

steelprofile

Architectural steel innovation with BlueScope Steel

number 86, april 2004

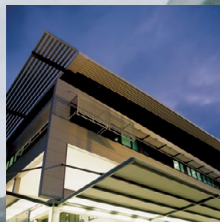




002

Attention to detail

It's all about the view. A never to be obscured ocean outlook – and the Queensland Sunshine Coast climate – were what convinced Ty Wardner to look past the 39 degree slope and purchase the block in the 1980s. Two decades later he's designed a home that justifies the decision.



010

A Ward Winner

Woods Bagot staff spend enough time in hospitals to qualify for some kind of loyalty program reward. It's not that the practice's people are a sickly lot. It's just that they know the genre and produce hospital architecture that works at all levels. Townsville Hospital makes the point.



018

Remote Control

It's not new. It's almost hidden away. The setting is a mix of alpine splendour and public utility capital works. The Murray 1 Visitors Centre has stood at Khancoban in the Snowy Mountains since 1997. Its simple eloquence drew Peter Hyatt into conversation with architectural design team member Bill Williams.



024

Getting Physical

The Royal Australian Air Force base at Townsville in North Queensland is frequently the take-off point for squadrons and airforce personnel heading overseas. Upgrades to the base's facilities have been rare, but a new physical fitness complex is just the latest sign of a base getting itself into shape.

NUMBER 86, APRIL, 2004. PRODUCTION: Sean Moylan **PHOTOGRAPHY:** Paul Bradshaw, Peter Hyatt and Bob Seary
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(cover photograph) Buttoned-down and cyclone-proof for tropical Townsville, this Royal Australian Air Force physical fitness facility nevertheless represents a quantum leap forward for austere base facilities first established half a century ago.

(this page) When the sun breaks through the tropical storm clouds above Townsville Hospital its rays pour through a framework of purlins arranged above glass panels atop a three level atrium. The play of light and shadow creates constantly changing effects on the walls and floors below.

002

Project Wardner Residence -
Buderim, Queensland
Architect/Owner Ty Wardner
Builder Colin Carrigan
Engineer Neil McKenzie

In the 1980s Ty Warner bought an 800-plus square metre block with a 39 degree slope on Queensland's Sunshine Coast - a site that fell away 15 metres from front to back. Two decades later the commercial architect-turned-property developer and his wife Pam rose to the challenge, inspired by a design he had been mulling over during his time working in Asia.

ATTENTION TO DETAIL

As you wind your way up picturesque Buderim Mountain with homes punctuating the ocean views, the latest addition to Nyes Crescent is easily recognisable – striking materials, wing walls and a large bright red door.

Ty Wardner turned his hand to residential architecture to design his own home - with stunning results. He received a Royal Australian Institute of Architects Commendation for its design solution, the home has been filmed to appear on Channel 9's Amazing Homes series, and when he decided to test the market over 450 people looked through the open house.

Buderim is on a mountain that is volcanic in origin and some 200 metres above sea level. It's a place where many homes have been built literally into the side of a cliff. While offering spectacular views, the topography demands innovative design solutions for owners.

"Maximising the views to the east and allowing the prevailing breezes through the house were the main aims in the design," Wardner explains as





(above) Recognised by its door, the 1.2metre wide red door provides a clear entry reference for visitors.

he sits on the home's main open balcony with ocean views from Mooloolaba in the north down to Kawana. "I was restricted by council regulations as to how high I could go, and limited by the slope of the site in terms of the structure I could erect, so I had to think laterally to take full advantage of the view."

His solution was to create two distinct sections of the

home, visually divided by a change of materials. The entry carport is clad in COLORBOND® steel in the colour Woodland Grey®, providing a discreet street frontage. The onlooker's impression from the street is that the main form of the home – clad in ZINCALUME® steel on walls and roof – is floating.

"In terms of design, look and construction, I can't think of

another material that I could have used to achieve this result – one that I can apply in a single sheet which is easy to install, which lets me detail the edges simply and which requires no maintenance," Wardner says.

"Everything external on the main house is clad in ZINCALUME® steel – the fascias, gutters and mouldings, while everything on the carport is clad in COLORBOND® steel."

The bright red 1.2 metre wide door is the focus of the front of the home. It was Pam Wardner's request, providing a reference point for the front of the house that otherwise features a combined carport, entry and deck.

As you enter the home, large sliding glass doors and louvres running across the entire eastern wall make the most of the impressive view, opening up to a spacious balcony. Stepping from the entry foyer to the main living area – separated not by a wall or a barrier but by the soffit of a 2.4-metre-high bulkhead – the open plan and uncluttered living, dining and kitchen areas ensure nothing distracts from the views to the coast.

While the main living and entertaining areas are placed upstairs to maximise views, yet stay within the council height restriction of no more than 10 metres above the normal slope of the ground, the master bedroom suite with ocean views is located downstairs.

Separated from the bedroom by an island wall is the "wow" factor of the home – a stunning ensuite that includes a two-person in-ground spa bath and a two person shower.

The eastern side of the lower level incorporates a large expanse of glass to frame spectacular coastal views



Bringing the outside in, large glass doors open up the living area to maximise the stunning views that extend from Mooloolabah to Kawana.





