125
NOVEMBER 2016
ARCHITECTURAL STEEL INNOVATION
WITH BLUESCOPE

STEEL PROFILE

CLADDING A NATION
COLORBOND® STEEL 50-YEAR ANNIVERSARY ISSUE

CLARE DESIGN
SOUTH COAST HOUSE

PHILIP M DINGEMANSE
VALLEY HOUSE

EDITORIAL

Welcome to *Steel Profile* 125.

This issue marks the 50th anniversary of an iconic building product that has become a mainstay of Australian construction for its versatility, durability and enduring aesthetics. As such, we are celebrating the milestone with an edition commemorating and celebrating COLORBOND® steel.

As a longstanding supporter of excellence in Australian architecture and 31-year Principal Corporate Partner of the Australian Institute of Architects, BlueScope congratulates all recipients of the 2016 National Architecture Awards – and especially applauds the National and stated-based COLORBOND® Award for Steel Architecture winners for buildings that exemplify inspirational and innovative design.

As part of our 50th Anniversary of COLORBOND® steel celebrations, we will be reaching out to you. We look forward to working with you in 2017 and beyond to help develop the best building solutions for your projects.

Finally, I'd like to remind you that *Steel Profile* is made free to the industry, so if you're not on our mailing list and would like to subscribe please send your contact details and professional credentials to steeldirect@bluescopesteel.com

Tanya Tankoska
BlueScope editor

EDITORIAL ADVISORY PANEL

Steel Profile has an Editorial Advisory Panel to ensure that only projects of the highest calibre are selected for publication. The panellists are:

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 prizes

PENNY FULLER

Penny is a partner at Silvester Fuller, established in 2008. Silvester Fuller's first built projects have been awarded for their creativity and design sensibility. Penny's work draws on experience gained across a broad range of international projects. She is a previous recipient of the Australian Institute of Architects' Emerging Architect Prize

MATTHEW HYLAND

Matthew Hyland works with Woods Bagot. He obtained a Master of Architecture from the University of Tasmania and was awarded the 2015 BlueScope Glenn Murcutt Student Prize.

Having a preoccupation with enriching the ordinary, Matthew is continuing to develop and refine design processes though observation, research and experimentation

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Australian Institute of Architects

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CLADDING A NATION

Across five decades, amongst extreme climates and through innumerable projects, BlueScope's iconic building material, COLORBOND® steel, has played a crucial role in Australia's architectural evolution. In this 50th year since COLORBOND® steel's creation, *Steel Profile* celebrates this colourful mainstay of our nation's design fabric.

Words **Lorenzo Logi; Rachael Bernstone**

Mention COLORBOND® steel to some of Australia's most highly regarded architects and they respond with phrases such as "prolific and successful", "tough and tender", "durable and delicate" and "flexible and specific". Indeed, for what might at first glance seem a prosaic material, architects wax surprisingly lyrical and their words confirm that this humble sheet of metallic-coated, paint-baked and profiled steel commands respect in their collective consciousness.

Over many years BlueScope has built enduring relationships with Australia's most eminent architects through COLORBOND® steel and continues to foster emerging talent through its sponsorship of student prizes. When asked to voice their thoughts about COLORBOND® steel many shared some delightful and thought-provoking perspectives.

From James Stockwell's appreciation that COLORBOND® steel allows him to "push geometric shapes to the limit and know that a local roofer can build it," to Adrian Iredale's enthusiasm at being able to "bend it, twist it, taper it, slice it, angle it and be silent with it – even give it depth," it is clear that COLORBOND® steel's simplicity and versatility ignite architects' imaginations.

Because of impressions such as this, from the outback shed to striking public buildings transforming our suburbia and cityscapes, COLORBOND® steel has firmly established its status as a quintessentially Australian building material. Used for walls and roofs, fences and garage doors, COLORBOND® steel is a ubiquitous and much-loved part of the nation's built environment.

Launched in 1966, COLORBOND® steel was developed specifically in response to Australian climatic and weather conditions, including extreme temperature and moisture variations, and intense ultraviolet radiation. The product was initially popular for industrial applications – sheds, factories, warehouses and the like. Over the years it was also employed in commercial buildings and finally by innovative architects working in the housing sector to create roofing and walling solutions that are durable, lightweight, long-lasting and aesthetically pleasing.

Australia's pre-eminent practices have since used steel cladding to create countless award-winning buildings. These include father of Australian steel architecture Glenn Murcutt's early New South Wales projects Marie Short House at Kempsey, built in 1974 (as featured in *Steel Profile* numbers 15 & 16) and Magney House at Bingie Point, built in 1986 (*SP* 35) which encapsulate the master's 'jeweller's eye'. Other early examples include Max Pritchard's own Residence (*SP* 39), Gabriel Poole's 1987 Noble House (*SP* 22) and John Mainwaring's early buildings on the Sunshine Coast, including his own house (*SP* 52). More recently, James Stockwell's Hunter Valley House (*SP* 117) was dramatically cloaked in a sine curve-like roof made from COLORBOND® Metallic steel in the colour Axis®.

It is clear that COLORBOND® steel's simplicity and versatility ignite architects' imaginations

COLORBOND® steel has also become a common feature in the homes of everyday Australians, used not only for roofing and wall cladding but also sheds, patios and pergolas, garage doors and fencing. Five million tonnes of COLORBOND® steel was sold in the first 35 years of its production from 1966 to 2001, followed by another four million tonnes in the past 15 years, more than doubling the rate of sales, which continues to trend upwards.

This half-century has seen COLORBOND® steel consolidate and expand on its product offering and attributes. COLORBOND® steel is now available in a range of 22 enduring colours: the Classic selection includes old favourites such as Cottage Green®, Deep Ocean® and Manor Red® while the Contemporary collection runs the gamut from light to dark shades, from Surfmist® to Monument®, via those most Australian of hues, Pale Eucalypt® and Wallaby®.

Following the introduction of the first Metallic range of colours in 2002, which included shades such as Citi®, Facade® and Cortex®, six new Metallic steel colours were unveiled in late 2014. These latest Metallic steel colours were developed in close consultation with leading colour consultants and building professionals to deliver a relevant and contemporary palette, including the daring, rich and deep red tones of the colour Aries™.

COLORBOND® steel is available in standard, COLORBOND® Ultra steel and COLORBOND® Stainless steel grades, with the latter two specifically developed for use in coastal and industrial environments. COLORBOND® Ultra steel is the recommended roofing material for locations where there may be a smell of salt or salt spray in the air (approximately 100 to 200 metres from breaking surf) and COLORBOND® Stainless steel is the recommended roofing material for coastal areas where there is a constant salty smell and salt spray in the air (within 100 metres of breaking surf) or within close proximity to industrial emissions.

So too has the technology of COLORBOND® steel production evolved, thanks to a rigorous and comprehensive testing program. Studying the effects of the uniquely challenging conditions of the Australian environment, with extremes of heat and cold, dust, rain, wind and hail, COLORBOND® steel is assessed in both accelerated laboratory testing and at outdoor sites, where there are over 12,000 panels on exposure across the country.

COLORBOND® steel undergoes corrosion testing, durability testing and application testing, where actual building conditions, including varying pitches, profiles, product types and the inclusion of unwashed areas, are re-created. The first outdoor test sites were established in the 1970s at Rockhampton (subtropical), Bellambi (severe marine) and Port Kembla (industrial), with sites added later in South East Asian countries (tropical). All of these continue to play an integral role in COLORBOND® steel's Research and Development effort together with many laboratory-accelerated weathering simulation tests.

PATRICK BINGHAM-HALL

The depth and breadth of the knowledge that the makers of COLORBOND® steel have generated over nearly four decades, via the ongoing program of testing and refinement, has ensured that COLORBOND® steel has been continuously improved over its 50-year history, with technological advances including the development and introduction of Activate® and Thermatech® technologies.

Activate® technology – which was incorporated three years ago – resulted from almost 20 years and $100 million worth of research and development. The addition of two magnesium compounds to the zinc and aluminium coating – which was introduced in the 1970s – protects the base steel more efficiently by activating the aluminium in the coating to improve galvanic protection*. This has enabled BlueScope to make corresponding changes to the product warranty period in certain roofing applications**.

The introduction of Thermatech® – a technology that reflects the sun's heat to help roofs stay cooler – occurred in 2008, and it has now been incorporated into all of the colours in the standard COLORBOND® steel range (except Nightsky®).

Another leap forward was the introduction of a cool roofing material which assists in reducing building energy consumption and can contribute to the mitigation of urban heat islands. COLORBOND® Coolmax® steel in the colour Whitehaven™ is essentially a super solar-reflective, high thermal-emittance, pre-painted steel and has the highest solar reflective performance in the COLORBOND® steel range**.

The same innovation and sensibility to Australian conditions is shown in BlueScope's clever warranty guide which enables customers to view specific examples for different COLORBOND® steel products adjusted for distance from marine environments and end use***.

With such an ongoing commitment to testing and refinement, it is no wonder that COLORBOND® steel continues to expand its relevance and appeal in the Australian built environment.

Responding to another, more sobering dimension of the Australian context, COLORBOND® steel roofing, walling and rain water goods are also compliant for use in bushfire zones, including the most extreme scenarios when installed – in conjunction with other sufficiently compliant fire-rated materials – to meet relevant construction standards.

Moreover, the CSIRO's research and investigation into the performance of residential boundary fencing in bushfires has confirmed by testing and comparison against some other fencing materials that: "COLORBOND® pre-painted and metallic-coated sheet steel performed best under all exposure conditions†".

Thanks to its proven properties, COLORBOND® steel embodies the kind of common-sense sustainability born of experience, expertise and frugality: it is a lightweight material which is not overly costly to transport to site and its resilience and long lifespan help conserve resources and energy that may otherwise be invested in other products.

