



GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4685/1
Permit Holder:	City of Kwinana
Duration of Permit:	From 21 June 2014 to 21 June 2019

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

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of road construction.

2. Land on which clearing is to be done

Lot 8001 on Deposited Plan 69486, Leda
Lot 8003 on Deposited Plan 69486, Leda
Lot 8004 on Deposited Plan 69486, Leda
Lot 8005 on Deposited Plan 69486, Leda
Lot 8006 on Deposited Plan 69486, Leda
Lot 8007 on Deposited Plan 69486, Leda
Lot 8008 on Deposited Plan 69486, Leda
Lot 8009 on Deposited Plan 69486, Leda
Lot 121 on Deposited Plan 69112, Leda
Lot 122 on Deposited Plan 69112, Leda

3. Area of Clearing

The Permit Holder must not clear more than 2.2 hectares of native vegetation within the area shaded yellow on attached Plan 4685/1.

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.

PART II – MANAGEMENT CONDITIONS

6. Dieback and weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

DEFINITIONS

The following meanings are given to terms used in this Permit:

dieback means the effect of *Phytophthora* species on native vegetation;

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or
- (b) published in a Department of Parks and Wildlife Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

22 May 2014

Plan 4685/1



LEGEND

- Road Centrelines
- Cadastre
- Clearing Instruments
- Areas Approved to Clear



0 ————— 500 m

Scale 1:17423

(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 22/5/14

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.



Government of Western Australia
Department of Environment Regulation

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* Project Data. This data has not been quality assured. Please contact map author for details.



1. Application details

1.1. Permit application details

Permit application No.: 4685/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: City of Kwinana

1.3. Property details

Property: Lot 8001 on Deposited Plan 69486 (LEDA 6170)
Lot 8003 on Deposited Plan 69486 (LEDA 6170)
Lot 8004 on Deposited Plan 69486 (LEDA 6170)
Lot 8005 on Deposited Plan 69486 (LEDA 6170)
Lot 8006 on Deposited Plan 69486 (LEDA 6170)
Lot 8007 on Deposited Plan 69486 (LEDA 6170)
Lot 8008 on Deposited Plan 69486 (LEDA 6170)
Lot 8009 on Deposited Plan 69486 (LEDA 6170)
Lot 121 on Deposited Plan 69112 (LEDA 6170)
Lot 122 on Deposited Plan 69112 (LEDA 6170)

Local Government Area: City of Kwinana
Colloquial name: Gilmore Avenue road reserve

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 22 May 2014

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 3048 is described as Shrublands; scrub-heath on the Swan Coastal Plain (Shepherd et al. 2001).	Gilmore Avenue extension.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The application proposes to clear within a linear line of up to 2.2 hectares of native vegetation for the purpose of road reconstruction.
Mapped Beard vegetation association 998 is described as Medium forest; jarrah-marri (Shepherd et al. 2001).		To	The vegetation is in a completely degraded to good (Keighery 1994) condition.
Hedde vegetation COTTESLOE COMPLEX - CENTRAL AND SOUTH : Mosaic of woodland of Eucalyptus gomphocephala (Tuart) and open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri); closed heath on the Limestone outcrops (Hedde et al 1980).		Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The City of Kwinana is proposing to extend Gilmore Avenue and turn it into a dual carriageway, which will include bus and cycle lanes. The majority of the application area was cleared in 1998 for this road extension. The current application is for the clearing of the regrowth, and a few additional areas, including an area near the Dampier-Bunbury Natural Gas Pipeline.
Hedde vegetation COTTESLOE COMPLEX - CENTRAL AND SOUTH : Mosaic of woodland of Eucalyptus gomphocephala (Tuart) and open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri); closed heath on the Limestone outcrops (Hedde et al 1980).			The vegetation through the applied area consists predominantly of regrowth Banksia sp with an understorey of grassy weeds (DEC 2011). The majority of the vegetation is in a completely degraded (Keighery 1994) condition with some wetland areas in a good (Keighery 1994) condition (DEC 2011).

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 proposes to clear up to 2.2 hectares of native vegetation within Gilmore Avenue road reserve, Leda for the purpose of road reconstruction. The City of Kwinana is proposing to extend Gilmore Avenue and turn it into a dual carriageway, which will include bus and cycle lanes. The majority of the application area was cleared in 1998 for this road extension. The majority of the current application is for the clearing of the regrowth.

