



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6700/1
Permit Holder:	City of Wanneroo
Duration of Permit:	23 January 2016 to 23 January 2021

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 sewer construction.

2. Land on which clearing is to be done

Lot 8033 on Deposited Plan 73835 (Reserve 51327), Carramar
Lot 9943 on Diagram 53573 (Reserve 35951), Neerabup
Flynn Drive road reserve (PIN 11751051), Banksia Grove

3. Area of Clearing

The Permit Holder must not clear more than 0.11 hectares of native vegetation within the area hatched yellow on attached Plan 6700/1.

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. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

7. Dieback and weed control

- (a) 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*:
- (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iii) restrict the movement of machines and other vehicles to the limits of the areas to be cleared;
- (b) At least once in each 12 month period for the term of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

8. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within 2 months following completion of works, revegetate and rehabilitate the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
- (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s).

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; and

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.



James Widenbar
A/SENIOR MANAGER
CLEARING REGULATION

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

24 December 2015

Plan 6700/1



Legend

-  Roads
-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority
-  Cadastre



1:1,500

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

James Widenbar Date *24/12/15*

James Widenbar

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



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1. Application details

1.1. Permit application details

Permit application No.: 6700/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: City of Wanneroo

1.3. Property details

Property: LOT 9943 ON DIAGRAM 53573, NEERABUP
LOT 8033 ON PLAN 73835, CARRAMAR
ROAD RESERVE - 11751051, BANKSIA GROVE
Colloquial name: Flynn Drive
Local Government Authority: WANNEROO, CITY OF
DER Region: Greater Swan
DPaW District: SWAN COASTAL
Localities: NEERABUP and CARRAMAR

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.11		Mechanical Removal	Water/gas/cable/pipeline/power installation

1.5. Decision on application

Decision on Permit: Granted
Application:
Decision Date: 24 December 2015

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 6 is described as medium woodland; tuart and jarrah (Shepherd et al, 2001).	The clearing of 0.11 hectares of native vegetation is for the purpose of sewer construction.	Degraded; Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).	The condition and structure of the vegetation under application was determined via a site inspection undertaken by the Department of Environment Regulation (DER, 2015).
Hedde Karrakatta Vegetation Complex-Central And\South consists of predominantly open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) and woodland of Eucalyptus marginata (Jarrah) - Banksia species (Hedde et al, 1980).		To Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	
Hedde Cottesloe Vegetation Complex-Central And\South consists of 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).			

3. Assessment of application against clearing principles

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

Comments

Proposed clearing is not likely to be at variance to this Principle

The applicant has applied to clear 0.11 hectares of native vegetation within an application area of approximately 0.49 hectares. The application area occurs within Lot 8033 on Deposited Plan 73835 (Reserve 51327), Carramar, Lot 9943 on Diagram 53573 (Reserve 35931), Neerabup, and Flynn Drive Road reserve (PIN 11751051), Banksia Grove, for the purpose of sewer construction for the Neerabup Industrial Area. The City of Wanneroo (2015) has advised that the proposed construction works will be undertaken predominantly by horizontal thrust boring rather than by open trenching in order to minimise the requirement for clearing native vegetation. Given the anticipated clearing methods, the impacts of the proposed clearing are not likely to be significant.

The majority of the southern portion of the application area is located within the Wallangara Reserve and Bush Forever site No. 494 known as 'West Flynn Drive Bushland, Carramar'.

The Department of Environment Regulation's (the DER) site inspection revealed that vegetation within the application area ranges from a degraded to excellent (Keighery, 1994) condition, with the majority of vegetation considered to be in a very good (Keighery, 1994) condition. The vegetation proposed for clearing within Lot 9943 consists predominantly of mixed banksia and *Allocasuarina fraseriana* overstorey with an understorey of *Xanthorrhoea preissii* and mixed *hibbertia* species. The vegetation proposed for clearing within Lot 8033 comprises an overstorey dominated by jarrah and banksia species and an understorey of *Xanthorrhoea preissii* and *hibbertia* species (DER, 2015).

No Priority or Threatened Ecological Communities (PECs or TECs) are mapped within the application area, the nearest recorded TEC is 120 metres east of the application area. The application area is within the buffer zone of the nearest TEC described as 'Banksia attenuata woodlands over species rich dense shrublands'. It is unlikely that the minimal clearing of 0.11 hectares will impact upon the conservation status of this TEC.

A total of 31 priority flora and two rare flora species have been recorded within 10 kilometres of the application area. Suitable habitat may be present within the application area for some of these species that share the same soil and vegetation type. However, it is not likely the proposed clearing of 0.11 hectares will have a significant impact on conservation status of species that may occur within the application area, given the area of suitable habitat in better condition adjoining the application area within the Wallangara Reserve and Bush Forever site No. 494.