2 PETER HYATT

3 PETER HYATT

4 PETER HYATT

5 PETER HYATT

6 PETER HYATT

1. James Stockwell's Hunter Valley House (*SP* 117) 2. Glenn Murcutt's Magney House at Bingie Point (*SP* 35)
3. Max Pritchard's own Residence, Adelaide (*SP* 39) 4. Gabriel Poole's Noble House, Noosa (*SP* 22)
5. Marie Short House at Kempsey by Glenn Murcutt (as featured in *SP* numbers 15 & 16)
6. John Mainwaring's Wright Residence, Noosa hinterland (*SP* 64)

For what might at first glance seem a prosaic material, architects wax surprisingly lyrical and their words confirm that this humble sheet of metallic-coated, paint-baked and profiled steel commands respect in their collective consciousness

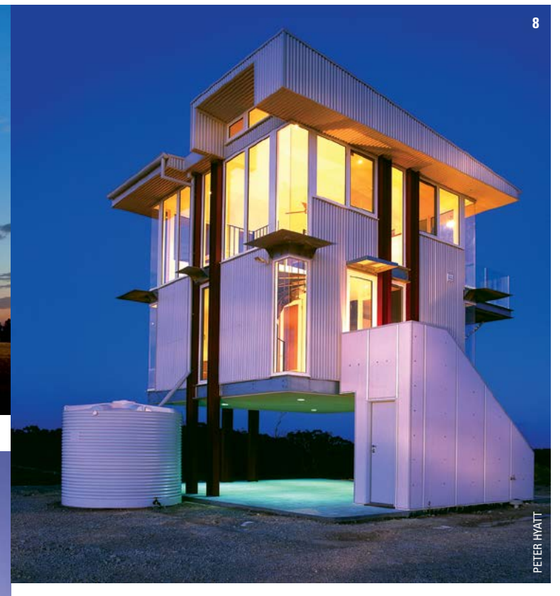

1 JCY ARCHITECTS


6 PETER HYATT


7 PETER HYATT

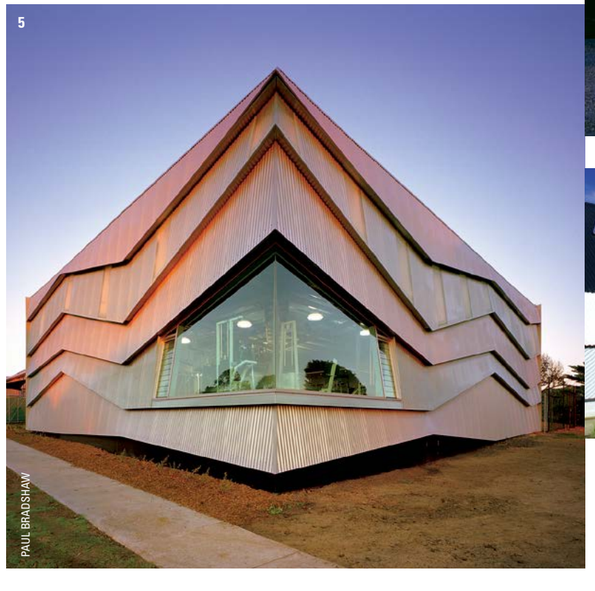

2 BOB SEARY


3 JOHN GOLLINGS


8 PETER HYATT


9 PAUL BRADSHAW


4 PAUL BRADSHAW


5 PAUL BRADSHAW


10 PAUL BRADSHAW


11 PETER BENNETTS

1. Learmonth International Airport (JCY Achitects and Urban Designers) in the desert of north-west Australia features COLORBOND® Metallic steel for both roof and walls **2.** Altona Meadows Library and Learning Centre by Haskell Architects (*SP* 96) **3.** Calder Woodburn Rest Area by BKK Architects (*SP* 104) **4.** Bed Supperclub by Orbit Design Studio (*SP* 92) **5.** Sunbury Aquatic Centre by dpw Suters Architects (*SP* 108) **6.** The Lookout House by David Luck Architecture (*SP* 80) **7.** St. Joseph's Church by Heathwood Cardillo Wilson (*SP* 77) **8.** Waratah Bay House by Holan Joubert Architects (*SP* 81) **9.** Dismal Swamp by JAWS Architects (*SP* 94) **10.** Ecolinc Science Technology Innovations Centre by Lyons (*SP* 91) **11.** West Kimberley Regional Prison by TAG Architects and iredale pedersen hook architects; Architects in Association (*SP* 116)


1
MICHAEL NICHOLSON

COLORBOND® steel contains recycled content and is itself 100 per cent recyclable, and in some cases it can be reused without re-processing – again saving on energy and resource-use. Furthermore, no fewer than five of the colours in the COLORBOND® steel range qualify as solar reflective (light coloured) roofing under Green Star Buildings and Communities Urban Heat Island Credits.

The history of COLORBOND® steel and its permeation of Australian structures over the past five decades has coincided with a growing confidence among Australian architects to use buildings to tell uniquely Australian stories with quintessentially Australian materials. Over that timeframe, BlueScope and COLORBOND® steel have shown commitment and dedication to improving the quality of design and the built environment in Australia, especially through its position as Principal Corporate Partner of the Australian Institute of Architects. That key partnership dates back more than 30 years, and over that time COLORBOND® steel has happily supported many Institute-organised awards, conferences, events and activities which aim to promote the benefits of architecture and the profession more broadly.

Circling back to our COLORBOND® steel word-association question, Lindsay and Kerry Clare's response of "Durability, longevity and opportunity – not just in its material but aesthetically and culturally," rings particularly true here.

Ten years ago, when COLORBOND® steel celebrated 40 years and published a commemorative book, the projects that it featured – including the Moonah Links House by Jackson Clements Burrows and the Peppermint Bay Convention Centre by Terroir – were lauded for their use of earthy, natural tones that tied in with the landscape. Generally, brighter colours were used sparingly or as highlights – much like an early Frederick McCubbin painting. Today, however, we are seeing more instances of architects using COLORBOND® steel to anchor and layer bold, expansive colour palettes, akin to John Olsen's brightly hued landscapes.

Architects are now using BlueScope's hero material in a host of exciting ways: wrapping entire buildings in one striking hue to create impressive civic forms, such as at McBride Charles Ryan's Ivanhoe Grammar Science and Senior Years Centre (*SP* 124), or tying in with heritage structures to breathe new life into disused buildings, such as PHAB Architects' The Condensery (*SP* 124).

"Durability, longevity and opportunity – not just in its material but aesthetically and culturally"

Kerry Clare – Clare Design

1. The Hangar by Peter Stutchbury Architecture (*SP* 110) **2.** McBride Charles Ryan's Ivanhoe Grammar Science and Senior Years Centre (*SP* 124) **3.** PHAB Architects' The Condensery (*SP* 124) **4.** Allen Jack+Cottier's Milson Island Sport and Recreation Centre (*SP* 111) **5.** iredale pedersen hook Architects' Walumba Elders Centre (*SP* 121) **6.** Drew Heath's Outpost (*SP* 118) **7.** Moonah Links House by Jackson Clements Burrows (*SP* 87)


2
JOHN GOLLINGS


3
PAUL BRADSHAW

BlueScope looks to the future of COLORBOND® steel by continuing to refine and improve its performance and variety

The inherent flexibility of COLORBOND® steel enables architects to create unusual forms and shapes that can appear modern or traditional depending on their context and surroundings.

The history of COLORBOND® steel and its place in the Australian consciousness is also powerfully conveyed in the recent television commercial commissioned to celebrate its 50th Anniversary, directed by award-winning filmmaker Jeffrey Darling. Featuring dramatic shots of iconic buildings such as Drew Heath's Outpost (*SP* 118), Peter Stutchbury's The Hangar (*SP* 110), dpw Suters Architects' Sunbury Aquatic Centre (*SP* 108) and Allen Jack+Cottier's Milson Island Sports Centre (*SP* 111), the commercial captures and commemorates the qualities that Australia strives for as a nation – resilience, resourcefulness, innovation, and connection with nature – as it ranges from city to outback, from familiar to extraordinary.

As well as having its hallowed place in Australia's building history, COLORBOND® steel looks to the future by continuing to refine and improve its performance and variety.

While 50 years marks a well-earned milestone at which to reflect and take pride in COLORBOND® steel, BlueScope is equally enthusiastic about the opportunities and challenges that lie ahead. Inviting designers to take a flight of design fancy, *Steel Profile* asked architects to harness the inherent strength and design flexibility of the product to visualise the ultimate COLORBOND® steel building, and elicited some intriguing responses. At the most abstract end of the spectrum Adrian Iredale conjured movement and lightness, envisaging that his ideal COLORBOND® steel building "will make you hover and float… or pitch and twist".

James Stockwell paired COLORBOND® with the most iconic of Australian plants, imagining that his perfect COLORBOND® steel creation "would look like sculptural, curled bark from a gum tree and it would be in the metallic range of colours".

For longstanding *Steel Profile* editorial panelist Frank Stanisic, the vision was one of connection with surroundings. "I see an all COLORBOND® steel-sheeted building, finished in the colour Monument® with Dune®-coloured cut-outs," he says. "I imagine it would be a dynamic and calm hyper-form for living, working and pleasure, with sky terraces and gardens cut-out to connect with the sky."

But of all the responses, perhaps that of Lindsay and Kerry Clare is the most evidential of how powerful a tool COLORBOND® steel can be in an architect's hands. "We have no preconceived idea regarding shape, form or colour, but COLORBOND® steel would enable us to realise just about anything," they said. We at *Steel Profile* can't wait to see what the future may hold, although we are fortunate enough to have some evidence in Clare Design's wonderful South Coast House which features on page 26.

This issue of *Steel Profile* brings together the most exciting and innovative steel buildings from around Australia, while allowing us to pause momentarily and look back at the incredible history of COLORBOND® steel over its first half-century. This issue also offers an overview of exemplary projects and architects from the magazine's long-standing archive. And as COLORBOND® steel continues to improve and evolve, we look forward to bringing you more examples of outstanding steel buildings – and the inspired minds behind them – for many years to come. SP

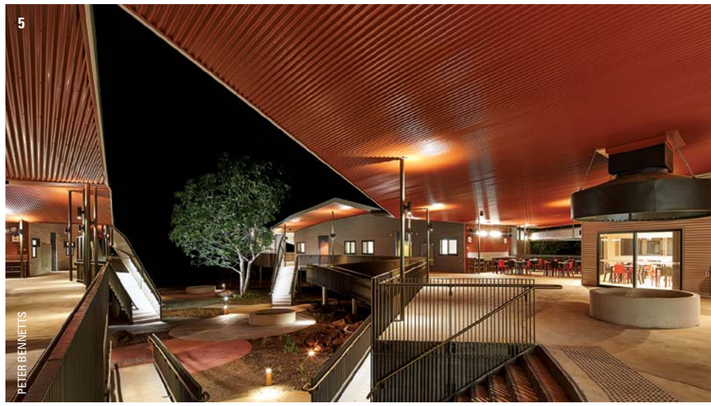
**Activate® technology is not available for COLORBOND® Stainless steel, COLORBOND® Permagard® steel, and COLORBOND® steel products with a galvanised steel substrate (e.g. XFP posts and rails, XHI posts and beams, and XIP).*

***For more information see our website www.steel.com.au/products/coated-steel/colorbond-steel/colorbond-coolmax-steel*

****Warranties subject to exclusions, application and eligibility criteria. For full terms and conditions and to determine the eligibility of products for the warranty visit bluescopesteel.com.au/warranties or contact us on 1800 800 789.*

† See more about fire protection at www.colorbond.com/why-colorbond-steel#1


4
ALLEN JACK+COTTIER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PETER BENNETTS


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PAUL BRADSHAW


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SHANNON MCGRATH

TASMANIAN TIGER

This house on a Tasmanian hill by Philip Dingemanse overcomes its modest proportions to magnify perceptions of space, fully immersing its occupants in the bucolic landscape.

