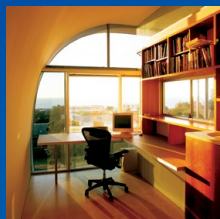


steelprofile

Architectural steel innovation with BlueScope Steel

number 85, december 2003





002

Home Delivery

A site delivering ocean views, clients open to new possibilities – and a street populated with Californian bungalows and 60s brick veneers. Perth firm Odden Rodrigues curved lightweight steel cladding to design a home that could well be a role-former for similar sites.



010

Speculative Success

Cox Rayner's Fujitsu building in Brisbane's Portal Business Community faced all the expected pitfalls of a speculative commercial design. A masterplan context and the input of an anchor tenant helped the design team achieve prominent success in just five storeys.



016

Community Action

Darwin-based architect Les Platt worked within a government brief to create a seniors village in Alice Springs that not only met budget constraints, but also amply satisfied the aspirations and expectations of an even more significant interest group, its residents.



024

Elevating Design

Melbourne architects Lyons took on the unique challenge of combining the forms and functions of factory/warehouse unit and educational facility. Their response for the Kangan Batman TAFE Transport and Logistics Training Centre in Melbourne is a neatly packaged solution on the road to success.

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(cover photograph) The curved COLORBOND® steel wall/roof of this Cottesloe home is just what the doctor ordered – providing privacy as well as weather protection from the sometimes intrusive Perth seabreeze known as the Fremantle Doctor.

(this page) Gillen Seniors Village in Alice Springs employs lightweight forms and vibrant colours to create a practical community in a climate that's been all too frequently blemished by inappropriate buildings owing more to tradition than to practicality.

002

Project Caithness Residence,
Cottesloe, Perth WA
Architect Odden Rodrigues Architects
Builder John Caithness
Structural engineers Scott Smalley Partnership

HOME DELIVERY

Tract housing defines the mood and agenda of middle Australia, but another response is occurring in the heart of many established suburbs. A juxtaposition of styles might antagonise conservative thinkers, but architecture is also breathing new life into tired, look-alike streets. At beach-side Cottesloe in Perth, the Caithness Residence creates a distinctive snap, crackle and pop. Rather than buying up a presence through incredible bulk, this project has an exemplary sculptural elegance without any trace of Tuscany, or vision splendid. The result is most remarkable.

Housing estates continue to flourish with a formula barely altered since the first half of the 20th century. This spread of brick, tile and wet-trades – its culinary equivalent must be the meat pie and sauce – continues from where our parents and grandparents left off. Instead of retreating into this epic tradition, Odden Rodrigues Architects have delivered a real piece de resistance. Formula work is the enemy of thoughtful, tailored spaces and project designer Paul Odden's work speaks eloquently about light, shade and the nuances of place.

Architecture as aspiring icon must be more than vivid form. This design reflects the depth of purposeful program rather than preoccupation with groovy shapes. Nothing wrong with groovy shapes if they work. It's just that some clients are forced to live vicariously on the margins of, rather than immersed with the object of desire. Because the dud is so much more easily produced than the epiphany, outstanding examples are worth celebrating.

Situated in a typical suburban street stocked with house styles spanning the past century,



A cantilevered balcony and glazed north wall provide a perfect vantage point from which to observe play on the Indian Ocean.



(above) The idea of privacy and prospect is encapsulated in the formal dining/entertaining room that connects directly to the garden via full height sliding doors.

(opposite) A sweeping embrace of COLORBOND® steel creates a distinctive shell with minimal interference of structure or mass. Sited on an east/west axis, the house uses overhangs to minimise direct sun penetration.

the project is flanked by a Californian bungalow and '60s brick veneer. Property prices have soared to around \$1.5 million for 900 square metres in a street 200 metres from beach frontage thus preparing the suburb for transformation. A diversity of styles is emerging and the Caithness Residence typifies the emergence of new money into an old area. But few, if any, of the other homes have such a polish and poise.

Rosemary and John Caithness were so committed to the cause that for 18 months they occupied stage one of the project – a

freestanding apartment in embryo form – while they saved furiously to see it metamorphose through the final two stages. From a single boxy form of two bedrooms and open plan living space on the rear of the site, the project expanded along its site incrementally towards the ocean.

Odden says residential design can be a journey of emotional highs and lows: "We had clients who very open to new possibilities. They were willing to try something that was an adventure and they were prepared to be patient. As an architect that is a very valuable asset. Most clients want

everything almost immediately. They also encouraged a design of its time and place," says Odden. "Many clients are just not willing to explore the possibilities in this way."

Internally there are few detail tricks or gymnastics. Odden's approach is to refine and simplify details. He prefers to avoid the self-conscious level of expression many modernists employ to advertise their craft. "I'm not that sure many clients need to see a cobweb of connections to fully understand or feel better about their house. Our lives are busy and complicated enough without

surrounding ourselves with complicated assemblies that demonstrate technical prowess.

"A house should provide an escape from life's pressures and complexities. I'm not sure that the owners really wanted a vivid demonstration of parts. I think they are much more comfortable with spaces that appear understated and restrained."

A seamless ceiling/wall convincingly clad in COLORBOND®, steel in the colour Shale Grey™, illustrates the point. "This could have been expressed by a series of exposed beams for instance," suggests Odden. "But I am not sure that this kind of structural rhythm is called for." Such a preference for more subtle, residential finishes and expression, rather than incorporating an industrial dazzle is most convincing. After all, this is a beach house, not a fabrication shop.