The vegetation under application may provide suitable foraging habitat for two conservation significant fauna species, namely, Carnaby's cockatoo (*Calyptorhynchus latirostris*) and forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*). However, the application area is not likely to represent significant habitat for these species given the relatively small size of the application area and adjacent vegetation containing similar or better condition foraging habitat.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:

- City of Wanneroo (2015)
- DER (2015)
- Keighery (1994)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed December 2015)
- Bush Forever
- Parks and Wildlife Tenure

(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

Proposed clearing is not likely to be at variance to this Principle

A search of the Naturemap database (Parks and Wildlife, 2007-) returned 49 conservation significant fauna species within a 10 kilometre radius of the application area. Of these, two species listed as rare or likely to become under the Wildlife Conservation Act 1950 (WC Act) may utilise the application area for foraging habitat, namely the forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*).

Forest red-tailed black cockatoo and Carnaby's cockatoo forage on the seeds, nuts and flowers of a large variety of plants including proteaceous species (*banksia*, *hakea*, *grevillea*), as well as *allocasuarina* and *eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock, 2008). The vegetation under application contains foraging habitat suitable for these species. However, given the relatively small area under application that is adjacent to vegetation in similar or better condition than the application area, it is unlikely that the area under application represents significant foraging habitat for these species in a local context.

The application area is not likely to provide suitable nesting habitat for these species given there were no large Eucalypt trees with suitable hollows for breeding observed during the DER's site inspection (DER, 2015).

Given the relatively small, linear nature of the application adjoining a larger remnant, the removal of the vegetation under application is not likely to impact on the movement of fauna through the landscape.

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

Methodology

References:

- DER (2015)
- Parks and Wildlife (2007-)
- Valentine and Stock (2008)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- SAC Bio Datasets (Accessed December 2015)

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

Comments

Proposed clearing not likely to be at variance to this Principle

Two species of rare flora have been recorded within the local area (10 kilometre radius). The closest rare flora species was recorded approximately four kilometres north of the application area. This species occupies shallow sand on limestone ridges and slopes, where it emerges from heath and thicket of parrot bush (Brown et al, 1998). It is unlikely that this species would occur within the area under application given the soil and vegetation types present.

The second species of rare flora was recorded 8.8 kilometres east of the application area. This species inhabits deep sandy soil, in mixed woodland of jarrah and banksia. It tends to favour areas of lush undergrowth (Brown et al, 1998). A site inspection undertaken by the DER (2015) identified that the application area may provide suitable habitat for this species. However, it is not likely the proposed clearing of 0.11 hectares will have a significant impact on conservation status of this species, given the area of suitable habitat in better condition adjoining the application area within the Wallangara Reserve and Bush Forever site No. 494. Given the temporary nature of the proposed clearing and the revegetation of any disturbed areas, impacts to rare flora are likely to be minimal.

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

Methodology

References:

- Brown et al (1998)
- DER (2015)

GIS Databases:

- SAC Bio Datasets (Accessed December 2015)

(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

Proposed clearing is not likely to be at variance to this Principle

The application area is located within the buffer zone of the nearest Threatened Ecological Community (TEC) which is approximately 120 metres to the east. The TEC is described as 'Banksia attenuata woodland over species rich dense shrublands'. This TEC is listed as vulnerable under the WC Act.

It is unlikely the proposed clearing will have a significant impact on the conservation status of this TEC, given the relatively small extent of vegetation to be cleared. In addition, the revegetation of any disturbed areas will minimise the impact to vegetation that may be consistent to this TEC.

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

Methodology

GIS Databases:

- SAC Bio Datasets (Accessed December 2015)

(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 Proposed clearing is not likely to be at variance to this Principle

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).

Within constrained areas on the Swan Coastal Plain, the target for representation of the pre-clearing extent of a particular native vegetation complex is 10 per cent (EPA, 2006). The area under application is zoned as 'urban' under the Metropolitan Regional Scheme and is therefore classified as a constrained area.

The vegetation under application has been identified as Beard vegetation association 6 of which there is 45 per cent of its pre-European extent remaining within the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) Bioregion (Government of Western Australia, 2014).

The local area surrounding the application (10 kilometre radius) retains approximately 20 per cent native vegetation.

The application area is also mapped as Heddle Vegetation Complex's, 'Karrakatta Complex-Central and South' and 'Cottesloe Complex – Central and South' of which 23 and 33 per cent of their pre-European extent are remaining respectively (Parks and Wildlife, 2015).

These figures are greater than the above mentioned 10 per cent threshold for constrained areas.

