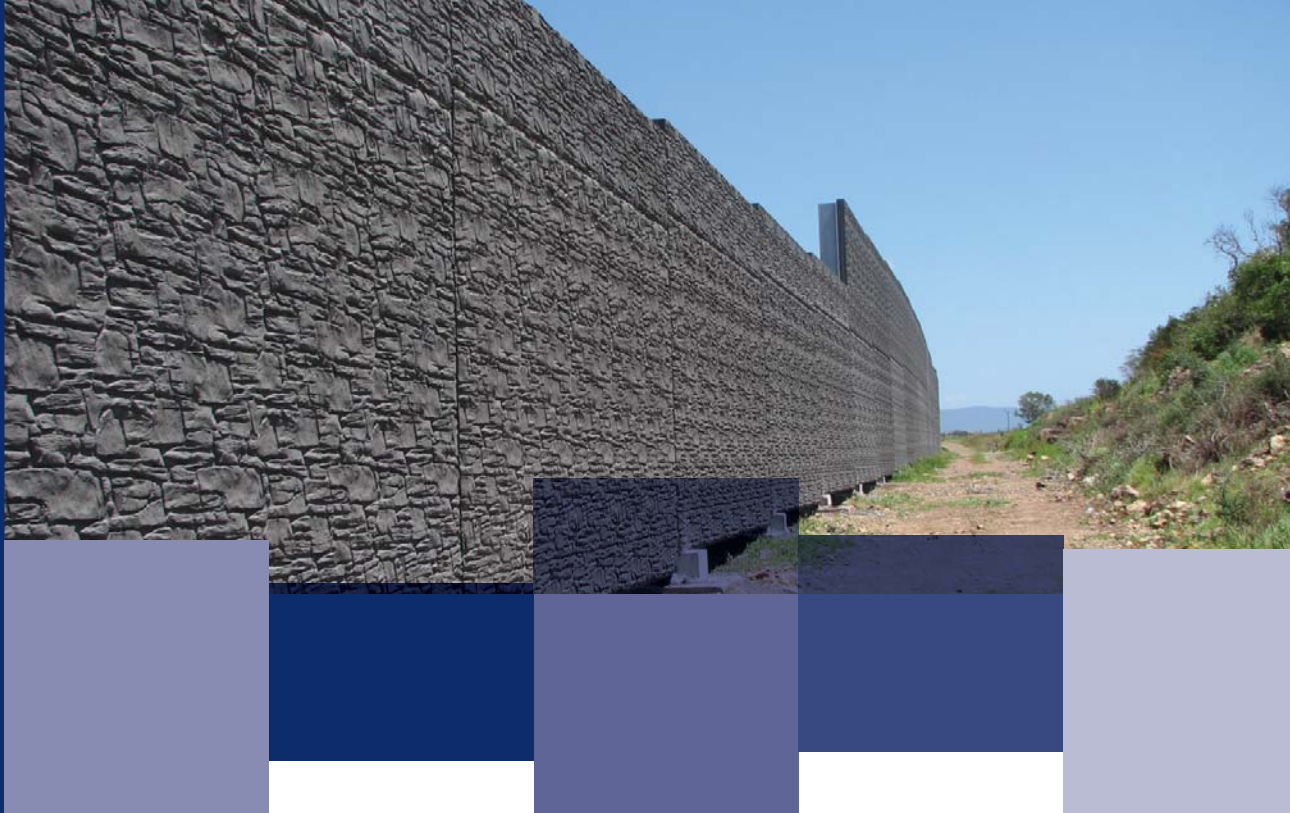


Shell Cove Noise Walls



The art of noise

Shell Cove is a large residential mixed-use project being jointly developed by Australand and Shellharbour City Council. Located on the coast 20 kilometres south of Wollongong, it is the largest coastal tourist/residential development ever initiated by a local government authority in Australia. When completed, the \$1.5 billion development will create around 3,000 prime residential lots, a 300 berth marina constructed within an in-shore boat harbour, an 18-hole championship-standard golf course, community parks and playgrounds, cycleways, and a range of quality commercial, retail, tourist, community and recreational facilities.

As the development grew towards the existing Bass Point Quarry - that provides crushed basalt for concrete production to the Sydney construction market - the need to address road noise became paramount. The main access road to the quarry required a noise wall to be constructed, in stages, over its 2.5 km length to create the necessary quiet locale for the nearby residences. The most recent stage was supplied by Hanson Precast.

From the RTA Noise Wall Design Guideline, the concept of adding 'art' to the practical design considerations for a noise wall is encouraged. Local communities benefit from the visually pleasing designs that can be incorporated into noise walls – adding to their obvious acoustic functionality. This can be done by introducing texture and colour to the precast panel.

Precast Manufacturer

Hanson Precast

Engineer

MYD Consulting
Engineers

Builder

Trade West

www.nationalprecast.com.au



In this case, a Reckli mould liner was selected for the noise walls, using an Andalusia profile - the first time the design had been used in Australia. The random block pattern of the liner has a variable profile of 30mm. Normally, liners are made in 1.2m widths so the decision was taken by Reckli to create a master mould that would 'join' five liners as one to eliminate all vertical joints. This made the setup of the liner for casting the panels an easier task for Hanson and resulted in an improved quality of finish for all panels.

All panels with the texture facing have been positioned towards the housing, either as the rear fence of a dwelling or as a side boundary to a residential access road.

The latest stage of the Shell Cove noise wall comprised 1569m² in area and had two different heights of 6.5m and 4.5m, as specified by an acoustic engineer. 94 panels were supplied to the project with 6 different panel sizes. The typical larger panels, 6m long by 3.5m high, weighed 8.9 tonne with the smallest panel weighing 1.2 tonne.

A black pigment was added to the concrete mix, 4% of cement weight, to provide an integral and low maintenance colour to the panels. The pigment was selected from an aesthetic perspective to provide reference to the local basaltic rock, which is also used extensively throughout the project in feature stone walls in landscape areas.

According to Keith McComasky from builder Trade West "We recognised the benefits of using precast concrete panels over smaller lightweight panels early on.

"Precast panels offer fast installation and we were able to lift fewer panels as opposed to many. They are durable in the long term, as well as being less susceptible to damage during transport and installation. And they are supplied as the finished product. In terms of finishing, the coloured panels don't require any messy finishing trades after installation".