

national steel design awards 2010



AUSTRALIAN STEEL INSTITUTE





Architectural Steel Design

AAMI Park (Winner)

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Structural Engineering Steel Design

AAMI Park (Winner)

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Steel Clad Structures Design

Australian Pavilion@World Expo, Shanghai China (Winner)

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Structural Engineering Steel Design - Infrastructure & Mining

Falcon Street Pedestrian and Cyclist Bridge, Neutral Bay (Winner)

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State Programs

NSW/ACT



Queensland



South Australia



Victoria/Tasmania





Architectural Steel Design

One Shelley Street, Sydney (Winner)



Structural Engineering Steel Design

One Shelley Street, Sydney (Winner)



Steel Clad Structures Design

Australian Pavilion @ World Expo, Shanghai China (Winner)



Multilevel Steel Design

One Shelley Street, Sydney (Winner)



Structural Engineering Steel Design - Infrastructure & Mining

Falcon Street Pedestrian and Cyclist Bridge, Neutral Bay (Winners)



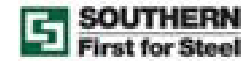
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One Shelley Street, Sydney (Winner)

One Shelley Street is a 35,000sqm, 11-storey commercial building with its most distinctive design feature being Australia's first external diagonal grid ('diagrid') supporting structure. The deliberate expression of the external steel diagonal structure wrapping the building helps free the internal structure to maximise fitout and planning flexibility for building tenants. This internal workspace experience was enhanced through the creation of central or atrium based gathering spaces and bridges with transparent glass lifts, establishing connectivity between all levels. The exterior diagrid geometry is cleverly folded around the corners of the glass faceted building and resolved at the roof to form a unified whole. Architects, fitzpatrick+partners worked closely with Arup and Brookfield Multiplex to develop steel design options for optimum performance and economy. This process incorporated complex 3D modelling, structural optimisation and documentation of the diagrid to speed analysis of design options. The diagrid structure was also designed for maximum duplication of structural elements and economy of means. All up, a striking combination of form and function.

PROJECT TEAM

Architect: fitzpatrick+partners

Structural Engineer: [Arup](#)

Head Building Contractor: Brookfield Multiplex

ASI Manufacturers: [BlueScope Lysaght](#), [OneSteel](#)

ASI Distributor: [Southern Steel](#)

Steel Fabricators: Cullen Steel Fabrications, Strongest Link, [S&L Fabrications](#)

Steel Detailer: [BlueScope Lysaght](#)

Coatings Supplier: [Industrial Galvanizers](#)

Metal Building Contractor: [BlueScope Lysaght](#)



One Shelley Street, Sydney (Winner)

The building comprises two blocks of mainly steel-framed construction with an open-air atrium linked by stairs, bridges and cantilevered pod structures. The design concept used an external diagrid aligned with lines of structural columns and walls in the basements below. The diagrid also supports the perimeter of the building from the outside, which avoided the need for internal perimeter columns while allowing the structure to span over clear areas beneath. The design of the structural frame was based around the key principles of keeping elements as repetitive as possible to simplify steelwork fabrication with most of the complexity concentrated in the diagrid nodes and connecting to the existing substructure to transfer forces with minimal disturbance to it. Diagrid members were optimised using analysis routines previously developed for high-profile projects such as the Beijing Watercube.

PROJECT TEAM

Architect: [fitzpatrick+partners](#)

Structural Engineer: [Arup](#)

Head Building Contractor: [Brookfield Multiplex](#)

ASI Manufacturers: [BlueScope Lysaght](#), [OneSteel](#)

ASI Distributor: [Southern Steel](#)

Steel Fabricators: [Cullen Steel Fabrications](#), [Strongest Link](#),
[S&L Fabrications](#)

Steel Detailer: [BlueScope Lysaght](#)

Coatings Supplier: [Industrial Galvanizers](#)

Metal Building Contractor: [BlueScope Lysaght](#)



Australian Pavilion @ World Expo, Shanghai China (Winner)