The blurring of the wall/ceiling relationship is one of the project's most satisfying achievements. The result produces an ambiguous spatial zone, much like the infinity of a photographer's cyclorama. Through this dynamic 'rear', there is an emphasis on the upper floor view along the main north (side) elevation and west to the ocean.

The street runs parallel to the beach and is populated by homes of mixed eras - Edwardian, Californian Bungalow, post-War brick veneer and most of them are surprisingly modest considering skyrocketing property values. Despite Cottesloe's rapid ascent as one of Perth's pre-eminent beach suburbs, the clients requested an architecture to satisfy their desire to live a simplified beach lifestyle.

Designed in three stages with potential for separation into three apartments, the clients occupy the front of house over two levels, while the middle and rear of the property have separate access and can function quite independently should the decision be made to sub-lease the property.



Of its expression Odden says the Caithness Residence attracted some initial resistance being the first new house in the street for 25 years. “We’re past that now. Modern architecture might be in the minority, but it is hardly

unknown in Perth and the area is winning some progressive, elegant architecture. John Caithness describes the house as, “a contrast of mass and the fly-away. It offers protection and enclosure and juxtaposes another part that has

you up in the tree tops. It has been worth the wait,” he adds.

Success for the project includes recognition in the RAlA’s WA COLORBOND® steel award. The awards jury: “...marvelled at the spatial qualities achieved in this large house carefully sited on a narrow lot overlooking the Indian Ocean. The main spaces of the house are contained in an astonishing two storey high cantilevered volume made possible only by the daring use of steel.”

The project has an unequivocal thrust and dynamism. There are, for instance, those elements such as the cantilevered upper level and, on a smaller scale, the chimney flue on the south elevation that forms part of the important sculptural expression against corrugated steel. Instead of ‘losing’ this form as incorporated wall, an effective separation and disclosure is achieved. These are ultimately un-fussed details that become counterpoint for the rectilinear mass and lightweight, rippled steel surface. Architecture is often delineated from the mere act of building by a thinness of edge and this design exemplifies such a definition.

The use of signature steel overcoat and sun-visor has a dual purpose – as lightweight visual buttress against the inevitable rise on the south of the formidable neighbour and as environmental buffer against solar loadings, afternoon ocean glare and the notorious ‘Fremantle Doctor’, said to make Perth the world’s third windiest city.

Odden says the strong formal gesture of the wall-roof could be interpreted as a ‘cupped hand’ to provide face protection from hostile weather from the south/south west while opening to the warmth and light to the north.

While the arched, or circle segment is popular, his preference of a semi-ellipse provides a more

complex, and ultimately more satisfying shape. Roll-forming and assembly of the COLORBOND® steel wall/roof was fast and cost effective. “We were able to arrange closure of the street for the day and this allowed the fabricator to set up his rolling equipment on the road. Rolling was quick and we achieved very consistent results. Each sheet was craned into place on the vertical. It might sound dramatic,” he says, “but it

was really a smooth, virtually hassle-free business.

“The challenge with roll-forming is to avoid too tight radii. Our wall/roof was designed with three main radii and it produced the most satisfying curve. There was quite a lot of spectator interest because it all happened so quickly. We had a few objections to the concept initially, but by the time the project was completed most of

the objectors had given up. Now the owners get plenty of praise for what they have achieved,” Odden adds.

He is reluctant to make associations about the form. People will make metaphors about sea-shells and breaking waves. “Our main intention was to create effective visual and weather protection from the south-west. The form really grew out of that practical need

The unforced exterior is mirrored internally with a series of vaulted linear volumes on the top floor. The dining and kitchen area has a master bedroom and ensuite at one end and study and balcony at the other.

(opposite) A tale of two kitchens on the top and ground floors provides a luxurious flexibility for entertaining.





The view west to the Indian Ocean through the dining area and study.

rather than through forcing a pre-determined idea."

A consequence of the robust slenderness of the main feature roof/wall is that it frees the north and west elevations to be resolved with an extensive glazing treatment. Odden's masterful treatment of form, light and space is a blend of the tranquil and dynamic. It is a house of refuge and tranquillity as it is a prospect from which to observe wind-surfers and ocean tankers.

Healthy housing offers efficient ventilation and releases energy as required. The benefits of good design are far more than cosmetic. The Caithness project works for many reasons, but the main one is the clarity of idea that provides all of the fundamentals of healthy buildings from ease of ventilation through to comfort of indirect natural light and therefore fewer temperature swings.

Odden says that while daylight manipulation must remain one of the architect's special skills, sun glare is the often forgotten factor when designing in Perth. "Glare is a real problem. I couldn't live in a house where you needed sunglasses all day. One of the greatest challenges for architecture in Western Australia is to reconcile sunlight and glare. There are often highly conflicting issues involved. Odden's response of exaggerated eaves and orientation means that only ocean glare remains as an irritant for a brief period in the afternoon. There is a plan to eventually install a steel mesh screen on the upper west elevation to help mediate the often dazzling effects of Mediterranean climate and beach proximity.

Odden describes the house as intuitively ESD friendly. "I think good architecture understands and inevitably incorporates the ESD imperative.

It is not just something you apply in response to regulations. If you were to just follow legislation you would basically stack the ceiling with insulation and minimise window openings, but the results would be pretty unappealing."

Recent massive power blackouts along North America's east coast, parts of Canada and Europe appear to have done little to alert authorities to the vulnerability of an energy grid exposed by climatic extremes and buildings heavily dependent on energy guzzling appliances. Projects such as the Caithness Residence tap lightly into the power grid.

No black-tiled roof capped with giant air-conditioner on this site. On the contrary. Heat reflective and dissipating, beautifully ventilated and sited, this is the model consumer in so many ways.

