



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5538/1
Permit Holder:	City of Greater Geraldton
Duration of Permit:	14 June 2013 – 14 June 2018

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

1. Purpose for which clearing may be done

Clearing for the purpose of constructing a dual carriageway.

2. Land on which clearing is to be done

Lot 10 on Deposited Plan 39649 (RANGEWAY 6530)

Lot 262 on Deposited Plan 20087 (KARLOO 6530)

Ackland Road Reserve PIN 11617855 (MOUNT TARCOOLA 6530)

3. Area of Clearing

The Permit Holder must not clear more than 10.56 hectares of native vegetation within the area hatched yellow on attached Plan 5538/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the activities described in condition 1 of this Permit to the extent that the Permit Holder has the power to carry out works involving clearing for those activities under the *Local Government Act 1995* or any other written law.

A handwritten signature in blue ink, appearing to read "M Warnock", written over a horizontal line.

M Warnock
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

23 May 2013

Plan 5538/1



LEGEND

- Clearing Instruments**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre
 - Local Government Authorities

Geraldton Townsite 10cm
Orthomosaic - Landgate
2007



0 ————— 300 m

Scale 1:12000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M Warnock Date 23/5/13

M Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of
Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 5538/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Greater Geraldton

1.3. Property details

Property: LOT 10 ON DEPOSITED PLAN 39649 (RANGEWAY 6530)
LOT 262 ON DEPOSITED PLAN 20087 (KARLOO 6530)
ROAD RESERVE PIN 11617855 (MOUNT TARCOOLA 6530)
Local Government Area: City of Greater Geraldton

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 May 2013

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
Mapped Beard Vegetation Association 359 is described as shrublands: acacia and banksia scrub (Shepherd et al 2001).	The application is to clear up to 10.56 hectares of native vegetation for the purpose of constructing a dual carriageway.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The condition and description of the vegetation has been determined by a Department of Environment and Conservation site visit on 3 May 2013 (DEC 2013) and aerial imagery (Geraldton Townsite 10cm Orthomosaic - Landgate 2007).
	The vegetation proposed to be cleared ranges from completely degraded to good (Keighery 1994) condition (DEC 2013) and consists of <i>Acacia rostellifera</i> shrubland on light brown sand over limestone.	To	
	The dominant species are <i>Acacia rostellifera</i> , <i>Alyogyne hakeifolia</i> , <i>Rhagodia pridesii</i> subsp. <i>obovata</i> , <i>Acanthocarpus pridesii</i> and <i>Enchylaena tomentosa</i> (DEC 2013).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	
	There is evidence of disturbance from weed invasion, off-road vehicle use, rubbish dumping and part of the area under application was burnt in a bushfire in the summer of 2012/13 (DEC 2013).		

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 application is to clear up to 10.56 hectares of native vegetation for the purpose of constructing a dual carriageway. The vegetation proposed to be cleared ranges from completely degraded to good (Keighery 1994) condition (DEC 2013) and consists of *Acacia rostellifera* shrubland on light brown sand over limestone. There is evidence of disturbance from weed invasion, off-road vehicle use, rubbish dumping and part of the area under application was burnt in a bushfire in the summer of 2012/13 (DEC 2013).

The area under application occurs within the Geraldton Sandplains IBRA Bioregion which contains a high level of biodiversity and endemism. There are numerous records of rare and priority flora within the local area (10 kilometre radius). There is a diversity of habitats within the local area and the majority of the rare and priority

flora species are recorded in other habitat types not supported within the area under application. Considering this and the level of disturbance and condition of the vegetation, flora of conservation significance is unlikely to occur within the application area.

There are no ecological communities of conservation significance mapped within the local area.

There are numerous records of fauna species of conservation significance within the local area however due to habitat requirements there are only two species that may possibly occur within the area under application. One of these species is Carnaby's cockatoo (*Calyptorhynchus latirostris*), which is endemic to south-western Australia and classified as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 and as 'rare or likely to become extinct' under the western Australian Wildlife Conservation Act 1950. The preferred nesting habitat for black cockatoos is in the hollows of live or dead trees in uncleared or remnant areas of eucalypt woodland and their preferred foraging species are jarrah, marri, wandoo, powderbark, parrotbush and Banksia spp (SEWPaC 2012). The area under application does not contain suitable habitat for Carnaby's cockatoo to breed or forage and any occurrence of the species in the area is likely to be infrequent. The other species listed as 'rare or likely to become extinct' possibly occurring within the area under application is the gilled slender blue-tongue skink (*Cyclodomorphus branchialis*) however occurrence is unlikely and the proposed clearing is not likely to impact upon the conservation status of the species (DEC 2013).