The Australian Pavilion at the 2010 World Expo has attracted lots of attention for its combination of an iconic design with a smart skin that evokes the great Australian outback. The patina on the weathering steel façade changes colour during the course of the Expo responding to prevailing weather and time of day. It used a double skin system where the external skin acts as a rain screen system and air gap protection of the inner face of the building. The AZURE™ cassette panel-based system employed is fabricated from 2.0mm steel which is comparably lighter than traditional heavy welded weathering steel systems. Designed for simple and precise installation, interlocking square or rectangular panels are screwed to a lightweight supporting structure. All panels are manufactured with pre-punched fixing and drainage holes in the bottom flange for adequate secondary water drainage. Use of the system allowed the total envelope to be clad in just six panel types, minimising fabrication, transport and packaging costs and drafting time. The system is maintenance-free with no requirement to repaint and dispenses with the use of exposed sealant.

PROJECT TEAM

Client: Department of Foreign Affairs and Trade (DFAT)

Architect: Wood Marsh Architecture

Structural Engineer: [Aurecon Australia](#)

Head Building Contractor: Bovis Lend Lease

ASI Manufacturer: [BlueScope Steel](#)

ASI Distributor: SMS Processing

Steel Fabricator: [BlueScope Façade Solutions](#)

Steel Detailer: KDK Designs



One Shelley Street, Sydney (Winner)

The connection design of the floor steelwork was determined in close consultation with Brookfield Multiplex and BlueScope Lysaght to optimise onsite construction and streamline fabrication. Avoidance of welding on most floor members allowed delivery directly after beam rolling with only drilling and cutting required before site. Penetrations through floor beams were standardised and a pattern of duct penetrations determined early in the design with services engineers to maximise future flexibility for services layout without compromising beam capacity or requiring welded fabrication for stiffeners. With the floors supported from the diagrid, bending and shear members were required to transfer forces from the floors out to the diagrid. This was designed with a rigid welded stub connection to the diagrid and a bolted shear-only connection at the floor edge beam. This allowed the detailing of the floor beam connections to be as simple as possible and limited the need for more complex rigidly welded connections to the diagrid only.

PROJECT TEAM

Architect: fitzpatrick+partners

Structural Engineer: [Arup](#)

Head Building Contractor: Brookfield Multiplex

ASI Manufacturers: [BlueScope Lysaght](#), [OneSteel](#)

ASI Distributor: [Southern Steel](#)

Steel Fabricators: Cullen Steel Fabrications, Strongest Link, [S&L Fabrications](#)

Steel Detailer: [BlueScope Lysaght](#)

Coatings Supplier: [Industrial Galvanizers](#)

Metal Building Contractor: [BlueScope Lysaght](#)



Falcon Street Pedestrian and Cyclist Bridge, Neutral Bay (Winner)

The bridge comprises five spans, approximately 193 metres in total length. The bridge has a three metre clear width in accordance with AS5100.1 for Shared Use Paths. The deck slab has an anti-skid corrosion protection coating that accommodates pedestrian and cyclist traffic across the bridge. The top flange of the curved, continuous steel box girder was kept at a constant 20mm over the entire length of the bridge to carry the pedestrian traffic and did not require transverse or longitudinal stiffeners, significantly reducing the cost. Each girder segment was designed to be lifted into place as a complete unit with all balustrades and anti-throw screens secured prior to lifting into position. This provided a safe working area for the construction crews and minimised the risk of objects falling onto road users below. An innovative, purpose-designed bolted splice was developed for the top plate to allow bolt heads to be fully flush with the wearing surface once installed. The project was delivered within budget and was opened ahead of schedule.

PROJECT TEAM

Client: Roads and Traffic Authority of NSW

Architect: Kiah Infranet

Structural Engineer: [Aurecon Australia](#)

Head Building Contractor: Reed Constructions Australia

Steel Fabricators: Adua Engineering (Box Girder), Rebuild Welding & Fabrication (Miscellaneous Steelwork)

Steel Detailer: 3D AccuDraft

Coatings Supplier: [International Paint](#)

Metal Building Contractor: Reed Constructions Australia

ASI Manufacturer: [BlueScope Steel Industrial Markets](#)

ASI Distributor: [OneSteel](#)





Architectural Steel Design

Steendyk Home+Studio (Winner)



Structural Engineering Steel Design

Kurilpa Bridge (Winner)



