



1. Application details

1.1. Permit application details

Permit application No.: 1432/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Wanneroo

1.3. Property details

Property: ROAD RESERVE (CARABOODA 6033)

Local Government Area: City Of Wanneroo

Colloquial name: Road Reserve along Karoborup Road

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.95		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
Heddlle Vegetation Complexes: - Cottesloe complex - Central\And South; woodland and open forest and closed heath - Herdsman complex; sedgeland and fringing woodland	The purpose of the clearing permit is for road realignment and widening of Karoborup Road within the City of Wanneroo. Total area of the proposed clearing is 0.95ha within road reserves. The area to be cleared has signs of previous disturbance and is in degraded condition (Keighery, 1994) consisting of a sparse and scattered upper storey of Eucalyptus (Marri and Tuart), little or no middle storey, and degraded understorey consisting of a dense weed layer.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	'Degraded' condition was selected to represent the vegetation in the proposed clearing area, which was sighted during a site visit undertaken by DEC staff in September 2006.
Heddlle Vegetation Complexes: - Cottesloe complex - Central\And South; woodland and open forest and closed heath - Herdsman complex; sedgeland and fringing woodland	Native vegetation along one section of Karoborup Rd was considered to be in good condition (Keighery, 1994). This is located on the northern side of Karoborup Rd at a bend that requires realigning. The strata at this site is more structured with upper, middle and understorey present. Weed invasion is evident.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	'Good' condition was selected to represent the vegetation in the proposed clearing area, which was sighted during a site visit undertaken by DEC staff in September 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

A site visit of the area proposed to be cleared (0.95ha) found it to be in degraded to good condition consisting of a sparse and scattered upper storey of Eucalyptus (Marri and Tuart), little or no middle storey, and degraded understorey consisting of a dense weed layer.

The area under application lies within road reserves and as such is likely to become further degraded (without

management) due to edge effects, weed invasion and surrounding activities. The high level of disturbance at this site, low native species density and diversity, and extensive weed invasion suggest that the original biodiversity has been significantly compromised.

Given the low levels of species and ecosystem diversity, it is unlikely that the roadside vegetation is representative of an area of outstanding biodiversity in the Bioregion or local area.

Methodology Site Visit (2006)

(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 City of Wanneroo is proposing to reconstruct and/or widen a total of 0.95 hectares along Karoborup Rd within road reserves only. A site visit (September, 2006) found the roadside vegetation to be Degraded to Good (Keighery, 1994). The majority of the vegetation is degraded with no understorey and little or no middle storey present. Upper storey comprises few and scattered Eucalyptus (Marri and Tuart). Extensive weed invasion is evident along both sides of the entire length of Karoborup Rd.

The high level of disturbance at this site, extensive weed invasion and limited diversity of native species suggests that the original biodiversity and habitat value has been significantly compromised. The vegetation is therefore unlikely to provide a significant habitat for indigenous fauna.

Methodology DEC Site Visit (2006)
Keighery (1994)

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

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

There are no mapped declared rare flora (DRF) within 1km of the proposed area to be cleared. Seven sites of DRF occur to the south-east of the area under application, the closest being 4.5kms from the proposed clearing site. A Dec site visit (2006) confirmed the absence of understorey species and the degraded nature of the area under application. It is therefore unlikely that the area to be cleared is necessary for the continued existence of the rare flora.

Methodology DEC Site Visit (2006)
GIS Database:
- 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 likely to be at variance to this Principle

There are several occurrences of threatened ecological communities (TECs) within the local area, the closest being two sites approximately 500m WSW from the proposed clearing site. Biodiversity Coordination Section, DEC (2006) has advised that the TECs identified as 'Carabooda01', and 'Carabooda02' are known as Community type 26a 'Melaleuca huegelii - Melaleuca acerosa (currently M. systema) shrublands on limestone ridges.' (Gibson et al. 1994 type 26a). Site visit photographs of the area under application depict species that are inconsistent with recorded occurrences of this vegetation community. The geomorphology also appears inconsistent, as the proposed clearing site is lower in the landscape than the aforementioned occurrences, and appears to be devoid of limestone outcropping that is characteristic of the vegetation type of the TEC (BCS DEC 2006).

In summary, the proposed clearing is unlikely to include a Threatened Ecological Community and is unlikely to impact the nearby recorded occurrences of TECs.

