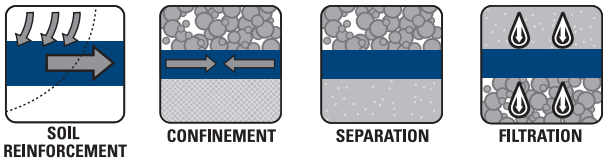
TENCATE Mirafi®



Case Study

application	Subgrade Improvement
location	Greeley, CO
product	Mirafi® HP570
job owner	CDOT
engineer	CDOT
contractor	Castle Rock Construction Company

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

State Highway 34 in Greeley, Colorado was being reconstructed. This included tearing out the existing roadway section, rebuilding the sub-base, base and pavement. Soft soils and groundwater were discovered once the section was torn out. This made re-construction very difficult. Colorado Department of Transportation (CDOT) and Castle Rock Construction Company (CRCC) both investigated options to ease the re-construction of this highway.

THE DESIGN

CRCC, Bowman Construction Company and TenCate™ joined forces to propose the use of Mirafi® HP570, a high strength polypropylene geotextile, for the subgrade stabilization. Other alternatives were investigated by CDOT and CRCC but Mirafi® HP570 proved to be the most cost efficient and sound engineering alternative.

Mirafi® HP570 was designed to be placed on the sub-grade with 2' of Class 6 road base placed on the fabric. The high strength of Mirafi® HP570 (4,800 lb/ft) combined with it's excellent water flow (30 gal/min/ft2) was used to stabilize and consolidate the soil and provide reinforcement and confinement for the roadway section.

Condition of existing roadway after the section was torn out.

Installation of Mirafi® HP570.

TENCATE Mirafi®

THE CONSTRUCTION

The installation of the newly designed highway went smoothly. The Mirafi® HP570 was rolled out with appropriate overlaps for the soil conditions, the Class 6 base material was pushed out in front of a loader, spread and compacted on Mirafi® HP570 in one foot lifts.

THE PERFORMANCE

The contractor proceeded to finish the soft sections of the road with the geotextile reinforced design. Mirafi® HP570 not only saved material costs, it saved the contractor valuable time that would have otherwise been spent waiting for the subgrade to dry and strengthen, or both time and material on continuing to excavate and bring in more rock. Once the geotextile reinforced road was built, the contractor was able to complete the highway ahead of schedule and under budget.

Backfill over Mirafi® HP570.

Finished roadway from headed East.

Finished roadway headed West.

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