Steel Clad Structures Design

AIICS Multi Purpose Hall (Winner)



Structural Engineering Steel Design – Infrastructure & Mining

Lake Lindsay Drag Line (Winner)



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Steendyk Home+Studio (Winner)

With an existing 1875 workers' cottage retained, the philosophy behind the new structure was to respect the old through contrast. From the fencing and laser-cut gate, mirrored stainless steel awnings, steel staircase to the main house structure and rear awning, steel was an integral component to realise this home and studio. Blurring the distinction between outdoor and indoor on the constrained site, an expanded living space was achieved through using a cantilevered steel rear façade and a rear awning that projects 2.7 metres toward the rear courtyard. The delicacy of the steel framed perimeter clerestory punctuates the old and new additions and at night makes it appear as if the cottage is floating on a bed of light.

PROJECT TEAM

Architect: Brian Steendyk

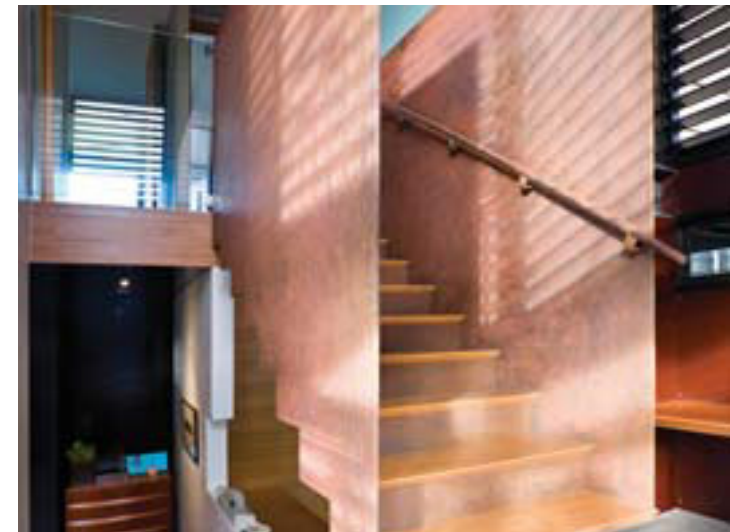
Structural Engineer: Bligh Tanner Consulting Engineers

Building Contractor: Brian Steendyk

Steel Fabricator: Accurate Welding

Steel Detailer: Brian Steendyk

The judges commented: *"A delightful exploration of the many and varied uses of steel and its juxtaposition with complementary materials."*



Kurilpa Bridge (Winner)

Faced with clearance requirements and location limiting the overall depth of structure to be less than one metre below the top of deck level, Arup and Cox Rayner devised a new form that incorporated a shallow structural deck of mast and cable structures without monumental masts. As this type of structure needs to support itself during construction, the bridge was designed to be cantilevered out from each of the two major river piers. In May 2009 the two halves of the bridge met precisely as predicted by computer modelling. Engineering design of the innovative and complex structure involved an extremely sophisticated and comprehensive series of non-linear analyses, including separate analyses of each stage of the erection.

PROJECT TEAM

Structural Engineer: [Arup](#)

Architect: Cox Rayner Architects

Building Contractor: Baulderstone

Steel Fabricator: [Beenleigh Steel Fabrications](#)

Steel Detailer: Online Drafting

The judges commented: *"A unique and innovative lightweight structure using complex analysis to ensure efficiency and ease of construction."*



AIICS Multi Purpose Hall (Winner)

ARAMAX roof sheeting was selected for its spanning capacity and unique aesthetic. Its deep profile enables the roof sheeting to span unsupported between steel portals, eliminating the need for roof purlins. The cantilevering roof overhangs provide shelter to the external spaces surrounding the Multi Purpose Hall and presents a fine edge to the most prominent part of the building. Perforated ARAMAX sheeting is used internally on the ceiling to provide consistent finish overhead and acoustic attenuation.

