

LSAA

LIGHTWEIGHT STRUCTURES ASSOCIATION OF AUSTRALASIA

2002

Design Awards



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LSAA 2002 Design Awards

The Lightweight Structures Association of Australasia (LSAA) is pleased to announce the entrants and winners of the fourth bi-annual LSAA Design Awards. The Awards were presented at a ceremony held during the Conference Dinner of the 2002 LSAA Conference "The Structure Exposed" held in Melbourne, October 2002.

The Awards recognise excellence in the design, construction and application of lightweight structures. These Awards are continuing to grow and prosper, and it is heartening to see them being so highly valued by the industry.

On behalf of the Association, I would like to gratefully acknowledge the sponsorship of **Mehler Haku GmbH** to enable us to run these Awards. Also many thanks to the judging panel - **Bernie Davis** (McWilliam Consulting Engineers) and **John Mainwaring** (John Mainwaring & Associates) - for their expert contribution. Lastly, thanks go to **Joseph Dean** and **Wade Consulting Group** for another splendid effort in handling the organisation and presentation of the Awards and production of this brochure.

Malcolm Barr

Malcolm Barr, LSAA President

techniques including a specially designed universal joint, a single SW outlet, no gutters or flashings and twisted glass panels. The success of this subtle, yet simple result is due to the rigour of intensive and exhaustive 3D geometric modeling and theory. The project raises the bar for weather protective tensile structures in Australian cities.

Large Structures - Citation of Merit Ansett Sydney Domestic Terminal, Departures Hall, Mascot, NSW

Using the simple diaphragm action as a "pack of cards" structure this elegant interpretation of the "Aussie Shed" consists of lightweight walls and roofs that support each other in a three-dimensional way using minimal tripod supports internally. Even the small lightweight canopies that form the ticket counters reinforces the dynamic lightness within the powerful translucent qualities of the internal space. Both the shallow "hull like" roof trusses and low strung lightweight wall contribute to the very economical minimalist structure. The whole experience signals the excitement of imminent flight departure and sets the mood for journey into the sky.

Medium Structures - Citation of Merit Longitude 131 Degree Ayers Rock Resort, Yulara, N.T.

Like a bedouin tent village this project floats above the ground within the breathtaking skyscape and landscape of this amazing central Australian location. During overnight stays the lightweight membrane roofs give the privileged visitor a sense of transient security as they experience this unique outback environment. Simple and carefree design allows the buildings to be erected and demounted quickly without excessive technology. Multi layered tensile fabric assists with passive thermal comfort for patrons and environmental sustainability.

Small Structures - Citation of Merit High Street Re-Development, Coffs Harbour NSW

This project shows high resolution of the traditional fabric tensile shade structure. For legal and heritage reasons the street perimeter buildings cannot be used for support and the age old question of how to distribute the loads from tensioned fabric to the ground without an excessive tangle of structure has evolved very competently. The central poles, cable and struts are camouflaged by the floating membrane "cloud" beneath. The shade provided gives an inviting urban space which relief from what can be harsh summer sun and rain downpours. As a form, the sails provide a sense of connection within a traditional Australian townscape without mimicking historical imagery.

Judges remarks

Large Structures - Award of Excellence 363 George Street, Sydney, NSW

This is one of the great foyers because the space blurs with its contextual urban "in between space". To do this, the glass wall had to aesthetically behave as an unobtrusive transparent veil. The glass, stainless steel and special light quality as well as providing visual clarity of the surrounding heritage elevations. This very clever structure uses a "Vierendeel" cable truss providing the perfect match to the Architect's requirements for a light and rectilinear form. The steel structure contains the necessary fire sprinkle system and lighting providing a multi functional "crafted design".

