



Moranbah Airport Upgrade Moranbah, Queensland, Australia

Client: BHP Billiton Mitsubishi Alliance & Empower Engineers
Project Value: \$1 million

Moranbah is a coal mining town and to accommodate ongoing growth and demand for more flights, the new airport terminal was upgraded during 2012. Geoinventions Consulting Services (GCS) was engaged by Empower Engineers to provide an alternative pavement design for the proposed car park area, long term car park expansion area and along the airfield access road which provides access for aviation refuelling vehicles.

The initial site investigations identified unsatisfactory soft subgrades within the proposed areas ranging from CBR 1.5% to 2.5%. One of the most common soft subgrade treatments is to cover the soft subgrade with $\pm 400\text{mm}$ of granular fill wrapped in a low strength geotextile to provide a stable platform for construction of the road pavement. This method of construction leads to additional material costs and increases the construction timeframe.

An innovative solution was adopted by Geoinventions which provided a more cost effective solution for this subgrade improvement. This incorporates placing a unique high strength geosynthetic reinforcement product directly over the soft subgrade.

This method was not only to improve the presumptive subgrade strength prior to construction of the pavement, but also optimized the overall road pavement thickness by approximately 30%. This provide huge cost savings on the project, allowed the project to be completed ahead of schedule and increased the life span of local quarries by using less materials.

GCS provided three pavement design sections based on different subgrade strengths and for varying design traffic loads. The project was completed and opened to public in 2014.