Peter Hyatt

Project:
Caithness Residence,
Cottesloe WA
Architect:
Odden Rodrigues
Tel: (08) 93833111
Project team:
Paul Odden, Colin Armstrong
Project management:
John Caithness
Structural engineers:
Scott Smalley Partnership
Builder:
John Caithness
Steel fabricator:
Southern Steel
Roofer:
Perth Roofing Company
Coated steel Specified:
COLORBOND® steel
rollformed on site in the
colour Shale Grey™
Photography:
Peter Hyatt

010

Project	Fujitsu Building at the Portal Business Community, Stage 1 Newstead, Brisbane
Architect	Cox Rayner
Developer	Ariadne Australia Limited
Construction	Watpac

Despite a modest budget and significant constraints on conception and design, the Fujitsu Building in Brisbane's Portal Business Community has managed to transcend the ordinary. The outcome gives hope for future city developments struggling against similar challenges.

SPECULATIVE SUCCESS

Speculative commercial buildings are the despair of those who would wish to see better quality architecture and more environmentally attuned design. Such projects set out to maximise lettable floor area, minimise construction costs and get the whole thing up quickly so investors can start seeing returns. The occupants are unknown, so the design process can only be informed by the idea of generic building users – who, for example, will occupy 'x' square metres of space, require 'x' level of illumination, 'x' number of air changes per hour and a year-round ambient temperature of 22.5 degrees.

Thus standards, codes and regulations become the drivers, aiming at basic compliance at the least cost. The outcomes are seen everywhere, from nondescript CBD towers to the industrial park genre of warehouse boxes with offices out front and perfunctory landscaping strips marking out parking zones.

For Stage 1 of the Portal Business Community (the Fujitsu building), developer Ariadne Australia Limited and architect Cox Rayner faced these familiar constraints,

but won through by making a competitive tender process, a masterplan context, an architectural response to climatic conditions and the involvement in the design process of the anchor tenant, Fujitsu, work for them.

The five storey Fujitsu building is on a site bounded by Breakfast Creek Road and Longland Street, Newstead and is the first of three buildings which will comprise the Portal Business Community. The development is intended to form one flank of an eastern gateway to Brisbane – the approach to the city from the airport. The Portal Business Community itself is one element of the masterplan for the northern sector of Brisbane City Council's Newstead Teneriffe Urban Renewal Program.

As lettable commercial space in a mixed-use zone on the fringe of the CBD, the Fujitsu building sits somewhere between the office block in terms of genre, and the industrial park in terms of milieu. It is flanked by a busy arterial road and a network of streets lined with light industrial/warehouse units, interspersed with some newer, more adventurous residential developments.

Contrasting cladding profiles and finishes contribute to the contemporary industrial character of the Fujitsu building – matt finish stainless steel panels are juxtaposed with COLORBOND® steel.





Designed to minimise solar heat gain: the roof clad with ZINCALUME® steel rollformed in Stramit Speed Deck Ultra acts as a shade parasol.

(below) The building's irregular shape means that there is no due west facade, while the less exposed south facade is the longest, curving gently along Longlands Street with sunshades on the south west corner.

Newstead, Teneriffe and New Farm, on the Brisbane CBD's eastern edge, have been undergoing transition from old riverside industrial, to mixed use commercial-residential since the mid 90s.

The Brisbane City Council has adopted an even more diverse strategy in Newstead, encouraging a

mix of residential, commercial and even light industrial development that allows a location to have a round-the-clock life.

The project is part of a larger masterplan developed by Cox Rayner that incorporates the James Hardie site purchased in September 2000 with larger amalgamated parcels totalling

16.4 hectares known as River Park. The River Park development will eventually contain residential, commercial, retail and recreational spaces.

Cox Rayner's masterplan allows for a mixed use commercial/residential precinct, a central spine of parkland, a retail centre and further housing of various types. Built forms (like the Portal development) mark distinct points along the edges without totally encasing the site, opening up vistas down to the Brisbane River. As the first to be constructed, the Fujitsu building aims to set a standard for the extensive commercial development yet to come.

The building has views of the Brisbane River and the striking steel frame of the old gasometer of the former Boral gasworks, which has been retained as the key element of the site's industrial heritage. This structure has provided indirect inspiration for the industrial aesthetic of the Fujitsu building, but by contrast rather than imitation. The sleek, lightweight steel cladding

emphasises the Fujitsu building's horizontality and acts as a foil to the solid verticality and decorative orbs of the old gasometer. Two moments of the history of iron and steel construction technology are thus juxtaposed.

The open corner site presented a variety of opportunities for building form and footprint. Appropriately, Cox Rayner sought to proceed from passive solar design principles, creating a roughly trapezoid shape along an east-west axis. This maximises northern and southern facades, and thus minimises solar exposure – important to do, given Brisbane's sub-tropical climate.

Unusually the main elements of facade treatment are two types of steel cladding. Matt finish stainless steel panels rollformed in STRAMIT LONGSPAN profile mark out strong horizontal bands. This Grade 445-M2 material offers strong corrosion resistance and the matt finish reduces reflectivity.

Contrast is provided by panels of COLORBOND®, steel in the colour Night Sky®, rollformed in STRAMIT C-CLAD 203 profile. The innovative combination of materials creates definition, visual containment, and a strong emphasis on corners. The STRAMIT LONGSPAN panels in stainless steel, with their close ribbing, create a light appearance that is countered by the deeper profile and wider spaced grooves of the STRAMIT C-CLAD 203 profile. The panels conceal blockwork upstand (required for fire rating), with sarking insulation between the steel and concrete.