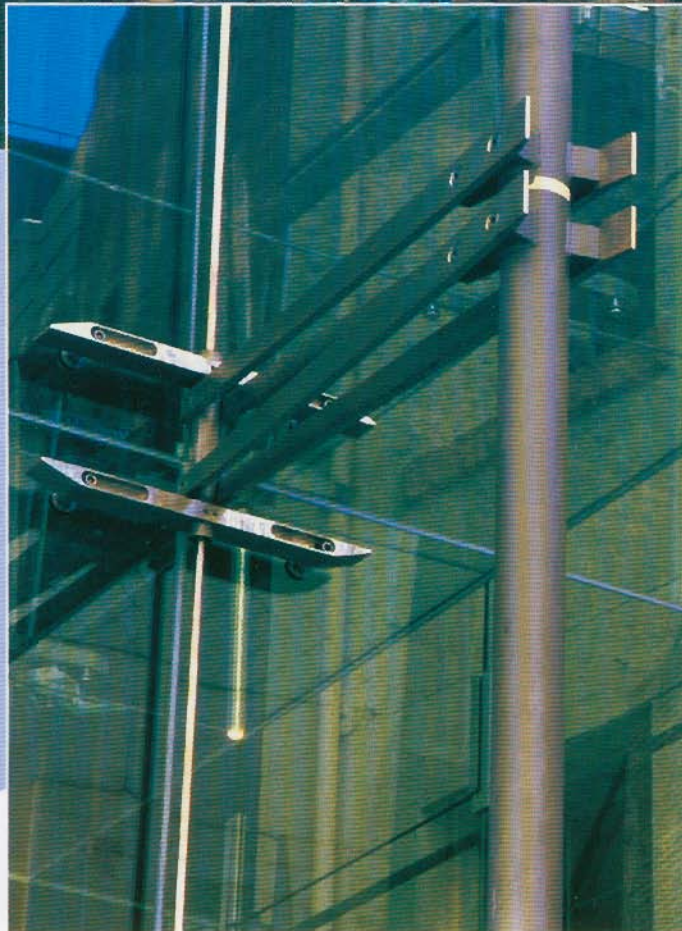
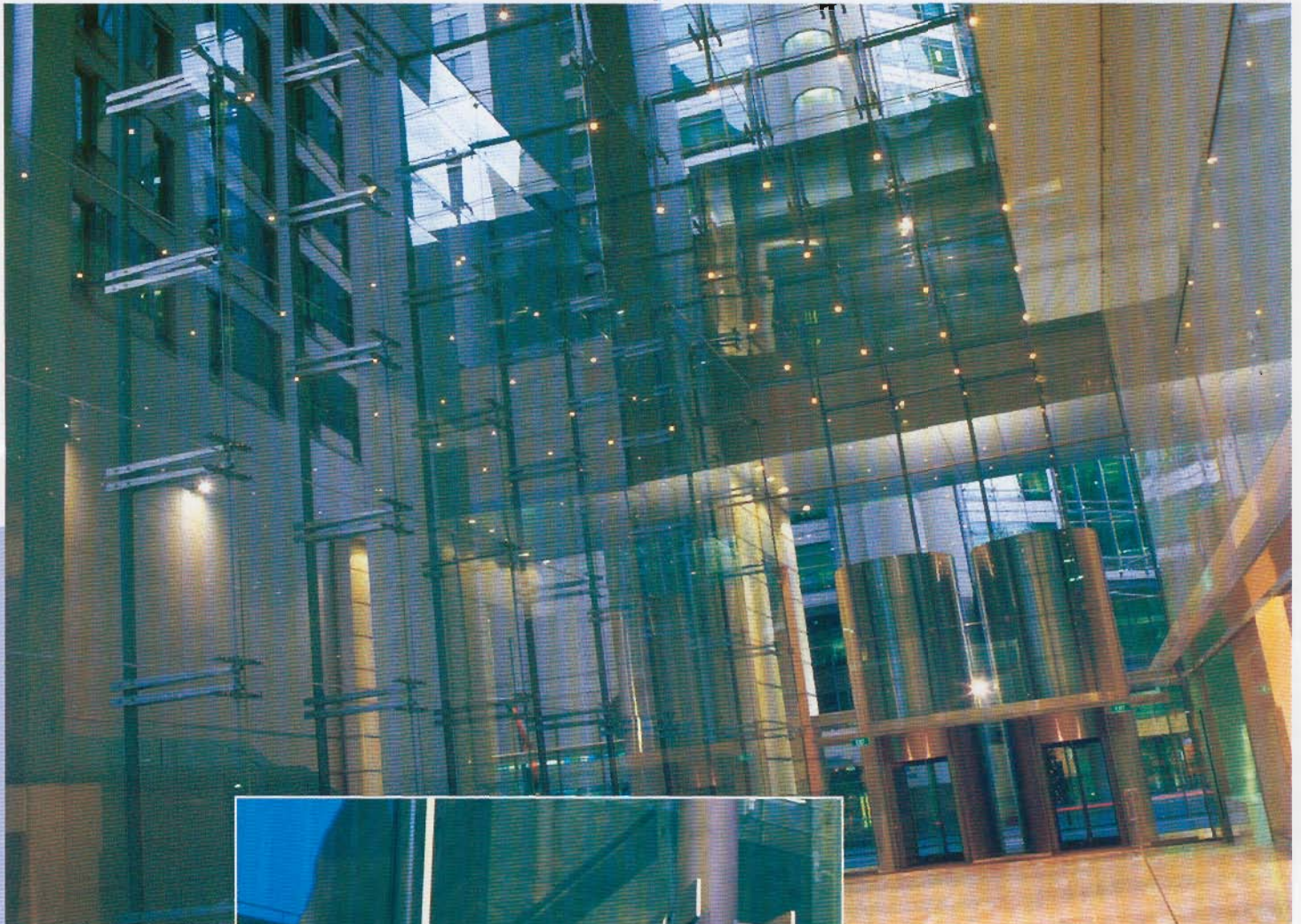
Medium Structures - Award of Excellence Forest EcoCentre, Scottsdale, Tasmania

