



Case Study: Edithvale Wetlands Discover Centre, Melbourne, Australia



The Edithvale Seaford Wetlands Discovery Centre is a state-of-the-art educational centre in the Edithvale wetlands. It provides the local community with an opportunity to observe the natural environment. These wetlands are featured in the Ramsar Treaty (an international treaty for the conservation and sustainable use of wetlands).

The Edithvale Wetlands Discovery Centre is an inspiring design, combining aesthetics, environmental performance and cost-effectiveness in this environmentally sensitive area. Construction of the Discovery centre started in April 2010, with a A\$4.9m contract funded through the state of Victoria's water plan.

PROJECT REQUIREMENTS

The design and construction had to comply with Ramsar's management plan, so most of the construction had to be completed during autumn and winter, so as not to interfere with the spring migration of species of birds. The intention of Jan van Schaik of Minifie van Schaik Architects was to design a building that would reflect the crossover between the surrounding urban area and the natural environment of the wetlands. The building also incorporates all the sustainability features which are expected for such a structure; such as rainwater tanks, composting toilets, solar panels and a rain garden.



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Picture courtesy MvS Architects



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SOLUTION

Key to the buildings appearance is the GRC shell, produced and installed by Asurco Contracting to meet exacting design requirements. Since GRC is only around 1/10 of the weight of conventional precast concrete, custom timber moulding was used to create the intricate valley and ridge pattern which is a signature feature of the building. Additionally, the light weight structural supports greatly reduced the cost and environmental disruption.

The chief challenge to Asurco was in creating the moulds. The design required very complex and intricate patterns, including valleys of up to 200mm depth.

Des Pawelski, from Asurco explained: "Using GRC meant we could make the moulds from laminated MDF boards, direct from the architect's 3D drawings using a 5-axis CNC router. The custom wood was coated with epoxy and a skin of tooling resin which worked very well on limited-use moulds. It provided a precision finish, and required only four different moulds. If the panels had been casted as conventional precast panels, the moulds would have been much more costly."

The GRC panels were coloured with a charcoal pigment, which triggers interesting hues as the light changes over the wetlands. The chief challenge to Asurco was in creating the moulds.

PROJECT INFORMATION

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Contributors	Architect	Jan van Schaik, MvS Architects
	Consultant	Worley Parsons
	GRC Producer	Asurco Contracting Pty Ltd
	Project Owner	Melbourne Water
Project	Location	Melbourne, Australia
	GRC Type	Sprayed GRC Facade panels
	GRC Volume	300m2 (40 panels)
	GRC Finish	Pigmented ex-mould GRC
	Mould Type	Resin-coated Timber
	Completion Date	October 2011
Materials	AR Glass Fiber	Cem-FIL® 61 Roving

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