



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number: CPS 6560/1
Permit Holder: Shire of Donnybrook - Balingup
Duration of Permit: 7 May 2016 – 7 May 2026

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 gravel extraction and road maintenance and upgrade.

2. Land on which clearing is to be done

Grimwade Road reserve (PIN 11505012), Wilga West
Lot 13610 on Deposited Plan 28106 (State Forest 29), Wilga West

3. Area of Clearing

The Permit Holder must not clear more than 8.8 hectares of native vegetation within the combined areas hatched yellow on attached Plan 6560/1a, Plan 6560/1b and Plan 6560/1c.

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. Period of clearing authorised

The Permit Holder shall not clear any native vegetation after 7 May 2021.

6. Type of clearing

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

7. 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.

8. 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.

9. Fauna management

- (a) Prior to clearing, any hollow bearing *habitat tree(s)* identified within 'Level 1 Fauna Survey – Grimwade Road and Scrubbird Gravel Pit, Wilga West, 19 December 2014' shall be inspected by a *fauna specialist* for the presence of forest red-tailed black cockatoo (*Calyptorhynchus banksii subsp. naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*), Carnaby's cockatoo (*Calyptorhynchus latirostris*) and southern brush-tailed phascogale (*Phascogale tapoatafa subsp. tapoatafa*).
- (b) Where fauna are identified in relation to condition 9(a) of this Permit, the Permit Holder shall ensure that no clearing of the identified hollow bearing habitat tree(s) occurs, unless approved by the CEO.

10. 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) at an *optimal time* following the completion of works under this Permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit, including:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s) that are no longer required for the purpose for which they were cleared under this Permit.
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 10(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 10(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 10(c)(ii) of this permit, the Permit Holder shall repeat condition 10(c)(i) and 10(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 10(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 10(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 10(c)(ii).

PART III - RECORD KEEPING AND REPORTING

11. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares).

- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 10 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
 - (v) a copy of the environmental specialist's report.

12. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 11 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar or financial year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before calendar of each year.
- (c) Prior to 7 February 2026, the Permit Holder must provide to the CEO a written report of records required under condition 11 of this Permit where these records have not already been provided under condition 12(a) of this Permit.

DEFINITIONS

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

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist: means a person who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit, or who is approved by the CEO as a suitable environmental specialist.

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the *Wildlife Conservation Act 1950*.

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

habitat tree means trees that have a diameter, measured at 1.5 metres from the base of the tree, of 50 centimetres or greater, that contains or has the potential to develop hollows or roosts suitable for native fauna;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared.

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;

optimal time means the period from April to June for undertaking *direct seeding*, and the period from May to June for undertaking *planting*;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area.

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's Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.



