



1. Application details

1.1. Permit application details

Permit application No.: 1521/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Shire of Ngaanyatjarraku

1.3. Property details

Property: LOT 9 ON PLAN 91722 NGAANYATJARRA-GILES 0872
 Local Government Area: Shire Of Ngaanyatjarraku
 Colloquial name: Two sections of road works on Great Central Road between Warburton and Giles, and one section of road works on Jameson-Wanarn Road, and seven gravel pits.

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
112		Mechanical Removal	Extractive Industry
25		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 18: Low woodland; mulga (Acacia aneura).	The areas under application are for the purpose of an upgrade and realignment of Great Central Road and Jameson-Wanarn Road and gravel extraction. The proposed road works comprises of two sections of Great Central Road between Warburton and Giles, and one section of Jameson-Wanarn Road (Total area of 25ha). The gravel extraction comprises of seven gravel pits which are 400m x 400m (Total area of 112ha).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation under application is considered to be in an excellent condition due to information from the proponent (2006) (TRIM Ref DOC1521) stating that there was grazing in the area in the 1980's, but since then stock has been removed and the areas have fully recovered with no signs of degradation.
Beard vegetation association 19: Low woodland; mulga between sand ridges.			
Beard vegetation association 95: Hummock grasslands, shrub steppe; acacia and grevillea over Triodia basedowii.			
(Hopkins et al. 2001; Shepherd et al. 2001).	The vegetation proposed to be cleared is described as Spinifex (Triodia species), Mulga (Acacia aneura) and Flinders Grass (Iseilema spp.) (Information provided by the proponent 2006) (TRIM Ref DOC1521).		

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 areas under application are located within Ranges of the Western Desert (Aboriginal Reserve 17614), an area listed on the Register of the National Estate. The Ranges, which extend over 8,000,000ha, are registered for natural values and are recognised as having 'Indigenous values of National Estate significance'. Given the linearity (road works) and size (road work and gravel pits) of the areas under application (137ha) relative to the area on the Register, it is unlikely that the clearing as proposed would have a significant impact on the natural values of the wider area.

The areas under application (proposed road realignment and gravel pit) are adjacent to existing roads, Great Central Road and Jameson-Wanarn Road and are therefore likely to have been subject to some disturbance. Further, the proposed three sections of road works are long and linear in shape, extending over a total area of >20km in length.

Given the existing road and associated infrastructure, it is considered unlikely the areas under application comprise a higher level of biological diversity than that of other less disturbed areas in the local area.

Methodology Information provided by the proponent (2006) (TRIM Ref DOC7314)
GIS databases:
- System 1 to 5 and 7 to 12 Areas - DEP 06/95

(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 areas under application are located within Aboriginal Reserve 17614, an area covering approximately 8,000,000ha, with extensive, well-represented habitat that will offset habitat loss arising from the proposed clearing. The vegetation proposed to be cleared for roadwork and gravel pits is adjacent to the existing roads, Great Central Road and Jameson-Wanarn Road, within areas previously disturbed. It is therefore considered that the vegetation in these areas is not likely to be necessary for the maintenance of significant habitat for fauna indigenous to Western Australia.

Biodiversity Coordination Section, DEC (2006) advised that there are few fauna records in the local area however comparable habitat is likely to be found in the surrounding areas. Therefore the clearing under application is not likely to be at variance.

Methodology Biodiversity Coordination Section, DEC (DEC TRIM Ref ED1170)
Information provided by the proponent (2006) (TRIM Ref DOC7314)
GIS databases:
- Cadastre - DLI 1/12/05

(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 records of Declared Rare Flora (DRF) in the local area (100km radius). The nearest recorded DRF (*Acacia denticulosa*) is located over 250km, south-west from the proposed areas.

The following Priority species is known to occur in the local area (100km radius) : *Isotropis winneckeii* (Priority 1).

The areas under application (proposed road realignment and gravel pit) are adjacent to existing roads, Great Central Road and Jameson-Wanarn Road and are therefore likely to have been subject to some disturbance. Given the above, it is unlikely that the vegetation proposed to be cleared includes or is 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 likely to be at variance to this Principle**
There are no records of Threatened Ecological Communities (TECs) within close proximity of the areas under application with the nearest recorded TEC located over 700km from the proposed areas. It is therefore unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

Methodology GIS Databases:
- Threatened Ecological Community Database - CALM 12/04/05

(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 at variance to this Principle

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Department of Natural Resources and Environment 2002, EPA 2000).

The Vegetation Complexes in the areas under application are above the recommended minimum of 30% representation.

	Pre-European (ha)*	Current extent (ha)*	Remaining (%)*	Conservation**% status	In reserves/CALM managed land
IBRA Bioregions - Central Ranges	5 132 641	5 132 641	100.0	Least Concern	
Shire of Ngaanyatjaraku	No information available				
Vegetation type:					
Beard: Unit 18	24 675 970	24 659 110	99.9	Least Concern	2.0
Beard: Unit 19	4 888 643	4 885 387	99.9	Least Concern	0.0
Beard: Unit 95	1 363 428	1 363 428	100.0	Least Concern	1.5

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

Given the proposed clearing of 137ha is relatively small compared to the area of remnant vegetation remaining within the Region and there is 99.9% (Beard 18), 99.9% (Beard 19) and 100% (Beard 95) (Shepherd et al. 2001) of native vegetation remaining, the vegetation proposed to be cleared is not likely to be significant as a remnant of native vegetation in the surrounding area.

