TENCATE Mirafi®

EROSION PROTECTION

Case Study

application	Slope Face Repair (HPTRM)	job owner	City of Sheridan
location	Sheridan, WY	engineer	Russell & Mills Studios Fort Collins, CO
product	Mirafi® TM14S	date of installation	October 2016

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

In Sheridan, Wyoming, there was a 20 ft high 1:1 slope at 139 Highland Avenue that needed to be stabilized (as shown in Figure 1).

TenCate's Mirafi® TM14S turf reinforcement mat was chosen to provide surficial stability on the existing 20 ft high slope along the roadway. Mirafi® TM14S is a high strength, geosynthetic turf reinforcement mat that is designed to provide surface erosion control on steep slopes by reinforcing the grass roots structure (as shown in Figure 2).

THE DESIGN

At this site, the eroded slope was graded smooth and 19 rolls of Mirafi® TM14S were installed to contain the soil face, reduce water runoff velocity, and promote vegetation. The slope needed to be overbuilt and shaved back to its final geometry prior to the placement of the topsoil, in order to achieve satisfactory compaction at slope face.

Figure 1: Existing slope before the installation of Mirafi® TM14S.

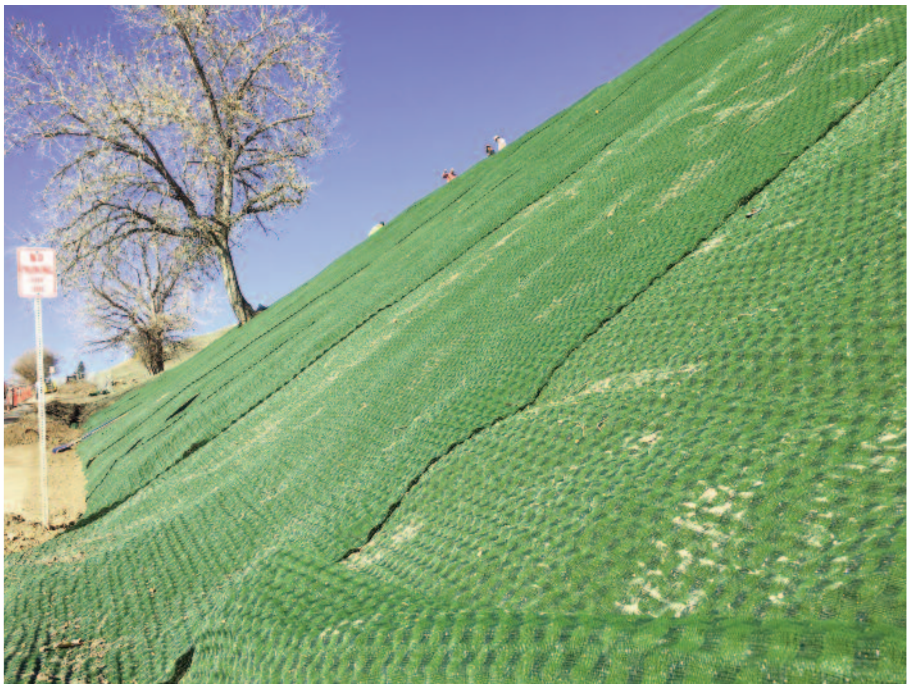


Figure 2: The slope face repair with Mirafi® TM14S turf reinforcement mat.

Figure 3: Mirafi® TM14S (12 ft wide x 70 ft long) unrolled downslope.

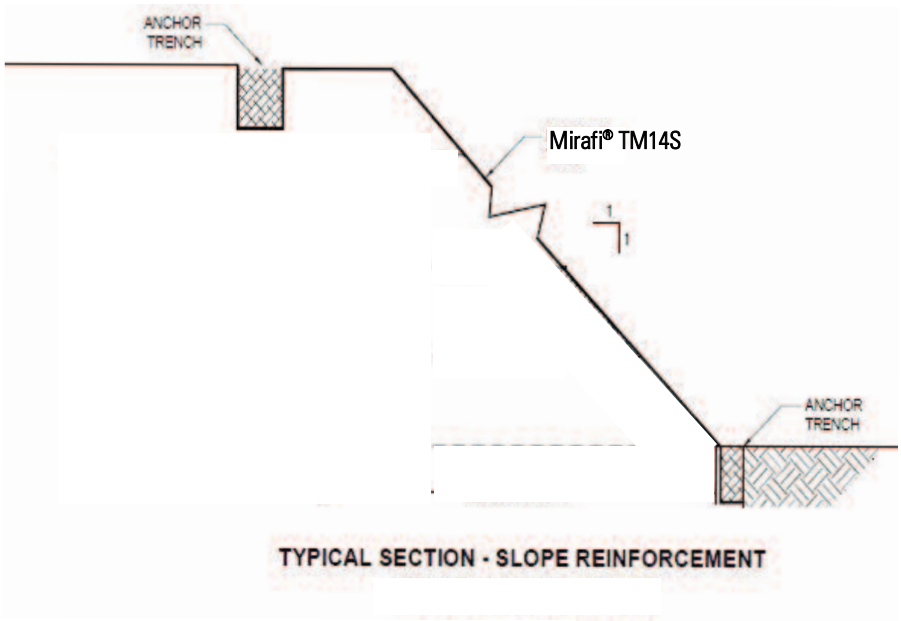
THE CONSTRUCTION

The Mirafi® TM14S roll size was 12 ft wide x 70 ft long. It was unrolled down the slope face (as shown in Figure 3) and installed using an anchor trench at the top and bottom of the slope. At the top of the slope, Mirafi® TM14S was extended 1 ft beyond the top of the slope and and inserted into a minimum 6 in wide x 12 in deep anchor trench backfilled and compacted with soil. At the bottom of the slope, Mirafi® TM14S was extended into the same size anchor trench at the toe of the slope. Mirafi® TM14S was then overlapped a minimum of 6 inches along the roll edges. U-shaped soil staples were used to pin the Mirafi® TM14S to the slope face. Next, staples were installed along the roll overlap and in the roll center. A maximum staple spacing of 3 ft was required on the center.

THE PERFORMANCE

The completed slope is shown in Figure 4. Mirafi® TM14S retains the soil at the slope face during periods of heavy snow and rain while promoting long term vegetation stability.

Figure 4: The completed slope with Mirafi® TM14S installed.



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