The vegetation within the application area consists predominantly of regrowth *Banksia* sp with an understorey of grassy weeds (DEC 2011). The majority of the vegetation is in a completely degraded (Keighery 1994) condition with some wetland areas in a good (Keighery 1994) condition (DEC 2011).

Numerous species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius). Most notable are; *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), and *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo).

These black cockatoo species nest in large hollows of mature eucalyptus trees and forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (*Banksia*, *hakea*, *grevillea*), as well as *Allocasuarina* sp. *Eucalyptus* sp., *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). Several large, potential habitat trees were observed in close proximity to the application area, however the road has been designed to avoid these trees (DEC 2011). No large hollow bearing trees were observed within the application area (DEC 2011).

The vegetation under application may provide limited foraging habitat for these species, however given that well vegetated areas surrounding the application area (Leda Nature Reserve and unallocated Crown Land), the degraded condition of the vegetation, the relatively small size and linearity of the proposed clearing, it is unlikely that the vegetation under application represents significant foraging habitat for these species.

A small portion of the application area (approximately 0.08 hectares) is mapped a Conservation Category wetland (CCW), as a sumpland. Only 20 per cent of wetlands on the swan coastal plain area assigned a conservation category. CCWs support a high level of ecological attributes and functions and are the highest priority wetlands. A site visit (DEC 2011) determined the wetland vegetation within the application area is in a good (Keighery 1994) condition.

The majority of the application area falls within Bush Forever Site 349 - Leda and Adjacent Bushland, Leda, and approximately 0.8 hectares of the application area lies within Leda Nature Reserve. The majority of the vegetation under application is in a completely degraded (Keighery 1994) condition and the surrounding vegetation within the Leda Nature Reserve is in a very good (Keighery 1994) condition and is likely to hold a higher level of biological diversity.

Given the above, the native vegetation under application is not likely to comprise a high level of biological diversity.

Methodology

References:

DEC (2007 -)

DEC (2011)

Government of western Australia (2000)

Keighery (1994)

GIS Database:

- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009

- Pre-European vegetation

- SAC Biodatasets

(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 vegetation within the application area consists predominantly of regrowth *Banksia* species with an understorey of grassy weeds (DEC 2011). The majority of the vegetation is in a completely degraded (Keighery 1994) condition with a small wetland area (approximately 0.08 hectares) in a good (Keighery 1994) condition (DEC 2011).

Numerous species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (10 kilometre radius). Most notable are; *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Calyptorhynchus baudinii* (Baudin's cockatoo), and *Calyptorhynchus banksii naso* (Forest red-tailed black cockatoo).

These black cockatoo species nest in large hollows of mature eucalyptus trees and forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (Banksia, hakea, grevillea), as well as Allocasuarina sp. Eucalyptus sp., Corymbia calophylla and a range of introduced species (Valentine and Stock, 2008). Several large, potential habitat trees were observed in close proximity to the application area, however the road has been designed to avoid these trees (DEC 2011). No large hollow bearing trees were observed within the application area (DEC 2011).

The vegetation under application may provide limited foraging habitat for these species, however given the degraded condition of the vegetation, the relatively small size and linearity of the proposed clearing, it is unlikely that the vegetation under application represents significant foraging habitat for these species.

The area under application is surrounded by large tracts of conservation areas, such as Leda Nature Reserve and unallocated Crown Land, which are likely to provide significant habitat. The vegetation within the application area is adjacent to a major road and is therefore not ideal habitat. Therefore, the vegetation under application is not considered to be significant habitat for indigenous fauna.

There are fauna crossings already in place under the existing Gilmore Avenue, these crossings are planned to be extended and duplicated during the road reconstruction.

The proposed clearing is not likely to be at variance to this principle.

Methodology References:
DEC (2011)
Keighery (1994)
Valentine and Stock (2008)

GIS Databases:
- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009
- Pre-European vegetation
- SAC Biodatasets

(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**

Three species of rare flora have been recorded within the local area (10 kilometre radius).

