

Mooney Mooney Ck Bridge, NSW

Precast arches, spandrel and wing walls

Case study



Precast arch solves timeframe and durability issues

Unusually high levels of rainfall during 2011 helped identify structural instability with a corrugated metal pipe (CMP) drain in the Peats Ridge area. Gosford City Council decided to replace the ageing stormwater drain, so it looked for a durable solution that could be installed quickly to minimise road closures.

The ageing drain was located 11 metres below Peats Ridge Road with the Mooney Mooney Creek flowing through it.

A precast concrete arch solution was selected for the project, to provide a 100 year design life, and to minimise the duration of the road closure.

Humes were selected to supply precast concrete arch units, spandrel and wing walls to replace the CMP drain. The arch was designed to withstand 8.4 m of fill at the apex, in order to meet the existing road level. The spandrel and wing walls supplied by Humes were manufactured in non-standard sizes, to cater to the higher-than-average fill heights, and the unusually steep angle of the fill from the road to the stormwater drain.

A huge quantity of fill was excavated to enable removal of the old drain. Twenty-two precast arch units were then lowered into place by crane and assembled over two days. The entire project was finished within four days.

Humes has developed a large range of custom designed arches that are ideal for a variety of complex heavy loading criteria and internal envelops. The Humes precast arch system is unparalleled in its ability to deliver a high performance and cost effective tunnel solution.

Project

Mooney Mooney Creek Bridge,
Peats Ridge NSW

Products supplied

Precast arch units,
spandrel and wing walls



Humes

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