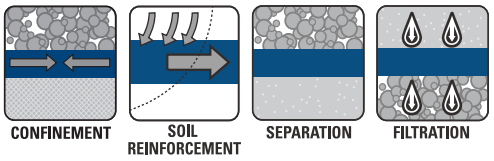
TENCATE Mirafi®



Case Study

application	Subgrade Stabilization
location	Ankeny, IA
product	Mirafi® RS580*i*
job owner	Ankeny Centennial High School
engineer	Terracon – Des Moines, IA
contractor	Stahl Construction
date of installation	June 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

Ankeny Community School District is building a new high school in Ankeny, a northern suburb of Des Moines, Iowa. Stahl Construction Company has been contracted to build the new 50 million dollar high school campus. The new school, Ankeny Centennial High School, is being constructed over an existing soft subgrade. Flat bed tractor trailers with 20 ton payloads delivering wall panels used to construct the building, along with loaded dump trucks, access the jobsite daily.

THE DESIGN

Due to the extremely soft subgrade, an aggregate access road was required for the heavy trucks to gain access to the site. The initial design of the access road included an extruded geogrid placed directly on the subgrade with 6" of aggregate compacted on top of the geogrid. Subgrade pumping occurred due to the heavy truck loading. The geogrid pumped through the aggregate section and severe rutting was experienced. It was determined that separation, filtration and high tensile strength at low strain would be required. The contractor contacted the geotechnical engineer and asked for a new access road design, stating they could not tolerate another failure. Access to the jobsite was critical and could not be interrupted due to rutting.

Mirafi® RS580i being installed over weak subgrade.

Installation complete with 6" aggregate.

TENCATE Mirafi®

THE CONSTRUCTION

The geotechnical engineer recommended a new access road design including TenCate Mirafi® RS580i*, a high strength woven polypropylene geotextile to be placed on the subgrade. The same 6" aggregate section was compacted on top of the Mirafi® RS580i.

THE PERFORMANCE

Fortunately, the benefits of separation, filtration, high tensile modulus and aggregate confinement achieved by Mirafi® RS580i resulted in remarkably improved performance. Access to the jobsite was no longer delayed as rutting no longer occurred. Construction of the new high school was back on schedule.

*Patent Pending

Access road supporting truck traffic.

Concrete pavement installed over Mirafi® RS580i geosynthetic reinforced aggregate.

0412

365 South Holland Drive
Pendergrass, GA 30567
Tel 800 685 9990
Tel 706 693 2226
Fax 706 693 4400
www.mirafi.com

ISO 9001
FM 61026

TENCATE™
materials that make a difference