



**1. Application details**

**1.1. Permit application details**

Permit application No.: 1573/1  
 Permit type: Purpose Permit

**1.2. Proponent details**

Proponent's name: Shire of Carnarvon

**1.3. Property details**

Property: ROAD RESERVE ( CARNARVON 6701)  
 ROAD RESERVE ( CARNARVON 6701)  
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 Local Government Area: Shire Of Carnarvon  
 Colloquial name: Carnarvon Road / HMAS Sydney II Memorial Drive

**1.4. Application**

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		Mechanical Removal	Road construction or maintenance

**2. Site Information**

**2.1. Existing environment and information**

**2.1.1. Description of the native vegetation under application**

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 308: Mosaic: Shrublands; Acacia sclerosperma sparse scrub / Succulent steppe; saltbush & bluebush. Shepherd et al. 2001.	The area under application is for the removal of 5 ha of native vegetation along the Carnarvon and HMAS Sydney Memorial Drive roads, to allow for landscaping and possibly some road realignment. The road is some 6km and the verge area under application varies greatly along this length, as it has been disturbed by previous clearing and landscaping. The vegetation within the proposed clearing area includes saltbush, bluebush, acacias and possibly lignin (Muehlenbeckia spp.) and a small number of eucalyptus trees. The condition of the vegetation that remains would best be described as Very Good (Keighery, 1994)	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition of the vegetation was determined as a result of the DEC Site Visit conducted on the 2nd of November 2006.

**3. Assessment of application against clearing principles**

**(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.**

**Comments** **Proposal is not likely to be at variance to this Principle**  
 The proposal is to clear five hectares of native vegetation within the road reserves along Carnarvon/ HMAS Sydney Memorial Roads to protect road edges, allow ongoing maintenance and to provide safe pedestrian passage. The area under application is described as Beard Vegetation Association 308, which is common to the Carnarvon region and well represented with 99% of its pre-European extent remaining. The road is some 6km in total, and the verge area under application varies greatly along this length, having been disturbed by previous clearing and landscaping. Native vegetation within the proposed clearing area includes saltbush, bluebush, acacias and possibly lignin (Muehlenbeckia spp.), and a small number of eucalyptus trees. The condition of the vegetation that remains would best be described as Very Good (Keighery, 1994)

Given the linear nature of the area proposed to be cleared, and that the original biodiversity and habitat value appears to have been compromised as a result of previous disturbances (DEC Site Visit Report, 2006) it is unlikely that the area under application comprises a high level of biodiversity.

**Methodology** DEC Site Visit Report (2006)  
Keighery (1994)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments** **Proposal is not likely to be at variance to this Principle**  
The Shire of Carnarvon is proposing to clear five hectares of native vegetation within road reserves for the purpose of road maintenance and to provide safe pedestrian passage. DEC Site Visit Report (2006) found the area to be cleared is in Very Good condition (Keighery, 1994) with obvious signs of disturbance as a result of previous clearing and landscaping activities. Although it appears that the original biodiversity and habitat value has been compromised, the basic vegetative structure remaining may provide habitat for local fauna populations. However, given the linear shape and relatively small size (5ha) of the proposed clearing, its proximity to well-vegetated areas of similar habitat value, and that the Beard Vegetation Association of the proposed clearing is well represented within the region, it is unlikely that the proposed clearing is necessary for the maintenance of significant habitat for fauna indigenous to Western Australia.

Therefore, the proposed clearing is unlikely to be at variance to this principle.

**Methodology** DEC Site Visit Report (2006)  
Keighery (1994)  
GIS Databases:  
- Pre-European Vegetation - DA 01/01

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments** **Proposal is not at variance to this Principle**  
Mapping indicates that there are no known records of Declared Rare or Priority flora occurring within a 10km radius of the proposed clearing. The closest occurrence of significant flora is a Priority 2 species that is located approximately 80km from the area under application. Therefore it is highly unlikely that the proposed clearing would be necessary for the continued existence of rare flora.

