

Projects building on the past top SA awards



Adelaide Oval Western Grandstand

It's often said that it's smarter to stand on the shoulders of giants than start from scratch and that principle was very much at the heart of the projects which topped the latest round of Steel Design Awards for South Australia announced in Adelaide on 17 August.

The redevelopment of the Western Grandstand of Adelaide Oval which utilised a steel-intensive approach to enlarge the facility whilst respecting heritage elements of the historic cricket ground won in the Buildings – Large Projects category.

The project which created an iconic new licensed meeting spot above existing sections of Adelaide Convention Centre won the Buildings – Small Projects category. And an expanded new home for one of the State's prominent steel contractor businesses won it the honours in the Steel Clad Structures stakes.

ASI State Manager – SA, **Sam Contouris** said the outcome of these awards showcases the ability of the material to make possible lightweight, yet high strength structures that facilitate building extensions.

"The cost benefits are obvious in being able to avoid complete demolitions and rebuilds," Mr Contouris said.

"And several of the placed projects also took advantage of the ability to prefabricate off-site to help ease onsite disruption of existing building operations."

Buildings – Large Projects

Adelaide Oval Western Grandstand (Winner)

SA Aquatic and Leisure Centre (Highly Commended)

Flinders University School of Medicine (Highly Commended)



Buildings – Small Projects

Regattas Bistro and Bar (Winner)

Caritas College Junior School External Covered Area (Highly Commended)

Steel Clad Structures

Manuele Engineers facility (Winner)

Pilgrim School (Highly Commended)

Engineering Projects

Wave Rider Pilot Plant Project (Highly Commended)

Judging Panel

Adrian Evans (JPE Design Studio – Architect)

Brenton Marcincowski (OneSteel Rail Products – Steel Industry)

Ken Remphrey (GGK Engineering – Fabricator)

John Woodside (John Woodside Consulting – Engineer)

Undergraduate Engineering Student Awards

Peter Herpich (University of South Australia)

Tin Tse (The University of Adelaide)

Buildings – Large Projects

Adelaide Oval Western Grandstand (Winner)

The redevelopment comprised the partial demolition and reconstruction of the existing Western members grandstand into a new \$115 million, 14,000 seat one increasing the overall capacity of the historic ground to 35,000. The project applied advanced design to create a structurally sound modern facility that respects existing heritage elements. Advanced analyses and design were applied for the feature diagrid roof utilising finite element analyses, buckling analysis, plate stress design and extensive temporary and erection works design. Wind tunnel testing was conducted to quantify design load pressures on the roof and reduce steel tonnage. Long span steel rakers were utilised to support the seating tiers to a weight of 16 tonnes each that facilitated wide span dynamically sensitive floor design.

PROJECT TEAM

Architects: Cox Architects and HASSELL Architects

Structural Engineer: Aurecon

Head Building Contractor: Built Environs

Steel Fabricators: Manuele Engineering,
Samaras Structural Engineers

Steel Detailers: Samaras Structural Engineers, Universal Steel

Coatings Contractors: Samaras Structural Engineers, Troisi Steel

Coatings Suppliers: International Paint, PPG Industrial Coatings

Steel Distributor: OneSteel Steel & Tube

ASI Steel Manufacturer: OneSteel



Adelaide Oval Western Grandstand





Regattas Bistro and Bar

Buildings – Small Projects

Regattas Bistro and Bar (Winner)



This is a two level steel framed building constructed on top of three Adelaide Convention Centre structures. To the north the Regattas building extends over the Promenade building and it extends over two adjacent carpark structures to the south. Steel construction minimised building weight and provided the flexibility to solve a number of challenging structural load paths. Stability in a north-south direction is achieved by a pair of parallel braced frames on the east side. The frames are also trusses which transfer load from the building grid back to the grid of the carpark columns underneath. The magnitude of all new loads applied to the existing columns and footings was minimised by selecting steel framed construction and lightweight steel framed floors. Without the steel framed approach, it would have been necessary to structurally upgrade the existing structures or even demolish and rebuild them.



PROJECT TEAM

Architect: Woods Bagot

Structural Engineer: Aurecon

Head Building Contractor: Mossop Construction + Interiors

Steel Fabricator: SA Structural

Steel Detailer: SA Structural

Coatings Contractor: Adelaide Blast & Spray

Coatings Supplier: Dulux

Steel Distributors: BlueScope Distribution, Brice Metals, OneSteel Distribution

ASI Steel Manufacturers: BlueScope Steel, OneSteel



Manuele Engineers facility

Steel Clad Structures

Manuele Engineers facility (Winner)

The project incorporates approximately 2500sqm of office and amenities space over two levels alongside a 16,000sqm factory. The office mass was reduced by extensive use of glass and operable patterned steel screens. Member sizes and spans, connection details and surface finishes were all thoroughly analysed to minimise upfront cost, ease fabrication and erection, lower waste and extend useful life with little maintenance. Being just three kilometres from the coast, a multiple coat system of polysiloxane was specified for the diagonal grid frame of the screens. All other external elements were hot-dip galvanized, an application which recently attracted an international award. All connections were bolted. Member sizes and spans, connection details, penetration locations and surface finishes were all determined prior to tendering the work out.

PROJECT TEAM

Architect: Giordano & Associates
Structural Engineer: Wallbridge & Gilbert
Head Building Contractor: Pike Constructions
Steel Fabricator: Manuele Engineers
Steel Detailer: USDSA
Coatings Contractor: Troisi Steel
Coatings Supplier: PPG Industrial Coatings
Steel Distributors: BlueScope Lysaght, OneSteel Steel and Tube
ASI Steel Manufacturers: BlueScope Steel, OneSteel

Entrants

BUILDINGS – LARGE PROJECTS STEEL DESIGN AWARD

Ahrens Group (Franklin Street Carpark)
Aurecon (Adelaide Oval Western Grandstand)
Brookfield Multiplex Constructions (Burnside Shopping Centre)
GHD, Samaras Structural Engineers (SA Aquatic and Leisure Centre)
Giordano & Associates (Manuele Engineers factory and offices)
Grieve Gillett Architects (Flinders University School of Medicine)
Matthews Architects (CMI Toyota)

BUILDINGS – SMALL PROJECTS STEEL DESIGN AWARD

Aurecon (Regattas Bistro and Bar)
Bryant Concepts, Envirostruct (Wallaroo Community Centre)
Hodgkinson (St Paul Lutheran School Library)
Phillips Pilkington Architects (Pilgrim School Specialist Facilities)
Phillips Pilkington Architects (Woodcroft Multipurpose Hall)
Tridente Architects (Caritas College Junior School External Covered Area)

STEEL CLAD STRUCTURES STEEL DESIGN AWARD

Ahrens Group (Orrcon office and warehouse)
Bryant Concepts, Envirostruct (Wallaroo Community Centre)
Giordano & Associates (Manuele Engineers factory and offices)
Phillips Pilkington Architects (Pilgrim School Specialist Facilities)
Phillips Pilkington Architects (Woodcroft Multipurpose Hall)

ENGINEERING PROJECTS STEEL DESIGN AWARD

Advanced Steel Fabrications (Outfit Support Towers)
Ahrens Group (Franklin Street Carpark)
RPG Australia, Wave Rider Energy (Wave Rider Pilot Plant Project)

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