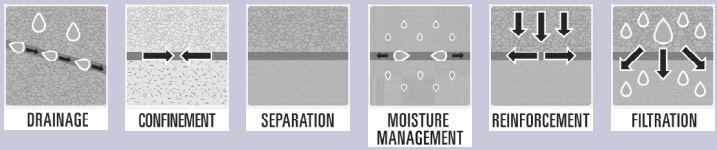
Attack the Threat

CASE STUDY

Countering Soil Saturation in Missouri

PRODUCT Mirafi® H_2Ri
APPLICATION Subgrade Stabilization
LOCATION St. Louis County, MO



THE CHALLENGE

Constructing a new bridge over heavily saturated soil conditions

A new bridge was being constructed over the Missouri River where saturated soil conditions required the need to remove water from under the pavement section at the bridge approaches. This was a design build project where the Missouri DOT encouraged resourcefulness in the design/build teams to explore new and innovative technologies to solve the challenging site conditions. The geotechnical engineer contacted TenCate Geosynthetics to explore the utilization of TenCate Mirafi® H_2Ri high strength moisture management system.

JOB OWNER Missouri DOT
ENGINEER Burns & McDonnell
CONTRACTOR Walsh Construction
DATE OF INSTALLATION October 2013

TENCATE GEOSYNTHETICS

THE DESIGN

The design build team originally designed a pavement section that included a concrete section over 4" of road base aggregate, 4" layer of drainable aggregate and a prepared subgrade. The inclusion of Mirafi® H_2Ri moisture management system by the design engineer provided a resourceful solution to replace the 4" of drainable base The Mirafi® H_2Ri system provides equivalent capabilities within the section while preserving natural resources and reducing overall costs. The moisture management system and rapidity of water removal allowed for an overall 2" reduction in aggregate base material. The water was removed from the system by Mirafi® H_2Ri through a combination of day lighting the material onto roadway shoulders or into French drains.

THE CONSTRUCTION

Initial installation of the robust system took place in October 2013 on the north ramp to the west bound approach. TenCate personnel, along with their local distributor, ASP Enterprises, arranged for a pre-construction meeting with the general contractor, MODOT field personnel and the subcontractor installing the material. During the meeting and review of the installation procedures the items that were discussed were proper overlaps, cutting and layering of the material and best installation practices.

THE PERFORMANCE

The initial installation of 7,200 square yards of Mirafi® H_2Ri began on a Thursday and was completed along with the placement of 6" of compacted aggregate by the following Monday. The day after the geosynthetic was placed, the project site received ¼" rainfall and moisture management was rapidly evident where the Mirafi® H_2Ri was installed.

365 South Holland Drive
Pendergrass, GA 30567
TEL +1 706 693 2226
tencategeo.us

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