Reuben Gregor
A/SENIOR MANAGER
CLEARING REGULATION

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

7 April 2016

Plan 6560/1a



Legend

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

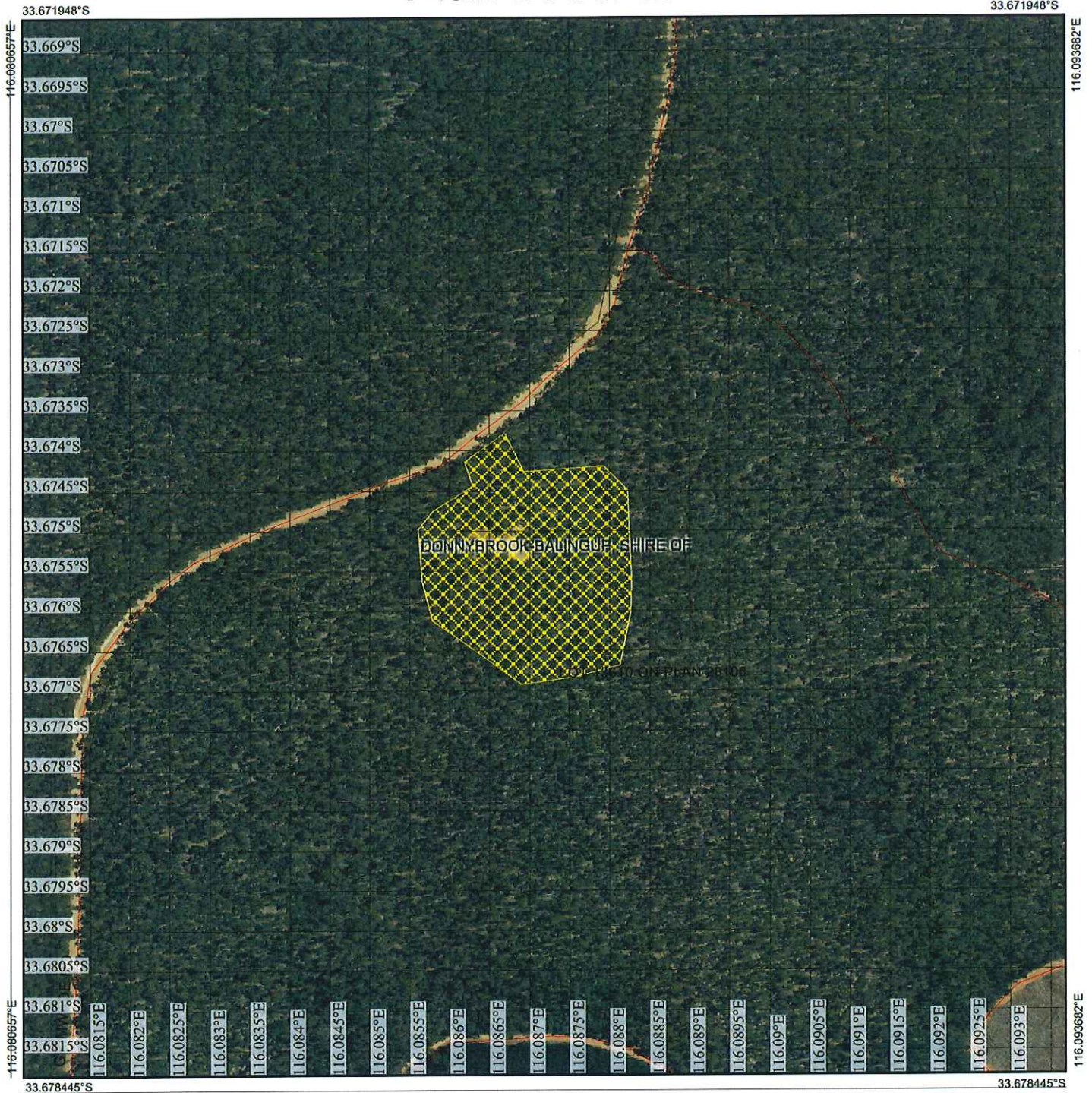


(Approximate when reproduced at A4)
GDA 94 (Lat/Long)
Geocentric Datum of Australia 1994