The corrugated steel cladding provides a contemporary look that requires minimum maintenance - a bonus when literally building on a cliff-face.



and louvre windows to capture the breeze. Here Ty Wardner has sited a second and third bedroom and home office, while the area to the rear houses a large laundry/ironing room and a unique drying court, with an open window and walls clad in ZINCALUME® steel and COLORBOND® steel. This arrangement is a practical necessity on terrain where sherpas might otherwise be necessary for clothes-line activities.

Looking up from the bottom of the sloping site, the home belies its discreet street entrance, with the massive steel structure standing tall above the ground. The total internal area of just 200 square metres is enhanced by a lifestyle enriching 130 square metres of open area which includes two large balconies.

The defining architectural design features of the home from any angle are the wings on either side. An extension of the side walls clad in ZINCALUME® steel, the wings cantilever down to provide not only a design highlight but also a privacy screen and a wind barrier for both the upper level balcony and the lower level bedrooms.

To Ty Wardner the wings are simply a practical architectural design solution. He says the real signature of this home lies in its detail – and the detail is not apparent to passers-by.

“You don’t really appreciate this house until you live here because it’s then that you start to realise all its efficiencies,” he explains. “People have to live here to understand it. To just walk in off the street makes it difficult to understand, but the main element is

the home’s functionality, its attention to detail and low maintenance. We spend virtually no time cleaning the home, no time gardening and no time painting.”

Wardner was on-site every-day throughout the five and a half month construction period, overseeing the attention to detail he prizes so much while renting a home just a couple of kilometres away on the northern side of Buderim Mountain.

Little details are what make this home what it is. Details such as a kitchen that has all appliances and storage facilities built in

as drawers, and a concealed second door off the kitchen that opens directly onto the carport, minimising the distance the owners have to carry the shopping when unloading the car.

Bedrooms and living areas have been positioned away from the street to minimise noise and to capture the views. And the steel theme that continues throughout the home, with stainless steel bench tops, stainless steel door handles and stainless steel hand rails continues the penchant for practicality. Hardwood flooring used

throughout the home minimises cleaning requirements and downlights are positioned to provide a continuity of line.

Wardner positioned the laundry, drying and ironing area within a couple of metres of each other to simplify the laundry process. He added a concealed storage enclosure at the side of the carport to neatly stow garden hose, garbage bins and the recycling containers which blight so many otherwise elegant residences.

“It’s the little things that matter,” says Wardner. “For example, where are

The home is kept uncluttered and mess-free, no more is it evident than in the sleek kitchen.



(below) The stairs lead down to the home office, three bedrooms and the unique laundry which comes complete with an indoor drying court.

(bottom) The 'wow' factor of the home - the master bedroom's ensuite complete with an in-ground spa bath.



From the bottom of the block, the intimitating steel structure stands tall.

you going to put your bins on such a sloping site...? It had better be close to the footpath!"

The background of such ideas is apparent in his comment: "There's not a lot to the house but there's a lot of thinking that has gone into it, and the results are sometimes subliminal." "We tend to keep it clutter free. It is a very comfortable

house to live in, with minimal maintenance both internally and externally.

"To be honest I don't think people really understand what happened here. Most people love the ensuite because its like... 'Ahh'. But you try to explain the reason behind doing some of the other things I have - for example, to the 400 or so

people who came through the house when it was open for inspection - and they don't really understand."

"People are interested in the house - the shape and materials," adds Ty's wife Pam. "They know about it and are keen to come in. People stop by in their cars with their cameras. In fact yesterday we went to the bank manager

and mentioned we live at Nyes Crescent - and she said, 'It's not the one with the red door, is it?'

"You've got to remember it's a small community up here," Ty Wardner says. "People know the house - whether because it's interesting or controversial I'm not sure - but if people know we're living here they are really keen to come and have a look.

"Each person has their own interest - whether it's the artwork outside in the carport, the in-ground spa bath, the internal drying court - or even the red door."

Paul Cheal

Project:
Ty & Pam Wardner Residence - Nyes Crescent Buderim
Architect:
Ty Wardner
Tel: (07) 5477 1149
Builder:
Colin Carrigan
Engineer:
Neil McKenzie
Principal Steel Cladding:
Walling: COLORBOND® steel (Woodland Grey®)
ZINCALUME® steel
Roofing:
ZINCALUME® steel
Size:
200 square metre lockable area 130 square metres - Carport Deck
Cost:
\$1600 per square metre
Photography:
Bob Seary

010

| | |
|-----------------------|--|
| Project | Townsville Hospital |
| Architect | Simon Moisey, Woods Bagot |
| Engineer | KBR Brown & Root in association with Bonacci Group |
| Civil Engineer | KBR Brown & Root |
| Builder | John Holland |

As ex-tropical cyclone Fritz hits the coast a couple of hundred kilometres to the north and the dark grey skies threaten to explode, it's comfortable to be standing inside Townsville's newest hospital – and not just because you're close to care should the storm hit hard.

A WARD WINNER

It's the structural integrity of the building itself and the reassurance of project architect Simon Moisey. "The whole building is earthquake proof and cyclone proof," he says.