This approach taken to the Fujitsu building resulted in Cox Rayner winning the Australian Institute of Steel Construction's Metal Product Design Award for 2002.

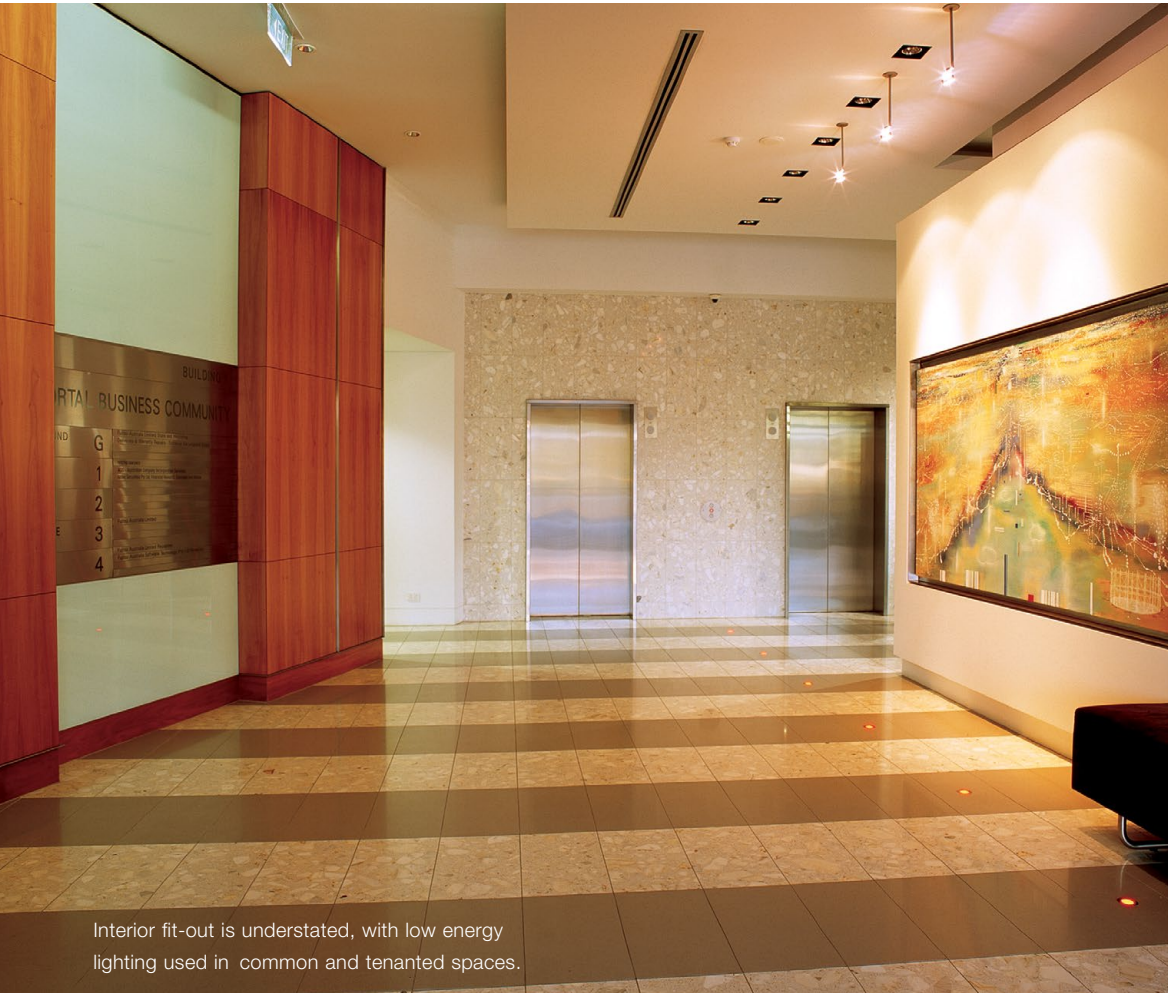
Richard Coulson commented, "The steel cladding selected

Matt finish stainless steel panels rollformed in STRAMIT LONGSPAN profile create corner variation.





From Breakfast Creek Road, the Fujitsu Building is a prominent marker to the eastern entry to Brisbane.



Interior fit-out is understated, with low energy lighting used in common and tenanted spaces.

provided a cost effective, lightweight and low maintenance solution to giving the building a contextually appropriate, yet contemporary industrial character.”

Treatment of major elements such as ground level set-in; a stepped-back floor plate on the top level, and most dramatically, an inclined cantilevered roof that acts as a shade parasol are effective solar heat gain counter-measures.

The insulated roof is clad with ZINCALUME®, steel rollformed in STRAMIT SPEED DECK ULTRA, profile to provide a concealed fixed decking.

Glazing, of which there is a great deal, as is

standard in office buildings, has been selected to maximise acoustic and thermal insulation, using Pilkington’s ‘EverGreen’ glass in varying thicknesses. This provides good levels of visible light transmission while reducing solar heat gain. Additionally, the most exposed windows (except those to the south) are screened.

The number and placement of sun screens has been determined by the different shading requirements of each plane. Given the building’s irregular shape this leads to a variety of configurations, which have been exploited aesthetically to modulate what would otherwise be flat facades. Similarly, corner treatments of the COLORBOND® steel and stainless steel cladding have been varied to create changing impressions from different angles.

Hard and soft landscape have been successfully integrated into the building’s geometry, with some striking single species

mass plantings of Agave, Alpinea (Native Ginger) and Sanseveria, as well as the rarely used Tiger Grass (Thysanolaena maxima). Land upon which stage two is to be built has been planted out in formal patterns of hardy native grasses, the whole area forming an infiltration basin, detaining stormwater flows to the Brisbane River. This is an effective, low cost solution to interim land use, adding visual amenity to the site, while indicating the landscape character that will develop as the urban renewal project continues.