PROJECT TEAM

Architect: Richard Kirk Architect

Structural Engineer: NJA Consulting

Building Contractor: Northbuild Construction

Steel Fabricator: City Steel

Steel Detailer: City Steel

Cladding Contractor: Brice Engineers

The judges commented *"The use of the cladding as an onsite manufactured element, also acting as a structural and acoustic element, was impressive."*



Lake Lindsay Drag Line (Winner)

Designed to have a 30-year working life, the dragline features a 109 metre boom and will walk itself around the pit using two shoes each more than 21 metres long and four metres wide. The dragline's bucket was built with the capacity to remove 168 tonnes of overburden from the Lake Lindsay Project mining project in Central Queensland. The dragline is the first in Australia and the second in the world to use alternating current (AC) motors on all motions. The design, fabrication and construction processes were carried out simultaneously because of the machine's size. The project required about 3500 tonnes of XLERPLATE® steel. The surface finish and material properties of the steel plate needed to be of a consistently high quality critical for structural steelwork, mechanical components and replacement parts.

PROJECT TEAM

Structural Engineer: Bucyrus

Architect: Bucyrus

Building Contractor: Bucyrus

Steel Fabricators: G&S Engineering, RCR Mining, [Sun Engineering](#)

Steel Detailer: Bucyrus

The judges commented: *"5600 tonnes of walking, working, wizardry."*





Architectural Steel Design

Adelaide Entertainment Centre (Winner)



Structural Engineering Steel Design

Adelaide Entertainment Centre (Winner)



Steel Clad Structures Design

University of Adelaide Plant Accelerator (Winner)



Structural Engineering Steel Design – Infrastructure & Mining

Techport Shiplift and Ship Transfer System (Winner)



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Adelaide Entertainment Centre (Winner)

The redevelopment was designed as a series of three distinct spatial ideas - the 'dynamic dome space', the flexible box able to reveal a multitude of performance modes and functions, and 'interactive foyer' that acts as a visual and functional link between the two. Simplified into overlapping extruded boxes, the Theatre foyer and back of house facilities wrap around the Theatre, terminating within the dome space. The Theatre can accommodate 2500 visitors in general admission mode, 1700 in seated theatre mode and 800 in seated banquet mode. The freestanding ticket box and entry portal were designed as a continuous venue threshold addressing Port Road with red feature cladding and illuminated acrylic wrapping around the edges to link the two. Both provide the dome plaza with shelter and acoustic separation as well as a security checkpoint when required. The redevelopment was completed on time and on budget coinciding with the opening of the new tramline to the Centre.

PROJECT TEAM

Architect: DesignInc

Structural Engineer: [Aurecon](#)

Head Building Contractor: Hansen Yunken

ASI Distributor/Manufacturer: [OneSteel Steel & Tube](#)

Steel Fabricator: Samaras Structural Engineers

Steel Detailers: Steel Pencil (performance venue),
[Samaras](#) (dome)

Coatings Supplier: PPG Industries

Metal Building Contractor: [Samaras Structural Engineers](#)

"An exciting, innovative and challenging design which has captured the theme and created a landmark." - Tony Nickson (Manager, Steel Division, Brice Metals)



Adelaide Entertainment Centre (Winner)

The project included demolition of the existing Rubicon Function Room, courtyard and the circular colonnade to the plaza and significant alterations to the Alchemy courtyard and main arena entry canopy to make way for a new dome and performance venue. The expanded semi-enclosed dome forecourt weighs over 300 tonnes, spans over 40 metres wide and stands over 20 metres tall. With restricted access around the existing building and the segmented arc dome requiring complex propping, bracing and central supports in its unfinished state, the dome's unique design provided a significant challenge throughout the construction and erection process that was skilfully addressed for the project to be successfully delivered in tandem with linked infrastructure development.

PROJECT TEAM

Architect: DesignInc

Structural Engineer: [Aurecon](#)

Head Building Contractor: Hansen Yunken

ASI Distributor/Manufacturer: [OneSteel Steel & Tube](#)

Steel Fabricator: Samaras Structural Engineers

Steel Detailers: Steel Pencil (performance venue),

[Samaras](#) (dome)

Coatings Supplier: PPG Industries

Metal Building Contractor: [Samaras Structural Engineers](#)

"A mixture of welded and bolted connections to achieve an excellent result." - Richard Liney (Director, FMG Engineering)



University of Adelaide Plant Accelerator (Winner)

