

School gets two great reasons to smile



The new School of Dentistry building at the Wagga Wagga campus of Charles Sturt University topped half the Steel Design project categories of the ASI's latest awards for NSW and ACT, it was announced on 22 June at presentations held at Doltone House near Sydney Harbour.

The project won for Buildings – Large Projects and was equal winner in the Steel Clad Structures category, sharing that honour with the owner-designed Killen Falls House in northern NSW.

The new School of Dentistry building provides modern dental teaching facilities for 150 students and a large public dental clinic to serve southern NSW. The project took advantage of the ability to prefabricate off-site by choosing a steel structural and cladding system to reduce the construction period for the building envelope and maximise cost efficiencies.

Equal winner in the Steel Clad category, Killen Falls House employed generous use of steel for building elements including the primary structural framing, bathroom roof and as cladding material with many of the components prefabricated to ease erection issues on its secluded hill location.

A totally modular design approach for a multi-purpose building to accommodate a variety of sporting and social activities on a water-locked site landed the Milson Island Indoor Sports Centre the top honour in the Buildings – Small Projects category.

In the Engineering – Infrastructure, Resources and Mining category, the win went to a patented Australian-made conveyor system installed on the world's largest aluminium smelter developed in the United Arab Emirates.

The awards also recognised the outstanding design work of up and coming engineers with **Gavin Lume** of Hyder Consulting winning the Young Designer Encouragement Award for his contribution to the Sydney Showground stadium redevelopment.

Awards convenor, ASI State Manager – NSW & ACT, **Phil Casey** said he was impressed at both the quality and diversity of entries and the level of support at the event.

"Despite the challenges the industry is facing from the so-called two-speed economy, the industry came out in force with capacity attendance and the submissions displaying the collaboration of project teams to produce high quality results worthy of the accolades received."

Buildings – Large Projects

CSU School of Dentistry, Wagga Wagga (Winner)
Mabel Fidler Building, Ravenswood School for Girls (Highly Commended)

Buildings – Small Projects

Milson Island Indoor Sports Centre (Winner)
Killen Falls House (Highly Commended)
Thornleigh Golf Centre (Highly Commended)

Steel Clad Structures

CSU School of Dentistry – Wagga Wagga (Equal Winner)
Killen Falls House (Equal Winner)

Engineering – Infrastructure, Resources and Mining

Emirates Aluminium Smelter (Winner)
Northern Blast Deflector Fence (Highly Commended)

Young Designer, Detailer, Tradesman Encouragement Award

Gavin Lume, Hyder Consulting (Winner)
Chris Hackney, Opus International Consultants (Highly Commended)

Undergraduate Engineering Student Awards

Belinda Aspinall (University of Sydney)
Matthew John Blades (University of Wollongong)
Hummam Glass (University of Western Sydney)
Shuang Guo (University of New South Wales)
OCDT Sarah Hall (UNSW at Australian Defence Force Academy)
Cassandra Hill (University of Technology, Sydney)
Cong-Cong Zhang (University of Newcastle)

Judging Panel

Dr Peter Key (ASI) Engineering
Amy Luscombe (Allixir) Sustainability
Nazareno Manuele (Cadraw) Steel Detailing
John Morris (The Graham Group) Steel Manufacturing
Graham Smith (Rice Daubney) Architecture
Dr Tim Wilkinson (University of Sydney) Engineering



CSU School of Dentistry

Buildings – Large Projects

CSU School of Dentistry, Wagga Wagga (Winner)

The building provides modern dental teaching facilities for 150 and care for over 1000 public patients/week with a large 24-chair clinic and specialist facilities. The factory production of a large proportion of the project, including the main frame and cladding units, provided a higher degree of operational and cost efficiency. Most of the data was transferred digitally between the Sydney-based team and the Wagga Wagga site using video conferencing and internet-based information management systems to overcome the complexities from the project's rural location. The requirement to be completed and operational prior to the expected date of the 2010 Federal election created an extremely compact program for the buildings' design and construction. The project was completed within budget and on-time.

PROJECT TEAM

Architect: Brewster Hjorth Architects
Structural Engineer: Taylor Thomson Whitting Consulting Engineers
Head Building Contractor: Joss Construction
Distributor or Manufacturer: OneSteel, BlueScope Steel
Steel Fabricator: Rambler Welding Industries
Steel Detailer: Rambler Welding Industries
Coatings Supplier: Dulux Australia
Metal Building Contractor: Hadfield Industries



Buildings – Small Projects

Milson Island Indoor Sports Centre (Winner)

The project called for a multi-purpose building for a variety of sporting and social activities on a remote water-locked location. The modular design included floor, walls, roof and service pods that ensured a lot of the work could be completed off-site, barged to site in pieces and simply bolted together. Concrete footing was minimised by embedding steel posts in the existing rock shelf and adopting a steel jointed floor system. The unusual asymmetrical curve of the hall directs wind efficiently over the roof while the indented curves at the base scoop wind inside to naturally ventilate the hall. The continuous wall/roof shape dispenses with gutters, reducing maintenance and removing a major bush-fire hazard. A structural frame of galvanized and MIO painted primary steel framing members and roofing material of marine grade COLORBOND® were specified keep the building relatively maintenance-free.