Words **Peter Hyatt** Photography **Luke Hesketh; Peter Hyatt**

ARCHITECT
Philip M Dingemanse

PROJECT
Valley House

LOCATION
St Leonards, Tasmania

It's easy to view the Valley House on Launceston's rural fringe at St Leonards as a quirky take on the great rural tradition. The risk with quirky design borrowings is an uneasy alliance with client, site or climate. But the upside, when it all works, is fresh and original architecture.

Philip Dingemanse's signature in steel is one of those rare needles-in-the-haystack of country Australia, much like the always-elusive and now extinct Tasmanian Tiger. Rather than replica homestead or display-home box, this house exhibits a convincing design conviction.

Instead of ignoring the surroundings, this dark and handsome box telescopes the experience near and far, welcoming the immediate landscape and distant views into the very heart of the house. Corrugated cladding made from COLORBOND® steel in LYSAGHT TRIMDEK® profile in the colour Monument® gives the house the appearance of a cranked spyglass, the sort of instrument one might use if searching for the distant and elusive.

As well as tying in with the moody landscape, the house's distinctive steel cladding – apart from a roof made from unpainted ZINCALUME® steel – provides the context for exterior and interior paint finishes, reinforcing the continuity of the design throughout.

Viewed from every angle, the house's striated steel coat – which resembles the striped back of the thylacine – is central to the making of a handsome beast indeed.

Perched high on a hillside, the structure mimics an elongated body at rest – one that speaks to the distant skyline and valley floor, the far horizon and immediate surrounds. This celebration of place opens the way for interiors that are both expansive and intimate; public and private. Designed for a young family with plans to remain for the long haul, Dingemanse was determined to deliver an enduring quality to meet those wishes.

It's clear the architect has much more up his sleeve than one or two highlight moments. Working carefully from the inside out and ground up, his materials, spaces and volumes all flow in the same direction and towards the same, thoughtful end.

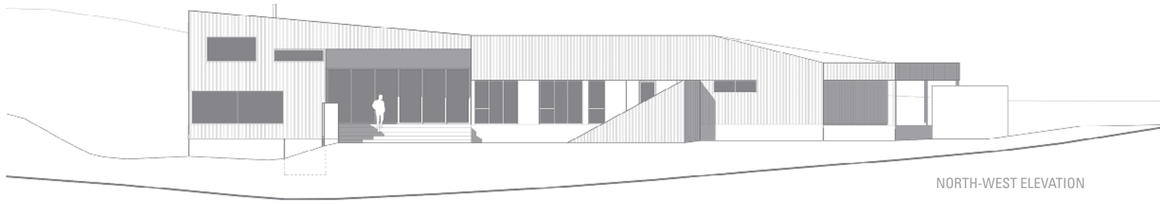
The LYSAGHT TRIMDEK® profile made from COLORBOND® steel in the colour Monument® is a near perfect gift-wrap for the building, with bold openings precisely where needed. Sensitivity to the elevation is an art not always fully grasped. Dingemanse works against the fortress mentality of so much housing that denies setting and the wider environment.

COLORBOND® steel in LYSAGHT TRIMDEK® profile in the colour Monument® gives the house the appearance of a cranked spyglass

SITE PLAN

The north facing elevation reveals the cranked plan. A slender, linear plan permits brilliant ventilation and light capture

NORTH-EAST ELEVATION



NORTH-WEST ELEVATION

A deep, sheltered deck as bay linking to the kitchen and central living zone immerses occupants in the setting

PH

PH

The result has a hover-board lightness rather than the weight of the excavated, filled-in site. This attribute alone contributes a certain 'rightness' and belonging through empathetic fit rather than forceful presence. "There's both a graphic allure that I'm interested in and the rigour of understanding why something is the way it is – challenging perceptions, perhaps, of what people think something should be," Dingemanse says.

Springing from the house's 'waist', a pair of virtually counterbalanced decks are pitched by the architect to continue the spatial flow and feather into the landscape. To the north, the deck acquires a proscenium quality for entertainment, play and casual seating, before cascading to pastures.

Despite an undeserved reputation for frequently hostile or dreary weather, the region enjoys one of Australia's most temperate climates. Rather than designing as if working with armour, Dingemanse treats steel as a tailor would cloth: to create lightly, elegantly stitched clothing for a comfortable, year-round fit.

In the central living space – the solar plexus of the design – fully operable doors replace dead walls and extend the experience, opening to climate and landscape.

Dingemanse likens the slender, cranked, linear form to outstretched arms or protective wings that better reveal and activate the home. "The dark steel facade has elements to provide shielding wings with the exposed parts being visually light – a conceptual connection to embrace winter sun penetration," he says.

The design treats the kitchen as social pivot and central control module, says Dingemanse. "This blank, dark object is pierced through the middle to provide the key living space. The whole scheme is focused around that. It's actually quite restricted in its budget scope. This lends itself to saying 'we put all the focus into the main living areas – the kitchen and the lounge room'.

PANEL SAYS

Far from being a stereotypical Australian bush house, the Valley House elevates vernacular materials – COLORBOND® steel cladding, cement sheet and timber – to new heights. Sited on the crest of a hill, the house offers views down the slopes to the city and river beyond. Externally, it presents as a singular object in the landscape, the profiled steel cladding unifying two cranked wings that extend from the central entry point. The interiors reveal a complex manipulation of sequence, thresholds and views that magnify the sense of space in what is essentially a modest footprint. Whilst there is a subtle reference to the country shed typology, the skilful handling of everyday materials results in a refined and enriched outcome

The changing light effect of the steel skin made from COLORBOND® steel in LYSAGHT TRIMDEK® profile in the colour Monument® highlights the vernacular materiality of the rural shed tradition and is a is a near perfect gift-wrap for the building

"The rest of the house, the more utilitarian areas, are as efficient and minimal as possible, yet still provide the core functional requirements."

A case in point: a custom interior light fitting in the dining area clad in folded flat sheet made from COLORBOND® steel in the colour Monument® adds overhead drama to the spaces without incurring great expense. The same colour is also used to adorn non-steel kitchen features such as a fridge alcove and range hood.

Notwithstanding its angularity, the house has deceptively fluid, organic connections. The shift in direction near its centre sees the cranked plan produce a useful shield against the south and embrace to the north. When the weather turns bad, occupants can easily withdraw into the generous double-height central volume.

In all, the house appears and feels light, despite its 'Vader-esque' leanings. While the singular colour scheme might sound like it could run the risk of seeming monotonous, the roll-formed surface of the COLORBOND® steel in the colour Monument® is forever changing in response to the ambient lighting conditions.

Dingemanse says the LYSAGHT TRIMDEK® profile of the steel cladding "reinforces a subtle link to country shed typology".

"The metal sheeting's striation unifies the built form, and the roof is articulated to respond to transitions in direction and height of the main building, becoming a significant fifth elevation viewed from the road above," he explains. "The eastern protective wing wall screens the neighboring house above."

Another economy is found in the strategic "mid-point bend" at the main entry for functionality, while the shallow plan, depth and siting along the contours all combine to achieve efficient site works.

> Dingemanse treats steel as a tailor would cloth: to create lightly, elegantly stitched clothing for a comfortable, year-round fit

"There's a large workshop/storage area which negates the need for a separate shed, for instance," Dingemanse says. "The composition of the building is as a singular, functioning object. It includes workshop, home office space, laundry, bathroom and a couple of bedrooms. That's it for one whole wing of the building.

"Even then, there's usually scope for ingenuity. It might be a certain window to the sky, or some small fragment, or gesture, and you think, 'Wow, that's been thought through. It's why that window is so brilliant.' These moments rarely occur in conventional building," he notes.

This spirit of the investigated opportunity is alive in the main upstairs bedroom where a picture-frame window faces north to what Dingemanse describes as 'the big sky', and the twinkling lights of the city beyond. While it is principally about these views, a tree canopy to the north-east contributes to the experience and reminds the viewer of what is more immediately within reach.

He explains his clients have quickly adjusted to the opportunity. "This is the first winter that they're living in the building, so there's some adjustment in terms of understanding how it actually performs in real life," he says. "There's a balance there as well: trying to ensure that it performs well, but then the reality is that the coldest temperatures, at worst, cover three months of the year, and otherwise we're dealing with a very temperate climate. It doesn't get too hot in summer either. It's a unique climate zone to be designing and working within."

Dingemanse says that while steel can be a very flexible material to work with, it deserves all care in the early design and detailed drawing stages to avoid any construction issues. "Precise drawings and detailing – and a good builder – will ensure the smooth resolution of cladding junctions, connections and flashings," he says.

"That is quite critical. A key discussion early in the piece made it clear to me that steel could be done badly or done well. It's all in the detail, most particularly in the way flashings are applied to the cladding junctions. That takes enormous control and care.

Defined by its crisp, charcoal-toned steel ensemble, the house echoes a lineage of distinguished corrugated steel houses that speak authentically to place

"The steelwork on this house needed to be seamless. Making adjustments and fine-tuning early in the process paid dividends."

Defined by its crisp, charcoal-toned steel ensemble, the house echoes a lineage of distinguished corrugated steel houses that speak authentically to place.

If this sounds too easy and obvious, the evidence across much of Tasmania, and further afield for that matter, is the grand-scale absence of environmentally aware building designs. With only a fraction of housing designed by architects, it is no wonder truly fitting design is in such short supply.

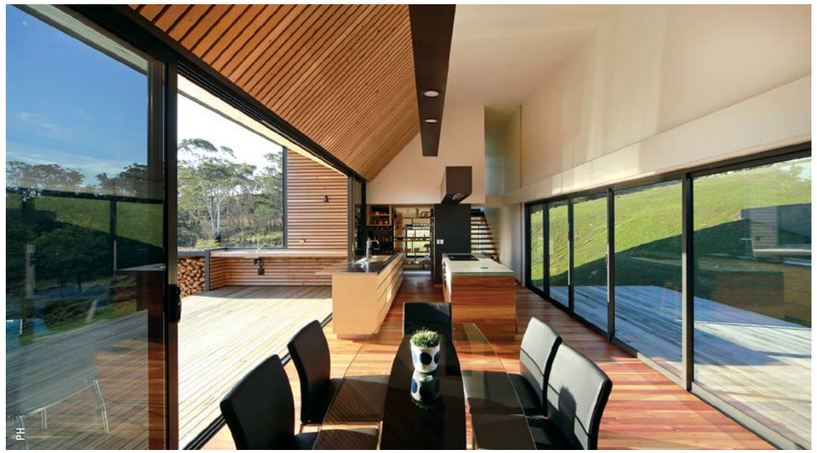
And it's this hard-won, sleeves-up design work that irons out the bumps and creases that compromise so much residential work. Such design diligence is key and responsible for the irritations avoided and pleasures realised.