The plant accelerator at Waite Campus in Adelaide's southern suburb of Urrbrae is Australia's largest research greenhouse. The facility covers 4485sqm over two levels with an upper greenhouse level for plant growth facilities and access to automated plant imaging stations over a lower support area including plant growth chambers, potting rooms, germination areas, research laboratories and administrative offices. It is a national research facility able to process 160,000 plants a year. The two-storey building is essentially a first floor BONDEK® slab supported on efficient steelwork columns and beams creating the platform for a proprietary greenhouse system. COLORBOND® steel cladding in LONGLINE 305® profile encloses the tall ground floor up to first floor level and complements the hot-dip galvanised SHS steelwork featured in the foyer, gutters and downpipes.

PROJECT TEAM

Architect: H20 + Phillips Pilkington Architects

Structural Engineer: [Wallbridge & Gilbert](#)

Head Building Contractor: Built Environs

ASI Manufacturer: [BlueScope Lysaght](#) (cladding)

ASI Distributor: [BlueScope Distribution](#)

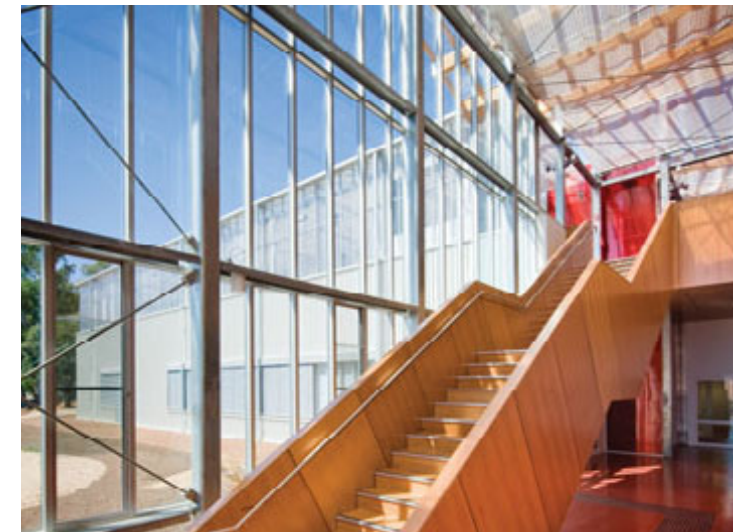
Steel Fabricator: RC&ML Johnson

Steel Detailer: Kloek Drafting

Coatings Suppliers: [Korvest Galvanising](#), Able Blasting

Metal Building Contractors: Metal Cladding and S+LJ Roofing

"Steel cladding works in very neatly with other translucent panelling and timber." - Vince Manuele (Director, Manuele Engineers)



Techport Shiplift and Ship Transfer System (Winner)

The facility is located within the Common User Facility (CUF) at Osborne in South Australia and forms part of the new South Australian Government owned and operated facility to assist ASC build the Royal Australian Navy's next generation destroyers and attract future naval shipbuilding and repair work. The shiplift is the largest in the Southern Hemisphere, capable of supporting a vessel up to 9300 tonnes. It is 156 metres long, 34 metres wide and lowers 18 metres into the water to launch and dock ships. The project comprised workshop fabrication and onsite consolidation and installation of three elements - a working steel sub-structure platform, 40 off-hoists connected to the platform via wire rope to lift and lower it, and a trolley and trestle transfer system to allow ships to be moved onto and off the platform. The platform required approximately 2700 tonnes of steel, the hoists 420 tonnes utilising both plate and section and the transfer system requiring 440 tonnes of steel plate.

PROJECT TEAM

Principal: Defence SA

Structural Engineers: Rolls Royce Naval Marine and
TTS Handling Systems AS

Head Building Contractor: Rolls Royce Naval Marine

ASI Distributor/Manufacturer: [BlueScope Steel](#) and [OneSteel](#)

Steel Fabricator: [RPG Australia](#)

Steel Detailer: [RPG Australia](#)

Coatings Supplier: Hempel (Australia)

Metal Building Contractor: [RPG Australia](#)

"A very impressive high technology solution." - Richard Michael
(Manager, Steel Select)





Architectural Steel Design

AAMI Park (Winner – Large Project)
Calder Woodburn Rest Area (Winner – Small Project)