R Gregor Date *7 Apr 2016*
R Gregor

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

Plan 6560/1b



Legend

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



1:6,398

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

R Gregor Date *7 Apr 2016*

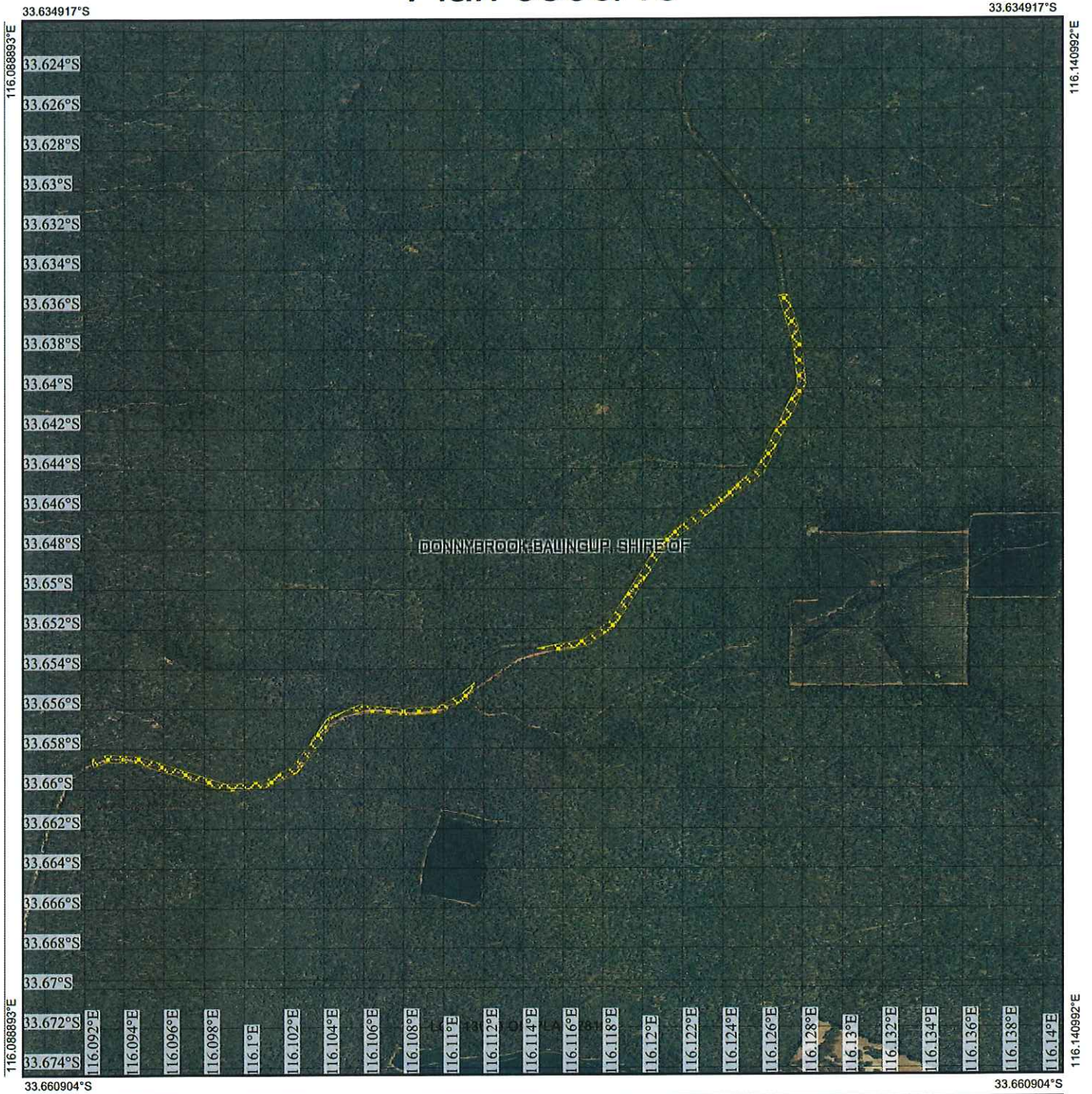
R Gregor

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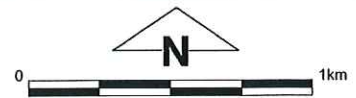
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WESTERN AUSTRALIA
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Plan 6560/1c



Legend

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



1:25,599

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

R Gregor Date *7 Apr 2016*
 R Gregor

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



1. Application details

1.1. Permit application details

Permit application No.: 6560/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Shire of Donnybrook Balingup

1.3. Property details

Property: LOT 13610 ON PLAN 28106 (STATE FOREST 29), WILGA WEST
ROAD RESERVE - 11505012, WILGA WEST

Colloquial name:
Local Government Authority: Shire of Donnybrook Balingup

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.8		Mechanical Removal	Extractive industry and road construction or upgrades

1.5. Decision on application

Decision on Permit Application: Granted

Application:

Decision Date: 7 April 2016

Reasons for Decision: The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the *Environmental Protection Act 1986*, and it has been concluded that the proposed clearing is at variance to Principle (f), may be at variance to Principles (a), (b) and (h) and is not likely to be at variance to any of the remaining clearing principles.

The vegetation under application has the potential to provide nesting habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*), Baudin's cockatoo (*Calyptorhynchus baudinii*), forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*) and southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *Tapoatafa*). To mitigate the potential impact to these species a condition has been placed on the permit requiring the applicant to check all identified habitat trees prior to clearing.

The northern section of the application area along Grimwade Road reserve intersects Balingup Brook, a non-perennial watercourse. The purpose of the proposed clearing in this area is to upgrade the existing road and insitu road side infrastructure, such as drains and culverts, may minimise impacts to this watercourse.