Often lightweight structures are perceived as expedient shade structures slung between existing buildings. In this case the project is an inspirational example of lightweight construction techniques used for a total building concept. The outer structure of the building incorporates the three dimensional and composite use of plantation timber, steel and polycarbonate walls with a double skin fabric roof incorporating environmentally sustainable principles. This project pushes the LSAA Design Awards to a new level as it is perhaps "the first time that lightweight fabric membranes have been used to create a specified performance to achieve long term energy savings".

Special Applications - Award of Excellence Aurora Place Cable Net Canopy 88 Phillip Street, Sydney, NSW

This extraordinary piece of "spider web" glass and stainless steel roof cable structure allows visual clarity of surrounding buildings and sky providing environmental protection to one of Sydney's vital urban CBD piazzas. Conceived from the beginning along with the design of the architecture precinct concept the delicate structure uses innovative

Award for Excellence - Large Structures



Entrant
Connell Mott MacDonald

Project
Glass Entry, 363 George Street,
Sydney, NSW

Architect
Johnson Pilton Walker

Structural Engineer
Connell Mott MacDonald

Specialist Consultant
Lincolne Scott - Mechanical

Building Contractor
Multiplex Constructions

Other Contractor
Architectural Glass Projects

Award for Excellence - Medium Structures



Entrant

Morris Nunn + Associates

Project

Forest EcoCentre
King Street, Scottsdale
Tasmania

Architect

Robert Morris-Nunn

Structural Engineer

Jim Gandy
-Gandy & Roberts

Specialist Consultants

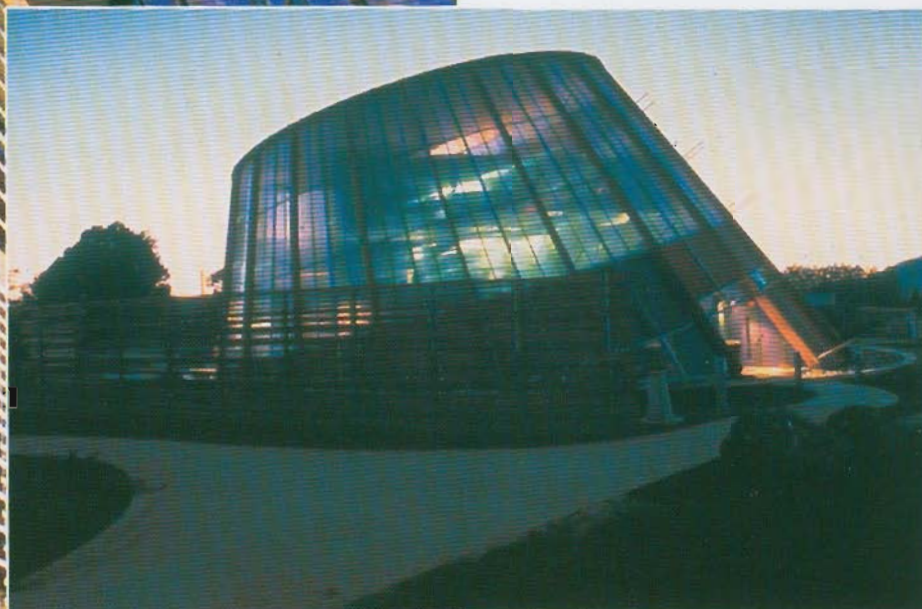
Skyspan (Pacific) Pty Ltd
Advanced Environmental Concepts