"The bracing, glazing and whole system meets a formula that equates to something like a four-by-two traveling at 200km/h and not being able to more than puncture the glass – or if it does, it doesn't go any further."

Located on a 29 hectare greenfield site in the outer suburbs of the North Queensland city, at 62,000 square metres, the \$180 million Townsville Hospital is the largest hospital outside an Australian capital city. But rather than creating a concrete jungle, the design utilises a variety of materials, colours and aesthetic features to ensure not a daunting monolithic structure but a welcoming comfortable environment.

"It was definitely a challenge not to make it a concrete jungle," explains Moisey who works for Woods Bagot, the Principal Consultant on the

architecture, landscaping and interior design of the project. "It was such a big, horizontal, linear form, but we've broken it up with colours and used lightweight materials to avoid that heavy concrete look – so it still looks solid but fairly interesting."

There are 2,668 rooms in five buildings within the new facility, which combined the services of the Townsville General Hospital and Kirwan Hospital for Women. Four buildings – the main Acute Building, Ward Building, Education Building and Central Energy Building are all interconnecting. A 3,500 square metre Mental Health Building sits separately across the car park from the main entrance.

"At a basic level this complex is very functional as a hospital," says Simon Moisey. "But I also think we've created a striking piece of architecture. The greenfield site

Avoiding a concrete jungle, architects Woods Bagot used lightweight material to create an open, welcoming building.



presented a great opportunity, allowing us to basically design whatever we liked, within strict cost parameters – so we just orientated the building on the north/south axis and had a lot of fun with it.”

Despite that approach to the project it was not the external aesthetic details but the operational functionality of the hospital which was always the primary concern for Simon Moisey and his team at Woods Bagot. The design utilises a breakthrough ‘model of care’ approach and a logical cluster of clinical services, with

the co-location, rather than the separation, of inpatient and outpatient functions. The result is a series of integrated ‘medical units’ within the larger hospital, to offer future configuration flexibility.

“Queensland Health were really into function, they wanted to see value in the material selections and also wanted a striking piece



(top right) The open plan foyer provides a welcoming space for patients and visitors.

Colours and materials clearly define the hospital's main entrances.



(top) The hospital's atrium provides an abundance of natural light throughout the three-storey building
(bottom) 'Atrium Street' - a main thoroughfare through the heart of the hospital.

of architecture – so it was a process of meeting all these criteria,” Simon said.

“The design began as a big box, but it evolved. There was a lot of consultation with Queensland Health, creating architecture to suit the internal needs and creating a building that suited all the parties. It was a big process, with a team of health planners looking after the internal side, but I believe the collaboration has succeeded in putting all the departments in the right spots.”

So rather than daunting, it's welcoming; rather than staid and monolithic, it's open and interesting; and rather than just a big box, it's a commendable piece of architecture.

As a reminder that Townsville Hospital is a principal training and research facility for the adjacent James Cook University you pass a training auditorium to reach the main hospital entrance. The entrance is marked by an impressive yellow, 45-metre, three level concrete blade wall. This focal point

directs people to the entrance and provides a contrast to the grey facade and the ever-blackening clouds tumbling overhead.

Once through the antiseptic white – achieved through the use of a metallic paint – open-plan reception area, visitors travel south down a main pedestrian thoroughfare Simon calls, 'Atrium Street'. You are guided down this, itself an eye-catching feature, to the intersection with the main east/west walkway – the



heart of the hospital design. This open space featuring a three level atrium allows natural light to flood down to each level of the hospital and provides a hub for visitors and staff to easily and quickly move throughout the entire hospital by way of stairs or lifts.

"We were trying to take it away from being an introverted place with patients feeling a bit run down," Simon explains. "It's fairly light and airy mixed with heavy concrete."

"ZED purlins positioned over the glass atrium on the roof filter the light through the three levels, adding some amazing light effects – like zebra crossing stripes – on the floor

of the hospital itself. You get lines that just keep moving through the building."

The Ward Building is accessible from the Acute Building's atrium via a "bridge". This enclosed walkway on all three levels, overlooks the garden and children's play area that splits the two buildings and provides a separation from the busy Acute Building to the quieter, more private patient wards. While non-descript internally, the 'bridge' provides an interesting cladding solution externally, with the use of COLORBOND® steel reverse-rolled into STRAMIT Xtraspan™ 900 profile cladding to provide a wider rib and planking effect.

Externally, the hospital rises like a steel oasis, standing, strong, tall, and defiantly against the tropical sky.

"Because of the size of the hospital we decided to use a palette of lightweight cladding materials, large spreading roof overhangs, horizontal sun shading on windows where needed and to take every opportunity to maximise natural light," Simon explained. "We also drew on these elements to reflect a modern approach to the traditional Queenslander style."

The enormous size of the building meant roofers installed some 26,000 square metres of roofing made from COLORBOND® steel – its sheer size making it an eye-catching feature, especially from the lookout atop the nearby Mount Stewart.