The environmental program, at least as far as energy is concerned, extends to the building’s workings, where there have been serious attempts at energy efficiency. The passive design measures already discussed reduced the building’s cooling load. The ventilation and cooling system were specified on the assumption of one person per ten square metres (a standard assumption for office space) with an office equipment load of 20 watts per square metre. The latter compares favourably with many CBD office towers that have been designed to accommodate energy-hungry tenants consuming 45 watts per square metre. Each floor has two air handling units, so that the full floor does not need to be operated after-hours when a tenant requires air conditioning. Air is distributed via low velocity ducting for low energy consumption and low noise. Zoning is by variable-air-volume (VAV) system, with 11 zones per floor so that areas of about 150 - 200m² respond to individual temperature inputs. Efficient variable speed fan drives are used so that fan energy consumption is reduced whenever the system is not operating at full load. High efficiency air filtration maintains good internal air quality.

Lighting, on average, accounts for 21 percent of greenhouse gas

emissions of commercial buildings. Yet this is an area where reductions can easily be made. Low energy lighting is used throughout the Fujitsu building, resulting in energy density of only six watts per square metre in the office spaces. This compares very favourably with the Property Council of Australia’s energy guideline target for office lighting of 11 watts/m². Overall, including foyers and circulation spaces, Portal’s lighting energy density is 6.4 W/m².

The project benefitted significantly when Fujitsu was secured as the anchor tenant in February 2001 before construction commenced, allowing the company to have input into the final stages of design. Valuing its staff, Fujitsu worked with the design team to enhance the ambience of the working environment. This resulted in the creation of open terrace areas on Floors four and five (made possible by the generous overhang of the COLORBOND®, steel roof) and voids being cut between the floors to create visual and physical connection. A small light well allows filtered daylight to penetrate the company’s reception lobby and Fujitsu’s staff amenities include informal lounge-style breakout areas, a well-equipped kitchen and gym (the latter with a stunning view).

The excuse is often made that it is not possible to take an aesthetically innovative or environmentally responsive approach to the design of speculative buildings. Portal demonstrates this need not be the case. Even within a limited budget and conventional genre, impacts can be lowered, and furthermore, appropriate responses to climate and context can be generative of new forms and visual character.

Anne-Marie Willis

Project:
Fujitsu Building at the Portal Business Community Stage One

Location:
Breakfast Creek Road, Newstead, Brisbane

Client/Developer:
Ariadne Australia Ltd

Architects/Planners:
Cox Rayner

Architectural team:
Richard Coulson, Michael Rayner, Peter Booth, Jeff Bennett, Shaun Miller, Perry Gustafson and Shane Horswill.

Construction:
Watpac

Engineering (structural):
Robert Bird and Partners

Engineering (hydraulic, mechanical services):
Connell Mott MacDonald

Landscape design:
Gamble McKinnon & Associates

Gross floor area:
6900m²

Cost:
\$1100/m²

Principal steel components:

Roofing: ZINCALUME® steel rollformed in STRAMIT SPEED DECK ULTRA, profile

Cladding: Grade 445-M2, matt finish stainless steel panels rollformed in STRAMIT LONGSPAN profile; COLORBOND® steel in the colour Night Sky®, rollformed in STRAMIT C-CLAD 203 profile.

Photography:
Paul Bradshaw

016

Project Gillen Seniors Village, Alice Springs
Architect Platt Consultants
Builder Probuild Constructions
Structural engineers Acer Forrester

COMMUNITY ACTION

There is no excuse for bland, banal architecture. Not even money. Especially not money. Government projects are often painted as niggardly and dull, yet Gillen Seniors Village at Alice Springs confounds the trend of brick and tile boxes. Darwin-based architect Les Platt makes an appreciable difference with a vibrant material palette - notably a selection of multi-hued, coated sheet steels. Combined with creative landscaping, the project creates a caravanserai of lightweight forms.

With the backdrop of MacDonnell Ranges, the 18 unit project is a suburban oasis of prospect and repose. The village offers a fresh perspective and plenty of common sense. Les Platt explains to contributing editor Peter Hyatt how architecture helped residents find a voice.

What principles did you bring from the Top End that you felt would be most appropriate to Central Australia?

You have to remember that almost everyone up north seems to be influenced by how people live down south. Of course most of it is not suitable at all for places such as Alice Springs. Darwin and the Alice are notorious for their brick boxes. It is dumb building for the tropics and just as inappropriate for an arid zone such as Alice.

So what did you consider as suitable references?

Actually some of the earlier Alice Springs buildings were much smarter than what we see today. There were some examples of 1940s structures using solid cores for living areas and lighter weight construction for bedrooms on the perimeter





Houses with hats. The extensive use of COLORBOND® steel creates a radical lightweight break from the stereotypical hot-houses imported from cooler southern States.



Colour provides a qualitative difference that reflects a regional palette - from landscaping through to building materials.

in order to quickly cool off at night. We tried to use that principle of living room and kitchen as solid construction while the bedroom/s are lightweight. It's very much an arid zone project with arid zone principles. Orientation sits with the long axis east/west so you have the northern facades shaded with the east and west end walls blank.

There is almost a tent-like quality to the lightweight forms.

That is what we tried to achieve. Plenty of the masonry neighbours look heavy and hot. We tried to raise the ceilings higher than normal government housing for example. Small differences such as ceiling fans contribute to air movement and that is an important difference.