Creative Innovations Steel Design

Deer Park Bypass Noise Walls (Winner – Large Project)
The Convertible Building (Winner – Small Project)



Structural Engineering Steel Design

AAMI Park (Winner)



Tasmanian Steel Design

Makers Workshop (Winner)



Steel Clad Structures Design

Deer Park Bypass Noise Walls (Winner)



Judges' Special Award

The Seafarers Bridge (Winner)



Steel Fabricators Award

Melbourne Convention Centre (Winner)



Steel Detailers Award

Yarra Arts Theatre and Recital Project (Winner)



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AAMI Park (Winner – Large Project)

Cox Architects and Planners

Purpose-built for rectangular pitch games, the stadium is a highly sculptural piece. Rather than separate roof, walls and supports, the steel structure or 'bioframe' has been designed to serve each of these functions. Structural steel is integral to the design of the stadium as there is no other comparable material to steel for use in lightweight long-span structures. Without any superficial or decorative elements within the design, every component of the roof serves a purpose. The aesthetics of the steel structure is a result of a synthesis between architecture and engineering and provides a particular beauty in its apparent simplicity. It continues the strong architectural lineage of Melbourne's sports and entertainment precinct and sits alongside Rod Laver and Vodafone arenas and the Melbourne Cricket Ground providing residents and visitors alike with a world-class facility that embodies a pioneering approach to public architecture and in turn, public life.

PROJECT TEAM

Architect: Cox Architects and Planners

Structural Engineer: [Arup](#)

Head Building Contractor: Grocon

Steel Fabricators: [Haywards Steel Fabrication & Construction](#), GVP Fabricators, [Aus Iron Industries](#), Elliott Engineering

Steel Detailer: [PlanIT Coccianti](#) Joint Venture

Coatings Supplier: [International Protective Coatings](#)

Steel Supplier: [Orrcon \(tubular component\)](#)



Calder Woodburn Rest Area (Winner – Small Project)

BKK Architects with VicRoads Landscape and Urban Design

The Rest Area is regarded as the gateway to the Calder Woodburn Memorial Avenue and also to the larger Shepparton area. The facility comprises a collection of urban elements including a relocated memorial, a new picnic structure, carport and toilet block. Steel features predominantly throughout the design. The roof structures of the toilet facility, carport and picnic enclosure are entirely steel framed. The roof and ceiling cladding of the toilet facility and carport are COLORBOND® steel and the roof and ceiling of the picnic enclosure is 3mm thick mild steel. The roof to the toilet facility twists in two directions, giving it a dynamic appearance. The steel columns to the toilet facility and carport are randomly placed to disguise the grid and give the sense that the roof is floating independently above the ground. The Rest Area provides a memorable place for pausing and reflection for the traveller.

PROJECT TEAM

Architect: BKK Architects with VicRoads Landscape and Urban Design

Structural Engineer: [Meinhardt](#)

Head Building Contractor: Cut & Fill

Steel Fabricator: Kyabram Steel & Fabrication

Steel Detailer: Kyabram Steel & Fabrication

Coatings Supplier: [Dulux](#)



AAMI Park (Winner)

Arup

The showpiece of AAMI Park is its 'bioframe' roof. The innovation provides a highly efficient structure that is also functional and visually exciting. The structural system consists of single surface shells transferring load via a combination of cantilever, catenary, 'shell' and arching actions. As a result, the structure is considerably lighter, requiring 50 percent less steel than typical stadium roofs of the same size. A total of 24 models were studied with variations in shell curvatures and heights to determine the most efficient geometry. The stadium represents the next generation of structurally efficient designs and sets a new benchmark for other stadia and projects around the world.