An array of steel cladding profiles also adorns the complex. Wall cladding alone required over 8,000 square metres of COLORBOND® steel. A variety of cladding profiles fixed horizontally adds to the overall visual interest. Stramit XTRASPAN™ 900 cladding was used in the colour Woodland Grey® under the roof overhangs, contrasted with COLORBOND® Metallic Steel in the colour Citi® on the lower panels and Stramit Mini Corry® in the colour Shale Grey® on the upper levels.

Elements of colour are used as design features to contrast the steel – swathes of yellow and orange mark entries and walkways and splashes of blue signal balconies and open areas – giving the building its character, a sense of belonging.

"The impact of the horizontal nature of the facade was reduced by the verticality of the escape stairs and their powerful one-pour concrete blade walls," Simon said.



"The lightweight steel cladding provides contrast for these off-form concrete blade walls which give the architecture a strong and stable connection with the ground."

In a classic case of form following function, large two-metre thick walls represent the boundaries of the oncology unit. Designed not for looks but to absorb radiation, the 'bunkers' still form part of the design and provide further character and differentiation.

Opposite the main building block sits the final piece in the Townsville Hospital development, the Acute Mental Health Building. The single storey facility, which takes on a domestic scale in comparison with the main hospital building, is designed to provide a light and open environment while maintaining patients' privacy. Designed in association with local firm Ralph Power Associates, the aim was to provide a visual link with the main hospital through the use of similar details,

(above) A children's play area splits the main Acute and Ward Buildings.



The enclosed 'bridge' provides a walkway between the main Acute Building and the quieter Ward Building. It features the use of COLORBOND® steel reverse-rolled to provide a wider rib and planking effect.



(above) The mix of steel cladding and concrete block work provide the basis for a light but solid structure.

orientation, materials and colour, while maintaining a relaxed, calm feel within.

Woods Bagot completed the landscaping of the site, following two basic principles

— integration with the natural terrain and character through the use of native plants and creating useable outdoor spaces by providing shading, seating and specific user activity areas.

Located just 13 kilometres from the city centre, Townsville's newest hospital sits on an open 29 hectare site with the picturesque Mount Stewart as its backdrop. The low level complex provides an expansive

facility with minimal impact on the neighborhood. Its success lies in its simplicity and it has been recognised as a major regional architectural feat, winning a Regional Commendation in Public

Townsville Hospital stands tall like a steel oasis, providing a striking piece of architecture from every angle.



Buildings, Industrial Buildings category at the 2002 North Queensland RAIA Awards; a high commendation at the 2002 Qld state RAIA Awards; was a finalist in the Australian Construction Achievement Award and received a 2002 Engineering Excellence Award (Qld) for the Buildings and Structures category from The Institution of Engineers Australia (IEAust). The separate Acute Mental Health Building was awarded the Building of the Year in the 2003 North Queensland RAIA Awards.

"The architecture was always going to be big," Simon conceded.

"We decided to use lightweight materials, large roof overhangs and sun shading not only to reflect the Queensland style, but also to reduce the impact of its size of the development. Somebody unlovingly called it the world's largest shearing shed and although at the time it was a brash statement, I gained satisfaction knowing that somebody thought that it reflected another large lightweight Queensland icon which also sits proudly in its landscape."

Paul Cheal

Project:

Townsville Hospital

Architect:

Simon Moisey, Woods Bagot, 07 3221 3122

Engineer:

KBR Brown & Root in association with Bonacci Group

Civil Engineer:

KBR Brown & Root

Landscaping:

Woods Bagot

Builder:

John Holland

Roofing and wall cladding installation:

AE Smith Townsville

Principal Steel Cladding:

Roof – COLORBOND® steel rollformed in Stramit MonoClad®. External walls – COLORBOND® Metallic Steel in the Colour Citi® on the lower panels COLORBOND® steel rollformed in Stramit Mini Corry in the colour Shale Grey® on the upper levels.

External Cladding on the bridge – COLORBOND® steel reversed rollformed in Stramit XTRASPAN™ 900 in the colour Woodland Grey®. Under-eaves – COLORBOND® steel rollformed in Stramit XTRASPAN™ 900 in the colour Woodland Grey®.

Cost Approx:

\$180 million

Size Approx:

62,000 square metres

Photography:

Paul Bradshaw

018

Project Murray 1 Visitors Centre
Architect Williams Ross Pty Ltd
Architectural design team Bill Williams, Virginia Ross, Chris Hose
Construction Contract Control (Benalla)

The Murray 1 Visitors Centre is powerhouse design. It deserves to be visited. Plenty of big time architecture should be this good. Situated among Arcadian splendour at Khancoban on the western face of the Snowy Mountains in NSW, the project has a symbiotic relationship with its environment. It is a beauty in many ways. Designed and completed in 1997 by Williams Ross architects of Melbourne, it demonstrates artistic discipline in a remote setting. Despite its vibrant form, the centre has remained largely unseen and unheralded. In such circumstances, distance is indeed a tyranny.

REMOTE CONTROL

Architecture can lose as many friends as it makes. The journey of commissioning custom design is fraught with complexity and risk, yet the results, can be thrilling. The simple act of hiring an architect is hardly an automatic entree to what the profession has labelled 'embedded excellence'.