Building Contractor

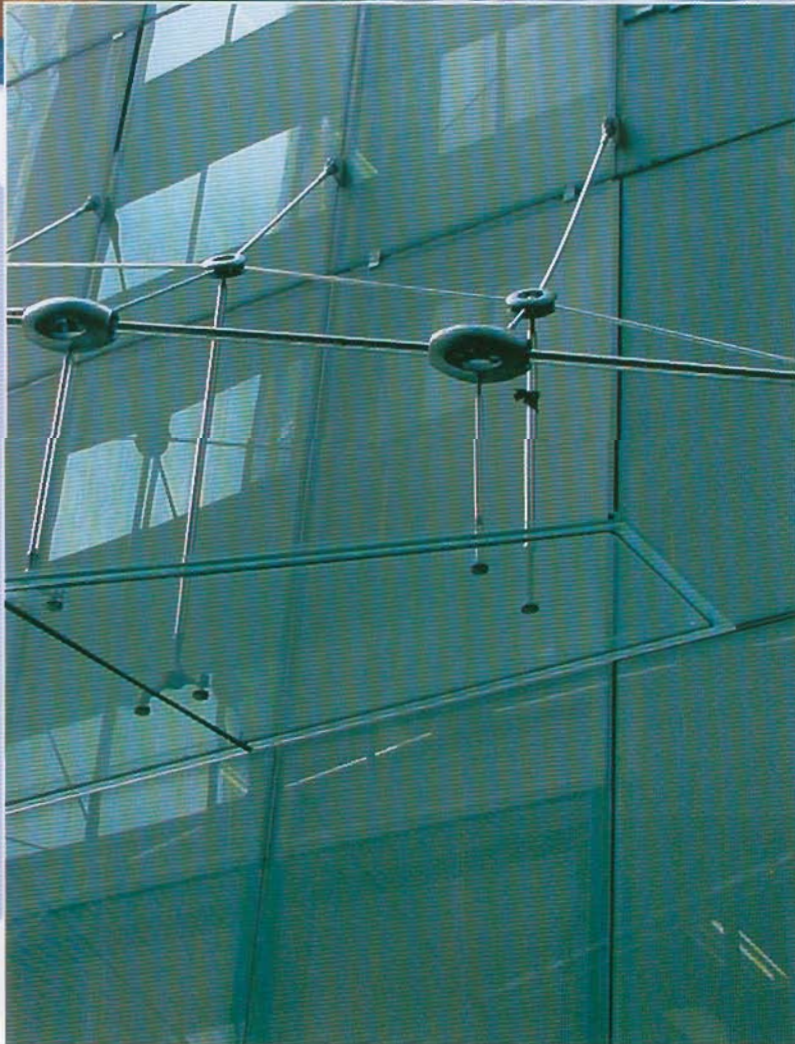
Fairbrother Pty Ltd

Other Contractors

Crisp Bros
Tas. Timber Engineering



Award for Excellence - Special Applications



Entrant
Arup

Project
Cable Net Canopy, Aurora Place
88 Phillip Street
Sydney, NSW

Architects
Renzo Piano Building Workshop,
Lend Lease Design Group

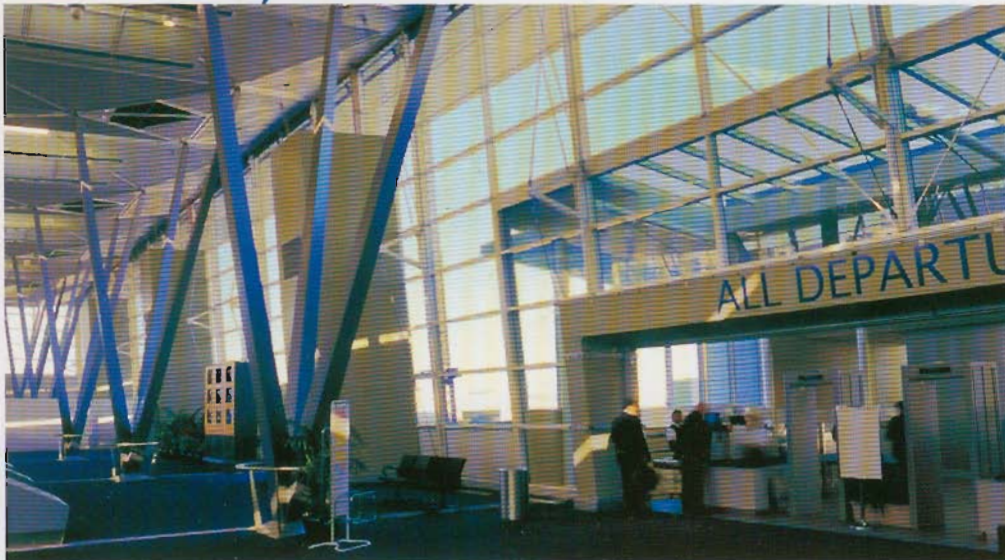
Structural Engineer
Arup

Specialist Consultant
Arup Façade Engineering

Building Contractor
Austress Freyssinet


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Citations of Merit



Large Structures

Entrant

Connell Mott MacDonald

Project

Ansett Sydney Domestic Terminal
Departures Hall, Mascot Sydney

Architect

Bligh Voller Nield

Structural Engineer

Connell Mott MacDonald

Specialist Consultant

Alfasi Constructions Pty Ltd

Building Contractor

Thiess Contractors



Medium Structures

Entrant

The Cox Group as

Cox Richardson &

Shade Structures Birdair

Project

Longitude 131 Degree,
Ayers Rock Resort, Yulara, NT

Architect

The Cox Group as
Cox Richardson

Structural Engineer

Robert Bird and Partners

Specialist Consultant

Shade Structures Birdair

Building Contractor

Bovis Lend Lease



Small Structures

Entrant

Shade Structures Birdair

Project

High Street Re-Development
High Street, Coffs Harbour, NSW

Architect

Shade Structures Birdair

Structural Engineer

Shade Structures Birdair

Specialist Consultant