It's a distinction between architecture and building. One is more internalised, whereas architecture tends to be very mindful of the wider environment, and to open itself to that opportunity.

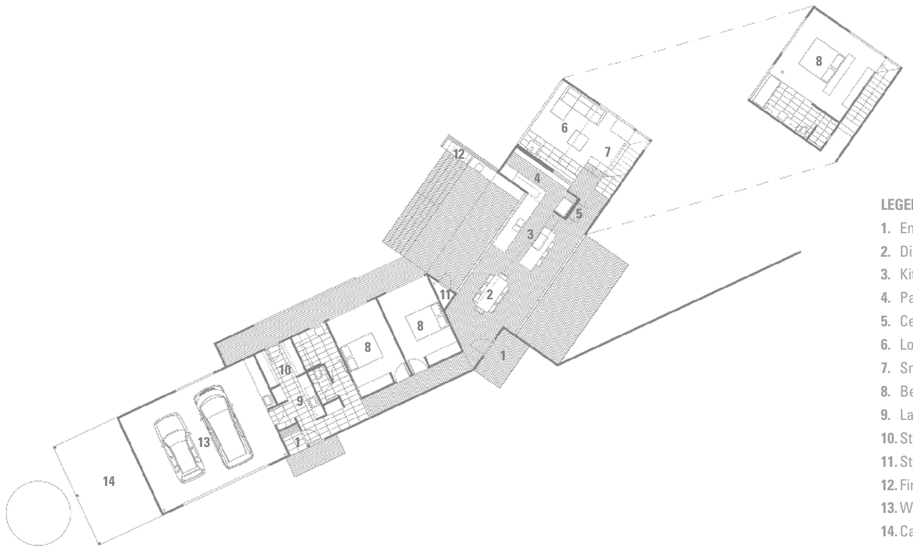
"Essentially my clients engaged me to develop a home that they're going to live in for the rest of their lives," Dingemanse says. "That's an indication of their commitment to this place. They're a young couple. They have a young child so it's all about a long-term plan for them."

Dingemanse's design is that rarest of find. Such consideration is scarcely sighted let alone captured, much like a Tasmanian Tiger fleeing extinction. SP

An inclined soffit appears to salute the sunset. A sweeping steel balustrade offers privacy and shelter to bedrooms beyond the central living zone. Broad decks north and south and full-height doors create huge flexibility



LEFT: Although 'weighty' in appearance, the steel skin and lightweight build permits exemplary lightness, whether in the family room (top) or the narrow-waisted kitchen and meals area that fearlessly dissolve structure to ensure preeminence for the natural over the artificial



LEGEND

1. Entry
2. Dining
3. Kitchen
4. Pantry
5. Cellar hatch
6. Lounge
7. Snug
8. Bedroom
9. Laundry
10. Study
11. Store
12. Firewood store
13. Workshop / garage
14. Carport

PROJECT Valley House **ARCHITECT** Philip M Dingemanse Architecture + Design **BUILDER** Streefland Homes and Developments **BUILDING SURVEYOR** Protek Building Survey **STRUCTURAL CONSULTANT** AJL Consulting **RENEWABLE ENERGY CONSULTANT** Mode Electrical **PRINCIPAL STEEL COMPONENTS** Cladding made from COLORBOND® steel in LYSAGHT TRIMDEK® profile in the colour Monument®. Roofing made from ZINCALUME® steel **AWARDS** 2015 Australian Institute of Architects Tasmanian Chapter Awards for Residential Architecture – Commendation

SPORTING CROWN

This sporting hub's use of steel as its primary construction material has been generated by the context of Port Augusta's industrial heritage.

Words **Leanne Amodeo** Photography **Daniel Trimboli**

ARCHITECT
Studio Nine Architects

PROJECT
Central Oval Community Sporting Hub

LOCATION
Port Augusta, South Australia

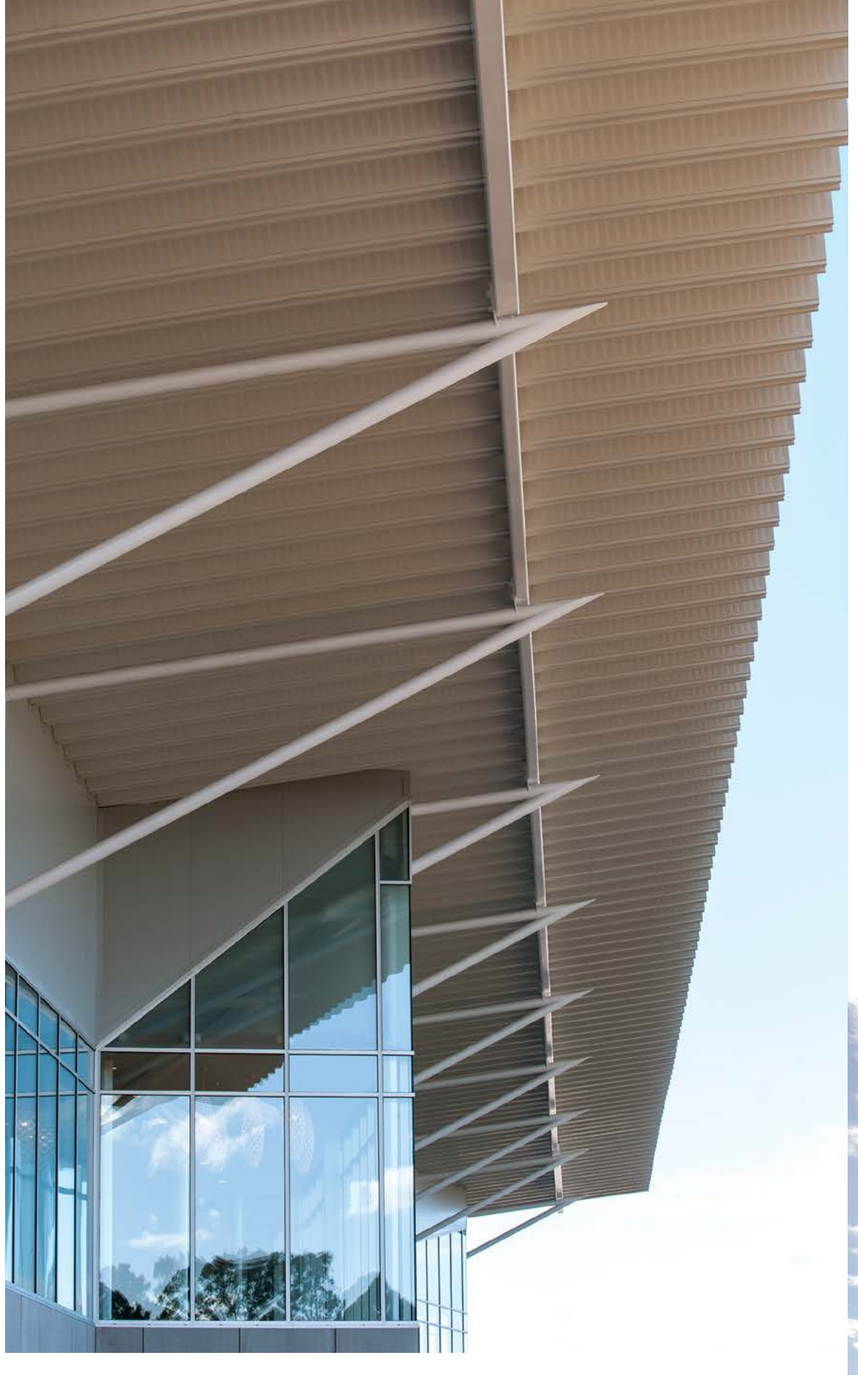
South Australia's Port Augusta is described as being at the crossroads of Australia in most tourist brochures and travel guides. The small seaport town – located 322km from Adelaide on the head of Spencer Gulf – acts as the gateway to the Flinders Ranges and Nullabor Plain. It's hot, dusty and dry during the summer months, and laid-back in the way a rural centre of not-quite 14,000 people typically is.

The recent closure of its 60-year-old coal-fired power plant sees the town enter a new chapter, especially if a proposed solar thermal power station for the region receives approval. In a tight-knit community any new development has the capacity to personally impact everyone, and any growth or expansion is regarded with vested interest. So it's not surprising Port Augusta City Council openly consulted with the community in the early stages of the Central Oval Community Sporting Hub redevelopment, which borders Braddock Park and is clearly visible from the eastern side of the Augusta Highway.

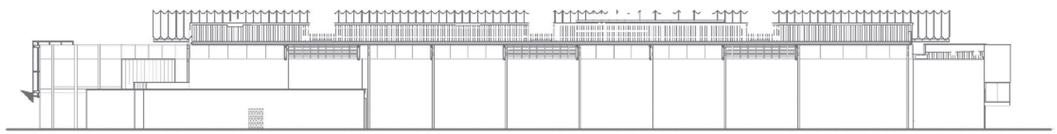
Design architect and co-director of Adelaide-based Studio Nine Architects, Tony Zappia, was given the straightforward brief to deliver a community facility with surrounding infrastructure, to serve local basketball, volleyball, netball and football teams. An old grandstand formerly occupied the site, and Zappia had it demolished to make way for a new stadium. The disused trotting track was also removed, allowing the Studio Nine team to reconfigure the existing southern oval to comply with current AFL standards.

It's an ambitious project because of complex programmatic requirements that essentially determined the two-storey, multi-use stadium's large scale. The building measures 5992m² and accommodates three basketball courts with retractable seating, a 350-capacity function room, members' bar, meeting rooms, clubrooms and change rooms. It's also the regional headquarters for the South Australian National Football League (tribunal hearings are held there), yet the program's greatest efficiency lies in the ground floor change rooms' flexible plan, a zone enabling cross-season use by players from various sports and codes.

