating a modern living space to complement an original sandstone cottage on this picturesque property in Palm Beach on Sydney's Northern Beaches, Tanner Architects drew inspiration from the site's natural features – primarily a stand of mature angophora gums.

Tanner Architects project director John Rose says the trees are remnants of the area's native forest and deserved to be treated with sensitivity. "The site is basically on rock, so the soil isn't very deep and the trees' foothold is quite tenuous," says Rose. "We consulted an arborist and carefully designed the extension around the existing gums. It was quite an exercise but not one tree was removed, which we're quite proud of.

"We had to have minimal effect on the site so the new pavilion had to be lightweight," he adds. "Using a steel frame allowed us to lightly float the building and avoid the tree root systems."

A key signature of the addition is a standing-seam roof which cloaks the main pavilion and covers a sinuous walkway between the buildings. The roof design continues the building's organic theme. Leaf-like cues are abundant in its curvatures and in the fanning veins of the standing-seam trays. These have been meticulously crafted, each tray being custom formed and folded, as Rose explains.

"We start with a membrane for adhesion and then use a substrate sheet material. The two roofing trays stand up to each other and there's a strap bracket underneath, which is fixed and folded in to create a 30mm-high seam.

"There's no visual sign of fixing and no screws fixing the material at all... this is quite an artisan technique"

"There's no visual sign of fixing and no screws fixing the material at all," he adds. "Any roofer can use tek-screws and drills to put stuff in place, but this is quite an artisan technique."

While a standing seam is not in itself unusual, the material selection is brow-raising. Significant cost advantages were gained by using flat sheet made from COLORBOND® steel in the colour Woodland Grey®, rather than more traditionally favoured zinc or copper. "It's not normally done with COLORBOND® steel, but we discovered it is possible by using the tooling in a slightly different fashion. We also used a thicker rating," Rose says.

The edges of the standing-seam roof meet a neatly turned guttering system that bears an

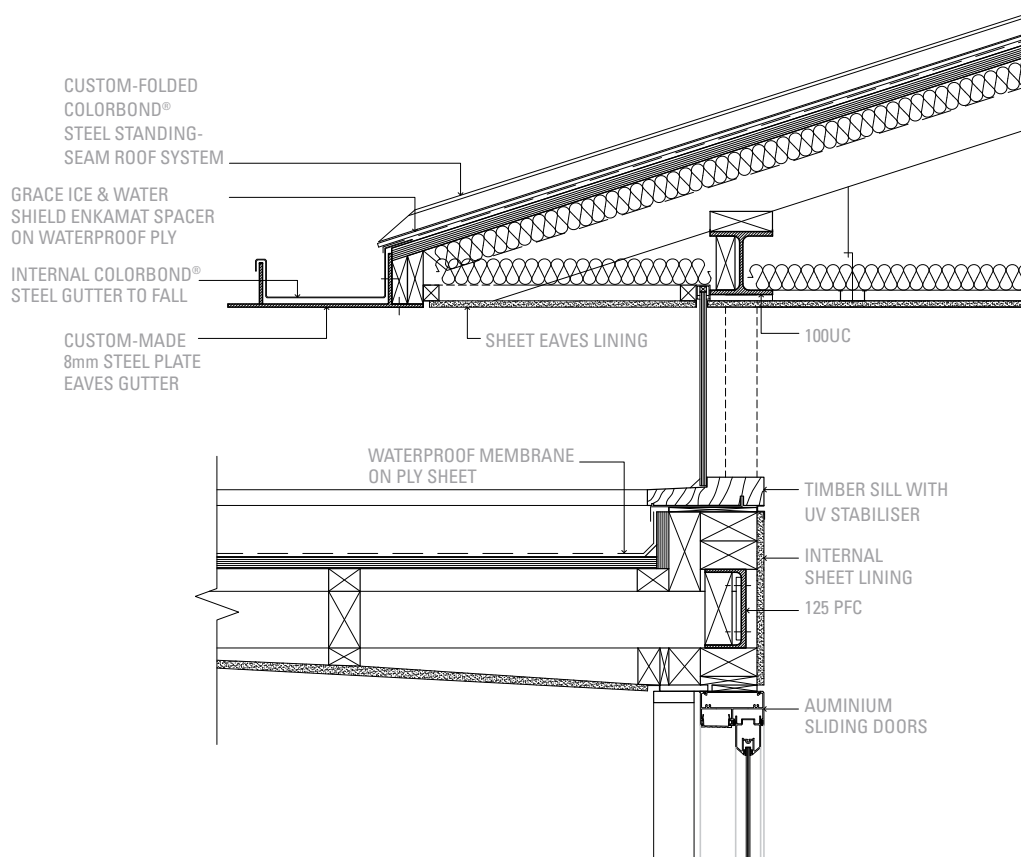
exceptionally clean and hard-lined edge. "The main goal was to achieve a very strong shadow line with an upturned angle," Rose explains. "The gutters are susceptible to being plugged up with gum leaves and other debris so we made it broad

enough that the gutters can come straight out from underneath and then we integrated a mesh."

The bottom section is cut out of flat sheet and the top section has an up-stand on both sides, which is fully welded to create the gutter shape.

"The hardest thing was scribing the flat section underneath to start with, to get that all perfectly correct so the roof edge appeared consistently through the curves," Rose says. "There's no discernable change in the fabric of the building.

"In terms of steel fabrication, that could have either been a disaster or a success. Thankfully, the guys put in the workmanship to get the geometries right and it has turned out exceptionally." **SP**



PROJECT Pacific Road House **ARCHITECT** Tanner Architects **PROJECT TEAM** Project architect: David Sutherland; Project director: John Rose; Team: Eloise Fotheringham, Kristina Mitkovski, Amelie Assoud, Terrence Young **STRUCTURAL & CIVIL ENGINEER** Mott MacDonald Hughes Trueman **BUILDER AND CLADDING CONTRACTOR** John Howell Constructions **STEEL FABRICATOR** Edcon Steel **ROOFING CONTRACTOR** AGF Metal Roofing **SHOP DRAWING CONTRACTOR** CCD Drafting **LANDSCAPE ARCHITECT** Marcia Hosking **PRINCIPAL STEEL COMPONENTS** Roofing: Flat sheet made from COLORBOND® steel in the colour Woodland Grey®; Guttering: 8mm mild steel plate; Structure: Columns: 89 SHS; Roof beams: UBs, PFCs, UCs





STEEL PROFILE #110



9 320075 068547