Through assessment it has been determined that the proposed clearing may impact the environmental values of Wilga State Forest through the direct clearing of native vegetation and possibly the introduction or spread of weed and dieback. Weed and dieback management measures will minimise impacts to this State Forest. State policies and other relevant policies have been taken into consideration in the decision to grant a clearing permit.

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, 3: Medium forest; jarrah-marri (Shepherd et al. 2001).	Application CPS 6560/1 is to clear 8.8 hectares of native vegetation within Lot 13610 on Plan 28106 and Grimwade Road reserve (PIN 11505012), Wilga West, for the purpose of gravel extraction and road upgrade.	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation description and condition was determined via a site inspection undertaken by the Department of Environment Regulation (DER 2015) and flora and vegetation surveys undertaken by Ecoedge (2014a) and Ecoedge (2016a).
Mattiske vegetation complexes: Catterick (CC1): Open forest of <i>Eucalyptus marginata</i> subsp. <i>marginata</i> - <i>Corymbia calophylla</i> mixed with <i>Eucalyptus patens</i> on slopes, <i>Eucalyptus rudis</i> and		To	

Banksia littoralis on valley floors in the humid zone (Mattiske and Havel 1998).

Dwellingup (D1): Open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on lateritic uplands in mainly humid and subhumid zones (Mattiske and Havel 1998).

Grimwade (GR): Tall open forest to open forest of *Corymbia calophylla* - *Eucalyptus marginata* subsp. *marginata* with *Eucalyptus patens* on slopes and *Eucalyptus rudis* over some *Agonis flexuosa* on lower slopes in the humid zone (Mattiske and Havel 1998).

Hester (HR): Tall open forest to open forest of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on lateritic uplands in perhumid and humid zones (Mattiske and Havel 1998).

Wingewelup (WG): Woodland of *Eucalyptus marginata* subsp. *marginata*-*Corymbia calophylla* on sandy-gravels on low divides in the subhumid zone (Mattiske and Havel 1998).

Completely Degraded:
No longer intact;
completely/almost
completely without
native species
(Keighery 1994)

Four native vegetation units were recognised within Grimwade Road reserve (Plan 6560/1a and Plan 6560/1c) being:

Vegetation unit A: Open forest of *Eucalyptus marginata* and *Corymbia calophylla* over *Banksia grandis* and *Persoonia longifolia* scattered low trees over a shrubland of *Acacia pulchella*, *Clematis pubescens*, (*Hakea amplexicaulis*), *Hibbertia commutata*, *H. cunninghamii*, *Macrozamia riedlei* and *Phyllanthus calycinus* over scattered herbs of *Lagenophora huegelii*, *Paterosonia umbrosa*, *Pteridium esculentum* and *Tetrarrhena laevis* grass (*Mirbelia dilatata*, *Trymalium odoratissimum* and *Xanthorrhoea preissii* in damper areas) (Ecoedge 2014a).

Vegetation unit B1: Open forest of *Eucalyptus marginata* and *Corymbia calophylla* over *Banksia grandis*, *Persoonia longifolia* open low woodland over *Banksia dallanneyi*, *Hakea lissocarpha*, *Hibbertia hypericoides*, *Leucopogon capitellatus*, *Macrozamia riedlei*, *Phyllanthus calycinus*, and *Tetratheca hirsuta* over *Craspedia variabilis* and *Lagenophora huegelii* scattered Herbs (Ecoedge 2014a).

Vegetation unit B2: Open forest of *Eucalyptus marginata* and *Corymbia calophylla* over scattered low trees of *Banksia grandis* and *Persoonia longifolia* over *Acacia pulchella*, *Boronia spathulata*, *Bossiaea ornata*, *Hakea lissocarpha*, *Hibbertia commutata*, *H. cunninghamii*, *H. hypericoides*, *Phyllanthus calycinus*, *Xanthorrhoea gracilis* and *X. preissii* shrubland (Ecoedge 2014a).

Vegetation unit C: Open forest of *Eucalyptus rudis* and *E. patens* over scattered low trees of *Banksia littoralis* over *Acacia saligna*, **Rubus anglocandicans*, *Taxandria linearifolia* shrubland, *Pteridium esculentum* tall herbs and *Lepidosperma tetraquetrum* tall sedges (Ecoedge 2014a).