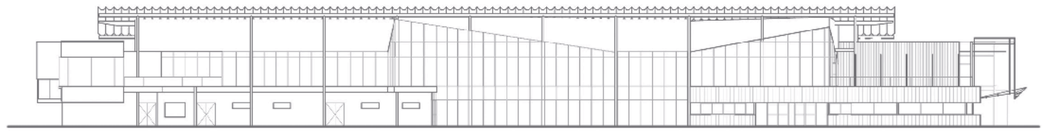
The Port Augusta area informs the building's design concept and the use of steel as the primary construction material was generated by context. Steel is synonymous with the industrial town and figures repeatedly in the local architectural vernacular. The Studio Nine team's application is a celebration of the history and tradition of Port Augusta, as well as being a respectful and sensitive recognition of place. Zappia also needed a robust material that could withstand the region's harsh environmental factors. As he explains: "This isn't a five to ten year [lifespan] project – it's a 50 to 80 year one. So we had to develop a building that was sustainable and required minimal maintenance." During the 12-month construction period the steel components were prefabricated offsite, making the building process much more efficient.



ABOVE: The roof overhang's steel tapered structural supports are elegant features that echo the cranked angle of the southern elevation's windows



NORTH ELEVATION



SOUTH ELEVATION

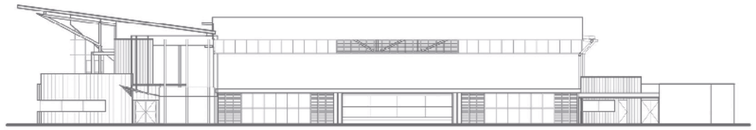
"It's an ambitious project because of complex programmatic requirements that essentially determined the two-storey, multi-use stadium's large scale"

Also with the advantages of prefabrication in mind, Zappia chose to wall the building with 150mm-thick Bondor Equitilt® insulated panels made from COLORBOND® Ultra steel in traditional Slipjoint finish, in the colours Monument® and Shale Grey™ for the interior, and the COLORBOND® Metallic steel colours* Facade® and Axis® for the external walls. While the finishes are resilient against dust and heat and also in proximity to marine environments, Zappia chose the material for the diversity of its colour palette. Cladding the exterior in four different shades of opalescent colour visually deconstructs the building, reducing its scale.

So rather than appearing as an imposing monolith in a neighbourhood of modest single-storey homes, it has a lightness of form that is sympathetic to its surrounds.

These colour finishes also reflect the natural environment, further minimising the building's scale by visually softening its edges and allowing it to politely blend in. "The reflections enable a beautiful patina to come through and so every day the building looks different," says Zappia. "On a sunny day it sparkles and on a cloudy day its hue is much darker." The COLORBOND® Metallic steel shades provide a complementary muted background to a small section of weathering steel cladding, while balancing the generous use of glazing.

Full-height windows on the southern elevation enable clear views of the oval and the cranked facade is an elegant architectural flourish.

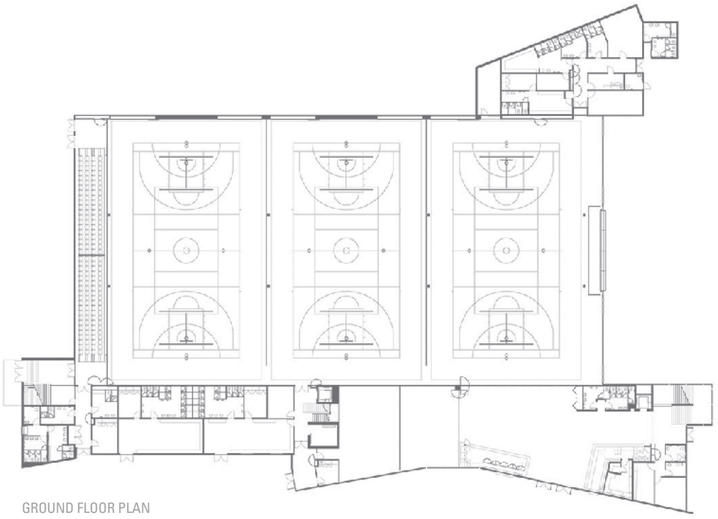


EAST ELEVATION

The southern elevation's roof overhang is the project's most dramatic expression, complementing the dynamic angles found in the south-east deck and double height glass box entrance

PANEL SAYS

This regional sporting hub combines many programmatic objectives in its co-location of various sports and codes, but despite these disparate elements the complex presents as a remarkably cohesive whole thanks to the precise application of different kinds of steel. The building demonstrates a lightness of expression in its use of minimal steel structure and steel cladding panels, which is a sustainable approach to material usage. Wall panels clad with COLORBOND® steel are joined by fine steel sections that taper delicately to support an elegant parasol roof made from COLORBOND® steel in the always-striking Fielders ARAMAX FreeSpan profile. This light-handed approach to form can also be seen in the plan, which has been deftly managed to produce a building that is responsive to its environment. Located on a prominent corner in the town of Port Augusta, Central Oval provides a solid civic gesture while welcoming all visitors, be they sportspeople or spectators



GROUND FLOOR PLAN

"The building is a showcase for Port Augusta and a well resolved redevelopment that serves the needs of its community"

TOP: A highly textural material palette prevents the building from appearing as a large monolith, making it more sympathetic to its surrounds

ABOVE: The roof overhang's muted finish is in keeping with the building's resolutely natural colour palette

Zappia extended the glazing through to the first floor deck's balustrade and the building's south-east entrance, which presents as a double-height glass box. A perforated powder-coated metal screen forms a canopy over the main entry and folds out to provide shading. It's a subtle accent that echoes the cranked corner of the full-height window and is also repeated in the triangular form of the overhang's structural supports made from tubular steel columns.

Zappia achieved a strong sense of visual cohesion with a distinctly varied material palette thanks to judicious application and minimalist articulation. That's not to say he hasn't taken risks with his material selection. The use of timber for decking injects a sense of warmth into an industrial palette and the weathering steel treatments as panelling beneath the deck is unexpected. This adds different texture and patterning to the facade, while still keeping it free of embellishment.

Panels of pre-finished fibre cement clad the building's opposite end, on the southwest corner's viewing box. The exterior's most compelling architectural expression, however, is the southern elevation's dramatic roof overhang, which is made from COLORBOND® Coolmax® steel in Fielders ARAMAX FreeSpan roof sheeting, in the colour Whitehaven™.

"We like this material and profile for its unencumbered spans and ability to cantilever great distances," says Zappia. "So the overhang provides a liberal amount of shade and greatly reduces the impact of the afternoon sun. It's a surprisingly delicate structure in profile and coupled with fine tapered steel structural supports, lends the building a refined elegance that further lightens its form.

COLORBOND® Coolmax® steel in the colour Whitehaven™ was also used in two other Fielders profiles – KingKlip® 700 and Spanform® – as concealed roofing on either side of the overhang. The KingKlip® 700 profile proved especially advantageous in achieving a low pitch and has been installed with a discreet fixing system resulting in a clean finish. A large catchment within the roof area is used for rainwater harvesting so there's plentiful water for irrigating the football oval grass.

Another reason the architect specified COLORBOND® Coolmax® steel in the colour Whitehaven™ was for its low heat-absorption properties and high solar reflectivity which can assist in reducing the building's active cooling costs** – a particularly important requirement for a project of this scale and type.

Orientation also plays a major role in helping to minimise solar penetration and the positioning of the building accounts for this, however a primary aid for the building's energy efficiency is found in the thermal performance of the 150mm-thick Bondor Equitilt® insulated panels. These provide thermal insulation as well as acoustic insulation and, like the exterior, achieve a pared-back, minimalist appearance for the interior.

The overhang's dramatic expression is reiterated inside the building through the use of trusses made from tubular steel that hang above the basketball courts. "As big and deep as these trusses are – and we've got some serious spans in there – they read as being quite light and that's the beauty of steel," says Zappia. The function room, members' bar and meeting rooms are located upstairs at eye level with the delicate trusses, as is the internal viewing platform overlooking the courts.

Zappia and the Studio Nine team have succeeded in articulating a highly functional building that exhibits a thoughtful response to its setting. As well as offering longevity and comparatively low maintenance over its lifespan, the robust material palette proves that lightweight outcomes can be achieved, regardless of size or scale. For Zappia, the building is a showcase for Port Augusta and a well resolved redevelopment that thoroughly serves the needs of its community. SP

**The colours Facade® and Axis® are no longer part of the standard COLORBOND® Metallic steel colour range. Please talk to your nearest BlueScope office regarding availability of secondary colours*

***For more information see our website www.steel.com.au/products/coated-steel/colorbond-steel/colorbond-coolmax-steel*

ABOVE: Tubular steel trusses that hang above the basketball courts are as dynamic as the exterior's roof overhang, but also light in form so as not to cause a distraction for spectators in the upstairs' internal viewing platform

PROJECT Central Oval Community Sporting Hub **CLIENT** Port Augusta City Council **ARCHITECT** Studio Nine Architects **PROJECT TEAM** Andrew Vorrasi (Principal Architect), Tony Zappia (Design Architect), Aaron Schintler (Lead Technician and Construction Liaison), Emily Kiessling (Interiors), George Stubbs (Technician), Scott Bower (Technician) **STRUCTURAL & CIVIL ENGINEER** TMK Consulting Engineers **BUILDER** Badge Construction **STEEL FABRICATOR AND SHOP DRAWING CONTRACTOR** Advanced Steel Fabrications **CLADDING CONTRACTOR** S & LJ Roofing **LANDSCAPE ARCHITECTS** Oxigen **PRINCIPAL STEEL COMPONENTS** Walling made from 150mm-thick Bondor Equitilt® insulated panels made from COLORBOND® Ultra steel in traditional Slipjoint finish, in the colours Monument® and Shale Grey™ for the interior, and the COLORBOND® Metallic steel colours Facade® and Axis® for the external walls. Roofing made from COLORBOND® Coolmax® steel in Fielders ARAMAX FreeSpan roof sheeting, in the colour Whitehaven™. Concealed roofing made from COLORBOND® Coolmax® steel in Fielders KingKlip® 700 and Spanform® profiles. Structural steel including tubular columns for the main roof made from 219mm x 12.7m CHS, diamond-shaped 'outriggers' for the cantilevered roof made from 168mm x 4.8m CHS and internal trusses made from 219mm x 8.2m CHS (top and bottom) with 168mm x 4.8m CHS bracing **PROJECT TIMEFRAME** 12 months construction period (completed December 2014 / official opening April 2015) **BUILDING SIZE** Total floor space 5992m² **TOTAL PROJECT COST** $16 million

OCEAN PEARL

Part armour, part leaf, a cloak of COLORBOND® steel provides the perfect fit to embrace and, when necessary, resist the elements at this beach house by Clare Design.