Shade Structures Birdair

Other Consultant

Tract Consultants

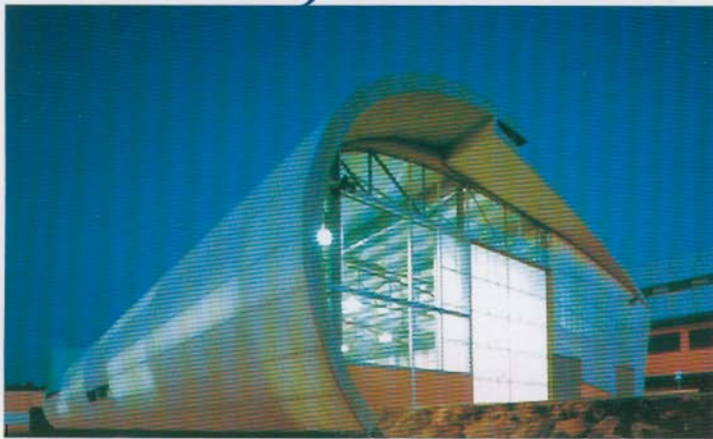
Building Contractor

Shade Structures Birdair

Other Contractor

Ryan Earthmoving Pty Ltd

Entries - Large Structures



Entrant
The Cox Group as Cox Sanderson Ness

Project
Kangan Batman TAFE
- Polymer Engineering Centre
Broadmeadows, VIC

Architect
The Cox Group as Cox Sanderson Ness

Structural Engineer
Warren and Rowe

Other Consultants
Arup, Swij

Building Contractor
Cockram Builders

Other Contractors
Ampelite, Access Roofing



Entrant
Connell Mott MacDonald

Project
Glass Entry, 363 George Street,
Sydney, NSW

Architect
Johnson Pilton Walker

Structural Engineer
Connell Mott MacDonald

Specialist Consultant
Lincolne Scott - Mechanical

Building Contractor
Multiplex Constructions

Other Contractor
Architectural Glass Projects



Entrant
Shade Structures Birdair

Project
Saida Stadium, Saida, Lebanon

Architect
LACECO

Structural Engineers
Shade Structures Birdair,
Wade Consulting Group
APAVE

Specialist Consultant
Shade Structures Birdair
Wade Consulting Group

Building Contractor
Shade Structures Birdair

Other Contractor
PARISSIS



Entrant
Skyspan (Pacific) Pty Ltd

Project
Caulfield Racecourse Grandstand
Canopy, Melbourne, Victoria

Architect
Grouse Fleming Bate

Structural Engineer
Skyspan (Pacific) Pty Ltd

Specialist Consultant
Skyspan (Pacific) Pty Ltd

Building Contractor
Skyspan (Pacific) Pty Ltd



