

## **REVEGETATION PLAN**

Tanami Road, Carranya Section Stage 2 (SLK 132 - 156) Gravel Resheeting, Formation and Drainage Improvements



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# TANAMI ROAD UPGRADE, CARRANYA SECTION STAGE 2 (SLK 132 – 156)

#### REVEGETATION PLAN

#### 1. PROJECT DESCRIPTION

## 1.1 Purpose

Main Roads Western Australia (MRWA) has a policy aim to "protect and enhance the environmental values of road reserves". This document has been prepared to ensure compliance with Main Roads' Environmental Policy and Main Roads' statewide Purpose Permit CPS 818/4.

In the process of establishing new roads and upgrading existing roads, there is often a need to undertake revegetation of the road reserve or other affected areas. Where clearing of native vegetation is to occur under Main Roads' statewide Purpose Permit CPS 818/4, a revegetation plan is required for temporary clearing (eg. borrow pits, access tracks, camps etc.). Where the temporary clearing exceeds 0.5ha, the revegetation plan needs to be forwarded to the Department of Environment and Conservation prior to clearing.

This revegetation plan sets out the revegetation requirements for the Tanami Road, Carranya section Stage 2 proposal, SLK 132 - 156.

The purpose of the revegetation plan is to identify effective revegetation practices that help accelerate the natural succession processes that occur following the clearing of native vegetation and soil disturbance.

## 1.2 Project Description

MRWA in conjunction with the Shire of Halls Creek is currently planning to commence road formation, gravel sheeting and drainage improvements along approximately 24 km of the Tanami Road (SLK 132 - 156). The section of Tanami Road extends north from the access road to Billiluna community at approximately 156 SLK. The proposed work will improve the road condition, provide increased serviceability, reduce maintenance and freight costs and improve the level of serviceability to the local community.

Clearing of remnant native vegetation will occur for the removal of borrow and gravel material for embankment fill and gravel resheeting of the existing gravel road. Minor road widening, establishment of a temporary sidetrack for traffic diversion and the establishment of offshoot drains will also result in clearing of vegetation.

#### 1.3 Study Area

Figures 1 and 2 provide a locality map of the Tanami Road, Carranya section Stage 2 project area and associated alignment corridor and materials investigation areas.

Easting and northing coordinates for each of the materials investigation areas have been included on the figures. The start and finish SLKs of the alignment corridor and proposed bore locations have also been included (MGAZ52). If necessary, these images can be forwarded to you as a jpg file to allow easier interpretation of coordinates.

Approximately 48 hectares of vegetation will be temporarily cleared to allow for minor road widening, establishment of a temporary sidetrack for traffic diversion and the extraction of road building materials. These areas will be rehabilitated once construction works are complete.

Permanent Clearing = 19 ha approx. Temporary Clearing = 48 ha approx.

The areas to be rehabilitated are shown in Table 1:

Table 1: Revegetation Area Details

Туре	Area
Temporary clearing revegetation	48 hectares
Other revegetation	

# TANAMI ROAD CARRUNYA STAGE 2 SLK 132-156 Materials Locations and Construction Corridor

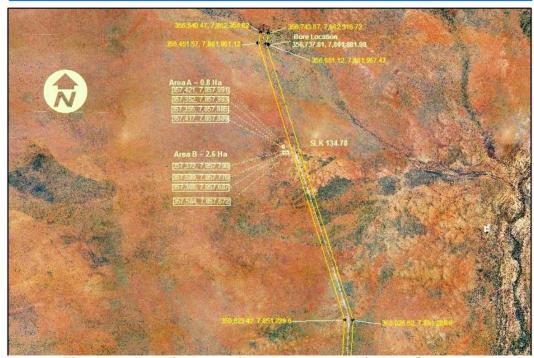


Figure 1...Locality map of works proposed for the Carranya section of the Tanami Rd.

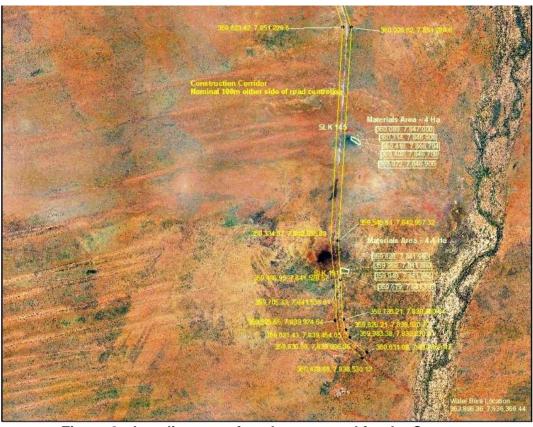


Figure 2...Locality map of works proposed for the Carranya section of the Tanami Rd.