Architecture is more than catch-phrases and mission statement. It is about shared understanding. Clients often get what they deserve and in this Year of the Built Environment there is ample evidence of that. Yet, insight and sensitivity can also be rewarded. Trust and managed risk-taking more often results in the best work. Many of these projects abound in out-of-the-way places or are simply never entered in competition. Murray 1 Visitors Centre is such a project.

The result is an origami of sheet steel and glass. Slender, functional and artfully sited, partially over a spillway, the project could so easily have been something else altogether.

Williams Ross and exhibition consultants Acumen Design linked hands to deliver a building built around an

exhibition rather than the usual pattern... in reverse.

Retrospective recognition is due for this project that seven years on has survived searing bushfires, climatic extremes and emerged with all of its originality intact. Contributing editor Peter Hyatt met architect Bill Williams at the site to discover more about this gem of a building:

How did your research shape the result?

It was interesting that the building responded to and came after the exhibition design.

In other words the size of the building and what it should address was decided by the exhibition consultant. It seemed very important that the architect should respond to the display requirements rather than the other way around.

This is so often the reverse of what nearly always occurs.

This was one of those rare instances where the display consultant could work in advance and then frame the building. Usually they fill the spaces and have no say in what those spaces should be.



It's laughable.

It is. We worked for them. Acumen Design Australia were the prime consultant who hired us, but they were also responsible for the building and the builder as well as the engineer and all of the consultants. I remember saying to Acumen's Derek Hooper at the time 'this is a real risk for you'. You have to rely on me telling you that I have someone who would deliver it and wouldn't give you any anxiety'.

Six years ago there wasn't quite the same appreciation for architecture as a lightweight entity but

here it is - a building that 'floats' on the water's edge.

Well it's not a big building or big program - basically there is one small exhibition hall. Our research involved asking ourselves how you best build, in this remote place, and develop a prefabricated structure that can entertain some contact with the water. When we visited the site we realised that there was an existing edge beam and by combining some light stub columns you could hang a frame over the waterway.

Do you think that there is a sense that building lightly is sometimes misunderstood

(opposite) Water spouts project from the lower roof edge and, once activated by rainfall, heighten the relationship of water collection and discharge.

(below) The ski-jump roof defers to the surrounding mountain ridges.

The soaring roof/wall of the main entrance on the north elevation and car park approach creates potent sculptural imagery.



as building weakly? In other words that a building based on weight and volume offers more 'bang for the buck' than refined elegance.

I don't believe it appears flimsy. It's not a civic building to any great extent. I do know one thing; the building was a shock to the Murray 1 authority. They wanted a stone building. We had to do a lot of talking to get this building, I might add. If somebody has their imagination fixed in stone, you have to work hard to change their direction.

I think I was able to win that argument on the basis that we would not be able to achieve their budget and cantilever out over the water. Of course the building barely touches the ground. There is very little connection with the ground because after all, the whole spillway is fill. I used those observations to justify a case for a floating lightweight structure. But that was a struggle because on every project there are

always hurdles along the way. I couldn't have put a stone building on this site.

Were you daunted at all by the remoteness of the location and the effect this would have on working with suitably skilled contractors?

I remember my first impression of the white painted pipes which dominate the site.

I also happen to love the power station. It is a very good example of public works architecture of the time. It's built to last and that was a reminder to create something that would endure. To take the line of the valley which drops to the water and rises on the other side is just marvellous because that provides the form for the roof. It's important to define a mountain by its peak. The U-shape roof enables you to stand on the edge of the building and your eye is allowed to peer to the top of the hill and hit the sky. The site is inspiring. I wish

one of those would come along every day.

What about the presence and influence of the power station pump-house? This is a mighty piece of design and construction. Were you concerned that the Interpretive Centre would be overwhelmed?

I wasn't concerned about the impact. One couldn't address the heaviness of that building. It's different altogether. Ours is insignificant in size by comparison.

You have condensed some quite dramatic angles into what is quite a signature building. How easily did the design evolve?

The structure was the defining factor. We had to transport a pre-fabricated frame and clad it on site. That gave us tremendous flexibility. It also allowed us to cantilever over the water and create a roof that allowed the mountain peaks to remain in view. Some of the

angles were about trying to be as sculptural as we could within the context of the program.

Was the ski jump roof deliberate or coincidental to the form?

A young woman from the Snowy Mountains Authority made the observation that it would be wonderful if the building could make a connection between water collection and spillway. I jumped on that remark, which has been interpreted in the roof spouts to create waterfalls when it rains. I thought she made a great contribution that day. It displays how water can be harnessed to generate power which is what the power station is all about.

Was there a strong philosophical and environmental approach to the work, or is it really much more pragmatic than that?

The building is about being responsive to its environment. It gives visitors the opportunity to enjoy the water, hover above



Exhibition spaces convey the story of the Snowy Mountains Scheme and provided a critical reference for the external expression.

Juxtaposed by size alongside the iconic '60s turbine station, the interpretive centre maintains a consistently light touch of metal and glass.



it and experience a sense of danger. You are standing on a grid with light railing, and even though it is very safe you have a sense of danger lurking in the cold, deep water below.

