Project: Bulls Gorge Realignment
Date: Early 2011
Client: NZTA
Location: SH10 Bulls Gorge, Kerikeri, Northland

Gabions

A site of many accidents over the years, the realignment of SH10 through Bulls Gorge was a priority to make it safer for motorists and reduce driver frustration by providing more passing opportunities. Additional benefits from the works include:

• More reliable trip times for transport operators
• Improved cyclist safety by creating more passing room
• Extensive revegetation with 45,000 locally grown plants

The planned realignment will smooth out the sharp curves and steep gradients, add right turn bays and uphill pull-over bays for heavy vehicles as well as increase the road width by providing a road shoulder.

The new alignment required the construction of a large culvert capable of accommodating the design flow from the large catchment area. The engineers followed a traditional design approach of using gabions for the culvert surround and wing walls in the culvert downstream outlet section and Reno Mattresses at the base. Gabions are well suited for culvert headwalls as they can easily be cut, folded and shaped to match the circular profile of the culvert.

Reno Mattresses are well suited to eliminate scour around the base of the culvert however for this site shotcrete was applied to increase the scour resistance and offer increased resistance to damage from bed loads during flood events.

The banks along the stream adjacent to the new road alignment formed part of an extensive planting operation. Biomac C, a biodegradable coir erosion mat, was selected to protect the soil from rain impact and localised runoff that if left exposed would result in erosion of the soil threatening the soil support to the root mass of the individual plants.

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