GEOFABRICS CASE STUDY

KEEPING TASSIE ROADS REVIVED WITH PRESTO GEOWEB

PRODUCTS USED

PRESTO GEOWEB® CELLULAR CONFINEMENT SYSTEM GEOCELL

- Consists of a robust three-dimensional structure housing a network of interconnected cells that confine and compact soil
- Widely used for load support, erosion control, slope stability, retaining structures and high velocity channels
- Prevents erosion and improves the structural performance of soil or aggregate infill - providing an alternative to reinforced concrete
- An eco-friendly soil stabilisation solution that blends into the natural environment
- Comes in collapsed, lightweight panels which can be handled easily and safely onsite

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PROJECT DESCRIPTION

Esperance Coast Road is situated south of Hobart in the Huon Valley Council, the southernmost local government council in Australia. The coastal road was developing several signs of deterioration including deformation, cracks and edge failure.

To mitigate the issue, Huon Valley Council engaged consultants to undertake pavement investigations focussing on the section between the Huon Highway and Police Point Road. Esperance Coast Road runs through a hilly area with a high slope on one side and a valley on the other. The current pavement was eroding due to high surface runoff and lack of horizontal drainage. Water was ingressed in the pavement, reducing the structural capacity of the pavement layer to carry traffic load.

OUR SOLUTION

Geofabrics was contacted for a solution to control the water ingress and improve drainage. Presto Geoweb Cellular Confinement System Geocell was recommended to stabilise the base layer and manage the degradation of the current pavement and surface. Geofabrics engineers worked closely with the Presto design team to develop a cost-effective solution which would be accepted by council engineers.

One lane was kept open on the Esperance Coast Road to keep traffic flowing while the works were undertaken. Half of the Geoweb panel was expanded and secured with 500mm long pins. To create a horizontal drainage path through the Geoweb stabilised base course, 20mm to 30mm single graded material was placed in the Geoweb Geocells. Perforated Geoweb Geocells offer high flow capacity through the panel without compromising the structural capacity of the pavement material. Once filled, a 20-tonne truck drove over the rock infilled Geoweb panels without any deformation over the surface.

In total, 1,400m^2 of Presto Geoweb Cellular Confinement System Geocell was installed and infilled with a single graded rock layer. The close confinement effect of Geoweb Geocells improved the performance of the base layer, which also allowed a horizontal drainage blanket to be created without compromising the structural capacity. Compared to conventional methods, a Geoweb stabilised layer allows pavement thickness to be reduced by 50%, further removing the number of truck movements to construct the road.

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