What were the main qualities that steel cladding provided?

Lightness. Especially if you're not touching the ground. It provides a lightweight envelope that can adapt to form and connect with images of Australia. A metal building can project solidity. It has ribs and this ribbed surface provides a marvellous striated skin.

What about bush-fire risk?

The building has protection from lawns, and is in a clearing with wide car-parking areas that separate it from the bush, so fire risk is reduced. The carpark elevation is sealed, while the elevation across the water has inclined glazing and is protected by water spillage from the roof.

Isn't there is a paradox in producing a low impact, eco-friendly result that still lures droves of tourists? You could have had a well mannered gum-leaf green building with a curved roof that disappeared into itself.

In its own way it says: "Come and have a look at me. I've got something worthwhile to say." I think the exhibition is very interesting. It's a wonderful site and hopefully all of that comes together as a building of its time and place.

Any pleasant surprises, disappointments or lessons from following the path that you took?

The only problems we had were the problems of others. At the end of the project the various authorities started to attack some of the rawness inside from a regulatory standpoint. It became quite ridiculous and at times threatened the opening of the building. There were endless discussions involving a tapestry of building regulations that we had to work through.

The quest for a vernacular language and expression is a difficult one, isn't it? On one hand you strive for difference and surprise and yet you want people to feel comfortable. There is a paradox between creating something that is edgy and that people notice, without making them turn on a building.

For us that's always the challenge. We try to create buildings that don't require gymnastics to get us there. Good architecture has a purity of form and a logic about how it comes together. It's tangible and you can quickly relate to it. This building, for example, is unusual in its roof and form and the way that it pushes the wall out, but it's all done very logically.

I guess the crunch assessment is: Is it enjoyable for the client, enjoyable for the visitor and enjoyable for you?

When the building was finished in 1997 a number of people from Murray 1 stayed around and sought visitors' reactions. The responses were uniformly positive.

I think it is one of those uncelebrated little buildings that happen in Australia. There are buildings that are tremendously interesting and widely recognised through stronger marketing, nevertheless this a beautiful little building and it's nice to experience interest in it.



Architect:

Williams Ross Pty Ltd

Project team:

Bill Williams, Virginia Ross, Chris Hose

Tel:

(03) 9416 3044

Exhibition consultants:

Acumen Design Australia Pty Ltd

Structural engineering:

BU Builder

Steel fabricators and builder:

Contract Control (Benalla)

Principal Cladding:

COLORBOND® steel in the colour Dune® rollformed in LYSAGHT SPANDEK® profile

Cost:

\$300,000

Completed:

1997

Photography:

Peter Hyatt

| | |
|----------------------------|--|
| Project | Physical Fitness Centre – Townsville RAAF |
| Architect | Conrad Gargett Architecture |
| Project Consultant | Carson Group |
| Managing Contractor | Leighton Contractors |

Just as the nearby Lavarack Army Barracks won awards for its architectural response to changing times, so too the RAAF base in Townsville now operates with improved standards of physical amenities.

GETTING PHYSICAL

Developed during the Second World War, Townsville’s RAAF base sits on over 700 hectares of land and is one of six airfields that create an umbrella of operational bases across Australia’s north. It is situated a stone’s throw from Townsville Airport, sharing runways and taxiways with commercial aircraft.

In the late 1990s the Australian Defence Force committed to a two stage upgrade of the base, which is designed as a transit facility to hold squadrons before they disperse to overseas postings. This was the base’s first major upgrade since its establishment.

Stage one, completed in August 2002, provided a series of fighter jet loading aprons and improved aircraft support infrastructure, while stage two, to be completed during the first half of this year, sees the development of a variety of new facilities including new transit accommodation, a combined mess facility, a new entrance facility and a physical fitness centre.

Architect Lawrence Toaldo of Brisbane-based Conrad Gargett has experienced the many

challenges of working on site with the Defence Force on both stages of the redevelopment.

“It’s definitely a different approach,” Lawrence says of the Physical Fitness Centre that has just opened. “Working on the RAAF Base meant that environmental, functional, security and whole of life costing considerations took a far more important role than the

aesthetically driven concerns for a commercial gym that relies on memberships to survive.”

“It is a defence building first and foremost, so its criteria also included robustness and security as well as value for money.”

On the eastern-most edge of the base, the Physical Fitness Complex completes the Living Quarters Precinct, sitting directly opposite

the transit accommodation and the new combined mess (also designed by Conrad Gargett).

The complex gathers together a main hall, a weight training area, cardio room, boxercise area, swimming pool and support facilities.

“The idea was to take the existing facilities on the base and gather them together

into one central complex, thereby encouraging its use,” Lawrence explains.

The result is a visually impressive, compact facility which provides a practical design and easy access day and night. The design relied heavily on steel – to maintain the distinctly industrial context provided by the existing WW2 hangars and maintenance facilities.

The recently opened Physical Fitness Complex completes the Living Quarters Precinct of the Townsville RAAF base.





"The selection of materials was made to provide the owest possible embodied energy combined with a high performance facade," Lawrence explained.

"We were always keen to use steel – because it is lightweight and quick to erect – and was particularly suited to this precinct, which is surrounded by these existing steel hangars and facilities.