To what extent is such a project about creating a sense of community as much as a stand-alone set piece?

A stand-alone structure was important but it needed to be considered as a part of the community. Public transport and shops are very convenient at Gillen. The only problem was security and Alice is no different from anywhere else where security is becoming an issue. We tried to avoid things like through-traffic so that 'hoons' are less inclined to joy-ride through there. We also adopted CPTED (community protection through environmental design) principles. In other words we approached the security issue by allowing views through windows and ensuring landscaping and gardens provided good sight lines.

Was it difficult to achieve a balance between private and public spaces?

Not really. We had a very supportive client who was willing to push the boundaries of public housing. Bear in mind this is public housing. It isn't a luxury resort or gated community. The whole concept of this is that

these are people who have lived in three and four bedroom houses and the kids have moved on. They have decided to hand in the house and get one of these units in return. Out of that they get privacy through such things as courtyards, but they certainly don't need to feel alone given the proximity of their neighbours.

Would you regard the project as a model of economy?

The basic materials were not expensive, but construction and sub-contracting issues raised costs beyond what you would expect along Australia's east coast. Construction in the Territory is an expensive business. There's a problem in the Territory in that work has been very quiet up here for a couple of years. In Alice there's one roofer and two block layers. In the '80s there were builders and 'subbies' all over the place. There is a bit of a boom/bust cycle up here and at the moment there aren't enough sub-contractors in certain trades to go around, so the costs go up.

How important was the environmental response to the overall design?

It was important to emphasise quality of life with regard to light, shade and spaces. We have north-facing verandahs with pergolas. You might think of Alice as very hot, and it is, but it also gets frightfully cold. Last year they had 60 days of 0°C or below in the mornings, so we tried to admit winter sun.

What research and consultation did you conduct?

Nothing specifically for this project but there has been quite a bit done across similar projects and so we didn't start from scratch by any means. On these jobs it's the details that count as much as the big picture. You try to be thoughtful for the occupant. For instance all of the light switches and power points are at an easily accessible height so there is no need to stoop. There are rockers



Simple skillion roofs in counterpoint provide functional and visual interest in a testing environment set against the MacDonell Ranges.

on light switches and lever handled taps – all of these things that work are incorporated and refined on each project. In Darwin public housing for instance vinyl flooring is often used throughout all bedrooms and living areas. We used tiles and carpet at Gillen because in winter when it's freezing cold the occupants want to put their feet onto carpet. Public housing in Darwin plans for future air-conditioning by the owner, but here we integrated an evaporative cooling system into the building. The unit driving that system needs to be at ground level so it can be properly maintained.

What is the basic package?

Each unit of 95 square metres features kitchen, dining room, two bedrooms, bathroom/laundry and store.

How hard is the balancing act between utility and poetry?

The underlying fact is it's public housing. That shouldn't mean you don't deliver the best you

can and that is why we have kept things simple.

How did material selection assist from conception to delivery?

It made it much easier. Apart from the joinery, there isn't a piece of timber in the project. The plan form is slightly more expensive because its not a rectangular box – and that contributed to the cost. Luckily masonry blocks are locally made and there are some very good steel fabricators and roofers. The range of coated steels provided terrific flexibility and was consistent with the environmental/thermal performance for economy and rapid cooling. In terms of handling, steel is very easy to use.

It s a quite different expression for public housing.

Our choice of materials meant that we could produce a quick turnaround. From drawings to lock-up took little more than 12 months. It was a government-driven project that had to be done quickly. It was ultimately

a quite intuitive response and something very different from the brick veneers of cooler climates.

Did you learn anything new about working with steel this time around?

The coated sheet steel held no surprises. It was easy to use and you can do almost anything with it.

Did the site present many obstacles?

One of the major problems was that when you looked at the site it appeared quite flat, but once we demolished an existing building and could get more levels, we saw that the site sloped away by about 800-900 mm. Because the site is designed on the basis of water retention from roof run-off which is held in the gardens where possible, we needed to cut and fill. It cost us a fortune – \$300,000 for demolition and \$300,000 to build up the site, so we had \$600,000 in the slot before we really began. In the end it was pretty expensive and by no means straight-forward.

Was there much arm-wrestling to achieve the result?

The issues that worried me were with the occupants moving out of something quite conventional into something much more modern, but those that I have visited have told me how much they love living there. I don't believe in setting buildings up so they can't be touched. It's a bit like setting up a canvas and giving them a paint brush – unfortunately sometimes they have very heavy brushes, but what can you do?

Is it a case of the single solution repeated 18 times. Was it as simple as that?

For 18 units for government housing you might do variations on the theme. There are at least four to five subtle changes to each design. When you have a north facing building with southern access then you need

to have living spaces towards the front yard. The single units at the back needed to be single rather than duplexes. When we met with the residents before they decided what units they wanted we walked them around and I remember one lady telling me "I've got this big dresser I don't know where it will go." So I said "well come over to this unit and I'll show you where it might sit," and she was reassured by that.

So it was a low stress experience?

It was a really absorbing and enjoyable project. I had to remind myself that these people gave up their houses to grab one of these. They snapped them up like cold beer at a football match. As an architect, that sort of reaction is the best endorsement you can have.

Peter Hyatt

Project:

Gillen Seniors Village, Alice Springs

Client:

NT Dept. of Community Development Sport and Cultural Affairs

Architect:

Platt Consultants
Tel: (08) 8999 4655

Project team:

Les Platt, Mark Keddie and Homer Coderre

Project management:

NT Department of Infrastructure Planning and Environment

Structural engineers:

Acer Forrester

Landscape architects:

Cloustan

Builder:

Probuild Constructions

Steel fabricator:

Steel Connections

Roofer:

Wright Brothers

Coated steel specified:

COLORBOND® steel in multiple colours for wall and roof cladding and fencing.

