KEYSTONE RETAINING WALL SYSTEMS

CASE STUDY: BARRIER APPLICATION

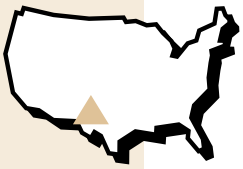
Keystone Rock Barrier Helps Save Lives

For Centuries, people have marvelled at the natural beauty and grandeur of the mountains. They are a source of enjoyment for people all over the world, through hiking, rock climbing, downhill skiing, etc. However, they possess an uncontrollable source of danger.

In Rio Arriba County, in the north central part of New Mexico, the mountains are prone to rock slides. Without notice the mountain releases thousands of pounds of boulders onto the roadway below. On September 12, 1988, a boulder slid down the mountain along Highway 68 and crashed into a bus, killing five people. This event spurred the New Mexico Department of Transportation (NMDOT) into preventing any future tragedy and ensuring the safety of motorists.

Working with MacCornack Engineering, NMDOT designed a barrier wall to stop falling rocks from reaching the road. The design called for a two sided retaining wall; one conventional wall facing the roadway and a second wall of stacked, discarded tires facing the hillside. The space between the two walls consisted of a geogrid reinforced soil zone of 10 feet (3m). Between the stacked tire wall facing and the hillside was an open catchment area which trapped the falling rocks after striking and rebounding off the tire faced barrier.

The contractor, Albuquerque Underground Inc., suggested replacing the conventional Hilfiker-Reinforced Earth



PROJECT:	New Mexico DOT
LOCATION:	Rio Arriba County, NM
PRODUCT:	Keystone Compac Units
SQUARE FOOTAGE:	2,160 s.f.
CONTRACTOR:	Albuquerque Underground Albuquerque, NM
SPECIFIER:	MacCornack Engineering Albuquerque, NM
KEYSTONE REPRESENTATIVE:	Crego Block Co. Albuquerque, NM

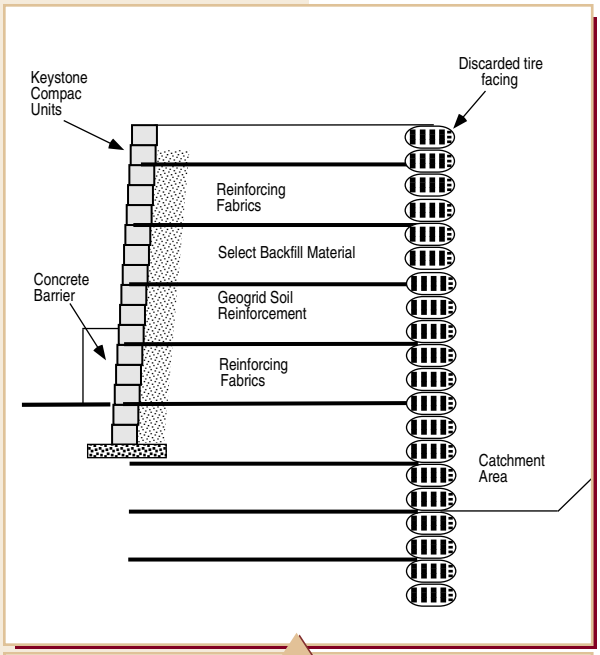
Keystone barrier wall, Rio Arriba County, New Mexico

Wall with a Keystone Retaining Wall System. Keystone offered structural integrity, ease of installation, aesthetic appeal and cost effectiveness. Albuquerque Underground constructed the reinforced wall with 2,160 Keystone Compac Units in Desert Beige color. The wall stands 12 feet high (3.7m) and 180 feet (54.8 meters) long. Reinforcement for the soil mass behind the Keystone wall consists of Mirafi's Miragrid 5T, 500X, 700X and 800X, soil reinforcing geogrid.

Falling rock barrier - Keystone wall facing the road, with reinforced soil zone behind, backed by wall of old tires.

The result was a functional, attractive, cost effective barrier that tamed the mountain side. The creative efforts of the design engineers, using the proven Keystone Retaining Wall System, controlled the danger, ensuring the safety of all motorists who pass by.

Tire wall at back of the barrier, cushions falling rocks and directs them into the catchment area.



Rock barrier typical cross section.

KEYSTONE® RETAINING WALL SYSTEMS
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