Considering the condition of the vegetation, the level of disturbance in the area under application and the availability of vegetation remnants in the surrounding area in better condition, the vegetation proposed to be cleared is not considered likely to contain high biodiversity.

Therefore, the application is not likely to be at variance to this principle.

Methodology References
- DEC (2013)
- Government of Western Australia (2011)
- Keighery (1994)
- SEWPaC (2012)
GIS Databases
- SAC Bio Datasets - accessed April 2013
- Pre-European Vegetation

(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**
There are numerous records of fauna species of conservation significance within the local area (DEC 2007-) however due to habitat requirements there are only two species that may possibly occur within the area under application. One of these species is Carnaby's cockatoo (*Calyptorhynchus latirostris*), which is endemic to south-western Australia and classified as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 and as 'rare or likely to become extinct' under the western Australian Wildlife Conservation Act 1950. The preferred nesting habitat for black cockatoos is in the hollows of live or dead trees in uncleared or remnant areas of eucalypt woodland and their preferred foraging species are jarrah, marri, wandoo, powderbark, parrotbush and Banksia spp (SEWPaC 2012). The area under application does not contain suitable habitat for Carnaby's cockatoo to breed or forage and any occurrence of the species in the area is likely to be rare. The other species listed as 'rare or likely to become extinct' possibly occurring within the area under application is the gilled slender blue-tongue skink (*Cyclodomorphus branchialis*) however occurrence is unlikely and the proposed clearing is not likely to impact upon the conservation status of the species (DEC 2013).

The area under application may provide habitat for other local fauna such as birds and reptiles, however it is unlikely to be of significance due to the level of disturbance and the availability of other vegetation remnants in the local area in better condition.

Considering the condition of the vegetation, the level of disturbance, the close proximity to residential development and the availability of a diverse range of habitats in the local area, the vegetation proposed to be cleared is unlikely to provide significant habitat for fauna.

Therefore, the application is not likely to be at variance to this principle.

Methodology References
- DEC (2007-)
- DEC (2013)
- Keighery (1994)
- SEWPaC (2012)
GIS Databases
- SAC Biodatasets - accessed April 2013

(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 three species of rare flora recorded within the local area (10 kilometre radius). The closest record was made 5 kilometres away from the area under application. The vegetation proposed to be cleared is unlikely to be suitable habitat for any of these species and their occurrence is unlikely (DEC 2013). A flora survey of the area under application did not identify any flora of conservation significance (Borger 2012).

Considering the habitat type and species composition, the level of disturbance and the condition of the vegetation, the area under application is unlikely to provide significant habitat for rare flora.

Therefore, the application is not likely to be at variance to this principle.

Methodology References
- Borger (2012)
- DEC (2013)
GIS Databases
- SAC Bio Datasets - accessed April 2013

(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 threatened ecological communities (TEC) mapped within a 10 kilometre radius of the application area.

A flora survey of the area did not identify any TECs within the area proposed to be cleared (Borger 2013).

Therefore, the application is not likely to be at variance to this principle.

Methodology References
- Borger (2013)
GIS Databases:
- SAC Biodatasets - accessed April 2013

(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 vegetation under application is mapped as Beard Vegetation Association (BVA) 359 which retains approximately 25 per cent (11,065 hectares) of the pre-European extent within the Geraldton Sandplains IBRA bioregion (Government of Western Australia, 2011). Approximately 4 per cent (415 hectares) of the current extent is held in conservation estate (Government of Western Australia, 2011).

The City of Greater Geraldton has approximately 44 per cent of the pre-European vegetation cover remaining (Government of Western Australia, 2011), and there is approximately 20 per cent native vegetation cover remaining within the local area (10 kilometre radius).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

The area under application is surrounded by urban development and has minimal capacity to provide an ecological linkage function.

The local area has been extensively cleared and the vegetation type of the proposed clearing is poorly represented in the Geraldton Sandplains IBRA Bioregion, however, considering the condition of the vegetation, the level of disturbance and the close proximity to urban development, the area under application is unlikely to be significant as a remnant.

Therefore, the application is not likely to be at variance to this principle.

Methodology References
- Government of Western Australia (2011)
- Shepherd et al, (2001)
GIS Databases
- Pre-European vegetation
- SAC Biodatasets, accessed April 2013

(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 coastal waterline occurs 1.5 kilometres west of the area under application. A minor perennial watercourse occurs 2 kilometres to the south east of the proposed clearing and the Chapman River occurs 5 kilometres to the north east. No watercourses occur within the application area and the proposed clearing is not likely to impact upon the nearby watercourses or any riparian vegetation.