Therefore the proposed clearing is not likely to be at variance to this Principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	580,697	39	37
Shire*				
City of Wanneroo	67,517	30,382	45	53
Beard Vegetation Association in Bioregion*				
6	56,343	13,543	24	37
Heddle Vegetation Complex **				
Karrakatta Complex-Central And\South	49,912	11,374	23	6
Cottesloe Complex-Central And\South	45,300	15,026	33	13

Methodology

References:

- Commonwealth of Australia (2001)
- EPA (2006)
- *Government of Western Australia (2014)
- ** Parks and Wildlife (2015)

GIS Databases:

- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation

(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 Proposed clearing is not likely to be at variance to this Principle

The closest waterbody to the application area is a resource enhancement wetland (sumpland) known as 'Neerabup Lake' mapped approximately 2.2 kilometres east of the application area. Given the distance to this wetland, it is not likely the proposed clearing will impact upon riparian vegetation growing in association with this wetland. In addition, a site inspection undertaken by the DER (2015) did not identify any riparian vegetation within the application area.

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

Methodology References:
- DER (2015)

GIS Databases:
- Geomorphic Wetlands, (Mgt Categories), Swan Coastal Plain
- Hydrology, linear

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

Comments Proposed clearing is not likely to be at variance to this Principle

The soils within the application area have been mapped by Northcote et al (1960-68) as soil type B24 and are described 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.

Given the relatively small size and linear nature of the areas under application, it is unlikely that wind erosion post clearing will lead to appreciable land degradation.

Ground water salinity levels in the local area have been mapped at less than 500 milligrams per litre total dissolved solids. The proposed clearing is not likely to increase groundwater salinity.

Water erosion is unlikely to occur post clearing given there are no watercourses that occur within the application area, the sandy soil type and the limited size of the clearing.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology References:
- Northcote et al (1960 – 68)

GIS Databases:
- Soils, statewide
- Groundwater Salinity, 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 Proposed clearing may be at variance to this Principle

The southern portion of the application area occurs along the edge of the northern and western boundary of the Wallangara Reserve (Crown Reserve 51327) and forms part of Bush Forever site No.494 known as 'West Flynn Drive Bushland, Carramar'.

Bush Forever site No. 494 supports approximately 7.35 hectares of native vegetation of which approximately 0.11 hectares is within the application area. The disturbance caused by the proposed clearing, will increase the risk of weeds and dieback spreading into the reserve and the Bush Forever site. However, impacts are not likely to be significant given the minimal clearing and the proposed revegetation of disturbed sites post-clearing. Weed and dieback management practices will further ensure that the potential environmental impact to the reserve and Bush Forever site are minimised.

Given the above the proposed clearing may be variance to this principle.

Methodology GIS Databases:
- Parks and Wildlife 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 Proposed clearing is not likely to be at variance to this Principle

The closest waterbody to the application area is a resource enhancement wetland (sumpland) known as 'Neerabup Lake' mapped approximately 2.2 kilometres east of the application area.

The groundwater salinity within the application area is mapped between 500-1000 milligrams per litre Total Dissolved Solids. This level of groundwater salinity is classified as fresh.

Given there are no mapped watercourses or wetlands within the application area and the small size of the proposed clearing, it is unlikely that it will cause deterioration in the quality of surface or groundwater.

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

Methodology GIS Databases:
-Groundwater Salinity, Statewide
- Hydrology, 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 Proposed clearing is not likely to be at variance to this Principle

The removal of 0.11 hectares of remnant vegetation is not expected to contribute to flooding, particularly given the highly permeable sandy soils present on site and the small size of the proposed clearing area.

Therefore, the clearing as proposed is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Hydrography linear

Planning instruments and other relevant matters.

Comments 0.11 hectares of native vegetation within an application area of 0.4902 hectares is proposed to be cleared within Lot 8033 on Deposited Plan 73835 (Reserve 51327), Carramar, Lot 9943 on Diagram 53573 (Reserve 35931), Neerabup, and Flynn Drive Road reserve (PIN 11751051), Banksia Grove, for the purpose of sewer construction for the Neerabup Industrial Area.

The application area falls within a Native Title Claimant area. The claimants, the Whadjuk people, and their representing body, the South West Aboriginal Land and Sea Council (SWALSC, 2015), have been notified of the application.

There are no Aboriginal Sites of Significance recorded in the application area.

The clearing permit application was advertised on 31 August 2015 by the Department of Environment Regulation inviting submissions from the public. No submissions from the public were received.

Methodology References
- SWALSC (2015)

GIS Databases:
- Aboriginal Sites of Significance

4. References

- Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- City of Wanneroo (2015) Application for a Clearing Permit – Proposed Sewer Construction for the Neerabup Industrial Area, Neerabup. Perth, Western Australia. (DER Ref: A950264).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DER (2015) Site inspection report for CPS 6700/1. Department of Environment Regulation, Perth. (DER Ref: A993873).
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Parks and Wildlife, Perth.
- Heddl, 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.
- 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.
- Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed 10/12/2015
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- South West Aboriginal Land and Sea Council (2015) Advice for Clearing Permit Application CPS 6700/1. Western Australia. (DER Ref: A997405)
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnaragara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.