

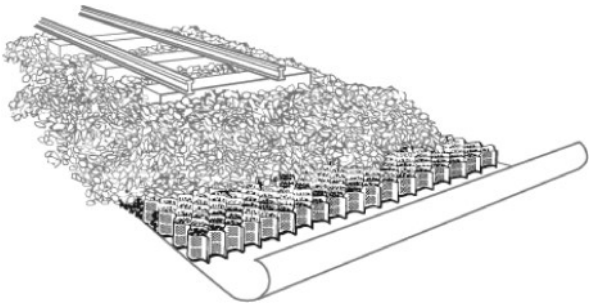
GEOWEB®

TRACK STABILIZATION SOLUTIONS
For Bridge Abutments & Rail Stations



QUEENSLAND RAIL

Booval Railway Station, Australia



Maintenance Reduction in High Impact Zones

The GEOWEB® 3D soil confinement system is **effective in reducing maintenance** in high impact areas. By stiffening the ballast layer, movement and deflection is limited and maintenance in these critical transition zones is significantly reduced.



BALLAST REINFORCEMENT IN HIGH STRESS AREAS

Frequent track maintenance issues for the Queensland Rail were reduced using a variety of innovative geosynthetic products including the GEOWEB® Soil Stabilization System.

THE PROBLEM

Queensland Rail (QR) manages a very large network of mainline track across Queensland including the Suburban lines in and around the Ipswich region. QR needs to maintain problematic sites across their network. In order to carry out this work, QR is required to shut down parts of their rail network for up to 48 hours. While this work is typically scheduled for weekends, each **track closure can be very costly and disruptive to service.**

Booval Railway Station, located in Ipswich, is a large city immediately west of Brisbane with a very high water table and soft saturated subgrade that supports the track. In mid-January, QR carried out maintenance at Booval Station. The first part was the uptrack approach to the Railway Station (approx. 330 ft long). The second part was the transition zones on each side of the concrete bridge overpass (approx. 165 ft long).

TRACK STABILIZATION SOLUTIONS For Bridge Abutments & Rail Stations



RAIL STATION LOAD SUPPORT SOLUTION

The existing platform approach had a very high water table and saturated subgrade. Approximately 330 ft of existing track, sleepers and ballast material were removed from the uptrack approach. Because of the extremely soft subgrade conditions, a 3-inch ballast layer was placed and compacted as a 'flood mat'. A layer of non-woven geotextile was installed over the ballast as a separation layer—the GEOWEB® 3D system was placed over the geotextile and filled with gravel. An additional 4 inch layer of gravel was placed and compacted over the GEOWEB® sections. A layer of Tracktex™ geocomposite was installed over the gravel.

SOIL REINFORCEMENT OF BRIDGE ABUTMENTS

Adjacent to the railway platform is a short concrete bridge that passes over Bergin Street. The same cross-section for the platform approach was adopted, but the GEOWEB® system acted as a transition zone from natural ground to the concrete bridge abutment. The GEOWEB® system plays a critical role in controlling differential settlement and distributing stress in the bridge approach area. Approximately 165 ft of existing track, sleepers and ballast material were removed from the bridge abutments and replaced with the GEOWEB system.

The GEOWEB® system stabilizes the track support material by preventing lateral movement of the infill and plays a vital role in decreasing maintenance and service interruptions.

GEOWEB® TRACK STABILIZATION SYSTEM

Railway engineers worldwide have relied on the GEOWEB technology to create high-stiffness roadbed foundations under track, and at bridge approaches, diamonds and turn-outs. The GEOWEB system is extremely effective in stabilizing track subgrades, and has even more beneficial value in soft soil areas.



IDEAS THAT WILL WORK FOR YOUR PROJECT?



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Project Evaluation**

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