

FLEXIBLE ROCKFALL BARRIER GORGE ROAD, ADELAIDE, AUSTRALIA

ENVIRONMENTAL/ROCKFALL PROTECTION/ FLEXIBLE ROCKFALL BARRIER Product: Maccaferri CTR 500KJ Flexible Rockfall Barrier

Problem

The head of the 20km long Torrens River Valley is located approximately 12km north-east of the centre of Adelaide at the base of the western slopes of the Mount Lofty Ranges. The deeply entrenched river system creates a rugged topography with valley walls rising up to 250m above the river below.

Gorge Road was originally excavated in the floor of the valley in the mid 1800s as one of only few access roads across the north-eastern section of the Ranges. The road was used for bullock teams travelling to the small townships beyond. It now handles over 800 vehicles per day in each direction; the vehicles using it to service the light industry and housing developments that have developed throughout the Ranges. In 1969, the Kangaroo Creek Dam was constructed 8.5km up the valley. Part of this project involved constructing a 5.6km long diversion road adjacent to the reservoir up to 75m above the valley floor. The road has a 6.5m carriageway and an average 1.8m wide shoulder.

Some cuts immediately adjacent to the road are up to 50m high however the rock faces above them often extend for twice this height. Some areas of strongly foliated schists within the cuts have weathered and lost strength, leading to rockfalls, primarily during periods of heavy or prolonged rain-fall.

Solution

To address the potential for rockfall problems, the State road authority, Department for Transport, Energy and Infrastructure, commissioned a 500kJ Maccaferri rockfall barrier to be installed. The 60m long barrier was installed 5m above the road. Sections of the barrier were 2m and 3m high to suit the local topography. This barrier was full scale tested in compliance with **ETAG 027 Guideline** directions (Falling Rock Protection Kits), indicating that it has undergone the rigorous testing necessary to evaluate the technical performances for barriers of the rated capacity. The crash test involved a 1610kg boulder impacting the barrier at 25.6m/s. Maccaferri are able to provide flexible rockfall barriers up to 5000KJ (16'200kg boulder travelling at 25.77m/s). Please visit www.eota.be for more information on the ETAG 027 guideline.

Client name:

TRANSPORT SA

Contractor name:

RETAINING WALL SOLUTIONS PTY LTD

Design engineer:

ROCKTEST CONSULTING

Product used:

MACCAFERRI CTR 500KJ FLEXIBLE ROCKFALL BARRIER

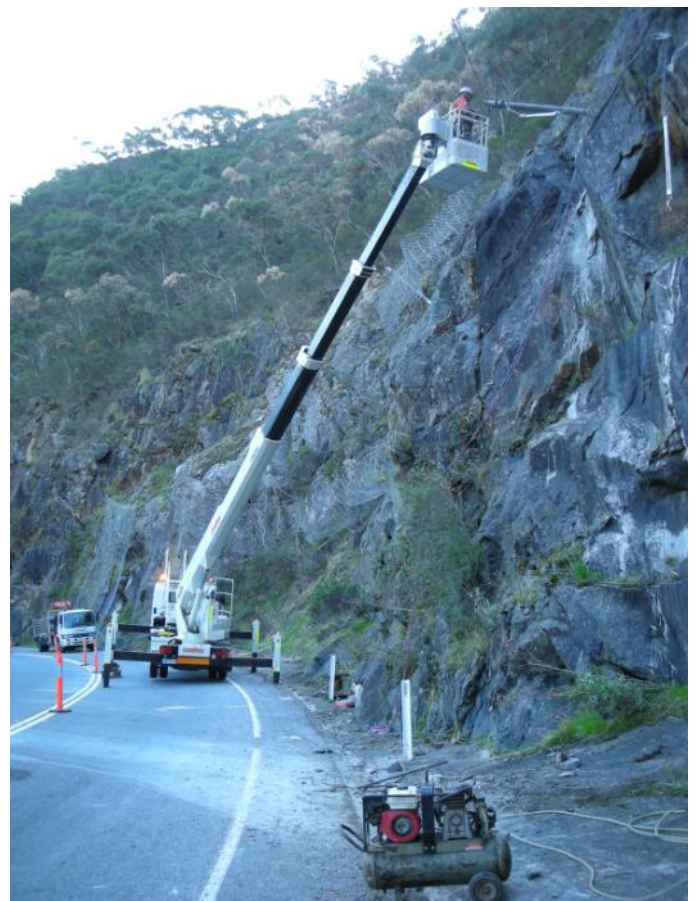
Construction date:

MAY 2008



Gorge Road Cutting

Date: Nov 2007



During Installation

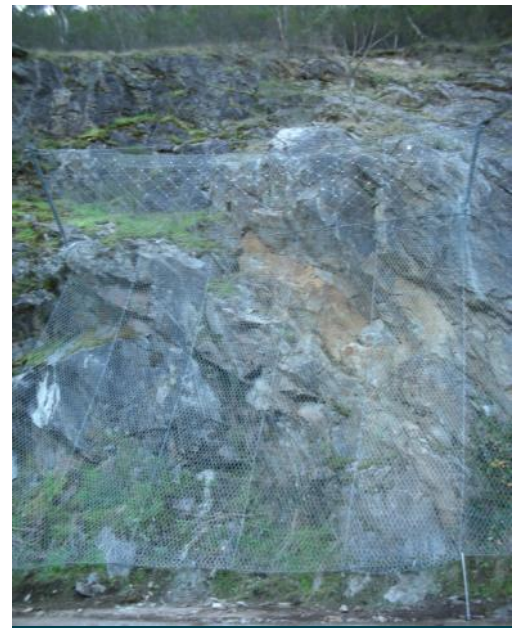
Date: May 2008

MACCAFERRI



Soon After Completion

Date: May 2008



Barrier With Rock Fall Netting

Date: May 2008

Maccaferri double twisted woven mesh rock fall netting was draped below the barrier to ensure that rocks did not roll out from under it where it crossed low points in the topography.

The specifications and location for the barrier and site supervision were provided by Rocktest Consulting. The complex construction work was carried out using boom lifts and roped access techniques by Retaining Wall Solutions in only three days once the drilling was completed.



Crash Test Site (ETAG 027)

Date: Apr 2007



Completed Barrier Protecting Motorists

Date: Oct 2008

Maccaferri Pty Ltd

22 Powers Road, Seven Hills, NSW, 2147 - Australia

PO Box 575, Seven Hills, NSW, 1730

Tel. (+2) 8825 6300 - Fax (+2) 8825 6399

E-mail: sales@maccaferri.com.au - Web site: www.maccaferri.com.au

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