



PRECAST CONCRETE FOR FLOOD PREVENTION

Flood prevention has formed a major part of a redevelopment for a shopping centre on Sydney's northern beaches. When Westfield Warringah Mall decided to undertake a significant \$310 million redevelopment, an upgraded drainage system was integral to the project. Before the mall was built more than 50 years ago, the Brookvale Creek flowed through the site and the drainage system ran the risk of flooding in a major rain event. Precast concrete was the logical solution.

DESIGN AND MANUFACTURE BY THE EXPERTS

National Precast member Humes manufactured about 100 metres of inverted culverts which effectively line the creek bed to provide a drainage system. Humes Account Manager Paul Vincent says the culverts were made to a custom design by modifying existing moulds. "The unique requirement for this project was that the water flow be slowed when this creek is under flood. We delivered a solution for that by moulding a ripple effect on the inner wall". The effect is a corrugated finish on the inverted leg up stands. To further slow the flow of water, the client arranged sandstone rock on the precast base. Differing heights in the creek banks and depths of the creek bed required a stepped section. That resulted in as many as eight variations in size for the inverted culverts. "It came down to delivering what the client wanted. We worked together to make it happen and in the end the precast team in the factory was impressed with the product. Even better, the client was impressed," Mr Vincent said.

PRECAST THE ANSWER TO INSTALLATION CHALLENGES

The most challenging aspect of this project was the active creek. It could only be dammed for a short period and that put the pressure on for a fast production timeline. In situ concrete works would simply take too long, and precast offered a speedy solution. Humes turned the project around in less than eight weeks. The products were manufactured in the company's Blacktown factory, ensuring rigorous standards of quality control and specifications. Safety was also a consideration for this project, because the off-site manufacture resulted in less labour required on the construction site. A culture of safety was also an important part of the transportation co-ordination. The delivery of the culverts had to be meticulously planned, to take into account the creek flow, any rain events and also the operations of the shopping centre which continued to trade.

"It was a sometimes challenging but very interesting project to be a part of," said Mr Vincent. "It's different to our everyday work and great to have a finished project that's on show and serves an important purpose".

Precaster - Humes

Client - Scentre Group

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