PROJECT TEAM

Architect: Allen Jack+Cottier Architects
Structural Engineer: Taylor Thomson Whitting Consulting Engineers
Head Building Contractor: Inten Constructions
Distributor or Manufacturer: OneSteel
Steel Fabricator: Designed Building Systems
Steel Detailer: Centreline Drawing Services
Coatings Supplier: Hunter Galvanizing
Metal Building Contractor: Inten Constructions



Milson Island Indoor Sports Centre

**NATIONAL
WINNER**



Killen Falls House



Steel Clad Structures

CSU School of Dentistry – Wagga Wagga (Equal Winner)

The building was designed to incorporate advanced sustainability strategies to achieve a 5-Star Green Star rating (without certification) including a double skin ventilated roof, layered envelope with enhanced insulation, double glazing and extensive sun shading. Light steel framed structures support large steel trussed roofs over free standing component buildings clad in bright corrugated steel panels. A simple repetitive structural/cladding system was selected to provide ease of fabrication and erection.

Killen Falls House (Equal Winner)

The generous use of steel allowed the builder and architects to closely control costs by maximising off-site prefabrication of building elements to include the primary structural framing, bathroom roof, gallery roof panels, walkway framing and roof panels, wall cladding panels and eaves gutters. Steel framing and cladding systems were selected for their low lifecycle cost. All steel framing elements are either galvanized or inorganic zinc coated for long life and low maintenance. Similarly all external steel cladding is either COLORBOND® Ultra or Lyten 350 weathering steel.

PROJECT TEAM

Architect: Jackson Lane

Structural Engineer: Peter Lucena & Associates

Head Building Contractor: Jim Cameron

Distributor or Manufacturer: OneSteel Metaland Lismore

Steel Fabricator (Framing): Koellner Steel

Steel Fabricator (Cladding): Readings Engineering Lismore

Steel Detailer: Austek Detail Drafting

Coatings Supplier: Industrial Galvanizers



CSU School of Dentistry



Killen Falls House

Engineering – Infrastructure, Resources and Mining

Emirates Aluminium Smelter (Winner)

The project involved the design, supply, manufacture and shipping of a patented material handling system for the world's largest and most technologically advanced aluminium smelter. A total of 2200 linear metres of elevated enclosed conveyor structures were manufactured in Australia using local steel for all mechanical items. All items were pre-assembled prior to loading onto transport ships in modular assemblies. Precise laser cutting provided efficient material usage of up to 94 percent of plate. All steel head and tail frames were manufactured, surface treated and containerised for simple and efficient site installation. A technologically advanced, but simple erection procedure allowed assembly and erection to be done at ground level or from inside a module, dispensing with elevated work practices.

PROJECT TEAM

Client: WorleyParsons

Structural Engineer: GHD

Steel Fabricator: Redispan Conveyors

Steel Detailer: Redispan Conveyors

Coatings Supplier: Jotun Australia

Steel Distributor: OneSteel

Entrants

BUILDINGS – LARGE PROJECTS STEEL DESIGN AWARD

Arup (Commonwealth Bank Place, Darling Quarter)
Arup, Enstruct Group (1 Bligh Street, Sydney)
Bates Smart (NSW Government Service Centre, Queanbeyan)
Brewster Hjorth Architects (CSU School of Dentistry, Wagga Wagga)
Facility Design Group (Tamworth Sports Dome)
Glenwood Rural Buildings, Industrial Galvanizers (Sandvik Manufacturing Facility)
Hyder Consulting (Sydney Showground Redevelopment)
SBA Architects (Phil McCarroll Toyota Dealership, Waitara)
Sebastian Engineering (Big W Distribution Centre)
Sebastian Engineering (Westrac)
Taylor Thomson Whitting (Sydney Grammar School)
Taylor Thomson Whitting (Mabel Fidler Building, Ravenswood School for Girls)

BUILDINGS – SMALL PROJECTS STEEL DESIGN AWARD

Allen Jack+Cottier Architects (Milson Island Indoor Sports Centre)
C&V Engineering Services (Firmament IV)
Combelle Steelfab (Thornleigh Golf Centre)
Ian Moore Architects (Strelein Warehouse)
Lindsay & Dynan Consulting Engineers (465 Victoria Ave, Chatswood)
Lippmann Partnership (Carfrae House)
Peter Stutchbury Architecture (The Hangar, Flying Museum)
Smart Design Studio (Tusculum Street Residence)
Simpson Design, Terroir (88 George Street Roof Canopy)
Webber Architects (St. James Primary School Multipurpose Hall)

STEEL CLAD STRUCTURES STEEL DESIGN AWARD

Allen Jack+Cottier Architects (Milson Island Indoor Sports Centre)
Brewster Hjorth Architects (CSU School of Dentistry, Wagga Wagga)
Peter Stutchbury Architecture (The Hangar, Flying Museum)
Webber Architects (St. James Primary School Multipurpose Hall)

ENGINEERING – INFRASTRUCTURE, RESOURCES AND MINING STEEL DESIGN AWARD

AECOM (Office Fitout)
Arup (Sunbury Electrification Project)
Aurecon (Rail Overbridges in Sydney's Railway Network)
bokor architecture + interiors (Guerilla Bay House)
Hyder Consulting (Sydney Showground Redevelopment)
Jackson Lane (Killen Falls House)
Partridge Engineering (The Bob Katter Pult)
Redispan Conveyors (Emirates Aluminium Smelter)
Tribe Studio Architects (Darling Point Apartments)
WE Smith Engineering (Macleay River and Floodplain Bridge Pier Casings)
Woolacotts Consulting Engineers (Northern Blast Deflector Fence/Qantas Jetbase, Mascot)

YOUNG DESIGNER, DETAILER, TRADEMAN ENCOURAGEMENT AWARD

Gavin Lume (Hyder Consulting)
Chris Hackney (Opus International Consultants)
Issac Motum (Enterprise Drafting Company)
Stephen Palise (Outotec Peak Gold Copper Expansion)
Scott Webber (Enterprise Drafting Company)

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