Entrant
Shade Structures Birdair

Project
Goschwardel Racecourse
Chichester, West Sussex, England

Architect
Michael Hopkins & Partners

Structural Engineer
Cue Arup & Partners
Shade Structures Birdair

Other Consultant
Fairport



Entrant
Connell Mott MacDonald

Project
Ansett Sydney Domestic Terminal
Departures Hall, Mascot, Sydney

Architect
Bligh Voller Nield

Structural Engineer
Connell Mott MacDonald

Specialist Consultant
Alfasi Constructions Pty Ltd

Building Contractor
Thiess Contractors

Entries - Medium Structures



Entrant
Tattersall Engineering Consultants Pty Ltd

Project
 Tenison Woods College
 Shepherdson Road, Mt Gambier, SA

Architect
 Designinc Adelaide

Structural Engineer
 Tattersall Engineering Consultants Pty Ltd

Specialist Consultant
 Tattersall Engineering Consultants Pty Ltd

Other Consultant
 Wade Consulting Group

Building Contractor
 Tecraft Pty Ltd



Entrant
Shade Structures Birdair

Project
 SK Petrol Station, Seoul, South Korea

Architect
 Shade Structures Birdair

Structural Engineer
 Tensile Engineering Pty Ltd

Specialist Consultant
 Shade Structures Birdair



Entrant
Morris Nunn + Associates

Project
 Forest EcoCentre
 King Street, Scottsdale, Tasmania

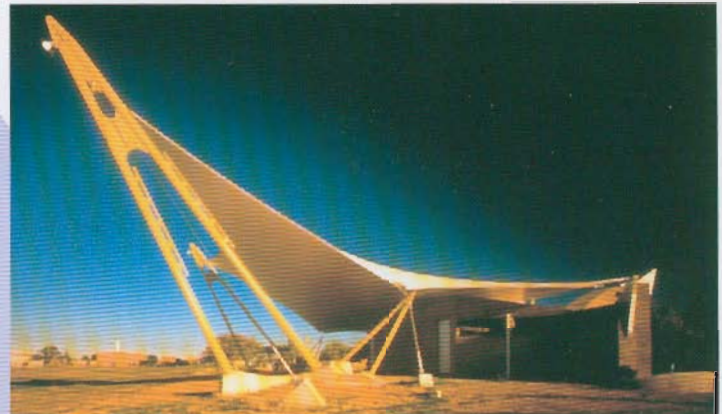
Architect
 Robert Morris-Nunn

Structural Engineer
 Jim Gandy, Gandy & Roberts

Specialist Consultants
 Skyspan (Pacific) Pty Ltd
 Advanced Environmental Consultants

