



Manly Aquatic Centre

In February 2013, the then Manly Council advertised for proposals from architects for the redevelopment of the existing Manly Swim Centre, located on the corner of Balgowlah and Kenneth Roads. With the Council receiving 28 proposals, it shortlisted seven potential designers and interviewed six of them.

From those interviewed, Manly Council selected two to take part in a limited design competition and to submit fee proposals. The design competition was won by Michael Davies of TompkinsMDA Architects, now Michael Davies Architecture (MDA).

Site Analysis

A detailed analysis of the site was undertaken by Michael Davies Architecture, revealing in particular that the site was only 750 metres from Manly Beach and was therefore likely to be subject to corrosive salt spray from the east. In addition, the 1:100-year flood line virtually surrounded the site except for the highest area in the south west corner adjacent Balgowlah Road, which fell approximately 1.5m towards Kenneth Road.

An analysis of the likely footprint of the new indoor facilities indicated that the site area was highly constrained and that the building would be best located tight into the 45 degree south west corner. In this way, the Council's desire to enter the new facility from Kenneth Road could be accommodated and the long-range view from the existing outdoor pools to the west over the LM Graham Reserve could be largely maintained.

Another benefit was that if the new centre was elevated to roughly the same level as the outdoor 50m pool, it would not only be the required 0.5 metres above the 1:100-year flood level, but some of the proposed indoor pools could be contiguous with the existing 50m outdoor pool, whilst at the same time facing due north.

Concept Design

The triangular shape of the site and the desire to locate the building as far to the south as possible determined that it too should be triangular with the two right angled sides on the west and north and the 45-degree diagonal on the south east, almost parallel to Balgowlah Road.

The building thus resolved into its basic functional parts which comprised the smaller enclosed spaces in a thin load bearing 'core' along the western side adjacent to the large open triangular space comprising the elements of the pool hall to its east. The pool hall was

arranged to open on to the outdoor pools on the north and to overlook Balgowlah Road on the south east.

Structure and Daylighting

The western 'core' building, being only 7.2m wide, is of load bearing reinforced concrete masonry with concrete floor slabs and a steel framed metal deck roof. The floor slabs span from the external (western) wall to a concrete bracket support attached to a row of reinforced concrete columns running north-south at 7.2m centres. These same columns extend vertically upwards to support the 3.6m deep steel roof trusses which span east-west across the triangular shaped pool hall. The spans range between 62m in the north and 12m in the south. The truss member sizes reduce subtly as the span reduces to the south.

The trusses occur at 7.2m centres and provide the support for circular steel rafters, also at 7.2m centres in a traditional saw tooth form. The south face of the trusses provide support for vertical glazing which admits a high level of natural daylight, without direct sunlight, as the latter would be a source of glare and would provide potentially dangerous reflections off the water below. Openings in the vertical glazing provide access over the water for changing the lamps of the flood lights which are aimed up to provide diffuse reflectance off the underside of the Kingspan roof panels.

Environmental Considerations

The Manly Aquatic Centre has adopted a high level of environmental responsibility by employing passive design and high range ecologically sustainable strategies. The use of simple planning and architectural devices to modify and control the internal environment for comfort and energy saving have been provided throughout.

PROJECT TEAM

- **Architect:** Michael Davies Architecture
- **Structural Engineer:** Geoff Ninnies Fong and Partners
- **Head Building Contractor:** FDC Construction and Fitout
- **Steel Fabricator / Detailer:** Apollo Fabrication Group
- **Steel Distributor / Manufacturer:** BlueScope and Liberty
- **Coatings Supplier:** Dulux
- **Metal Building Contractor – Erector:** All Lift Cranes and Rigging