**Methodology** GIS Databases:  
- Declared Rare and Priority Flora list - CALM 01/07/05

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments** **Proposal is not at variance to this Principle**  
Mapping indicates there are no Threatened Ecological Communities (TECs) or Threatened Plant Communities (TPCs) within a 100 kilometre radius of the area under application. Therefore the proposal is not at variance to this Principle.

**Methodology** GIS Database:  
- Threatened Ecological Communities - CALM 12/04/05  
- Threatened Plant Communities - DEP 06/95

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments** **Proposal is not at variance to this Principle**

Pre-European (ha)*	Current Extent (ha)*	Remaining (%)**	Conservation Status**
IBRA Bioregion: Carnarvon	8,532,963	8,532,963	100 Least concern
Beard Unit 308	496,965	491,901	99.0 Least concern

\* (Shepherd et al. 2001)  
\*\* (Department of Natural Resources and Environment 2002)  
\*\*\* Within the Intensive Landuse Zone

The area under application is located in the Shire of Carnarvon and within the Carnarvon Bioregion. Although there is no available data for the former, the extent of pre-European vegetation within the Carnarvon Bioregion is 100%.

The vegetation proposed to be cleared is a component of Beard Vegetation Association 308 (Hopkins et al., 2001) of which 99% of its pre-European extent remains (Shepherd et al., 2001). Both the Carnarvon Bioregion and Beard Vegetation Association 308 have a conservation status of 'least concern' (Department of Natural Resources and Environment 2002).

Given that the proposed clearing does not fall within an extensively cleared area and that the pre-European extent of the Carnarvon Bioregion and Beard Vegetation Association meet the National Objectives Targets for Biodiversity Conservation 2001 - 2005 (being greater than 30% of that present pre-1750) this proposal is not at variance to this principle.

**Methodology** Shepherd et al (2001)  
Hopkins et al., 2001  
Department of Natural Resources and Environment (2002)  
GIS Database:  
- Pre-European Vegetation - DA 10/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no wetlands directly associated with the proposed clearing site. The closest wetland is an ANCA Wetland, the McNeill Claypan System, located approximately 500m to the north-west of the proposed clearing. An area of mangroves is located approximately 550m to the south-west of the proposed clearing and forms part of the Wooramel Seagrass Bank which is classified as an Environmentally Sensitive Area (Register of the National Estate).

A minor non-perennial watercourse and a small watercourse pass through the area proposed to be cleared. Given that the area under application is within existing road reserves, all watercourses have been previously diverted through culverts or under bridges.

Given the distance to the nearby wetlands, and that clearing is within existing road reserves where all watercourses have been previously diverted, the clearing of native vegetation is unlikely to impact on watercourses or wetlands within the local area.

**Methodology** GIS Database:  
- Hydrography, Linear - DOE 1/2/04  
- Rivers250K - GA  
- ANCA, Wetlands - CALM 08/01  
- Clearing Regulations - Environmentally Sensitive Areas - DOE 30/5/05  
- Register of National Estate - EA 28/01/03

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments Proposal is not likely to be at variance to this Principle**

The topography of the region is relatively flat, with a mean annual rainfall of 300mm.

The area under application lies within close proximity to mangrove areas and tidal flats of the Carnarvon estuarine system. These estuarine areas have been identified as having a high to moderate risk of Acid Sulphate Soil (ASS) materials occurring within 3m of natural soil surfaces that could be disturbed by most land development activities (ie drainage, excavations, dewatering).

Although the proposed clearing of native vegetation may cause some short term land degradation issues in terms of localised water logging and soil erosion during works, this should be minimised as works will include roadside infrastructure to prevent any associated land degradation (ie table drains and culverts).

Given the above, the proposal is unlikely to be at variance to this principle.