A flora and vegetation survey undertaken by Ecoedge (2016a) within the gravel pit adjacent to Grimwade Road reserve (Plan 6560/1b) identified one vegetation unit being: open forest of *Eucalyptus marginata* and *Corymbia calophylla* over low woodland of *Banksia grandis*, *Eucalyptus marginata* (regrowth) and *Persoonia longifolia* over open heath/low open heath of *Hibbertia amplexicaulis*, *H. hypericoides*, *Leucopogon capitellatus*, *L. propinquus*, *L. verticillatus*, *Macrozamia riedlei* and *Xanthorrhoea gracilis* over open

herbland of *Pteridium esculentum* (dominant) and low herbs such as *Daucus glochidiatus*, *Lagenophora huegellii*, *Patersonia umbrosa* var. *xanthina*, *Stylidium amoenum* and *Trachymene pilosa* on gravel.

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 may be at variance to this Principle

Application CPS 6560/1 is to clear 8.8 hectares of native vegetation within Lot 13610 on Plan 28106 (State Forest 29) and Grimwade Road reserve (PIN 11505012), Wilga West, for the purpose of gravel extraction (four hectares) and road upgrade (4.8 hectares). The proposed road upgrade will extend up to three metres either side of the existing road.

The majority of the vegetation under application along Grimwade Road reserve (Plan 6560/1a and Plan 6560/1c) was identified as very good to excellent (Keighery 1994) condition or very good (Keighery 1994) condition (Ecoedge 2014a).

The majority of the vegetation under application within the gravel pit located adjacent to Grimwade Road reserve (Plan 6560/1b) is in a very good (Keighery 1994) condition. A small portion (0.4 hectares) of the application area has previously been used as a gravel pit and is in a completely degraded (Keighery 1994) condition (Ecoedge 2016a).

Five priority flora species have been recorded within the local area (10 kilometre radius). A flora survey undertaken in October 2014 along Grimwade Road reserve, and a flora survey undertaken in September 2015 within the Grimwade Road gravel pit did not identify any rare or priority flora within the areas under application (Ecoedge 2014a and Ecoedge 2016a).

None of the vegetation units identified within the Grimwade Road reserve or the adjacent gravel pit were identified as a threatened ecological community or priority ecological community (Ecoedge 2014a and Ecoedge 2016a).

The South West Regional Ecological Linkage Technical Report (Molloy et al. 2009) identified a regional ecological linkage which intersects the northern section of Grimwade Road reserve. As a result of the location of this axis line, all areas under application are classed as '1a' or '1b' under the scheme. 1a areas represent native vegetation touching or less than 100 metres from a linkage (Molloy et al. 2009), 1b areas represent native vegetation touching or less than 100 metres from a natural area selected in 1a. These linkages are recognised for their significance in facilitating indigenous fauna movement across the landscape (Molloy et al. 2009). "The landscape function of an ecological linkage will be considered impaired where a proposed development causes the proximity value of a level 1 patch of remnant vegetation to change to level 2" (Molloy et al. 2009). While the proposed clearing may impact upon vegetation classified 1a and 1b, the proposed clearing of Grimwade Road reserve is narrow, linear in shape and follows existing road and the proposed clearing for gravel extraction occurs adjacent to existing gravel pits, therefore the proposed clearing is not likely to have a significant impact on the environmental values of this ecological linkage.

Nine fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 (Parks and Wildlife 2007-) have been recorded within the local area (10 kilometre radius). The area under application contains foraging habitat and potential nesting habitat for forest red-tailed black-cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*) and Carnaby's cockatoo (*Calyptorhynchus latirostris*). However, the local area retains approximately 60 per cent native vegetation and the application is located adjacent to and within Wilga State Forest where a relatively large amount of suitable habitat in similar or better condition to the area under application is present. The proposed clearing is not likely to have an impact on significant habitat for these species.

Fauna management practices requiring the applicant to check all trees with suitable nesting hollows and seek CEO approval prior to clearing where fauna are identified, will help mitigate impacts to the black cockatoo species.

The areas under application contain vegetation in very good to excellent (Keighery 1994) condition, occur in a State Forest and contain habitat utilised by the above mentioned conservation significant black cockatoo species.

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

Four hectares of the area proposed to be cleared is for the temporary land use of gravel extraction and a requirement to revegetate the temporarily cleared areas will assist in mitigating any long term impacts to conservation significant black cockatoo species. The remaining 4.8 hectares proposed to be cleared occurs along Grimwade Road reserve and will extend up to three metres either side of the existing road.