As the vegetation under application contains limited understorey or groundcover and has previously been cleared, the vegetation is unlikely to contain suitable habitat to support flora species of conservation significance.

Therefore, the proposed clearing is not likely to be variance to this principle.

Methodology GIS Databases:
- Pre-European vegetation
- SAC Biodatasets

(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 multiple known records of the threatened ecological community (TEC), SCP19b within the local area (10 kilometres radius), with the closest being 600 metres from the application area. The closest TEC is recorded on different soil and vegetation types than the application area.

Given the previous clearing of the application area and that the majority of the vegetation is in a completely degraded (Keighery 1994) condition, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases
- SAC Biodatasets

(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 has been identified as Beard Vegetation Association 998 which there is approximately 39 per cent of it pre-European extent remaining and Beard Vegetation Association 3048 of which there is approximately 32 per cent of it pre-European extent remaining within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (Government of Western Australia 2013).

The application area is also mapped as Heddle Vegetation Complex's, Cottesloe Complex and Quidanlup Complex - Central and South of which 39 and 61 per cent of their pre-European extent are remaining respectively.

The local area has approximately 40 per cent native vegetation remaining with the majority located within surrounding reserves and unallocated crown land.

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 mapped vegetation types in the application area retain more than the 30 per cent threshold.

The application area does not contain a high level of biodiversity, and is not significant as a remnant. Therefore, the clearing as proposed is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,209	587,889	39	33
Shire*				
City of Kwinana	11 998	4 705	39	9
Beard Vegetation Association in Bioregion 998	50,867	19,595	39	41
Beard Vegetation Association in Bioregion 3048	10 415	3 293	32	25
Heddle Vegetation Complex Cottesloe Complex Central and South	44 818	17 528	39	13
Quindalup Complex	49 028	30 128	61	6

Methodology References:
Commonwealth of Australia (2001)
Government of Western Australia (2013)
GIS Database:
- Local Government Authorities
- Pre European Vegetation
- Swan Coastal Plain Central 20cm Orthomosaic - Landgate 2009
- SAC Biodatasets

(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 at variance to this Principle

A small portion of the application area (approximately 0.08 hectares) falls within a conservation category wetland, which is also a lake identified in the Environment Protection Swan Coastal Plan Lakes Policy 1992 (EPP Lake). A site visit (DEC 2011) determined the wetland vegetation within the application area is in a good (Keighery 1994) condition.

Given that the proposed clearing consists of wetland dependent vegetation, the application is at variance to this Principle.

The environmental impacts from the proposed clearing will be minimal as the majority of the mapped wetland has already been cleared for the Gilmore Avenue dual carriageway in 1998 and more recently for the Mandurah to Perth Railway.

Methodology References:
DEC (2011)
GIS Database:
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain
- Hydrogeology, Linear

(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 area under application is mapped as soil type B24, which Northcote et al (1960 - 1968) describes as undulating dune landscape underlain by aeolianite which is frequently exposed; small swales of estuarine deposits are included: chief soils are siliceous sands with smaller areas of brown sands and leached sands in the wetter sites.

The porous nature of the soils within the application area indicates that the site is well drained and therefore very little overland surface water flow is expected thereby minimising the risk of water erosion.

The sandy nature of the soils makes them prone to wind erosion, however given the degraded condition of the vegetation, the relatively small size and linearity of the proposed clearing, it is unlikely that the proposed clearing will cause appreciable land degradation in the form of wind erosion.

The area under application has a low risk of salinity.

Given the above, the proposed clearing is not likely to be at variance to this principle.

Methodology

References:

Northcote et al(1960-1968)

GIS database:

- Average Annual Rainfall Isohyets
- Hydrography, linear
- 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 may be at variance to this Principle

The application lies within Leda Nature Reserve and Bush Forever Site 349 - Leda and Adjacent Bushland, Leda (Government of Western Australia 2000).

The disturbance caused by the proposed clearing will increase the risk of weeds and dieback being introduced/spread in the adjacent conservation reserves. Weed and dieback management will assist in mitigating any impacts to surrounding conservation areas from the proposed clearing.

There are fauna crossings already in place under the existing Gilmore Avenue to facilitate fauna movement within the Nature Reserve. These crossings are planned to be extended and duplicated during the road reconstruction.

