

Incorporating **Rintoul**



Macquarie University Library main entrance facade

Complex & Technically Demanding Projects Completed to Acclaim

The successful completion of two technically demanding, complex projects exemplify the satisfaction our company creates for its major institutional clients. This success arises from the emphasis we place on and effort we invest in close consultation, excellent communication and early detailed planning. They also demonstrate our philosophy of committing the right numbers of people with the right skills at the right time.

The new Macquarie University Library is now welcoming students for the 2011 academic year. Its unique design incorporates an Automated Storage and Retrieval System and addresses the new learning methods of the 21st century.

The new Poche Centre is the new home of Melanoma Institute Australia, which focuses on melanoma research, treatment and education. The building is a comprehensive cancer centre for melanoma and is in full operation.

Macquarie University Library

The new library building is a state-of-the-art learning centre incorporating learning, research and social spaces. It is located in the Academic Core of the Macquarie University Campus at North Ryde.

The building consists of:

- A new 6-storey concrete framed structure with a gross floor area of approximately 18,000m² and a complex façade. The façade is constructed from a mix of aluminium framed performance glazed curtain wall panels, aluminium framed performance glazed shopfronts, a ventilated frameless glass atrium and multi-coloured aluminium façade panelling and sun fins.
- An Automated Storage and Retrieval System (ASRS) capable of storing up to 1.8 million books, all located in a 15m high 1,100m² ASRS vault accessed from Levels 1 and 2. This is the first installation of its

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Interior view



Automated storage system vault

type in Australia and serves to dramatically reduce the floor space required for the University's book collection as well as improving service delivery.

- 3,000 flexible and configurable study spaces based on new approaches to learning space design for students (including students with special needs), researchers and postgraduate students.
- A "green roof" at the Level 3 Podium which completely covers the 500,000 item traditionally shelved book collection on Levels 1 and 2 and reinstates the previous green space that existed prior to construction of the new building.
- Energy efficient centralised plant including chillers, cooling towers, boilers, a 1 million litre thermal energy storage tank, a 200,000 litre rainwater harvesting system, hot water system and a back-up diesel generator all capable of reducing building energy usage and CO₂ emissions by over 30% when measured against an equivalent BCA compliant design.

PROJECT SNAPSHOT

CLIENT	Macquarie University
Contract Value	\$73M
Delivery Method	Design & Construct
Site	Macquarie University Campus, NSW
Construction Period	120 weeks
Project Manager	Executive Project Management
Architect	Francis-Jones Morehen Thorp Pty Ltd
Structural Engineer	Taylor Thompson Whitting



The Poche Centre

The client has successfully created a world-class facility without the clinical feel of a hospital. Internal facilities include specialist consulting and procedure rooms, research laboratories, offices, conference rooms and an auditorium. The MBA Excellence in Construction Award - Health Buildings (\$20–50M), reflects the high quality and success achieved by the whole project team.

The building has a very high level of internal and external architectural detailing. It has six levels including two car park levels, three medical floors and one plantroom floor. The external façade consists of decorative precast panels, glazed face brick, Vitrapanel, curtain wall and render. Internally the building has extensive wall and ceiling panelling, internal stairs, curved surfaces and joinery.

The joinery was particularly extensive. A W Edwards' sister company, Rintoul, manufactured and installed all the joinery works which was of demanding design.

The extensive and complex hydraulic services were installed by the A W Edwards Plumbing Division, with a high quality and successful result.



Main entrance at dusk



South facade showing complex shapes



Lecture Theatre

The following constraints and project characteristics required excellent communication and careful attention to early detailed planning:

Severe Site Constraints

- The site is located in a residential environment, bounded by street frontages to three boundaries and residences on the fourth boundary.
- The building footprint occupies nearly the whole site, providing major constraints to construction, especially space for site offices and infrastructure.

Pre-Cast Panels

- These were faced with cast-in 'brick snaps' which are tile-like but present as bricks. When viewed from the front and below, the client required that the panels appear to be suspended brickwork and that the structural concrete panel be invisible.

- Workshop drawings of the panels required panel sizes, window openings and the soffit of the panel to be co-ordinated to match the brick snap sizing.