Methodology References:
Ecoedge (2014a)
Ecoedge (2016a)
Keighery (1994)
Molloy et al. (2009)
Parks and Wildlife (2007-)

GIS Databases:
SAC Bio Datasets – accessed March 2016

(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 may be at variance to this Principle

Nine fauna 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) being: woylie (*Bettongia penicillata* subsp. *ogilbyi*), forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*), Baudin's cockatoo (*Calyptorhynchus baudinii*), Carnaby's cockatoo (*Calyptorhynchus latirostris*), chuditch (*Dasyurus geoffroii*), tingle trapdoor spider (*Moggridgea tingle*), southern brush-tailed phascogale (*Phascogale tapoatafa* subsp. *tapoatafa*), western ringtail possum (*Pseudocheirus occidentalis*) and quokka (*Setonix brachyurus*) (Parks and Wildlife 2007-).

Carnaby's cockatoo is listed as endangered and Baudin's cockatoo and forest red-tailed black cockatoo are listed as vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). Black cockatoos breed in large hollow-bearing trees, generally within woodlands or forests or former woodland or forest now present as isolated trees, including hollows in live or dead trees of karri, marri, wandoo, tuart, salmon gum, jarrah, flooded gum, york gum, powderbark, bullich and blackbutt. Black cockatoos have a preference for feeding habitat that includes jarrah and marri woodlands and forest heathland and woodland dominated by proteaceous plant species such as *Banksia* sp. *Hakea* sp. and *Grevillea* sp (Commonwealth of Australia 2012).

Fauna habitat assessments undertaken by Ecoedge (2014b and 2016b) identified 966 trees along Grimwade Road reserve and 259 trees within the Grimwade Road gravel extraction pit site that fit the criteria for black cockatoo breeding habitat, having a diameter at breast height of more than 50 centimetres. Forty one of the trees identified along Grimwade Road reserve and nine trees within the Grimwade Road gravel pit contained hollows that met the minimum size suitable for black cockatoo nesting, however it is likely only a few contained hollows large and deep enough to provide optimum potential nesting hollows. The majority of trees within both areas were jarrah, although a number of marri trees were also identified (Ecoedge 2014b and Ecoedge 2015b).

During the fauna assessments black cockatoos, most likely the forest red-tailed black cockatoo, were heard at all sites under application and a small amount of evidence of feeding by the forest-red tailed black cockatoo was identified at 12 locations along Grimwade Road reserve. In addition this species was identified perched in trees on five occasions within Grimwade Road reserve (Ecoedge 2014b and Ecoedge 2016b). A site inspection undertaken by DER (2015) identified black cockatoos present within the application areas.

All of the vegetation within the application areas represent quality foraging habitat for all three species of black cockatoo (Ecoedge 2014b and Ecoedge 2016b).

Western ringtail possum populations in southern forests occur mainly in jarrah or marri dominated forests extending to wandoo forests to the north east of Manjimup (Parks and Wildlife 2014). No evidence of western ringtail possums (dreys, scats or individuals) were observed within the application area (Ecoedge 2014b and Ecoedge 2016b). Suitable habitat for this species may be located within the application areas.

The woylie's distribution has been reduced to three locations in Western Australia; Perup forest, Tutanning Nature Reserve and dryandra woodland (Department of the Environment 2016a). As a result of the limited distribution of this species the proposed clearing is not likely to have any impact. Similarly, the limited distribution the tingle trapdoor spider means it is not likely to occur within the application area.

The chuditch inhabits most kinds of wooded habitat within its current range including eucalypt forest (especially Jarrah, *Eucalyptus marginata*), dry woodland and mallee shrublands. In Jarrah forest, chuditch populations occur in both moist, densely vegetated, steeply sloping forest and drier, open, gently sloping forest (Department of the Environment 2016b). Suitable habitat for this species may be located in the application areas.

The southern brush-tailed phascogale inhabits dry sclerophyll forests and open woodlands that contain hollow-bearing trees (DEC 2012). Suitable habitat may be located within the larger trees identified as containing hollows in the application areas.

