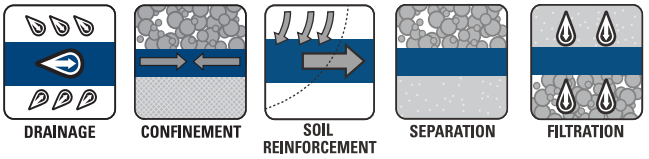
TENCATE Mirafi®



Case Study

application	Subgrade Stabilization
location	San Francisco, CA
product	Mirafi® RS580i
job owner	City of San Francisco
engineer	California Department of Transportation
contractor	CC Myers and R&L Brosamer
date of installation	March 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

The purpose of the Presidio Parkway project was a replacement of Doyle Drive, a 1.6 mile segment of Route 101 at the southern approach to the Golden Gate Bridge. The original structure was built in 1936 and did not meet current highway loading standards and was seismically deficient. Phase 1 of the nearly $1 billion project began in late 2010 and included the construction of the southbound Battery Tunnel as well as a new bridge and temporary roadway. The construction team encountered an area of saturated silty clay, commonly known as bay mud, during the construction of the tunnel approach. They were unable to get proper compaction of the road base and needed a quick solution to stay on schedule with construction.

THE DESIGN

The California Department of Transportation contacted Reed & Graham and TenCate representatives for suggested solutions to the problem. TenCate Mirafi® RS580i* high strength woven geosynthetic was suggested as the best solution for stabilization of the soft bay mud subgrade. Mirafi® RS580i is a superior performing subgrade enhancement geotextile (SEG) that incorporates the four functions necessary for reinforcing and stabilizing a road base. Unlike geogrids and separation fabrics, Mirafi® RS580i offers superior integration of separation, very high water flow, extremely high tensile modulus and confinement (through rough surface texture) in one geosynthetic product.

THE CONSTRUCTION

Mirafi® RS580i was delivered the next day and deployment began immediately. The convenient roll sizes of 15' wide by 300' long were quickly rolled out by only two workers with no wrinkles or folds. Clean granular fill was placed directly over the fabric and the contractor was easily able to achieve 95% compaction over the soft bay mud subgrade.

The artist's rendition of the new southern approach to the Golden Gate Bridge that replaces the obsolete structure built in 1936. The contractor encountered soft subgrade while excavating near the Battery Tunnel, center left.

Mirafi® RS580i was laid flat with no wrinkles or folds. A 3' overlap was recommended over the bay mud.

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THE PERFORMANCE

The placement of Mirafi® RS580i over bay muds allowed the construction team to achieve high compaction without overexcavation of the underlying soft soils. Due to the ease of installation and the superior performance of Mirafi® RS580i, the building of the road was able to stay on schedule with virtually no lost construction time.

*Patent Pending

Clean imported fill was placed over Mirafi® RS580i.

The tunnel entrance nearing completion

1012

365 South Holland Drive
Pendergrass, GA 30567

Tel 800 685 9990
Tel 706 693 2226

Fax 706 693 4400
www.mirafi.com

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