

# SAFER HANDLING OF GEOFABRIC ON WEST GATE TUNNEL PROJECT

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A process for simultaneously rolling out 2 layers of geofabric and geo grid was developed by workers on the West Gate Tunnel Project's East Zone.

The new process reduces the exposure to mobile plant and manual handling risks associated with handling fabric from rolls that weigh approximately 200kg.



The geofabric and geo grid roller

## The Situation

More than 40,000m<sup>2</sup> of geofabric was required to be laid to provide structural reinforcement for the construction of hardstands and crane platforms across the East Zone. This was in areas where the underlying ground geology is predominantly the unstable Coode Island Silt.

The process required a layer of geofabric and geo grid, which was then topped with 200mm of road base and compacted. This layering was to be repeated 2 more times to achieve the required design strength for the crane platforms.

The process was previously undertaken manually by rolling out the fabric along the ground, or with an excavator with a sling attachment. With rolls weighing approximately 200kg, neither of these methods provided a best practice safety or suitable time / cost value proposition based on the project scope application.

## The Solution

A safer method of laying the 2 layers of geofabric and geo grid was developed by the superintendent and supported by the engineering team. A cradle was designed to hold both fabric rolls in a secure and fixed position on a central pivot. The cradle is attached to a telehandler or loader fork attachment, allowing the fabric to be laid accurately in multiple settings and topography. The fabric is typically placed on the ground and the telehandler or loader drives forward onto the fabric, keeping the fabric in place. Where required to be laid backwards, fabric layers are weighted or pinned to secure them.

This methodology results in an improved alignment and placement of fabric, thereby minimising unplanned movement of rolls or the need to manually move the rolls.

## Benefits and learnings

The process reduced the worker's exposure to manual handling risks when laying the fabric, where they would previously push or pull the fabric roll out manually, or using a sling attachment connected to a mini excavator.

Personnel assisting on the ground act mainly as a spotter and remain outside of the plant operating zone at all times when the fabric is being rolled out. Simultaneous laying of fabric is a safer way to lay the fabric and significantly more efficient reducing overall cost, due to the time savings from reduced plant and labour costs. By laying two layers simultaneously, the installation time is effectively halved.

**Program Office:** West Gate Tunnel Project  
**Work Package:** East Zone  
**Principal Contractor:** CPBJH

**Solution Vendor:** N/A  
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