The quokka's main habitat for mainland populations is dense riparian vegetation (Department of the Environment 2016c). Minimal riparian vegetation occurs within the area under application and therefore significant habitat for this species is not likely to be located within the area under application.

The South West Regional Ecological Linkage Technical Report (Molloy et al. 2009) identified a regional ecological linkage which intersects the northern section of Grimwade Road reserve. As a result of the location

of this axis line, all areas under application are classed as '1a' or '1b' under the scheme. 1a areas represent native vegetation touching or less than 100 metres from a linkage (Molloy et al. 2009), 1b areas represent native vegetation touching or less than 100 metres from a natural area selected in 1a. These linkages are recognised for their significance in facilitating indigenous fauna movement across the landscape (Molloy et al. 2009). "The landscape function of an ecological linkage will be considered impaired where a proposed development causes the proximity value of a level 1 patch of remnant vegetation to change to level 2" (Molloy et al. 2009). While the proposed clearing may impact upon vegetation classified 1a and 1b, the proposed clearing of Grimwade Road reserve is narrow, linear in shape and follows existing road and the proposed clearing for gravel extraction occurs adjacent to existing gravel pits, therefore the proposed clearing is not likely to have a significant impact on the environmental values of this ecological linkage.

The areas under application provide foraging habitat and potential nesting habitat for the black cockatoo species. Suitable habitat for the southern-brush tailed phascogale and chuditch may also be located within the application areas. However, the local area retains approximately 60 per cent native vegetation and the application is located adjacent to and within Wilga State Forest where suitable habitat in similar or better condition to the area under application is present, therefore the native vegetation under application is not likely to comprise significant habitat for these species.

Fauna management practices requiring the applicant to check all suitable nesting hollows will help mitigate impacts to black cockatoo species and southern-brush tailed phascogale.

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

Four hectares of the area proposed to be cleared is for the temporary land use of gravel extraction and a requirement to revegetate the temporarily cleared areas will assist in mitigating any long term impacts to the conservation significant black cockatoo species. The remaining 4.8 hectares proposed to be cleared occurs along Grimwade Road reserve and will extend up to three metres either side of the existing road.

Methodology

References:

Commonwealth of Australia (2012)
DEC (2012)
Department of the Environment (2016a)
Department of the Environment (2016b)
Department of the Environment (2016c)
Ecoedge (2014b)
Ecoedge (2016b)
Molloy et al. (2009)
Parks and Wildlife (2007-)
Parks and Wildlife (2014)

GIS Databases:

SAC Bio Datasets – accessed March 2016

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

Comments

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

No rare flora has been recorded within the local area (10 kilometre radius) and a flora survey within the application areas did not identify any rare or priority flora (Ecoedge 2014a and 2016a).

Given the above, the vegetation under application is not likely to include or be necessary for the continued existence of rare flora and the proposed clearing is not likely to be at variance to this principle.

Methodology

References:

Ecoedge (2014a)
Ecoedge (2016a)

GIS Databases:

SAC Bio Datasets – accessed March 2016

(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

There are no threatened ecological communities (TEC) recorded within the local area (10 kilometre radius) and a flora and vegetation survey within the application areas did not identify any TECs (Ecoedge 2014a and 2016a).

Given the above, the vegetation under application is not likely to comprise or be necessary for the maintenance of a TEC and the proposed clearing is not likely to be at variance to this principle.

Methodology References:
 Ecoedge (2014a)
 Ecoedge (2016a)

GIS Databases:
 SAC Bio Datasets – accessed March 2016

(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 application areas are located within the Jarrah Forest Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 54 per cent of its pre-European vegetation extent remaining (Government of Western Australia, 2014).

The vegetation under application is mapped as Beard vegetation associations 3 and Mattiske complexes CC1, D1, GR, HR and WG of which there is approximately 68, 61, 86, 50, 73 and 67 per cent of pre-European vegetation extents remaining within the Jarrah Forest Interim Bioregion respectively (Government of Western Australia 2014 and Parks and Wildlife 2015).

The application areas are located within the Shire of Donnybrook-Balingup within which there is approximately 56 per cent pre-European vegetation extent remaining (Government of Western Australia, 2014).

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 local area (10 kilometre radius) retains approximately 60 per cent native vegetation.