Building Contractor
 Fairbrother Pty Ltd

Other Contractors
 Crisp Bros
 Tas. Timber Engineering



Entrant
Skyspan (Pacific) Pty Ltd

Project
 Outdoor Stage Amphitheatre
 Clifton Park, Victoria St, Brunswick, VIC

Architect
 Millar Robertson Pty Ltd

Structural Engineer
 Skyspan (Pacific) Pty Ltd
 Meyer Consulting Pty Ltd

Specialist Consultant
 Skyspan (Pacific) Pty Ltd

Other Consultant
 ERM Australia Pty Ltd

Building Contractor
 Syncon Group Pty Ltd



Entrant
Taylor Thomson Whitting Pty Ltd

Project
 National Institute of Dramatic Arts
 Anzac Parade, Kensington, NSW

Architect
 Hassell Pty Ltd

Structural Engineer
 Taylor Thomson Whitting Pty Ltd

Other Consultants
 Barry Webb & Associates
 Lincolne Scott
 RFA Acoustic Design
 Building Safety Services

Building Contractor
 St Hillers

Other Contractor
 Roots Projects Australia



Entrant
Tattersall Engineering Consultants Pty Ltd

Project
 Tensile Structure, North Court
 Student Union Building
 University of Melbourne, VIC

Architect
 John Wardle Architects

Structural Engineer
 Tattersall Engineering Consultants Pty Ltd

Specialist Consultant
 Tattersall Engineering Consultants Pty Ltd

Other Consultant
 Wade Consulting Group

Building Contractor
 Tecraft Pty Ltd

Entries - Medium Structures *continued*



Entrant
Skyspan (Pacific) Pty Ltd

Project
Tension Membrane Roof, Main Street
Chevron Renaissance,
Pacific Highway
Surfers Paradise, QLD

Architect
Archidiom Design Group

Structural Engineer
Skyspan (Pacific) Pty Ltd

Specialist Consultant
David McCready

Building Contractor
Rappivic Contractors Pty Ltd



Entrant
Shade Structures Birdair

Project
Coca Cola Pavilion, 2002 Winter
Olympic Venue, Salt Lake City, Utah, USA

Architect
Coca Cola in-house Designers
Shade Structures Birdair

Structural Engineer
Wade Consulting Group

Specialist Consultant
Shade Structures Birdair



Entrant
**Tattersall Engineering
Consultants Pty Ltd**

Project
Courtyard Canopy,
Loreto Mandeville Hall, Senior School,
Toorak, VIC

Architect
Crane Ross Architects

Structural Engineer
Tattersall Engineering
Consultants Pty Ltd

Specialist Consultant
Tattersall Engineering
Consultants Pty Ltd

Other Consultant
Wade Consulting Group

Building Contractor
Tecraft Pty Ltd



Entrant
Skyspan (Pacific) Pty Ltd

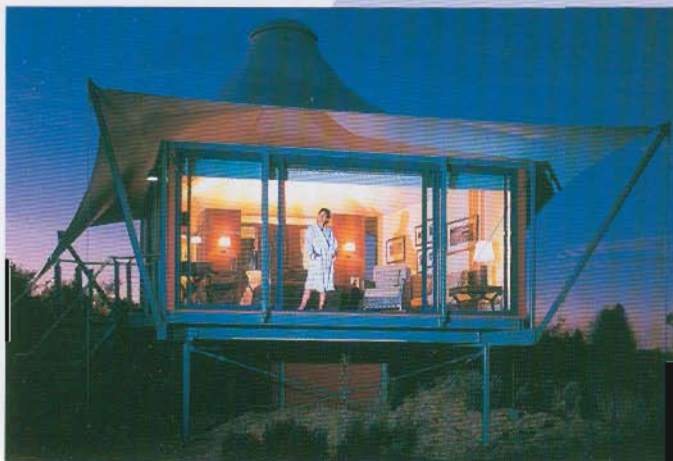
Project
Entry Canopy, International Business
Park 2, Jurong East Street, Singapore