Photography:

Peter Hyatt

Cost:

\$3.5 million



Project Kangan Batman TAFE Transport and Logistics Training Centre

Architect Lyons

Builder ADCO Pty Ltd

ELEVATING DESIGN

Educational facilities seldom provide visual cues to their specific roles. Generally there is a sameness of purpose that defeats attempts to break out of the classroom mould. At Victoria's Kangan Batman Institute of TAFE the need to provide a workplace learning environment provided Melbourne architects Lyons with a chance to be bold.

Training students in transport, warehousing and distribution could simply be done in a large shed. As long as there's sufficient room for a semi-trailer to manoeuvre and enough vertical space for forklifts to operate, then the needs of students and the educational authority should arguably be satisfied. However, the Transport and Logistics Centre for the Kangan Batman TAFE in outer Melbourne goes well beyond these rudimentary requirements. The architects have turned the prosaic into something considerably more generous.

"We wanted to make important connections to industry. There had to be a sense of familiarity. The idea was to turn a shed into a more substantial public building," says architect Carey Lyon, a director of Melbourne practice Lyons.

The Hume campus, located in the northern suburb of Broadmeadows, on the outskirts of Melbourne, was first developed in the mid-1980s. The largest of five in the region, it includes two other significant buildings,

the Aerospace Technical Centre, designed in the late '90s by architects Joyce Nankivell, and the Polymer Centre, designed by the Cox Group in 2001. The new building by Lyons, funded by the Department of Education and Training, occupies the lower portion of the site, which falls away approximately 20 percent.

"As the third structure on the site, this new building had to fit into the context of the general development," Carey Lyon commented. "There had to be a connection."

One of the obvious connections to the longer established buildings is an umbilical cord – a walkway which branches off from the neighbouring Polymer Centre building and winds its way across the site beneath a canopy clad in ZINCALUME® steel rollformed in LYSAGHT SPANDEK® profile. The walkway brings visitors to the main entry to the Transport and Logistics Centre, located on its upper level.

Bold colours and cladding profiles provide a link between industry and education at the TAFE Transport and Logistics Training Centre.





Galvanised steel poles frame the walkway and support its canopy, providing a practical structure that's a vivid introduction to the industrial landscape ahead. The walkway leads to the entry and to a small and protected deck or breakout area with oversized planter and built-in seating. Students use this area between classes and can enjoy the outdoors without experiencing the more inclement weather.

While the facility was conceived as a 'simulated' warehouse and loading dock configuration for training bus, truck and forklift drivers, there was a conscious

effort to make important connections with the cultural world where these skills are applied.

"It's a strange hybrid of the truck stop and the warehouse," says Carey Lyon. "The large floating roof is reminiscent of a highway service centre. It spreads across the three major training spaces, the classrooms, the undercover training area and the warehouse.

Students can congregate on the deck outside the classrooms and can also spread out in the informal lounge area, which has direct access to the deck.

'Cut-out' windows punctuate the vibrant orange wall, allowing natural light to enter and providing views over the rest of the campus. Lyons did a search of 'Mack Trucks' on the web and used some of the same colours used for the trucks.

The nature of the facility dictated a need for robust construction and finishes. Vinyl flooring was used, not only in the informal lounge area, but also in the main corridors. "They're mostly school leavers (although there are older students doing refresher courses), so we wanted the

materials to be robust. And there was also a budget," says Lyon, who describes some of the materials as cheap, but incredibly cheerful.

As a case in point, the main entry has a ceiling clad in perforated ZINCALUME® steel rollformed in LYSAGHT SPANDEK® profile. Lined with a mineral fibre blanket the perforated ZINCALUME® steel dampens the sound of hundreds of pairs of feet on the vinyl floors while adding a decorative quality to the interior.

There's a sense of transparency within this building. The computer laboratory for example, is framed by windows on three sides, creating an unimpeded view of the 'sunken' roof clad in COLORBOND® steel covering the three arms of the facility. The roof uses LYSAGHT KLIP-LOK® 406 profiled sheeting and incorporates a dip at its centre section - "a gesture to protect the views out of the adjacent building," according to Carey Lyon. The dip also translates to the preferred ceiling height in the large undercover training space beneath.

On the upper level a suite of classrooms faces north. With the building's broad eaves, the architects could include floor to ceiling windows. But to soften and create a more diffused light the architects tracked the movement of the sun to make sure there was sufficient cover, then used polycarbonate sheeting on the lower portion of the windows below sill height.

Views over hills to the north are appreciated by the students and staff, as are the even temperatures during the warmer months. As well as the views out of the classroom windows, Lyons included a large floor to ceiling window at the end of the classroom suite corridor. It provides a sense of standing



Diagonal application of cladding made from COLORBOND® steel rollformed in LYSAGHT SPANDEK profile adds to the dynamic look of practical warehouse and loading dock training areas.



on an observation deck, overlooking the undercover training area.

A brightly coloured lift core in orange and cobalt blue links the two floors of the building, although an equally vibrant stairwell featuring a bright blue painted MDF balustrade and angled painted timber columns is more commonly used by the students. Eye-catching wall cladding made from COLORBOND® steel in the colour Surfmist in the

stairs provides one of the few curved shapes in the building. The shape invites exploration towards the lower level, as do the brightly coloured studded indicators on the vinyl floors. "An important part of the brief was to ensure compliance with the highest safety requirements. Emphasis on OH&S practices is part of the TAFE culture," says Lyon.

