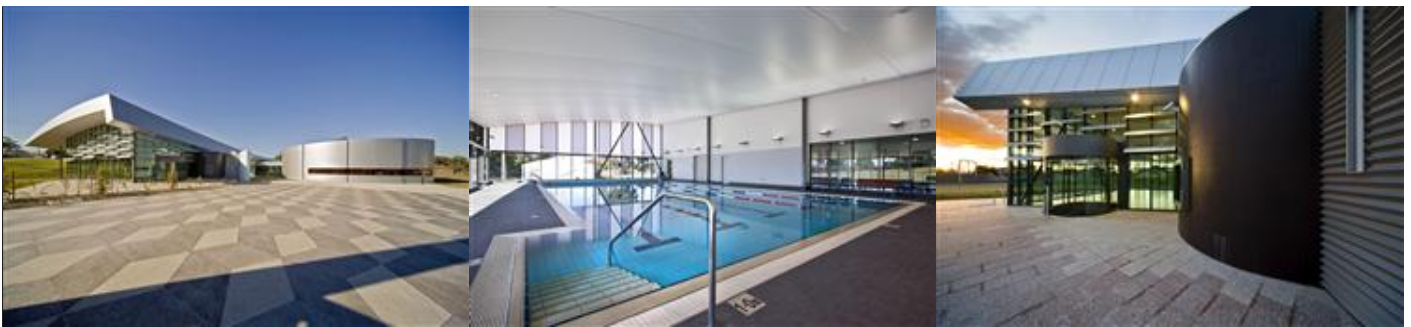


Cabravale Leisure Centre Project



Location

Cabramatta, NSW, Aus

Client

Fairfield City Council

Project Value

AUD\$13.5 Million

Office Responsible

Cardno Grogan Richards

Responsibilities

Structural & Civil Engineering

Project Scope

Fairfield City Council wanted to redevelop a site containing an old lap-pool a diving pool with a full 10 metre diving platform and a 50 metre swimming pool. The Council wanted a new leisure centre built on the site and specified that the project team ensure that "Environmentally Sustainable Design" (ESD) concepts be employed. This was very much in line with company philosophy and meant that as much of the old complex as possible was to be maintained.

To this end the diving pool was used as a collection receptacle for rainwater. Tanks were constructed in the pool and then a composite roof with decorative screed covered the pool. Rainwater collected was used for irrigation and toilet flushing.

With a small adjustment to the proposed geometry, the circular gymnasium building was relocated over the deep end of the original 50 metre pool. The majority of this pool was then turned into a labyrinth for the purpose of pumping the cool underground air through pipes

and then using it to provide cooling to the inside of the complex. This was done by placing load bearing precast panels in the original pool, to form the maze through which the air would travel. These panels also supported the composite floor structure to the new gymnasium.

Poor ground conditions required the use of steel screw piles to support the new construction outside of the pool areas.

A structural steel frame was used for the complex with metal wall cladding. The roof curved in two directions, as did the supporting spine trusses. The gymnasium is circular with curved steel fascia trusses.

The atrium space has a curved glass wall which details a portion of Cabramatta's history, on each panel. The curved form is accomplished using special vertical Z-sections. The sides of the Z-sections are not parallel and so the glass panels form a curve when fixed to these sections.

Contact

structures@cardno.com

1300 782 171 (in Australia) or your local office

+61 7 3369 9822 internationally

www.cardno.com