**Methodology** GIS Database:  
- Topographic Contours, Statewide - DOLA 12/09/02  
- Rainfall, Mean Annual - BOM 30/09/01  
- Acid Sulphate Soil Risk Map, Estuaries - DEC

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not at variance to this Principle**

The area proposed to be cleared does not lie within any areas set aside for conservation. The closest conservation area is Wooramel Seagrass Bank, listed on the Register of National Estate and located 323m to the south of the area under application. As this conservation area falls within a marine environment which has a different vegetation type to the vegetation to be cleared, it is not expected that the proposed clearing will impact on the environmental values of this conservation area.

Two 'A' Class Reserves, Chinaman's Pool Nature Reserve and One Tree Point Nature Reserve, are located 2.2kms NE and 2.3km NW respectively of the area under application. These reserves are of the same Beard Vegetation Association as the proposed clearing, of which there is 99% of its pre-European extent remaining.

Given that the vegetation proposed to be cleared is well represented with 99% of its pre-European extent remaining, it is not expected that removal of five hectares of native vegetation for road maintenance will impact on the environmental values of nearby conservation areas.

Therefore the proposal is not at variance to this principle.

**Methodology** GIS Database:  
- CALM Managed Lands and Waters - CALM 1/07/05  
- Register of National Estate - EA 28/01/03

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Comments Proposal is not likely to be at variance to this Principle**

The proposed clearing site lies within the Gascoyne River Catchment. The region is of low relief with an annual rainfall of 300mm. Groundwater salinity is mapped at between 3000 and 7000 mg/L. The most recent depth to groundwater data was recorded on 27/09/05 as 6.05m from Top of Casing (TOC) at a monitoring bore located approximately 3.6km north of the proposed clearing.

The proposed clearing for roadworks may cause some short term water quality issues in terms of localised surface water sedimentation during works. However, these issues should be minimised as roadworks will include roadside infrastructure to prevent water quality issues associated with roads (ie table drains and culverts).

Due to the small area proposed to be cleared in relation to the topography, it is unlikely that the clearing of native vegetation for roadworks will cause deterioration in the quality of surface water or groundwater within the local area.

**Methodology** GIS Database:  
- Hydrographic Catchments - Catchments - DOE 23/03/05  
- Rainfall, Mean Annual - BOM 30/09/01  
- Topographic Contours, Statewide - DOLA 12/09/02  
- Groundwater Salinity, Statewide - 22/02/00

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments**

Due to the scale and linear nature of the proposed clearing for roadworks, it is unlikely to exacerbate flooding within the local area.

**Methodology** DEC Site Visit Report (2006)

**Planning Instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

No submissions from the public have been received.  
There is no further requirement for a RIWI Act Licence, Works Approval or EP Act Licence for the area under application.

There is a Native Title Claim over the area under application. The Department of Environment and Conservation's advertising of the application in the West Australian Newspaper constitutes legal notification of the Native Title representative body for the purpose of the future act procedures under the Native Title Act 1993. No response was received from the representative body.

Three Aboriginal Sites of Significance are listed within the area under application. These are Chinaman's Pool,

Kuwinwardu Soak and Titiwarra Soak. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process. The permit holder will be notified of their obligations under the Aboriginal Heritage Act 1972 in the cover letter to this permit.

**Methodology** GIS Database:  
 - Native Title Claims - DLI 07/11/05  
 - Aboriginal Sites of Significance - DIA

#### 4. Assessor's comments

Purpose	Method Applied	area (ha)/ trees	Comment
Road construction or maintenance	Mechanical Removal	5	The assessable criteria have been addressed, and the proposal is not at variance to Principles (c), (d), (e) and (h); and is not likely to be at variance to Principles (a), (b), (f), (g), (i) and (j).

#### 5. References

- DEC Site visit Report (November 2006). TRIM Ref DOC 13151  
 Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.  
 Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.  
 Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.  
 Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

#### 6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)