PROJECT TEAM

Architect: Cox Architects and Planners

Structural Engineer: [Arup](#)

Head Building Contractor: Grocon

Steel Fabricators: [Haywards Steel Fabrication & Construction](#),

GVP Fabricators, [Aus Iron Industries](#), Elliott Engineering

Steel Detailer: [PlanIT Coggiardi](#) Joint Venture

Coatings Supplier: [International Protective Coatings](#)

Steel Supplier: [Orrcon \(tubular component\)](#)



Deer Park Bypass Noise Walls (Winner)

Peter Elliott Architecture + Urban Design

A fundamental aim of the design has been to create a distinct visual identity for the Bypass that integrates freeway architecture into the local landscape. The Deer Park Bypass noise wall materials are typically raw galvanised steel with sections of strong colour to punctuate the freeway where it intersects with the local road system. The noise walls have very distinct end panels that overlap, fold back into the ground or rear into the sky. The inclusion of the end panels changes an otherwise thin ribbon-like wall into a substantial sculptural form with great tectonic presence. This is freeway architecture on a big scale that uses a simple but bold material palette with the strong use of colour to striking effect.

PROJECT TEAM

Architect: Peter Elliott Architecture + Urban Design

Structural Engineer: [Arup](#) (concept), [GHD](#)

Head Building Contractor: [Leighton Contractors](#)

Steel Fabricators: CP Engineering,
[Australian Rollforming Manufacturers](#)

Steel Detailers: CP Engineering,
[Australian Rollforming Manufacturers](#)

Coatings Supplier: [International Protective Coatings](#)



Melbourne Convention Centre (Winner)

GVP Fabricators

The scope of the primary steel fabricator for the Centre included more than a regular fabrication supply package, encompassing design development, shop detailing, procurement, fabrication, painting and erection for all primary and façade steel. GVP provided expert knowledge on design details, erection methodologies and ensured detailing was completed with a common sense approach and realistic expectation. One of the major feats of the project without a doubt was the speed with which the consultants' design was completed, shop detailed, fabricated, finished and erected. At the peak of the project, GVP Fabricators had over 55 personnel, including sub-contractors onsite and up to 13 semi-trailer loads of steel and miscellaneous items were delivered daily.

PROJECT TEAM

Architect: Woods Bagot and NH Architecture Joint Venture

Structural Engineer: [Winward Structures](#)

Head Building Contractor: Brookfield Multiplex Constructions

Steel Fabricator: GVP Fabricators

Steel Detailer: [PlanIT Design Group](#)

Coatings Supplier: [International Protective Coatings](#)



Yarra Arts Theatre and Recital Project (Winner)

Alfasi Design & Drafting

Detailing for this project was totally about the construction program which required small parcels of contained areas to be completed so that steel could be fabricated and erected quickly. The complexity really speaks for itself, not only having to understand, coordinate and assist the numerous and various façade products but also to understand all other elements of the project. Small evolving teams were set up across the project sequenced to suit what was an ever changing erection and building sequence depending on weekly project movements. Electronic DXF and NC files were used and many prefix systems so that steel could be easily identified and delivered accordingly. The building was delivered on-time and on-budget.

PROJECT TEAM

Architect: ARM Architects

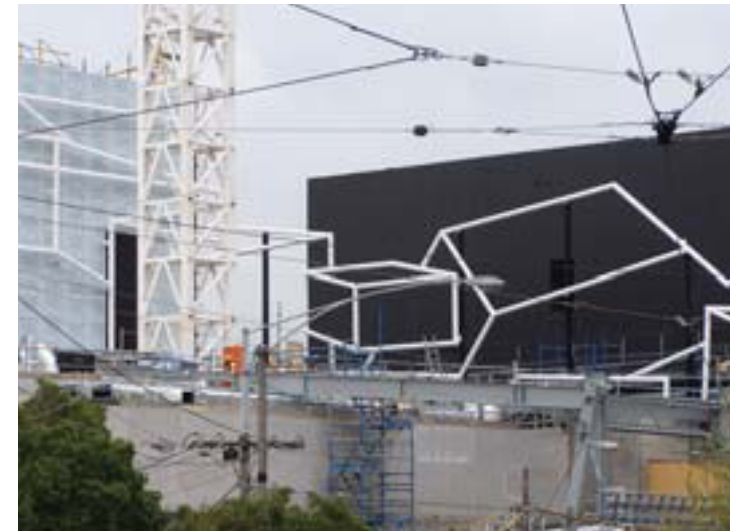
Structural Engineer: [Bonacci Group](#)

Head Building Contractor: Bovis Lend Lease

Steel Fabricator: [Alfasi Steel Constructions](#)