Words **Peter Hyatt** Photography **Peter Hyatt**

ARCHITECT
Clare Design

PROJECT
South Coast House

LOCATION
South Coast, New South Wales

Modest beachside dwellings are something of a rarity in an age when many are Kremlin contenders. This recently completed beach-house on the New South Wales south coast is remarkable if for no other reason than it resists the temptation to flirt with profligacy. The only architecture of excess here is the luxury derived from connecting so poetically to qualities of place – the sights and sounds of sea, sun, sand and native bush.

Sited on a bluff with ocean and sky views veiled by native bush, the house exhibits all of Lindsay and Kerry Clare's signature skills. Set back from its east-facing ocean-front allotment, the house is bordered by heavily treed bush to the immediate south and a conventional brick veneer house on the adjacent northern side.

After an absence from residential design – the Clares have recently completed larger civic projects including Melbourne's Docklands Library – this is a welcome return to a type upon which the couple built their reputation over two decades on the Sunshine Coast.

Here is the beach house not as trophy home but one carefully stitched into its setting as artful assembly rather than sudden impact. From its street-front elevation, the house appears to 'retreat into its shell' primarily in the name of bushfire protection. While this elevation suggests 'enclosure', the experience within is one amply filled with daylight.

Once more the material palette that helped propel the Clares throughout their careers was chosen for its economy, function and environmental subtlety. In this instance sections of wall cladding are made from COLORBOND® steel in LYSAGHT CUSTOM ORB® profile, in the colour Monument®.

As well as contributing to a resulting feeling of great calmness and serenity, the rippling steel skin feels convincing and imparts a presence that is neither camouflaged nor apologetic

OPPOSITE: The streetscape elevation is attuned to bushfire resistance. The front entrance expressed as minimalist box

TOP: A broad-rimmed blade awning shades interiors of exceptional flexibility

ABOVE LEFT: The north elevation reveals the inclined site and fit-of-house into the site

ABOVE RIGHT: The living areas open to the outdoor room

Roofing is made from COLORBOND® steel in LYSAGHT CUSTOM ORB® profile, in the colour Dune®. As well as contributing to a resulting feeling of great calmness and serenity, the rippling steel skin feels convincing and imparts a presence that is neither camouflaged nor apologetic.

Architecture is comprised of many arts. One is to make complexity appear as effortless as gulls gliding on a coastal breeze. Such apparent ease of effort – and, ultimately, use – hallmarks great design. Let's call it 'ergonomic architecture' that looks and feels fully moulded for its occupants.

The Clares enjoy a reputation for projects large and small that punch well above their weight. Think of Brisbane's Gallery of Modern Art (GoMA) delivered for a stunningly effective $107 million – an absolute heist price in terms of social and cultural benefit.

Just as the oyster requires constant irritation to produce the pearl, the architect's gig is so frequently adversarial, shaping results – for better and worse – to define the true architect and client base. It guides expectations and sometimes a following of like-minds. The clients who commissioned this house attended a lecture about GoMA, where the seeds were sewn, and correspondence with the architects began.

Many of Clare Design's principles about response to climate, weather patterns, seasons and place have coalesced into a highly practical architecture.

Jump forward almost a decade from GoMA's opening and it's easy to recognise the distinguished design lineage of this beach house. Or consider another, albeit lesser-known public project, in Melbourne's Docklands: The Clare Design

LEFT: Floating planar elements and gliding walls in the Japanese shoji screen tradition all connect with pared simplicity

BELOW LEFT: Sliding doors create interiors of astonishing flexibility and connection with the bush setting and climate

BELOW RIGHT: The ceiling follows the roof line then curves down to contain the space and meet the wall

SITE PLAN

"The key to this house is really its simplicity. That is different to minimalism because simplicity can still have richness. You can have richness with the way a house is used and its level of operability"

Library is one of a small handful of buildings in the precinct that welcomes, rather than alienates, the passer-by.

Lindsay Clare describes it as "a manner of understanding the client brief and delving into context to inform the whole process". Obviously, the scale and social implications change between residential and major projects, but the principles remain consistent.

"The key to this house is really its simplicity," he explains. "That is different to minimalism because simplicity can still have richness. You can have richness with the way a house is used and its level of operability. 'Minimal' tends to imply a more fixed state such as: 'Don't move that chair, don't touch that magazine. You've upset my composition.'"

Kerry Clare agrees that style is the consequence of careful process. "Style isn't just visual. It's the way you go about problem-solving to create a result," she says. "Over the years, we have developed a way of problem-solving that we bring to every building."

Searching for answers to assemble the puzzle that is every project, the Clares brought a sharp sensibility that adopted the available cues, including native flora and fauna.

Site access via a deep, heavily planted and treed allotment reveals the owners' love of the botanical. Native grevilleas, protea and banksia have been added to the understory around specimen eucalypts, and tea tree is landscape as planned serendipity. Native bush and trees have been maintained wherever possible.

Many seedpods, trees and grasses require extreme weather events for germination and renewal. This adaptability to place is a key for this beach-house, from its external steel cladding with tough seedpod-like skin, through to the economical, broad structural spans of exposed hot-dipped galvanised columns.

The planning configuration and shape responds to the landscape and ocean. The western elevation here uses more contained and discreet glazing because of solar loads, privacy to the street and bushfire issues, while the opposite is true on the eastern elevation, which maximises views. Cross-ventilation is another key consideration throughout.

In many respects this seems to be the perfect architect/client relationship: the client's love of nature and the Clare's ability to make peace with settings more typically transformed by grander ambitions.

Kerry Clare says that she and Lindsay saw the house as belonging to the beach rather than importing a style. "The conceptual idea about this project was seeing it as a beach house, rather than a house at the beach. There is this fundamental difference in terms of the way you approach the design of the beach house," she asserts. "The ideas about how to occupy and use a house are a bit more robust or less precious. The living patterns are also a little different, being more relaxed and informal in a beach house.

"The extension of that," points out Lindsay, "is for a house where people come together in relaxation mode, rather than rising each day and heading to work. This considers the extended family and family events such as Christmas. The house needs to expand and contract, but always feel comfortable whether it has two or 12 occupants."

Large sliding glass doors as walls between living and bedrooms offer high degrees of adjustability. Move a few and presto, suddenly there are fine alfresco rooms and beyond, a deck. It all feels right for dining, lounging or dancing with timber decking feathering towards the low cliff-top, bush and herb-garden.

The Clares' preference for crafted subtraction over addition offers an intrinsic sustainability rather than the applied, or bolted-on variety. The duo's extensive residential design catalogue is fashion-resistant, yet never bland. Old houses designed by the Clares still manage to appear new. It typifies their passion for the direct, rather than florid or overheated variety.

The South Coast House is a reminder of how much better coastal housing should, and can, be. Rather than the grandiose, the architects find the ultimate inspiration is nature itself. The 'fashion'-house engorged with gadgets isn't their style. Even with modest budgets, they bring out the best to reveal the true prosperity of place and generosity of nature, proving grand designs don't require grand scale (or outlays) to create the memorable. SP

PANEL SAYS

The profiled COLORBOND® steel cladding creates a house that announces its presence in the landscape quietly and without fanfare. Boasting the Clares' trademark fine handling of plan, section and elevation, the house sits boldly in the landscape, opening gradually to its native surroundings and towards the sea view, and confidently using dark and strong COLORBOND® steel colours to anchor the building forms. The deliberate modesty of the scale and materials is reminiscent of the old fibro shacks that used to dominate this coastline, while offering all the comforts of modern life for extended family gatherings

PROJECT South Coast House **ARCHITECT** Clare Design **PROJECT TEAM** Kerry and Lindsay Clare **BUILDER AND CLADDING CONTRACTOR** Moruya Design and Construction **LANDSCAPE ARCHITECTS** Phoebe Pape and Lush Landscapes **STRUCTURAL & CIVIL ENGINEER** Geoff Metzler + Associates **STEEL FABRICATOR** Moruya Engineering **PRINCIPAL STEEL COMPONENTS** Wall cladding made from COLORBOND® steel in LYSAGHT CUSTOM ORB® profile, in the colour Monument®. Roofing made from COLORBOND® steel in LYSAGHT CUSTOM ORB® profile, in the colour Dune®. Carport roof made from ZINCALUME® steel in a custom-folded profile. Structural steel including exposed hot-dipped galvanised columns **PROJECT TIMEFRAME** 2013-2015 **BUILDING SIZE** 173m²

LOCALE HERO

Responding to the material history of the site and locale, Shaun Lockyer Architects has re-envisaged domesticity for a young family in suburban Brisbane. The result is a determined celebration of functionality that embraces moments of poetry along the way.

Words **Margie Fraser** Photography **Paul Bradshaw; Scott Burrows**

PB

ARCHITECT
Shaun Lockyer Architects

PROJECT
Buena Vista House

LOCATION
Coorparoo, Queensland

Buena Vista House, as the name suggests, takes advantage of a *buena* view from its high perch, capturing a slice of central Brisbane's skyline. In real estate parlance, the ridgetop is indeed a 'premier location' in a 'dress-circle position', and the local housing stock has – over the years – been a reflection of its well-to-do owners seeking imposing dwellings from which to observe the sparkle of the city towers just 10 clicks away.

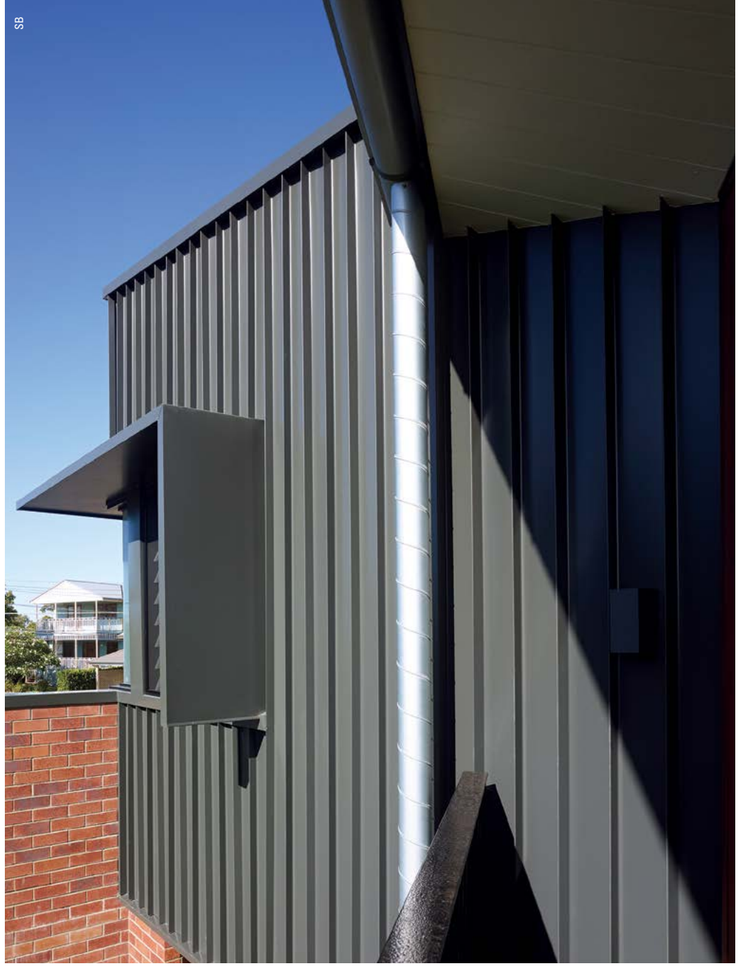
The Spanish catchphrase also accords with the street's housing history, where solid brick masonry buildings with stucco skins and 'tin' roofs were for many decades the dominant features. Now and then, a touch of Rococo flamboyance appears in exterior applications, while intact interiors might still boast darkened arts and crafts timberwork and leadlight windows. Populating the lower slopes, running down from the ridge, are the more prosaic post-war 'tin', brick and timber homes, neatly centred on patches of lawn.

