

Seventh Avenue Bridge



New history created for century old bridge

An historic railway bridge in the Perth suburb of Maylands has been replaced with a modern precast concrete alternative.

The Seventh Avenue Maylands Railway Bridge was built in 1913 in response to an increase in road traffic and complaints about the inconvenience to get over the busy railway line. Originally built with timber, the bridge was upgraded several times over the years with columns and structural steel.

But 100 years on, the WA Government determined the Seventh Avenue Bridge had reached the end of its working life. To improve safety and to smooth traffic flow, the WA Main Roads Department decided to demolish the old bridge and replace it with a new one. The project included the deconstruction of the existing bridge and construction of a new four span concrete bridge over the Perth-Midland Railway Line, Railway Parade and Whatley Crescent, in the City of Bayswater in Perth.

Precast manufacturer

Delta Corporation

Project Owner

Main Roads Department
of WA

Head Contractor

Decmil
OHL Joint Venture

Engineer

BG & E Consulting
Engineers

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Precast chosen for its speed of construction and high quality finishes

Given the history of the original bridge and its distinctive wooden structure, it was important the wooden theme was somehow incorporated in the design of the new bridge, particularly in the noise walls and in the colour scheme of the piers and abutments. Being built on the same footprint as the original bridge which carried up to 3500 vehicles every day, another priority in construction was to minimise any traffic disruption. Offering versatility in design with high quality outcomes and speedy construction times, precast concrete was chosen for the project.

Perth-based precast concrete manufacturer and National Precast member Delta Corporation, was contracted to supply the precast concrete for the new \$9.3 million bridge to builder Decmil-OHL.

Structural and architectural elements

According to Delta Corporation's Executive Director Matt Perrella, both structural and architectural precast elements were part of the build. "We used high quality steel moulds, with all the architectural wall panels being wet cast horizontally," he said. The manufacture included 66 retaining wall panels, 50 noise wall panels, eight column formers, 316 parapet panels and 16 prestressed TeeRoff beams.

The retaining wall panels adjacent to the bridge on-ramps were painted prior to installation. The same colouring was used on the 130m of noise wall panels. The parapet panels were manufactured using a granite aggregate and grey concrete and were sandblasted for a textured finish.

Ahead of time and budget

Mr Perrella said the new 80-metre bridge was completed on schedule and on budget. It has improved turning and lane widths and allows for increased load capacity and shared paths. The bridge accommodates four rail lines and includes guardrails and electrification screens. It was officially opened in May 2015.