

CASE STUDY:

MOONAN FLAT

MACCAFERRI ROCKFALL CATCH FENCES
MOONAN FLAT, NSW
SEPTEMBER 2017

Maccaferri Dynamic Rockfall Barriers / Catch Fences

Geofabrics offers a range of Maccaferri rockfall barrier fence systems designed to intercept falling rocks which have detached from the rock face above which may cause damage to infrastructure below and in severe cases loss of life. Rockfall barrier fences of variable geometry are fabricated from a complex system of steel cables, connections of steel cables to structural elements, energy absorbing devices and anchorages, capable of high deformation capacities which are designed to be easily transported and assembled in extreme conditions.

The range of barriers for rockfall problems include debris flow barriers, dynamic rockfall barriers and hybrid and attenuation barriers. Geofabrics range of Maccaferri dynamic rockfall barriers are designed to deflect under load and absorb energy and are available with energy absorption capacity up to 8,500kJ.

Moonan Flat is a village in the Upper Hunter Shire local government area, about 51 kilometres north-east of Scone in the Upper Hunter Region of New South Wales, Australia. The Hunter Road traverses through rolling farmland but transitions into steep terrain on the western boundary of Barrington Tops National Park.

The Upper Hunter Shire Council had issues with rockfalls at a number of steep cuttings in the area, one being at Moonan Flat. The geology of the cutting was a severely weathered sedimentary shale and sandstone formation tilted at roughly a forty five degree angle. Several large rockfalls had occurred in the previous six months and extensive maintenance works had been carried out. Due to the steepness of the cutting above the road, the Council's only option was to conduct rockfall protection works to reduce the impact of any future rockfalls onto the road and interruption to traffic flows at this pinch point.

Council engaged Retaining Specialists to design a rockfall protection system to mitigate risk. A Maccaferri CTR 05/07/B rockfall barrier (catch fence) – 3 m high x 30 m long (Maximum Energy Level of 528KJ; tested in accordance with ETAG 027) was the preferred solution. Due to the proximity to the road, the post spacing was decreased from 10 m to 5 m to reduce the deformation of the barrier during a rock impact. Maccaferri rockfall barriers have demonstrated superior performance during full scale crash tests in terms of, but not limited to, residual height and deformation.

Construction of the rockfall barrier was completed by Retaining Specialists in only 4 days with a 6-person crew. The client is very pleased with the outcome.