

Merinda Park Station



Precast tracks Merinda to open a year ahead of programme.

Extensive use of precast concrete in Victoria's new Merinda Park Station has allowed the new railway station in Melbourne's south-east to open a year ahead of time.

The project is a part of the Cranbourne Line Upgrade in Victoria's Level Crossing Removal project and was constructed by the SE Program Alliance.

Along with eight kilometres of new, duplicated track between Dandenong and Cranbourne with an additional 50 train services running weekly on the Cranbourne Line since February this year, commuters are enjoying a sleek new station with a geometric aesthetic at Merinda Park.

National Precast Master Precaster Hollow Core Concrete was awarded the contract to manufacture and install the precast elements for the project including walls, floors, beams, coping stones, lift pit boxes, and stairs.

Precast's form and function

Construction of the station underpass required a great deal of planning and expediency to eliminate any unwanted delays to the public rail network. The Alliance's objective was to complete the bridging component of the underpass over a three day Friday to Sunday period so that the Cranbourne line could reopen ready for commuters on the Monday morning. The only way this could be achieved was with precast deck slabs that are heavily reinforced and which spanned over the underpass to take train traffic loads.

Master Precaster
Hollow Core Concrete

Builder
South Eastern Program Alliance, Laing
O'Rourke (Principal Contractor)

Project
Merinda Park Station

Location
Merinda Park, Victoria

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In addition, construction of the underpass structure in precast was absolutely necessary to ensure that site access was not being cut off for weeks as a result of temporary works.

Above ground, 80 ramp wall panels and 42 rail platform feature panels were supplied, all cast using an almond pigment in the concrete mix and featuring a horizontal bamboo pattern that was created using form liners in the precast moulds. An outstanding quality of finish was achieved and was enabled by the precaster's controlled, sheltered factory environment with rigid formwork and extensive quality management procedures in place.

Merging of geometry

With ramp panels tapering in different directions and mitring seamlessly into adjacent elements at varying angles, a magnificent geometric effect has been created. Although merging the geometry of all of the elements was not an easy task, the most challenging and architecturally impressive part of the project, is the 'Pyramid'. It's a structure that comprises two main panels which, while appearing simple from the surface, is actually made up of 27 and 13 faces, making the panels very complex to design and manufacture.

To ensure a seamless process, the Alliance proposed that Hollow Core drive the complete design of the "Pyramid" using their expertise in 3D modelling and precast construction.

Peter Healy, Hollow Core's Managing Director, says the panels were probably the most complicated part of the project, but his company was up for the challenge.

National Precast CEO Sarah Bachmann says the company's capacity to seamlessly and elegantly close off and merge so many constraining elements is a testament to their design and precasting capabilities. The Alliance's leadership and Hollow Core's expertise have delivered an outstanding result that will benefit commuters for years to come.



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