Methodology Biodiversity Coordination Section, DEC (2006)
Gibson et al. (1994)
GIS Database:
- Threatened Ecological communities - CALM 12/04/05
- Threatened Plant Communities - DEP 06/95
- Environmentally Sensitive Areas - DOE 30/5/05

(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 likely to be at variance to this Principle

The area under application is located within the Swan Coastal Plain Bioregion, where 41.8% (Shepherd et al., 2001) of pre-European vegetation is remaining within the intensive land-use zone (ILZ). The vegetation proposed to

be cleared is a component of Heddlu Vegetation Complexes:

- Cottesloe Complex - Central And\South - woodland and open forest and closed heath; 41.4% of pre-European extent remaining
 - Herdsman Complex - sedgeland and fringing woodland; 34.6% of pre-European extent remaining
- These vegetation types are therefore considered 'Depleted' (>30% and up to 50% of pre-European extent remains) for biodiversity conservation (Department of Natural Resources and Environment 2002). Given the degraded and the linear nature of the area under application, it is unlikely the proposed clearing would be significant as a remnant of native vegetation in an area that has been extensively cleared.

Methodology Shepherd et al (2001)
Havel et al. (1980)
Department of Natural Resources and Environment (2002)
GIS Database:
- Heddlu Vegetation Complexes - DEP 21/06/95

(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

The proposed clearing site lies within close proximity to an EPP Lake (approximately 110m), which has been mapped a Resource Enhancement Wetland (Carabooda Lake) (DEC 2006).

The area under application is in existing road reserves and within a separate vegetation type to that within the mapped wetland. Due to the distance from the mapped wetland and the condition of the vegetation, it is unlikely that the area under application is at variance to this principle.

Methodology GIS Database:
- Geomorphic Wetlands, Swan coastal Plain - DEC
- EPP Lakes - DEP 1/12/92
- EPP Wetlands (draft) - DEP 21/07/04
- Ramsar Wetlands - CALM 14/02/03
- ANCA Wetlands - CALM 08/01
- Clearing Regulations - Environmentally Sensitive Areas DoE 8/03/05

(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

An area of high risk Acid Sulphate Soils (ASS) has been mapped within close proximity (125m) of the proposed clearing area. This area correlates closely to the previously identified EPP Lake (Carabooda Lake) and is identified as Class 1 - High to moderate risk of ASS occurring within 3 m of natural soil surface that could be disturbed by most land development activities (drainage, excavations, dewatering).

Although the proposed clearing 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 on the existing road have roadside infrastructure to prevent any associated land degradation ie. table drains and culverts.

Methodology GIS Database:
- Acid Sulphate Soil risk map, SCP DOE 04/11/04

(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 likely to be at variance to this Principle

The area proposed to be cleared does not lie within areas set aside for conservation. However, the closest conservation area is a Bush Forever site located 100m west of the proposed clearing site across Wanneroo Rd.

The proposed clearing is unlikely to have any impact on the nearby conservation area as the Bush Forever Site and the area under application are separated by a major transport route (Wanneroo Rd); additionally, clearing will be confined within the road reserve.

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 1/07/05
- WRC Estate - DOE 9/04
- Bush Forever - MFP 07/01
- 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 Swan Coastal Catchment. Monitoring bores within a radius of 500m from the area under application indicate groundwater depth to be between (approximately) 12.0m and 20.0m below ground level. Groundwater salinity (measured as Total Dissolved Solids) ranges from <500 - 1000mg/L. Relative to these figures, the proposed clearing is unlikely to compromise groundwater quality.

The region is of low relief with shallow gradients, and has an annual rainfall of 800mm. 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 for roadworks, it is unlikely the area under application 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
- WIN Groundwater Sites, Monitoring - DEWCP (Current)
- Groundwater Salinity, Statewide - 22/02/00
- Rainfall, Mean Annual - BOM 30/09/01
- Topographic Contours, Statewide - DOLA 12/09/02

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

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

Due to the small area proposed to be cleared for roadworks, it is unlikely to exacerbate flooding within the local area.

Methodology GIS Database:
- Topographic Contours, Statewide - DOLA 12/09/02

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

One submission from the public has been received. The submission raised concerns regarding the condition of the vegetation to be cleared, and the sighting of Carnaby's Cockatoos in mature trees within the road reserve. These issues have been addressed in Principles (a) and (b).

There is no Native Title over the area under application.

There are no other statutory approvals that are required to undertake the proposed clearing.

Methodology GIS Database:
- Native Title Claims - DLI 07/11/05
- RIWI Act, Areas - WRC 05/04/02

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Road construction or maintenance	Mechanical Removal	0.95	Grant	It is recommended the City of Wanneroo be granted a permit to clear 0.95 hectares of native vegetation for road realignment and widening. Assessment of the application found the proposal is not likely to be at variance to Principles (a), (b), (c), (d), (e), (f), (g), (h), (i) or (j).

5. References

Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC5836

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.

Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.

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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)