Steel Detailer: Alfasi Design & Drafting

Coatings Supplier: [International Protective Coatings](#)



Deer Park Bypass Noise Walls (Winner – Large Project)

Peter Elliott Architecture + Urban Design

What is striking about this project is the innovative use of steel on a large scale – six metre high noise walls stretching over one kilometre. The noise walls were conceived as large sculptural objects set in a big flat landscape. In essence, a standard steel product was transformed into long reptilian forms that have great physical presence. The noise walls atypically have a series of varying end forms that fold away or rear up into the sky and so give the walls a dramatic three dimensional quality. Most of the walls are galvanised but also use strong colour to highlight certain components. The noise walls have a striking aesthetic appearance whether used horizontally or vertically for they have such a strong shadowing effect created by the deep profile ribs. The galvanised surface also has a subtle and shifting visual effect depending on the weather, producing quite an ephemeral appearance.

PROJECT TEAM

Architect: Peter Elliott Architecture + Urban Design

Structural Engineer: [Arup](#) (concept), [GHD](#)

Head Building Contractor: [Leighton Contractors](#)

Steel Fabricators: CP Engineering,
[Australian Rollforming Manufacturers](#)

Steel Detailers: CP Engineering,

[Australian Rollforming Manufacturers](#)

Coatings Supplier: [International Protective Coatings](#)



The Convertible Building (Winner – Small Project)

Designology

The convertible house has been primarily designed as an alternative ecologically sustainable, durable, low cost, low embodied energy, high security, storm and fire resistant dwelling for a relatively rural location in Newbury, Victoria, which is in a cool temperate zone. The modular design principle provides flexibility and the construction system is simple to erect, extend and dismantle if required with relatively unskilled labour. The main superstructure has been designed using lightweight steel framing. Although steel has relatively high embodied energy compared to timber, unlike timber it's infinitely recyclable. Although this prototype design is primarily for a 'cool temperate' environment, the Convertible House as its name suggests can be readily adapted to suit different climate zones, climate change and availability of materials.

PROJECT TEAM

Architect: Designology

Structural Engineer: Hunt Engineering

Head Building Contractor: Designology

Steel Fabricator: Hunt Engineering

Steel Detailer: Hunt Engineering



Makers Workshop (Winner) – Terroir

Terroir

The building is contextually part of the collection of large-scale industrial objects along the coast and organised according to a five spoke diagram centred on a freely accessible orientation hub that features items from the museum's collection. Each of the five spokes (or arms) houses a different function – back of house, paper making workshop, multi-purpose exhibition/theatre, café and a combined retail/gallery space. Each of the spokes is oriented toward a different aspect of the city and landscape and terminates with a large window that captures this. The spoke plan arrangement enabled a steel-frame portal structural system to each of the wings and in the centre steel trusses span the open central hub, providing the unencumbered, exhibition and public space required by the brief. It is a visitor centre that celebrates the past and speculates an exciting future.

PROJECT TEAM

Architect: Terroir

Structural Engineer: Gandy & Roberts Consulting Engineers

Head Building Contractor: Fairbrother

Steel Fabricator: Danmor Engineering

Steel Detailer: Strucdraw

Coatings Supplier: [Dulux](#)



The Seafarers Bridge (Joint Winners)

Grimshaw Architects and Focus Engineering & Construction

The success of the Southbank redevelopment is as much attributed to the links across the Yarra River as it is to the variety of the buildings that form the vibrant quayside edge. The Seafarers Bridge was designed as a pragmatic solution to elegantly span a large distance while touching 'ground' in as few locations as possible. The desire to 'hold space' using the arching superstructure of the bridge is made possible due to the inherent ductile property of steel. The design ensured that all the steelwork was there for a reason and working at its hardest. The Seafarers Bridge continues the traditional procession of bridges down the Yarra River – it is elegant and composed, reflecting its civic responsibility.

PROJECT TEAM

Architect: Grimshaw Architects

Steel Fabricator: Focus Engineering & Construction

Structural Engineer: [Brown Consulting](#)

Head Building Contractor: Fitzgerald Constructions

Steel Detailer: Tom Boicos

Coatings Supplier: [International Protective Coatings](#)