The proposed clearing may be at variance to this principle.

Methodology

References

Government of Western Australia 2000

GIS Databases:

- DPaW Tenure
- Bushforever

(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 may be at variance to this Principle

A small portion of the vegetation under application (roughly 0.3ha) is mapped as an EPP lake and a Conservation Category Wetland (CCW), as a sumpland. Only 20 per cent of wetlands on the swan coastal plain area assigned a conservation category.

CCWs support a high level of ecological attributes and functions and are the highest priority wetlands. The management objective for CCWs is to preserve and enhance the existing conservation values of the wetlands through various mechanisms including:

- Reservation in national parks, crown reserves and State owned land,
- Protection under Environmental Protection Policies, and
- Wetland covenanting by landowners.

No development or clearing is considered appropriate. These are the most valuable wetlands and any activity that may lead to further loss or degradation is inappropriate (EPA 2005).

A site visit (DEC 2011) determined that the wetlands within the application area are in a good condition and are heavily weed infested. The majority of the mapped wetland has previously been cleared for the Mandurah to Perth Railway.

Therefore, it is considered the proposed clearing may be at variance to this Principle.

Methodology References:
DEC (2011)
GIS Database:
- Groundwater Salinity Statewide
- Hydrography, linear

(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 application area consists of sandy, porous soils, which indicates that the application area is well drained.

Based on the above, the clearing as proposed is not likely to increase the incidence or intensity of flooding, and is therefore not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrography linear

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

Comments
The area under application was originally located within Lot 455 on Deposited Plan 220559, Lot 332 on deposited Plan 218488, Lot 495 on Deposited Plan 245449 and Lot 500 on Deposited Plan 30556, Leda. The newly created Gilmore Avenue road reserve has been excised from these properties and Certificates of Title have been issued for Lots 8001, 8003, 8004, 8005, 8006, 8007, 8008, 8009 and 8010 on Deposited Plan 69486.

The application area falls within an Environmentally Sensitive Area, as the vegetation is within a conservation category wetland and Bush Forever Site 349 - Leda and Adjacent Bushland, Leda (Government of Western Australia 2000). The Department of Planning (DPI 2011) advised that the State Strategic Policy has no objections to the clearing of the original 1.66 hectares of native vegetation within Bush Forever area 349, as the road reconstruction can be reasonably justified for wider social and economic benefit. However to ensure the integrity of the Bush Forever area is upheld State Strategic Policy recommends;

- An offset package is prepared and approved by the former Department of Environment and Conservation, prior to the clearing of native vegetation, in accordance with Environmental Protection Authority Position Statement Number 9: Environmental Offsets and Appendix 4 of SPP 2.8; and
- other than the 1.66 hectares proposed to be cleared, the development including reconstruction of the road, access, any future drainage and ongoing maintenance shall not result in further disturbance or clearing of native vegetation within Bush Forever site 349; and
- The former Department of Environment and Conservation's Wetland Branch should be consulted in regards to the clearing of vegetation within a CCW and EPP wetland.

The assessment undertaken against the clearing principles has determined low environmental impacts and therefore offsets are not required.

The area under application is mapped as Primary and Regional roads, Other regional roads and Parks and Recreation under the Metropolitan regional Scheme.

Methodology References
DPI (2011)
Government of Western Australia (2000)

GIS Databases
Bushforever areas
RIWI, Groundwater areas
Town Planning Scheme

4. References

- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 16/12/2011.
- DEC (2011) Site Inspection Report for Clearing Permit Application CPS 4685/1 Gilmore Avenue, Leda. Site inspection undertaken 19/11/2011. Department of Environment and Conservation, Western Australia (DEC REF: A460535).
- DPI (2011) RE: Application to clear native vegetation under the Environmental Protection Act 1986. Department of Planning (DEC ref: A460536).
- Government of Western Australia (2000) Bush Forever 1 and 2. Western Australian Planning Commission, Perth WA.
- 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.
- RDL (2011) Application for a clearing permit over portion Lot 455 - Gilmore Avenue Dual Carriageway in Leda. DEC ref: A458861
- Shepherd, D.P. (2007) Adapted from: 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. (2009) Adapted from: 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.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnarara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.