Therefore, the application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Hydrography linear DoW

(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 soil within the area under application is described as undulating dune landscape underlain by aeolianite which is exposed in places; chief soils are siliceous sands with some shallow grey-brown sandy soils (Northcote et al 1960-1968).

The area under application is within the coastal sand plain approximately 30-40 metres above sea level. Water erosion is unlikely to occur due to the sandy soils providing efficient drainage and a low annual average rainfall of 500 millimetres. Wind erosion may occur as a result of the clearing if the area is left undeveloped, however this is likely to be minimal and construction of the dual carriageway will minimise the potential for this to occur. The vegetation is patchily distributed and has already undergone disturbance from off-road vehicle use, so the proposed clearing is unlikely to cause or exacerbate appreciable land degradation.

Therefore, the application is not likely to be at variance to this principle.

Methodology References:
-Northcote et al. (1960-68)
GIS Databases:
- Rainfall, Mean Annual
- Soils, statewide
- Topographic Contours, Statewide

(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

There is a Department of Environment and Conservation managed freehold reserve 600 metres to the west of the area under application, an unnamed nature reserve 3.5 kilometres to the north west and Cutubury nature reserve 9 kilometres to the north east.

The area under application may provide some ecological linkage function between vegetation remnants however the capacity for this is limited due to the level of disturbance and the majority of the vegetation being in a degraded (Keighery 1994) condition.

Considering the above, the proposed clearing is unlikely to impact upon any nearby conservation areas and is therefore not likely to be at variance to this principle.

Methodology GIS Databases:
- DEC tenure

(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 coastal water line is 1.5 kilometres to the west of the area under application. A minor perennial watercourse occurs 2 kilometres to the south east and Chapman River occurs 5 kilometres to the north east.

The proposed clearing is unlikely to impact upon the quality of surface water, given the minimal amount of surface water run-off due to the sandy porous soil type (Northcote et al 1960-1968).

The area under application is within the Arrowsmith Groundwater Area as proclaimed under the Rights in Water and Irrigation Act 1914. The salinity level is moderate (3000-7000mg/L). Given the vegetation under application is patchily distributed and predominantly consisting of coastal shrubland species which have shallow

root systems, the proposed clearing is unlikely to impact upon the quality of the ground water.

Considering the above, the proposed clearing is not likely to cause deterioration in the quality of surface or underground water.

Therefore, the application is not likely to be at variance to this principle.

Methodology GIS Databases:
- Groundwater salinity, statewide
- Hydrography linear DoW
- RIWI Act, Areas

(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**
The sandy soil of the application area provides good drainage and the average annual rainfall of 500 millimetres is low.

Considering the above, the application is not likely to cause or exacerbate flooding and is therefore not likely to be at variance to this principle.

Methodology GIS Databases:
- Rainfall, Mean Annual

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

Comments
The application is to clear up to 10.56 hectares of native vegetation for the purpose of constructing a dual carriageway. The construction of the dual carriageway includes associated infrastructure such as surface water drainage, power lines, pipe lines and cycle paths. A slurry pipeline is to be constructed in between the dual carriageway lanes in the future by a third party as part of the Extension Hill Magnetite Project to transport magnetite concentrate from Tarcoola to Geraldton Port.

No submissions have been received from the public.

There are no Aboriginal Sites of Significance within the area under application, however the Geraldton Southern Transport Corridor Field Site 02 Aboriginal Site of Significance is located 400 metres to the east.

The area under application is zoned as 'development and primary distributor road' under the Town Planning Scheme Zones.

Methodology GIS Databases
- Aboriginal Sites of Significance
- Town Planning Scheme Zones

4. References

Borger (2012) Flora Survey of the Proposed Slurry Pipeline Route from Tarcoola to Geraldton Port for Extension Hill Pty Ltd, November 2012 (DEC Ref: A609469).

DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 26/04/2013.

DEC (2013) Site inspection report for Clearing Permit Application CPS 5538/1. Department of Environment and Conservation, Western Australia, 3 May 2013 (DEC Ref: A630574).

Government of Western Australia, (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

SEWPaC (2012) EPBC Act Referral Guidelines for Three Threatened Black Cockatoo Species, April 2012. Department of Sustainability, Environment, Water, Populations and Communities. Commonwealth of Australia. Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. 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)