## 1.4 Existing vegetation

Vegetation type, extent and conservation status (after Shepherd *et al.*, 2002) for the Tanami Road upgrade:

Vegetation Association Number	Association Description	% Remaining
849	Hummock grasslands, low tree steppe; snappy gum & bloodwood over soft spinifex	100.0

#### 1.5 Weeds

The occurrence and extent of weeds within the project area are likely to be low given the projects isolated location.

#### 2. SITE PREPARATION

## 2.1 Vegetation clearing, mulching and re-use

All vegetation will be cleared from the works area and non-weed infested vegetation will be stockpiled. Stockpiled vegetation will not be placed on the very edge of the approved cleared area in order to prevent machinery going outside the cleared area to push the stockpile forward again. Weed infested vegetation will be disposed of at an appropriate site. Burning of the cleared vegetation will not be permitted.

#### 2.2 Topsoil stripping and re-use

Topsoil will be stripped to a maximum depth of 100 mm. Topsoil will be stored in a weed free (as far as possible) area, as close as possible to the area to be rehabilitated. The topsoil will be placed in windrows of less than 1.5m in height and reinstated as soon as possible, to prevent deterioration to the in-situ seeds and maintain seed viability.

#### 3. WEED CONTROL

Adequate control measures will be incorporated to ensure weeds are killed or not transported to other areas. Control measures include removal of weeds to an approved dump site or treatment of weeds such as using herbicide spraying.

Herbicide spraying shall only be carried out by licensed operators and herbicide shall be mixed and applied in accordance with manufacturer's instructions.

Where practicable, weeds should not be removed when they are in flower or seeding.

All machinery shall be free of built up soil and vegetative material before entering and leaving the site to help minimise the transportation of weeds and their seeds.

Exposed areas such as bare batters and borrow pits shall be promptly rehabilitated to reduce the ingress of weeds.

Where works are adjacent to good quality vegetation, weeds within the project area will be removed or killed once a year for 5 years.

#### 4. REVEGETATION THROUGH REGENERATION

## 4.1 Revegetation objectives

The revegetation objectives are to:

- Ensure roadside stability and minimise ongoing maintenance;
- Ensure that conservation values and biodiversity are protected; and
- Ensure local amenity and aesthetics are enhanced.

## 4.2 Required vegetation cover

The roadside vegetation should be similar in structure and content to comparable naturally occurring vegetation in the local area and will reflect the vegetation communities present in the road reserve and adjacent bushland. The width of the vegetation setbacks and clearances will be appropriate for the specific location and will be dependent on an assessment of the road design speed, road alignment and the roadside batter slopes.

## 4.3 Revegetation Techniques

The following rehabilitation works shall be undertaken on areas of disturbed earth requiring rehabilitation:

- Topsoil will be uniformly respread to a minimum depth of 100mm over the area; and
- Area to be ripped to a minimum depth of 200mm deep with rip lines approximately 300mm apart. Where slopes are present, rip lines shall be along contours.

The following rehabilitation work shall be undertaken at borrow/gravel pits:

- Overburden and then topsoil shall be uniformly and evenly spread over the disturbed areas of the pit. Depending on the slope of drainage lines within the pit, it may be necessary to form small swales from the topsoil to reduce erosion velocities and encourage the deposition of seeds.
- The existing pit floor shall be ripped to a depth of 300 500mm deep with rip lines between 500 800mm apart, if the material in the floor of the pit is able to be ripped. The whole area of the pit, including drainage lines, shall be ripped.
- All stockpiled vegetation shall be spread along the contour and pit floor to help promote seed deposition and further reduce erosion velocities.

## 5. VEGETATION ESTABLISHMENT PERIOD

The vegetation establishment period will be for at least twelve months following the completion of the works. During this period, the maintenance and monitoring will be undertaken, see Section 6.

## 6. ONGOING MAINTENANCE AND MONITORING

Maintenance and monitoring of the project shall be ongoing to measure regeneration effectiveness and to control weeds.

## 6.1 Maintenance and Monitoring

After revegetation works, revegetated areas will be inspected every twelve months for a total of 24 months to monitor and control weeds and to measure the effectiveness of revegetation works.

Monitoring will comprise the use of criteria. Essentially, this involves visual assessment to ensure the revegetation works have been implemented as planned. Table 2 shall be used as the monitoring guide to assess the success or otherwise of the revegetation plan.

Due to the variable rainfall patterns in pastoral areas, revegetation works may not be successful, despite the use of best management practices.

Table 2: Revegetation Monitoring Guide

Criterion	Target	After three	After one	After three
		months	year	years
Mean vegetation foliage cover (%) excluding weeds.	>50	0	20	40
Mean weed foliage cover (%).	<20	<20	<20	<20
Amount of bare soil areas >4m <sup>2</sup> (%).	<30	<100	<80	<70