"Industrial detailing, coupled with the use of raw materials, allowed us to express both material and construction honesty while achieving cost effectiveness."

The Physical Fitness Centre is designed and positioned to carefully control exposure to all aspects of the building. The entrance, set on the southern side to face the main east/west access road, is marked by a series of low

level projecting roofs that welcome users arriving from the mess or transit accommodation. COLORBOND® steel in the colour Dune® is used on the external walls around the complex. On the western wing this is interspersed by translucent sheeting which provides even, natural light across the basketball court. =On the eastern end it is interspersed with stripes of varying widths of COLORBOND® steel in the colour Deep Ocean®. A series of blades, made from COLORBOND® Metallic steel in the colour Skybridge®, protrude from the main southern wall providing both a practical shading solution and a scaling device for the facade.

"All the windows on the complex utilise external sun shading devised to maximise daylight while minimising the direct sun," Lawrence says. "The blades protect the translucent sheeting from too much afternoon sun, while the same afternoon sun provides a unique change in the look of the COLORBOND® Metallic steel from rich blue to silver."

The brief for the building was to provide a facility that would create a comfortable integrated exercise environment all year round. As a result, the facility is organised along two perpendicular breezeways which meet at an administration point central to all the major functions within. The north-south and east-west breezeways, which use wall cladding made from COLORBOND® Metallic steel in the colours Axis® and Facade® provide the facility with distinctive, light-filled access walkways, an area of respite from the hot Townsville sun and an escape from the rains during wet season.

Along the entry north-south breezeway, past the physiotherapist offices and opposite the administration

area is the base's international-standard basketball court – a major requirement within the design.

Its extended height and size (including a floor space of 840 square metres) allows the hall to be used for basketball, volleyball, badminton or general squadron fitness training. The court features large expressed air conditioning ducts, a sound system – which runs through the entire complex – and a ceiling made from perforated COLORBOND® steel for increased absorption and minimisation of noise. The large areas of translucent walls, both on the front (south) side and opposite, are angled to eliminate direct sunlight while providing an even spread of natural daylight across the court.

A consistency of design features runs throughout the weights, cardio and boxercise rooms, which are sited on opposite sides of the east-west breezeway. Each room has a single door for 24-hour card access and sliding doors to accommodate large groups and circuit work. Each uses recycled rubber flooring, has a zone of plywood around the base of the walls for protection, and features faceted ceilings made from ZINCALUME® steel interspersed with stripes of COLORBOND® steel in the colour Deep Ocean®.

Small automated windows situated high in each of the rooms allow for natural ventilation during the cooler winter months – while still ensuring the security of the facility.

"We've used steel sheeting on the ceilings and up-lighting to bounce the light around the room," Lawrence said. The stripes of blue on the ceiling continue from the external wall and are a gesture to the stripes on the uniforms of RAAF personnel.

There's also a six-lane, 25-metre swimming pool with a



(above) The entrance of the facility is marked a series of low level use to welcome users.

Security was a major design requirement; entry to each room is via a 24 hour access Card.



Two perpendicular breezeways - which use wall cladding made from COLORBOND® Metallic steel - provide distinctive, light-filled walkways within the complex.

The international standard basketball court covers over 840 square metres of floor space and was a major design requirement within the original brief.



ramp for disabled access and a small wading area catering for rehabilitation activities. Solar heating tubes sit on the main roof, allowing warm water to be circulated through the pool during winter – when, even in Townsville – the water can get pretty chilly according to the locals.

Weather considerations played a major role in the design, not just in the implementation of a range of ESD features but also in terms of the heavy rains, winds and cyclones that are common in the tropics.

"The wind forces and the amount of rain that falls were major challenges," says Lawrence. "The building is quite heavily braced and fixings and fittings for all steel cladding are of cyclone grade.

The new physical fitness centre has transformed a former container storage site into a modern facility with a design that responds to the built environment of the airbase.

"The design evolved over time, through close collaboration with the managing contractor (Leighton Contractors),

the project consultant (Carson Group) and the client," Lawrence said.

"It changed as we worked through the design process, bounced ideas off each other and came to terms with the realities of the local building trades situation. We adapted the building as we learned more about the Defence community's demands, the site's needs and the nuances of Townsville. It was definitely a team effort and an evolution."

Paul Cheal

Project:
Physical Fitness Centre – Townsville RAAF

Architect:
Lawrence Toaldo,
Conrad Gargett Architecture
Tel: 07 3229 3555

Site Architect:
Tippett Schrock Architects

Project Consultant:
Carson Group

Managing Contractor:
Leighton Contractors

Structural Engineer:
Bonacci Group

Landscaping:
Madden Gillespies

Civil Engineer:
Maunsell McIntyre

Electrical/lighting engineer:
Bassett Consulting

Mechanical Engineer:
Ashburner Francis

Principal Steel Cladding:
External walls - COLORBOND® steel rollformed in LYSAGHT SPANDEK® in

