

New pool centre touches Earth lightly

Cabravale Leisure Centre

Conservation was the key in resurrecting a pre-loved leisure centre in Sydney's western suburbs using Australian supplied structural steel. The structural steel solution allowed the well worn facility to be reinvented reusing materials onsite without resorting to total demolition or rebuild.

A steel frame was also chosen for the roof support to accommodate the shaped roof profile adopted by the architect and to provide clear span internal spaces over the pool areas.



This new A\$13.5 million facility has a modern gymnasium with separate cardio area, aerobics room, sauna, 25-metre heated indoor pool with beach access, multi-use community rooms and 50-metre heated outdoor pool with parking available onsite.

The project joins likes of the Scots Church redevelopment in Sydney and MBA offices and display centre in Newcastle (covered in previous issues of Steel Australia) as examples of recent projects that successfully use structural steel to embrace sustainability values.

Fairfield City Council wanted to redevelop an established site containing an old lap-pool, a 10-metre diving pool and a 50-metre swimming pool with environmentally sustainable design (ESD) concepts built right in from the design stage.

Associate from the project's structural engineer, Cardno Grogan Richards said the project was very much in line with their design philosophy.

"It meant that as little of the old complex as possible was removed and gave us the opportunity to get creative," **Michael Webb** said.

To this end, they decided to use the diving pool as a collection receptacle for rainwater by constructing tanks within it and covering it with a decorative composite roof. The collected rainwater is used for landscaping, irrigation and toilet flushing.

The old centre's footprint was moved with a small adjustment to cover the swimming pool

to allow ample air circulation under the new structure.

The majority of this pool was turned into a labyrinth so cool air can be pumped underground through pipes to help cool the inside of the new complex.

This was done by placing load bearing pre-cast panels in the pool to form the maze through which the air would travel. These panels also supported the composite lid on the pool which was the new floor to the new gymnasium.

Steel screwed piles of 10 tonne capacity were used to support the new construction outside of the pool areas due to poor ground conditions.

A structural steel frame was used for the complex with metal wall cladding. The roof curves in both directions as do the spine trusses. A steel frame was also chosen for the roof support to accommodate the shaped roof profile adopted by the architect and to provide clear span internal spaces over the pool areas.

The building documentation utilised standard AutoCAD® drafting, however the steel workshop drawings were modelled in 3D which significantly enhanced the steelwork fabrication and its erection.

The gymnasium is circular with curved steel fascia trusses and the ceiling radiates out from the centre in a lotus leaf pattern.

The atrium space has a glass wall which is curved, achieved by using a special vertical

Z-section. The sides of the Z-section are not parallel and so the glass panels form a curve when fixed to the sections.

The Centre was designed to respond to the demographics of the local area and changing community needs. One thousand people took part in Council's community consultations about the Centre and their ideas were incorporated into the design process.

The Centre was opened on 16 September by the Mayor of Fairfield, **Nick Lalich**.

Project Team

Architects: Spowers Architects, Prior & Cheney

Structural Engineer: Cardno Grogan Richards

Client: Fairfield City Council

Builder: ADCO Constructions

Steel Detailer: Centreline Drawing Services

* Photos courtesy of Paul Wright Photography