



## **RAPID GRASS** **EROSION CONTROL**



Freshly constructed batters (Black Mountain)

Reduce maintenance costs, construction risks and environmental harm through effective erosion control treatment

After Rapid Grass treatment (Black Mountain)



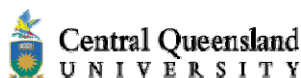
Erosion of railway embankment and cutting batters present a high damage risk potential during construction, increase infrastructure maintenance costs, can disrupt normal train operations through outages and derailments, and may cause environmental degradation outside the rail corridor.

Water erosion of the soil is caused by a two-part process. Raindrop impact and runoff cause soil particles to detach, and detached soil particles are transported by runoff. Erosion may occur in different forms such as splash, sheet, rill, gully and tunnel (piping) erosion.

The main objectives in preventing erosion and sediment production are to quickly protect bare soil from rainfall impact, and to also manage water run-off. Sedimentation is managed by slowing flow and creating areas where sediment can be trapped or allowed to settle.

For the past eight years, QR and the Centre for Railway Engineering at Central Queensland University have been conducting research on cost-effective strategies to mitigate erosion problems within railway corridors.

We are now extending our erosion control expertise to other railway systems within Australia and overseas.



# RAPID GRASS EROSION CONTROL TREATMENT



Before and after rehabilitation (Boundary Hill)

We will analyse your specific erosion problems and design a strategic erosion control plan customised to your local conditions. Erosion control processes can involve some or all of the following:

- Topsoiling or amelioration of the surface soil with lime or gypsum where it is established that the surface soil is dispersive, sodic, saline and/or has an extreme pH.
- Fertilisers spread to provide a medium conducive to rapid growth of grasses.
- Cheap mulch (waste ballast) or erosion control blankets are spread or laid to protect grass seeds/ seedlings and ameliorants from washout by high intensity and short duration rainfall.
- Grass seeding with non-pest species that are fast growing and accepting of local conditions.
- A cost effective drip irrigation system to aid grass establishment is an integral part of the erosion control process options; the choice of water source depends on availability and cost.
- In order to reduce the treatment costs, the embankment and cutting batters may be categorised with different levels of treatment.

Rapid Grass processes will give your company the opportunity to secure a cost effective and sustainable method of erosion control to remain financially viable in an environmentally conscious future.

## KEY BENEFITS OF RAPID GRASS EROSION CONTROL:

- Minimisation of maintenance costs
- Minimisation of interruptions to normal train operations
- Minimisation of the risks of moisture and erosion induced formation failures and associated outages or derailments
- Minimisation of failures of railway signalling systems due to fouling of ballast by sediment
- Aesthetically pleasing batters and surrounds will enhance your company's image
- Minimisation of the risk of lawsuits resulting from sediment delivery from your easements to nearby water courses (e.g. creeks, stock ponds)
- Compliance with environmental legislative requirements



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