Architect
RSP Architects, Planners &
Engineers (Pte) Ltd

Structural Engineer
Skyspan (Pacific) Pty Ltd

Building Contractor
Takenaka Corporation/
Pernasteelisa Pacific Holdings Ltd

Other Contractor
Right Tech (S) Pte Ltd



Entrant
**The Cox Group as Cox Richardson
Shade Structures Birdair**

Project
Longitude 131 Degree,
Ayers Rock Resort, Yulara, NT

Architect
The Cox Group as Cox Richardson

Structural Engineer
Robert Bird and Partners

Specialist Consultant
Shade Structures Birdair

Building Contractor
Bovis Lend Lease

Entries - Small Structures



Entrant
Taylor Thomson Whitting Pty Ltd
Structural Engineer
Taylor Thomson Whitting Pty Ltd
Project
Federation Gate, Centennial Park
Sydney, NSW
Building Contractor
Kell & Rigby
Architect
Alexander Tzannes & Associates



Entrant
Shade Structures Birdair
Specialist Consultant
Shade Structures Birdair
Project
High Street Re-Development,
High Street, Coffs Harbour, NSW
Other Consultants
Tract Consultants
Architect
Shade Structures Birdair
Building Contractor
Shade Structures Birdair
Structural Engineer
Shade Structures Birdair
Other Contractor
Ryan Earthmoving Pty Ltd



Entrant
**PTW Architects Pty Ltd,
Connell Mott MacDonald,
Aluminium Business
Resources Pty Ltd**
Structural Engineer
Connell Mott MacDonald
Project
Space 207, 207 Pacific Highway,
St Leonards, Sydney, NSW
Specialist Contractor
Aluminium Business Resources Pty Ltd
Building Contractor
Walter Construction Group Ltd
Architect
PTW Architects Pty Ltd
Other Contractor
G James



Entrant
Shade Structures Birdair
Structural Engineer
Shade Structures Birdair
Project
The Strand Awning, The Strand,
Dee Why, Sydney, NSW
Specialist Consultant
Shade Structures Birdair
Architect
Squillance Architects
Building Contractor
Shade Structures Birdair



Entrant
Structurflex Limited
Structural Engineer
Composolt Engineering
Project
Fullers Ferry Terminal
Downtown, Auckland, NZ
Specialist Consultant
Structurflex Limited
Architect
Salmond Reid Architects

Entries - Special Applications



Entrant
Shade Structures Birdair

Project
The Tuscan, Olympic Park,
Homebush Bay, Sydney, NSW

Architect
Shade Structures Birdair

Structural Engineer
Wade Consulting Group

Specialist Consultant
Shade Structures Birdair

Building Contractor
Shade Structures Birdair



Entrant
Arup

Project
Sidney Myer Music Bowl Refurbishment,
Kings Domain, Linlithgow Ave,
Melbourne, VIC

Architect
Gregory Burgess Pty Ltd

Structural Engineer
Arup

Specialist Consultant
Arup Façade Engineering

Building Contractor
Hooker Cockram Pty Limited



Entrant
Skyspan (Pacific) Pty Ltd

Project
Cathay Pacific Advertising Sails,
Chek Lap Kok Airport, Hong Kong

Architect
McCann Eriksson Advertising

Structural Engineer
Skyspan (Pacific) Pty Ltd

Specialist Consultant
Skyspan (Pacific) Pty Ltd

Other Consultant
Metromedia Technologies International

Building Contractor
Vertigo (China)



Entrant
Arup

Project
Cable Net Canopy, Aurora Place
88 Phillip Street, Sydney, NSW

Architects
Renzo Piano Building Workshop
Lend Lease Design Group

Structural Engineer
Arup

Specialist Consultant
Arup Façade Engineering

Building Contractor
Austress Freyssinet

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