the colour Dune® with stripes in the colour Deep Ocean®

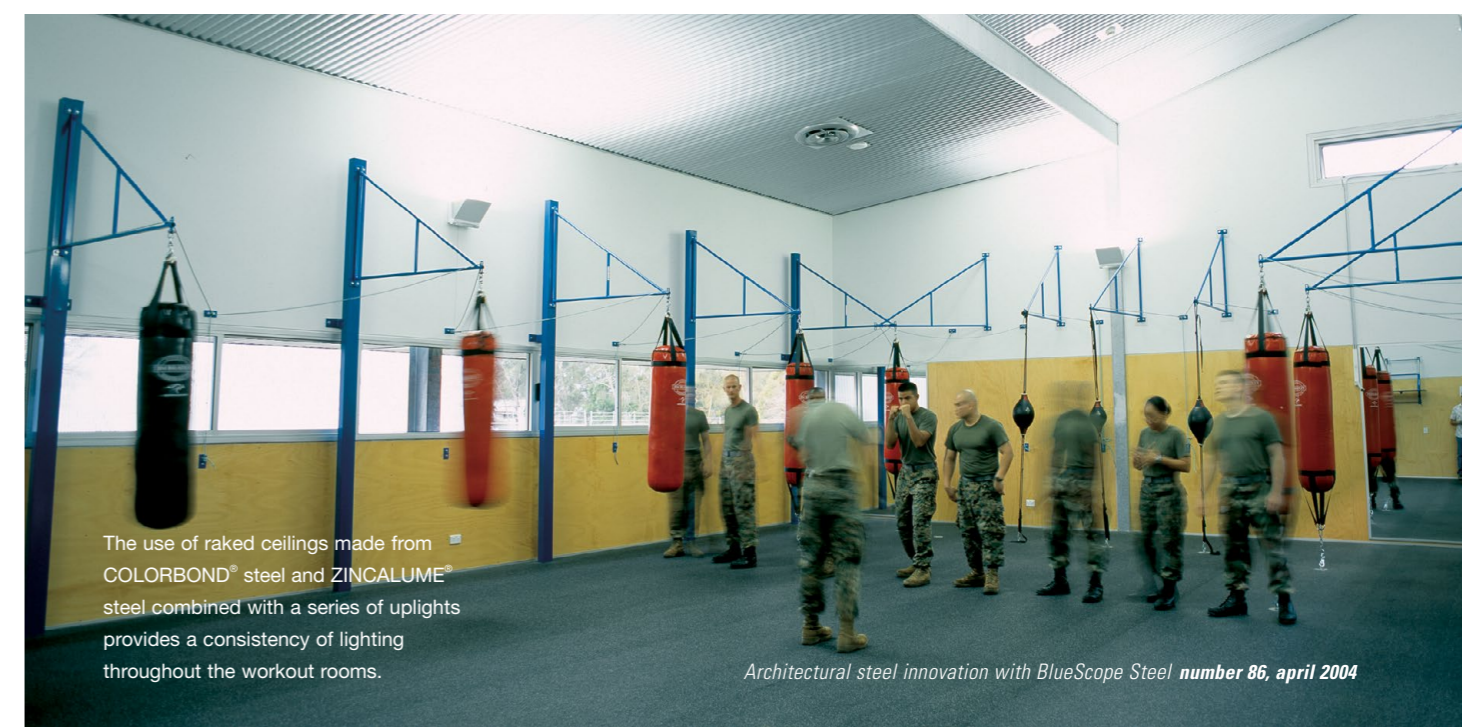
Blades - COLORBOND® Metallic Steel rollformed in LYSAGHT MINI ORB® in the colour Skybridge®

Breezeways wall cladding - COLORBOND® Metallic steel rollformed in LYSAGHT SPANDEK® in the colours Axis® and Facade®

Ceilings - Perforated COLORBOND® steel rollformed in LYSAGHT CUSTOM ORB® in the colour Surfmist®, ZINCALUME® steel rollformed in LYSAGHT CUSTOM ORB® with stripes of COLORBOND® steel rollformed in LYSAGHT CUSTOM ORB® in the colour Deep Ocean®

Size:
2540 square metres

Photography:
Paul Bradshaw



The use of raked ceilings made from COLORBOND® steel and ZINCALUME® steel combined with a series of uprights provides a consistency of lighting throughout the workout rooms.

Architectural steel innovation with BlueScope Steel **number 86, april 2004**

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My inspiration

The design approach at Conrad Gargett Architecture encourages working at many levels to imbue architecture with a sense of purpose. Every opportunity is used to charge the project with moves of significance, so that regardless of the project parameters an attempt is made to deny the arbitrary and push the project for everything it's got.

This strategy allows the creation of a dense work, with many interconnected layers of meaning. From the broadest concepts that give the project its general direction to the consideration of the smallest of details, each level is explored to enrich the architectural content and constructional integrity.

In the case of the Physical Fitness Complex at RAAF Townsville, some of the general concepts informing the design are ideas about context and program. These include challenging the standard gymnasium typology, opening it up to natural light and breezes, and emphasising informal gathering spaces. A more specific layer concerns the materiality of the building and paring back layers of finish to reveal the nature of the building's construction.

*Lawrence Toaldo
Conrad Gargett Architecture*



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