Directly below the classrooms and a computer laboratory, the ground floor houses the main

office area, a meeting room, two additional classrooms and bathroom facilities. Basalt rock, found on the site, has also been incorporated into a small courtyard area outside the meeting room.

In contrast to the Zen-like ambience of the meeting room, the covered training area in the centre of the building is highly energised. Forklifts move in and out of the steel racking while trucks practice manoeuvring in tight spaces.

Ceiling heights of the 600 square metre area vary from 7.5 metres at the perimeter to 4.8 metres at the centre, to create typical work environments for the trucks and forklifts.

To the north a four metre high wall clad in COLORBOND® steel, in the colours Manor Red™ and Night Sky®, blocks wind and rain, while translucent polycarbonate sheeting above provides natural light. Colours and cladding



patterns provide vivid graphics with appropriate references to the facility's purpose.

"The chevron pattern picks up on the kerbside. We looked at the usual graphics, hazard signs, stop signs and beware signs and simply blew them up, either in colour or pattern," says Carey Lyon.

Standard galvanised steel road barrier sections create a separate pedestrian path on the building's perimeter, while bright yellow bollards ensure no one walks in harm's way. Specifications for the high density concrete floors were also particularly robust, to cope with semi-trailers and their loads.

Carey Lyon delights in the expansiveness of the steel roof. "There are no central columns. Only steel is capable of providing these unsupported spans," he says, looking at an area 25 metres in length by 30 metres in width. "But there are concealed

trusses in the roof," he adds, just to alleviate any panic.

The warehouse, approximately 450 square metres in size and adjacent to the undercover training space, also features generous ceiling heights (approximately seven metres). Steel racking extends to the ceiling and there's also a simulated loading bay, with its own ramp. Walls are clad in COLORBOND® steel interspersed with polycarbonate panels for additional light. Overhead, beneath the exposed safety mesh ceiling there's a working gantry crane.

But while there's a raw quality about the warehouse, there's also a fine sense of craftsmanship. A storage unit in one corner, designed to simulate a cool room, is made of compressed cement sheets fitted together like a jigsaw puzzle in pale grey and white.

"This is an environment for some serious equipment, but that doesn't mean it should

The strong industrial theme of internal areas brings practical benefits of durability in high traffic zones.





(left) Simple and clean typography reinforces the visual cues of cladding and form. Men and women at work - and learning

(bottom) Steel cladding treatments of walkways and covered decks provide linkages to other buildings at the site.

Project:

Kangan Batman TAFE
Transport and Logistics
Training Centre

Architect:

Lyons

Builder:

ADCO Pty Ltd

Engineer:

AHW Engineering

Principal Steel Cladding:

Walling:

COLORBOND® steel
rollformed in LYSAGHT
SPANDEK® profile in
the colours Night Sky®,
Surfmist® and Manor Red™.
ZINCALUME® steel
rollformed in LYSAGHT
SPANDEK® profile.

Roofing:

COLORBOND® steel
rollformed in LYSAGHT
KLIP-LOK 406® profile in
the colour Woodland Grey®

Photography:

Paul Bradshaw

lack character,” says Lyon, who also included a ramp from the loading bays for students to practice their skills when driving on sloping terrain.

The roof clad in COLORBOND® steel rollformed in LYSAGHT SPANDEK® profile in the colour Woodland Grey® appears to have considerably more weight when viewed externally. “The eaves are deliberately quite chunky. There’s the allusion to the service centre type, which is reinforced by the large fascia. It’s not meant to be a fine and elegant building. We wanted to express the functions as honestly as possible,” says Lyon, who points to the galvanised steel down pipes angled at different pitches to catch the rainwater.

And while the line of the roof is angular and strongly defined, it’s no more so than the staggered outline of the hills in the distance.

Working environment considerations were also paramount in the design of this project. Many warehouses become stiflingly hot in summer and numbingly cold in winter. The impact on employee punctuality and absenteeism is not hard to imagine. So apart from creating a training centre, it was also important for the architects to create an environment that was well ventilated and orientated on the site. The design for example is orientated with its long axis in the east/west

direction to maximise its north and south exposures. East and west elevations are windowless. The canopy roof also acts like a large shade device. And when the large roller doors are left open, there’s cross ventilation.

Superficially there may be slight reference to the “tin shed”, but this new building by Lyons is considerably more than a shed, as those who work and learn in it can readily attest. The temperature is controlled and the spaces are extremely generous. And while this building by Lyons is a highly utilitarian space, it’s also clearly a fine architectural statement.

Stephen Crafti



My inspiration

Caithness residence architect Paul Odden (pictured) deflected questions about his inspiration in architecture by referring Steel Profile to words attributed to Portugal's Pritzker Prize winning architect, Alvaro Siza...

March 1994

"I have never been able to build a house, a real house. I don't mean designing and building houses, a minor thing which I can still manage to do, although maybe not very well..."

...The idea I have of a house is the idea of a complicated machine, in which every day something breaks down: a lamp, a tap, a drain, a lock, a hinge, a socket, and then a cylinder, a stove, a fridge, a television or video...

...Living in a house, in a real house, is a full-time job...

...But when all this effort of maintenance is not apparent, when the wholesome aroma of wax in a house, which is otherwise well-ventilated, is mingled with the perfume of flowers from the garden; and when in it, we irresponsible visitors who are not particularly aware of moments of happiness, feel happy and forget our worries as barbarian nomads, then the only possible prize is one of gratitude, of silent applause - a moment of pause, looking around, losing ourselves in the golden atmosphere of an autumn interior at the end of the day."



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