



CASE STUDY:

KULIJA RD EROSION PROTECTION

**ROCKINGHAM, WESTERN AUSTRALIA
AUGUST 2014**

CLIENT: CITY OF ROCKINGHAM

Grassroots®

Grassroots is an erosion control matting designed to protect underlying soil in steep slopes and channels from moderate to high velocity water flows, rain splash and other erosive conditions, while allowing seeds to germinate successfully and grow through the matting providing permanent vegetative reinforcement.

Grassroots is made in Australia by Geofabrics from heavy synthetic UV stabilised fibres which are needle punched together into an open weave synthetic scrim creating a three-dimensional structure which holds vegetation in place in extreme environmental conditions.

The City of Rockingham upgraded and extended Mundijong Road in 2013 to form Kuliya road. More than \$6 million in Federal funding was secured by the City of Rockingham to help build the 5 kilometre extension connecting the Kwinana Freeway, at the Baldivis Road exit, to Mandurah and Dixon roads.

This new road is a vital road corridor from the Kwinana Freeway to Rockingham's city centre which will improve access to the region's commercial and industrial areas.

Erosion problems started to occur soon after completion due to an uncontrolled flow from a piped outlet system that was washing sand and soils down an 80 m long slope of approximately 8.75% grade causing major channel erosion. More erosion was occurring on road side embankment slopes due to water runoff from the unkerbed road travelling down embankment slopes next to the road.

Geofabrics were approached by the City of Rockingham to propose a long-term solution for these problems. Geofabrics visited the site to inspect the issues first hand.

Following this visit, the use of Grassroots® turf reinforcement matting was proposed as a permanent solution that was preferred over other biodegradable and cellular confinement options. Grassroots® was an ideal solution due to being UV stable and protecting the underlying soil from high velocity water flows whilst also having the benefit of promoting grass to grow, allowing it to blend seamlessly into the environment.



Outlet erosion before the solution



Completed install at drain outlet and 80 m slope



During installation in 2014



The same spot as above photo upon revisiting in September 2018



The same spot as cover image in September 2018

Geofabrics visited the project location in September 2018 to see how this solution has performed over a long-term period. The results are fantastic with no erosion occurring with the added benefit of vegetation establishing and thriving.

A cost effective and long-term solution was achieved for the client.