

CASE STUDY

MOONEY MOONEY CREEK BRIDGE

PEATS RIDGE, NSW

PRECAST ARCHES, SPANDREL
AND WING WALLS



ISSUED BY HUMES



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Durable Precast Arch Solution for Mooney Mooney Creek

Project Background

In 2011, unusually high rainfall revealed structural instability in a corrugated metal pipe (CMP) stormwater drain beneath Peats Ridge Road at Mooney Mooney Creek. Gosford City Council determined the ageing drain needed replacement and sought a durable solution that could be installed quickly to minimise road closures.

The drain was located 11 metres below the road surface, with Mooney Mooney Creek flowing through it, making replacement a complex and time-sensitive task.

Key Challenge

The project required a solution that provided long-term durability, with a 100-year design life, while also minimising road closure times. The replacement structure also needed to withstand significant loading conditions, including 8.4 metres of fill at the apex, and adapt to steep embankments from the road to the creek.

Manufacture and Installation

Humes supplied precast concrete arch units, along with spandrel and wing walls, to replace the CMP drain. The spandrel and wing walls were manufactured in non-standard sizes to accommodate the higher-than-average fill heights and the unusually steep angle of the embankment.

A large volume of fill was excavated to remove the existing drain. Twenty-two precast arch units were then lifted into place by crane and assembled within two days. The project was completed in just four days.

Innovation and Outcome

The precast concrete arch solution delivered a durable and efficient outcome, providing a 100-year design life while minimising disruption to traffic.

Humes' extensive range of custom-designed arches is engineered to meet complex heavy loading criteria and diverse internal envelopes. The Mooney Mooney Creek Bridge project demonstrates the system's ability to deliver a high-performance, cost-effective tunnel solution under demanding conditions.



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PROJECT INFORMATION



PROJECT

Mooney Mooney Creek Bridge
Peats Ridge, NSW



PRODUCT SUPPLIED

- Precast arch units, spandrel and wing walls