Methodology Department of Natural Resources and Environment (2002)

Hopkins et al. (2001)

Shepherd et al. (2001)

GIS Databases:

- Pre-European Vegetation - DA 01/01

- 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 at variance to this Principle

There are no watercourses within or in close proximity to the areas under application with the nearest watercourse, a minor non-perennial watercourse, approximately 3.8km west of one of the areas under application (Section on Jameson-Wanarn Road). Therefore the vegetation within the areas under application is not considered to be growing in, or in association with a watercourse.

Methodology GIS Databases:

- Hydrography, linear - DOE 01/02/04

(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 landscape of the areas under application and surrounds can be described as a dune-field with sandy soils supporting Spinifex (*Triodia* spp.) together with some gravels supporting wattle scrub (*Acacia* spp.) (DAFWA 2006). DAFWA (2006) advises that the proposed clearing of 137 hectares is unlikely to cause appreciable land degradation. In addition, DAFWA (2006) advised that some minor initial wind erosion may occur on the cleared sandy soils adjacent to the road. However, standard revegetation techniques using cleared vegetative material should stabilise these soils.

The proposed clearing for gravel extraction may cause some short term land degradation issues related to soil erosion during works. To minimise long term land degradation associated with gravel extraction a condition has been imposed requiring revegetation on completion of the extraction. DAFWA (2006) recommends that on completion of road works the gravel pit floor should be contour ripped to aid revegetation.

Methodology DAFWA (2006) (TRIM Ref DOC9055)

(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 areas under application are located within Ranges of the Western Desert (Aboriginal Reserve 17614), an area listed on the Register of the National Estate. The Ranges, which extend over 8,000,000ha are registered for natural values and are recognised as having 'Indigenous values of National Estate significance'. Heritage clearance surveys were undertaken for areas of proposed road works and gravel pits within the Shire of Ngaanyatjarraku in 2003 and 2005. As such, no heritage clearance requirements were listed for any proposed works within the Shire, including this proposal (Information provided by the proponent 2006). Furthermore, given the linearity and size of the areas under application (137ha) relative to the area on the Register, it is unlikely that the clearing as proposed would have a significant impact on the natural values of the wider area.

The nearest CALM managed lands are located approximately 100km north-west (Gibson Desert Nature Reserve) and 300km south south-west (Neale Junction Nature Reserve and Yeo Lake Nature Reserve) of the proposed clearing. Given the distance between the areas under application and the CALM managed lands the proposed clearing is not likely to have an impact on the environmental values of the surrounding conservation area.

Methodology Information provided by the proponent (2006) (TRIM Ref DOC7315)
GIS databases:
- System 1 to 5 and 7 to 12 Areas - DEP 06/95
- CALM Managed Lands and Water - CALM 01/07/05

(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 at variance to this Principle

With an average annual rainfall of 250mm and an annual evaporation rate of 3,400mm-3,500mm there is likely to be little surface flow during normal seasonal rains. In addition, there are no drainage lines or any watercourses within the areas under application or in close proximity.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table, which at this site is between 1,000 mg/l and 3,000 mg/l and is considered to be marginal to brackish. The proposed clearing of 137ha native vegetation for this proposal is unlikely to have an impact on regional groundwater considering the relatively small size and isolation of the proposal and the magnitude of the Musgrave (3,240,400ha) and Canning (46,575,300ha) Groundwater Provinces.

Methodology GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00
- Hydrography, linear - DOE 01/02/04
- Groundwater Provinces - WRC 98

(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 at variance to this Principle

With an average annual rainfall of 250mm and an annual evaporation rate of 3,400mm-3,500mm there is little surface flow during normal seasonal rains. Given there is no surface drainage within close proximity of areas under application the rainfall infiltration rates will be high, therefore the proposed clearing is not likely to cause or increase the incidence or intensity of flooding.

Methodology GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Hydrography, linear - DOE 01/02/04

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

Comments

The areas under application are within the Proclaimed Groundwater Area of East Murchison. Therefore any abstraction of groundwater would require a licence. However, considering this application is only for Road Upgrades and Gravel Extraction, no licence will be necessary.

There is no other RIWI Act Licence, Works Approval or EPA Act Licence that affects the area under application.

There is one Aboriginal Site of Significance listed within the areas under application, the applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

There is one 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.

- Methodology** GIS databases:
- Aboriginal Sites of Significance - DIA 28/02/03
 - Cadastre - DLI 1/12/05
 - Native Title Claims - DLI 7/11/05
 - RIWI Act, Groundwater Areas - WRC 13/06/00
 - RIWI Act, Surface Water Areas - WRC 18/10/02

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Extractive Industry	Mechanical Removal	112	Grant	The clearing as proposed has been assessed and is not likely to be at variance to the Clearing Principles. It is recommended to grant a permit to clear up to 137ha for road construction or maintenance and extractive industry with conditions addressing Revegetation, Recording and Reporting.
Road construction or maintenance	Mechanical Removal	25	Grant	As above

5. References

Biodiversity Coordination Section, DEC (2006) Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref ED1170

DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. TRIM Ref DOC9055.

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.

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.

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
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)

