

## Case Study

**application** | Slope Repair  
**location** | St. Louis, MO  
**product** | Miragrid® 7XT, 24XT and Mirafi® 180N

**job owner** | MODOT  
**engineer** | MODOT  
**contractor** | Krupp Construction  
**date of installation** | March 2011

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

### THE CHALLENGE

Highway 109 in suburban St. Louis, MO is a highly trafficked 2 lane road that suffered an unexpected slide. The Missouri Department of Transportation (MODOT) had to design, build and install an emergency slide repair as quickly and economically as possible.

### THE DESIGN

The design called for a rip rap filled wire facing unit slope with 3 different geosynthetics behind the units for reinforcement. The top two and bottom two layers of reinforcement in the design required a Long Term Design Strength (LTDS) of 7000 lb/ft, which was satisfied by Miragrid® 24XT geogrid. All of the

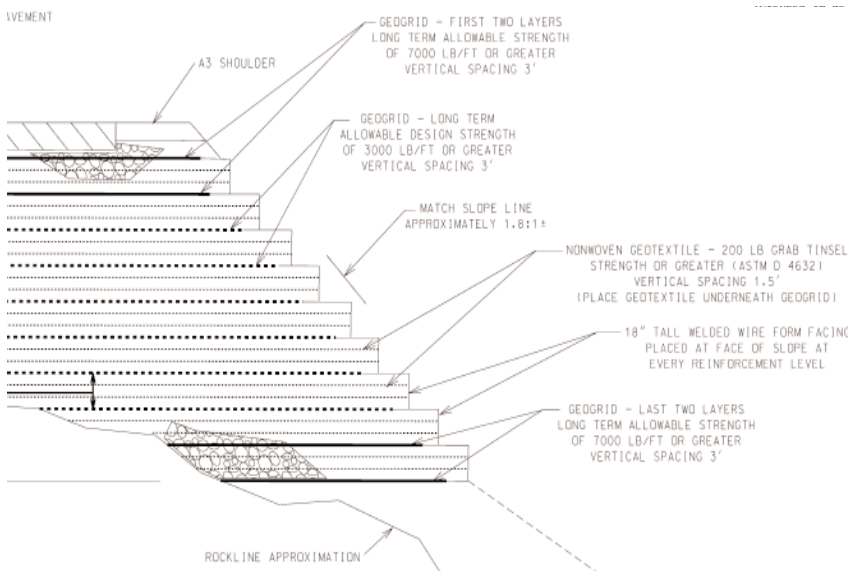
intermediate layers in the design required a LTDS of 3000 lb/ft, which was met by Miragrid® 7XT geogrid. The design also required a non-woven geosynthetic under each compacted soil lift for drainage and Mirafi® 180N was used.

### THE CONSTRUCTION

With the use of the high strength flexible uniaxial geogrids combined with a non-woven geosynthetic, construction proceeded in a rapid sequence and the contractor was able to reopen the road ahead of schedule, exceeding the expectations of local residents and the Missouri DOT.



View of slide and road damage from the south.



Cross section from plans of slide repair design.



View of slide and road damage from the north.



**THE PERFORMANCE**

The roadway has been re-opened for over a year now without any issues as the design and products have achieved the goals MODOT set out to achieve on this project, which were to reopen the road in the quickest and most economical way.



View from top of structure showing rip rap filled units.



View from top of structure showing rip rap filled units.



View from south of repaired road and slide.



View from north of repaired road and slide.

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