Glazed Brickwork

- A particular feature of the project was the use of glazed bricks on the external façade (yellow and red) and on the internal courtyard (two shades of white). The bricks were procured by special order from a manufacturer. The bricks are fired to form the brick and then glazed and fired again, similar to pottery.
- The design required that the structural support to the suspended brickwork be invisible. To achieve this, bricks were cut to shape, drilled with stainless steel pins, bonded in sets of four, and laid into the formwork as the structure was built.
- On both elevations the brick wall was curved, requiring the formwork and cast-in bricks to be laid to a radius.

Mechanical Services

- Conditioned air is supplied to the internal spaces using an Under Floor Air Distribution system. All floors are raised access floors, with the underfloor space zoned and baffled to create the distribution system.

PROJECT SNAPSHOT

CLIENT	Melanoma Institute Australia
Contract Value	\$22M
Contract Type	Fully Documented Lump Sum
Site	40 Rocklands Road, Wollstonecraft, NSW
Construction Period	71 weeks
Project Manager	Savills Project Management
Architect	Daryl Jackson Robin Dyke
Structural Engineer	SCP Consulting

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Our Clients' Confidence in our Ability to Deliver Complex & Demanding Projects is Further Confirmed

The UTS Dr Chau Chak Wing Building

After a comprehensive analysis, the University of Technology Sydney appointed us in April 2011 to work with its project management and design team to undertake the detailed design finalisation and planning process of this very unusual building. UTS plans to commence construction in early 2012.

An important criterion for the selection of our company was our ability to work in a highly collaborative and consultative manner. This ability is a key part of our culture and is deeply ingrained in the attitudes and actions of all our managers and supervisors.

We will work closely with the UTS, its Project Management team and world-renowned architect Gehry Partners to help deliver this new 15,500 square metre building in Ultimo. It is to be occupied by the UTS Business School. We are also very pleased to working again with Daryl Jackson Robin Dyke, the architect

providing local expertise on this project.

The Dr Chau Chak Wing Building will contain teaching spaces, research spaces, faculty offices, a faculty boardroom and function area. Support facilities will include large student lounges, outdoor roof terraces, a publicly accessible café and a satellite café. Plans allow for 10,133 net square metres of space with parking for 20 cars provided at basement level.

An extraordinary technical challenge of this project is the complex façade, partly illustrated in the model below. The west face is planned to largely consist of inclined glazing fabricated from aluminium unitised curtain wall components with insulating glass units with a reflective coating. The other very irregular parts of the facades are planned to be faced with brickwork, possibly supported by precast concrete panels.

The A W Edwards team looks forward to helping the UTS create an extraordinary success of this project.

We would like to draw your attention to a recent BRW article which describes the outcomes of a survey of a large and diverse number of industry leaders. The purpose of the survey was to discover Australia's most admired companies by industry sector. A W Edwards was voted the most respected company in the Construction Sector. This is a wonderful outcome from a completely independent source and an excellent measure of how we are perceived by our clients, competitors and industry observers. Our firm objective is to retain this crown.

The projects outlined in this issue exemplify the success we have had over many years in delivering complex and demanding building projects across a wide range of market segments. They also demonstrate that this complexity is delivered to high quality. We thank our clients for their business and the excellent relationships with their people.

Complex projects with demanding quality expectations suit our culture well and the excellent results and client satisfaction continues to create a secure workload for the company. Nevertheless, with the recent successful completion of the Macquarie University and Poche Centre projects, we continue to look for new building projects on which we can showcase our expertise.

We are particularly pleased at our appointment on the new UTS Dr Chau Chak Wing Building. We are acutely conscious of the trust the UTS has placed in us to help the University's team deliver a very unusual design by the world renowned architect, Frank Gehry. We are very confident that this trust is well-placed and our project team already has its sleeves rolled up and is fully absorbed in the task.

We have highly experienced and excellent people available and they are ready for new challenges and the application of their well-developed planning and management skills.

We are keen to demonstrate to you that you will benefit from our commitment to detailed planning, focus on risk management and high quality. Please call us if you would like to talk about your next project.

Malcolm & Bruce Edwards



East façade, view across Ultimo Pedestrian Network, model scale: 1-to-100, photo courtesy of Gehry Partners