Shaun Lockyer of Shaun Lockyer Architects was careful to honour the material context of the area in this new build on a sought-after north-facing corner block. With an imperative to establish good economy, and owners who were keen to pursue an industrial aesthetic of sorts, Lockyer has developed an unassuming materiality that draws on its context in a clever and pleasing way. "We have reversed the vernacular of brick and tin project homes, using steel and brick in their place," says Lockyer. "The local terracotta roofs are referenced in our use of brick, but the house design is really all a by-product of the steel roof."

"The main manouevre was to raise the living spaces to the first floor while retaining a sense of anchoring"

The roof, constructed of COLORBOND® steel in Stramit Longspan® profile in the colour Monument®, satisfies in part the clients' central drive in the brief for functionality and low maintenance. Inside, expressed gang-nail trusses support the roof, while outside its angular topography threads together the home's subtly articulated three distinct wings.

Cladding made from COLORBOND® steel in LYSAGHT LONGLINE 305® profile in the colour Monument® wraps down and over the walls, as if spilling over from the roof above. Seen at its most expressive on the prow-like north-eastern elevation, this distinctive carapace that meets the brickwork is nevertheless nicely recessive with its dark aubergine hue.



SB

ABOVE: The exposed narrow corner addressing the north-east and north-west aspects uses the distinctive and textural combination of brick and steel applied throughout the house

NORTH-EAST ELEVATION

PB

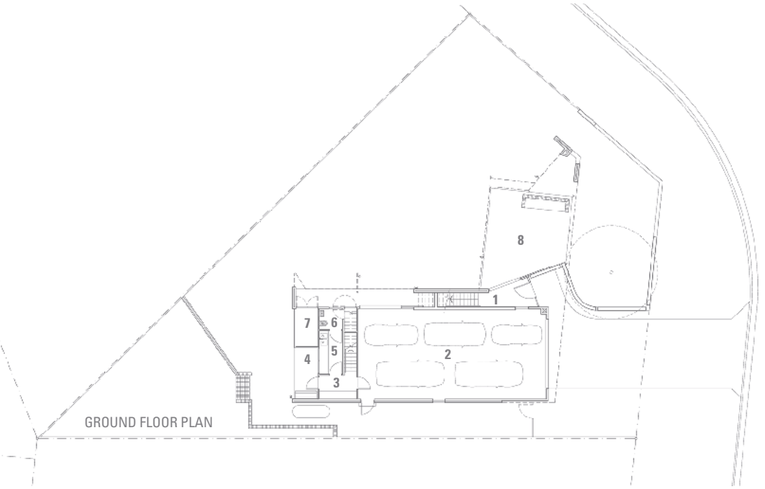
ABOVE: The undercroft doubles as an outdoor dining space. Looking north-west across a courtyard lawn and a future-planned pool, the shaded space is a result of the rigorous economies applied to the design

BELOW: The brickwork on the south-eastern elevation – topped with a carapace of COLORBOND® steel in LYSAGHT LONGLINE 305® profile in the colour Monument® – helps anchor the building to its site and the combined facade offers privacy and enclosure

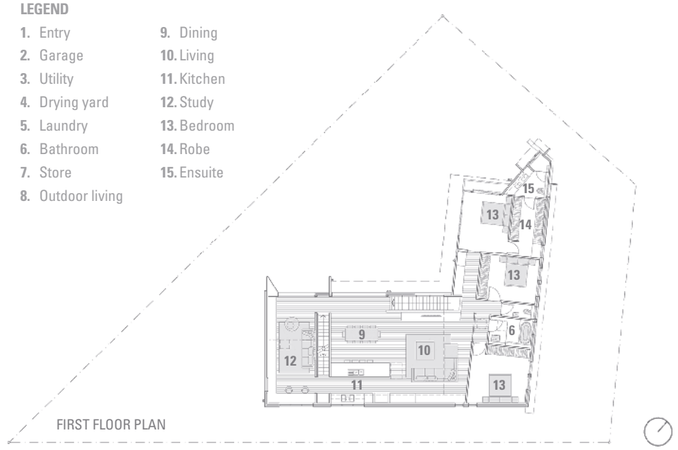
PB

SB

ABOVE: The hub of the home is the kitchen/dining/living room. The exposed trusses and raw materiality are in response to the client's wish to honour an industrial aesthetic, while working within a limited budget



GROUND FLOOR PLAN



FIRST FLOOR PLAN

LEGEND

1. Entry
2. Garage
3. Utility
4. Drying yard
5. Laundry
6. Bathroom
7. Store
8. Outdoor living
9. Dining
10. Living
11. Kitchen
12. Study
13. Bedroom
14. Robe
15. Ensuite

The act of wrapping is emphasised by the device of the steel elements being inserted into and over the brick walls, so that the metal appears as cut-out, applied as sections to the masonry core. The precision of the "cut-outs" is celebrated in the machined exactitude of the expressed, custom-made L-bracket window awnings, the balustrades and the steel cladding, as well as the expressed custom-made rainwater heads. Flashings are also made from COLORBOND® steel in the colour Monument® while eave gutters and downpipes are made from ZINCALUME® steel. A nice rhythm is established where the metal elements peel away from and frame the brick walls and fenestrations in a jigsaw of varied shapes.

While a counter to the praising of the bespoke, the hand-built, and the crafted that occupies much architectural dialogue today, this metalwork is in itself a form of specialist construction and design that offers beauty in its simple formality.

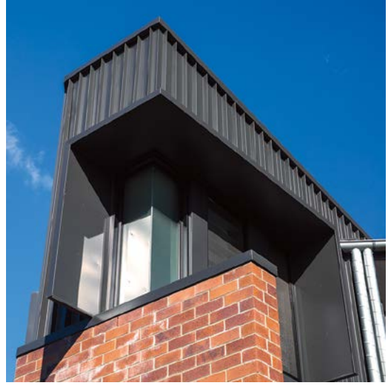
Balustrades that double as wall sections are profiled to match the vertical lines and proportions of the LYSAGHT LONGLINE 305® profile cladding. This rhythm is nicely orchestrated by Lockyer through the contrast of the steel cladding's vertical lines, interrupted by the brick's subtle raked joints and horizontality.

Custom-made steel soffits and window reveals have a robust and timeless elegance, and introduce exterior elements to the interiors.

Unevenly dispersed banks of louvres along the eastern bedroom wing also add to the tartan-like mix of horizontal and vertical patterning that subtly emerges from the conjunctions of dark brick and steel. The same LYSAGHT LONGLINE 305® profile cladding – again made from COLORBOND® steel in the colour Monument® – has been used to build the house's custom-made garage door, which is a dominant feature of the entry and eastern elevation. In all, it's a refined essay in steelwork, well aided by the skill of the builder, Crowley MDR (now Michael De Re).

The northeastern corner of the upper level shows the "serendipity of the irregular site," says architect Shaun Lockyer. Here the narrow end of the wedge is where the master bedroom ensuite (below) captures a view to the city. The skinny, narrow cut-out window is a nice contrast with the broad horizontal lines of other elevations

PB



SB

The original home on the site, a 1950s brick and tile slab-on-ground bungalow, sat squatly in position, squaring up with the street frontage and straddling a diagonal angle across the rear of the wedge-shaped block. While admired by the owners, it had dark interiors and suffered from rising damp. From its low setting, the outlook to the city to the north-west was obscured. Lockyer skewed the new plan to address the northern corner rather than the street frontage, and wrapped the house into a shallow U-shape to form a northern courtyard.

The main manoeuvre, though, was to raise the living spaces to the first floor, while retaining a sense of anchoring. Large expanses of glazing along the edges of the living spaces create indoor verandahs at the edge of each of these north-facing rooms. There is a wonderful sense of light and space as one progresses through these rooms. The smaller western wing houses a small observation tower-cum-reading room that grabs the prime city view, and again enjoys perimeter glazing where a deck might have been. As Lockyer notes, "It's lovely to be enclosed in a viewing room, and having no decks allows more winter sun penetration."

The floating piano nobile allows for a series of undercroft rooms and an open, shaded space at ground level. A capacious garage that now houses the owners' significant stable of collectable cars can in future become a second living room for children. The open area below the eastern wing of bedrooms is a barbecue and outdoor dining space. Adjacent to the grassed courtyard, these spaces frame and engage with a future-planned

PB

SB

ABOVE AND BELOW: A quiet library room sits adjacent to the main hub of living space. Above is a more diminutive study for contemplation, retreat, cocktails at dusk, or rest

SB

PANEL SAYS

This brick and steel-clad house challenges many of the rules about what a suburban dwelling might look like and how it might function. Atop a brick base, a steel carapace acts as an abstraction with COLORBOND® steel cladding cascading down from the roof to form the upper level walls. It's this unexpected composition and the accentuation of its unique form that makes the building appear to skip and spin as it is read from various vantages. On an almost triangular shaped block, the design balances privacy and prospect by elevating the main living spaces, offering a rich diversity of spatial environments such as loft-like social areas and cocoon-like retreats, and leaving the ground plane free as an informal external setting. It confidently challenges the local suburban vernacular, to great effect

swimming pool. The entry is nestled into the elbow of two wings, forming a small, tiled plaza with easy orientation towards inside, outside and upwards to the light-filled hub of the home. Brick walls extend to the earth as thick plinths along the elevations, creating a strong grounding to the site.

Even with ample garage space the footprint of the three-bedroom home is by today's standards small, and Lockyer is keen to promote the idea of the smaller home that devotes more space to the garden. He is also part of the anti-folly brigade, and Buena Vista is a fine example of functionality. In this sense, it echoes the no-nonsense practicality of the original home that the owners had first admired and contributes to a new domesticity that is averse to overbearing architectural statements.

