



GEOFABRICS CASE STUDY



FIRE TRACK STABILISATION IN CENTRAL QUEENSLAND

PRODUCTS USED

TenCate® Mirafi® RS380i®

- Range of multifunctional woven geotextiles developed to ensure reinforcement, separation, drainage and filtration
- Allows for superior and integrated material interaction between the aggregate layers
- Results in significant improvement in road/subgrade performance
- Reduced sub base material volumes when constructing over soft soils
- Offer significant cost savings and improved road pavement performance



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PROJECT DESCRIPTION

A 5km fire track was required in central Queensland to enable access to 10 tonne fire trucks.

The initial design required the weak black soil to be excavated 30cm below the natural surface and backfilled with a locally sourced TMR type 2.5 material back to grade height.

Due to the area being a flood plain, the track needed to be level with the existing surface at the completion of the backfill and compaction.

During construction, the sub-contractor was unable to achieve specification requirements of load testing with no movement along with 97% compaction standard at pavement level.

The design scope failed the specification requirements due to a lack of treatment of the underlying black soil which was extremely moist despite the area experiencing a dry spell during construction.

OUR SOLUTION

After consultation with the Geofabrics Technical team, TenCate Mirafi RS380i was put forward as a solution based on several factors:

- The ability of TenCate Mirafi RS380i to work with non-manufactured materials over weak sub-straight
- Previous Geofabrics experience with the product in similar conditions and design parameters on a Sunshine Coast project
- The initial design and construction of fire track

Three rolls of TenCate Mirafi RS380i were sent to site for testing and a trial over 300m of the road was sanctioned. The sub-grade section was excavated and the TenCate Mirafi RS380i was laid on the existing and untreated sub-grade. Pavement was laid and compacted but not trimmed to level. Proof rolling occurred immediately after placement with fully laden moxi's.

The client was satisfied with the outcome of the project trial and instructed the contractor to continue using Mirafi RS380i under the pavement for the rest of the project.



The Mirafi RS380i has provided us with an excellent result on site. Taking into consideration the original design scope and the existing heavy black soil site conditions with DCP CBR's of 0mm @ 30cm below the subgrade. We have been able to maintain our load testing and compaction (104%) of the pavement layer through the site. We would not hesitate in using the Mirafi RSi in similar conditions again.

Wade Hind - Calibre Earthmoving



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