"It is small. It has a sturdy steel roof and with brick veneer has a project home construction," says Lockyer, somewhat modestly.

While resolving the simple plans, some pleasing and surprising angles evolved – as well as some moments of delight in a few quirky shapes. And what pleases Lockyer most is the meeting of the budget and time-frame. "This is the most economical house we have ever built, costing 25 per cent less than our practice's per-square-metre average and the house was also built on time without any cost variation. The savings were a function of using standard economic materials such as steel that were readily available, easily installed and familiar to our subcontractors, however the savings also stemmed from our overall approach to the design."

Steel is undoubtedly the hero, and the visible structural element that threads together the brick and timber, both inside and out. SP

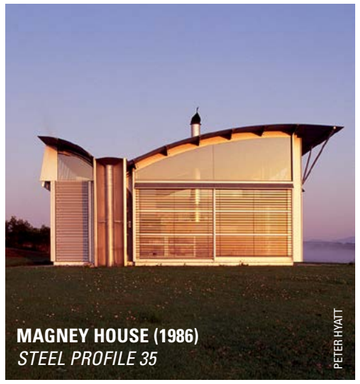
PROJECT Buena Vista House **CLIENT** Michael Earl and Ellen Rozis **ARCHITECT** Shaun Lockyer Architects **PROJECT TEAM** Shaun Lockyer, Lucy Jeffries **STRUCTURAL & CIVIL ENGINEER** Westera Partners **BUILDER AND STEEL FABRICATOR** Crowley MDR **CLADDING CONTRACTOR** Mycladders **PRINCIPAL STEEL COMPONENTS** Roofing made from COLORBOND® steel in Stramit Longspan® profile in the colour Monument®. Wall cladding made from COLORBOND® steel in LYSAGHT LONGLINE 305® profile, in the colour Monument®. Flashings, gutters and garage door made from COLORBOND® steel in the colour Monument®. Eave gutters and downpipes made from ZINCALUME® steel. Structural steel including 90mm x 6mm CHS steel columns **PROJECT TIMEFRAME** Six-month design, 11-month build **BUILDING SIZE** 380m² **TOTAL PROJECT COST** $920,000

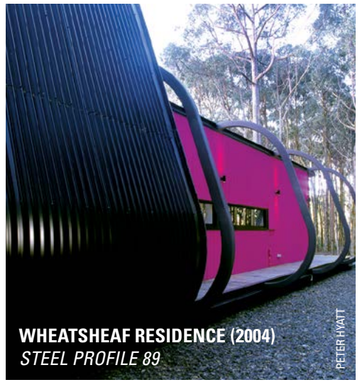
"The act of wrapping is emphasised by the device of the steel elements being inserted into and over the brick walls, so that they appear as cut-out, applied as sections to the masonry core"

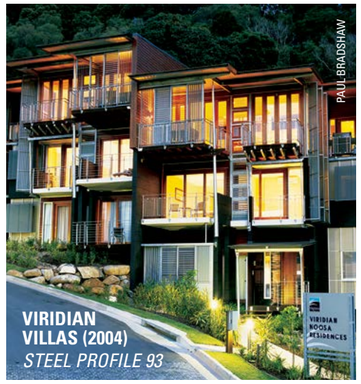
PB

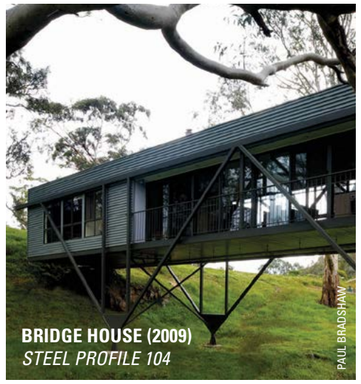
LOOKING BACK

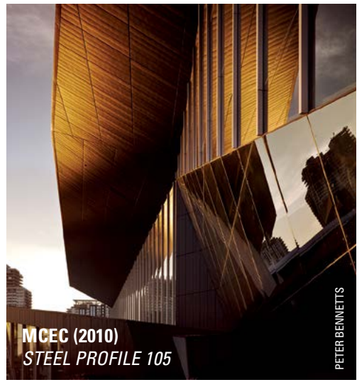
From rising stars to Gold Medallists, *Steel Profile* has chronicled the latest and most innovative developments in steel buildings. Here, as we mark the 50th anniversary of the birth of COLORBOND® steel, we celebrate some of the outstanding projects – and their architects – that helped to establish steel as an essential part of Australia's architectural vernacular. Words **Alex Taylor**

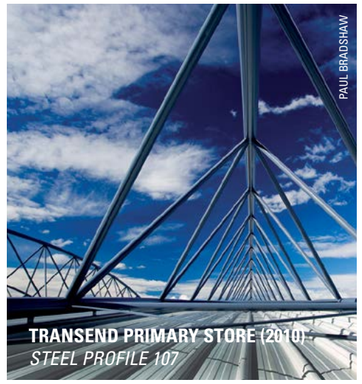












"Many of our houses use steel as shelter to allow the rest of the house to be fabricated and constructed. The steel frame and cladding becomes a frame of reference for everything else. If the steelwork is accurate you don't get mistakes, but rather a very systematic way of building."

Glenn Murcutt

"We went with a repeated portal frame and COLORBOND® steel allowed us to skin the house economically. Being so lightweight meant we could lift the house off the ground with minimal footings and keep a fire-resistant underside."

Jesse Judd,
Judd Lysenko Marshall Architects

"This architecture is like a series of little surrealist boxes sitting on stilts, sort of wobbling around in the trees. They are not earthy buildings… they are light and ethereal, and they whisper off into the distance. We rely on the rich surfaces of the steel materials to achieve that outcome."

John Mainwaring,
JMA Architects

"We had a relatively low pitch on the roof, and the Kingklip offers economy and a pleasing aesthetic for the use of a box within the steel frame: it's a very simple roof. We also wanted it to be non-combustible, and I like the patterns of light and shade that you create by using a profiled steel sheet. I also like the fact that it relates to traditional rural building forms."

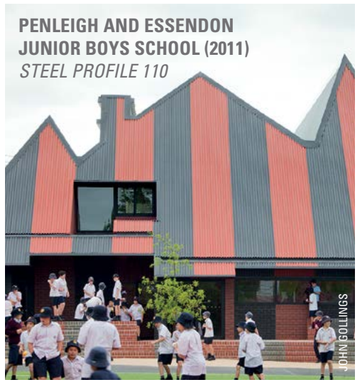
Max Pritchard,
Max Pritchard Gunner Architects

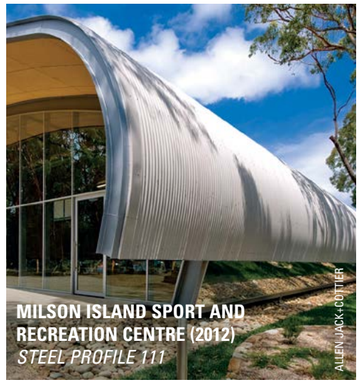
"Not just for the architecture but because – as the first convention centre in the world to get a 6-star Green Star Rating – it is so environmentally sustainable and contributes to Melbournians' pride of place."

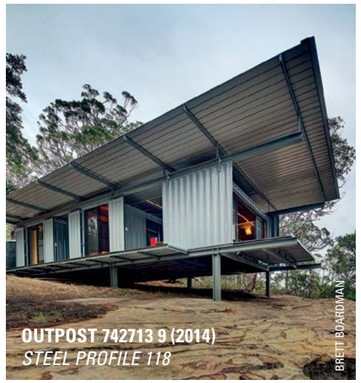
Hamish Lyon,
NH Architecture

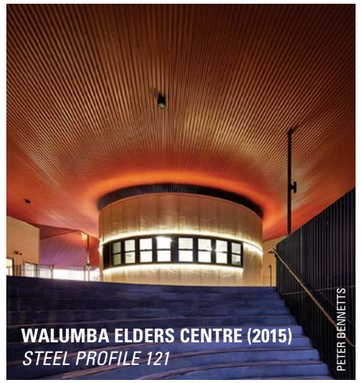
"Over a sustained period of architectural practice, [we aim to design] buildings that are by definition economical and utilitarian. If we can also make buildings delightful, useful, and meaningful to their inhabitants and the general public, we achieve guaranteed satisfaction."

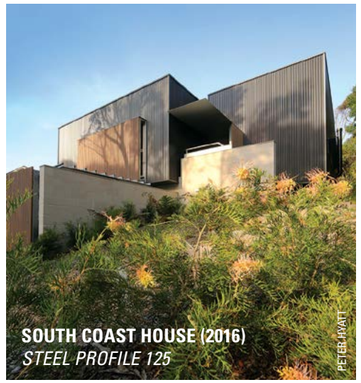
James Jones,
Jones Moore Architecture











"When used intelligently, steel is a remarkable material. Its weight-to-span ratio is incredible. In our architecture, we use it for lightness – because its strength is so much more reliable than other materials. In projects such as The Hangar, our direct connections meant that when the building was half up it was wobbling and falling over, but once we bolted all the roof sheets to it, and the gutter and truss extensions, it became rigid."

Peter Stutchbury,
Peter Stutchbury Architecture

"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."

Debbie-Lyn Ryan,
McBride Charles Ryan Architects

"There's a lot of information to assist the industry in product selection these days. We compared our site conditions and proximity to the water against BlueScope's product charts and it was obvious that we should choose COLORBOND® Ultra steel."

Michael Heenan,
AJ+C

"I see this scheme as an aggressive construction – our early name for it was 'Desert Storm', because, in a way, it's like an outpost of humanity. The big cantilevers of the deck and the roof give the building a sense of aggression, like it is perching on the edge of the cliff, ready to leap off. But the spans and the overhangs are lightweight. The structure is simple and although this is a low budget building, there is a sense of elegance in that simplicity."

Drew Heath,
Drew Heath Architects

"The roof works in several ways to keep the rain out and the sun off. That's one of the innovations of steel: it allows us to do big spans – this is not a cyclonic wind region – to create a strong architectural element. As for the roof, cladding and soffit, steel cladding is easy to cut and adapt to shape, it's very durable, easy to maintain and very cost-effective, so it's still our material of choice for regional and remote area work."

Finn Pedersen,
iredale pedersen hook Architects

"The key to the house is really its simplicity. That is different to minimalism because simplicity can still have richness. You can have richness with the way a house is used and its level of operability."

Lindsay Clare,
Clare Design

"Style isn't just visual. It's the way you go about problem-solving to create a result. Over the years, we have developed a way of problem solving that we bring to every building."

Kerry Clare,
Clare Design

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