Given the vegetation representations outlined above, the application areas are not considered to be a significant remnant located within an extensively cleared area and 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				
Jarrah Forest	4 506 660	2 425 551	54	69
Shire				
Shire of Donnybrook-Balingup	156 004	87 696	56	83
Beard Vegetation Association in Bioregion*				
3	2 390 591	1613 657	68	81
Mattiske Complex Associations in Bioregion**				
CC1	27,385	16,857	61	55
D1	208,515	181,200	86	82
GR	22,046	11,167	50	43
HR	32,249	23,781	73	67
WG	38,161	25,772	67	48

Methodology References:
 Commonwealth of Australia (2001)
 *Government of Western Australia (2014)
 ** Parks and Wildlife (2015)

GIS Databases:
 Mattiske Vegetation Complexes
 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 at variance to this Principle**
 There are numerous watercourses located within the local area (10 kilometre radius). The northern section of the application area along Grimwade Road reserve intersects Balingup Brook, a non-perennial watercourse.

Given that a watercourse intersects the application area the native vegetation, subject of the proposed clearing, is considered to be growing in association with a watercourse. However, given the application area associated with this watercourse is linear in shape and located along a road reserve the proposed clearing is not likely to have a significant impact on the environmental values of this watercourse.

Given the above, the proposed clearing is at variance to this principle.

Methodology GIS Databases:
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 application areas are mapped within soil type JZ1: Dissected plateau having a strongly undulating relief, with some moderately incised valleys. The unit comprises much of the western part of the Darling Range south of the Swan River. It is characterized by lateritic gravels and block laterite. The chief soils are ironstone gravels with sandy and earthy matrices (Northcote et al. 1960 - 1968).

Based on the soils present within the application areas, appreciable land degradation in the form of wind erosion is unlikely to occur as a result of the proposed clearing. A watercourse intersects the area under application within Grimwade Road reserve, however given the purpose of clearing within this area is for road widening, is narrow and linear in shape and culverts are likely to be in place to manage surface water flow, the proposed clearing is not likely to cause water erosion.

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

Methodology References:
Northcote et al. (1960 – 1968)

GIS Databases:
Soils, statewide
Hydrography, linear

(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 application areas are located within and adjacent to Wilga State Forest. The proposed clearing may directly impact this conservation area through the direct removal of vegetation. However, given the proposed clearing occurs along six kilometres of Grimwade Road reserve and adjacent to an existing gravel pit, it is not likely to have a significant impact on the environmental values of the conservation area.

The proposed clearing may impact this conservation area through the spread of weeds and dieback. Weed and dieback management practices will help mitigate this risk.

The South West Regional Ecological Linkage Technical Report (Molloy et al. 2009) identified a regional ecological linkage which intersects the northern section of Grimwade Road reserve. As a result of the location of this axis line, all areas under application are classed as '1a' or '1b' under the scheme. 1a areas represent native vegetation touching or less than 100 metres from a linkage (Molloy et al. 2009), 1b areas represent native vegetation touching or less than 100 metres from a natural area selected in 1a. These linkages are recognised for their significance in facilitating indigenous fauna movement across the landscape (Molloy et al. 2009). "The landscape function of an ecological linkage will be considered impaired where a proposed development causes the proximity value of a level 1 patch of remnant vegetation to change to level 2" (Molloy et al. 2009). While the proposed clearing may impact upon vegetation classified 1a and 1b, the proposed clearing of Grimwade Road reserve is narrow, linear in shape and follows existing road and the proposed clearing for gravel extraction occurs adjacent to existing gravel pits, therefore the proposed clearing is not likely to have a significant impact on the environmental values of this ecological linkage.

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

Methodology References:
Molloy et al. (2009)

GIS Databases:
Parks and Wildlife, Tenure
SWREL

(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

There are numerous watercourses located within the local area (10 kilometre radius). The northern section of the application area within Grimwade Road reserve intersects Balingup Brook, a non-perennial watercourse. The proposed clearing may increase sedimentation and runoff into Balingup Brook, however the impacts are likely to be minimal and short term. Further, given the purpose of the proposed clearing is for road upgrades where there are likely to be culverts in place to manage surface water flow, the proposed clearing is not likely to cause deterioration in the quality of surface water.

Groundwater salinity is mapped at 0-3000 milligrams per litre total dissolved solids which is considered to be fresh to brackish. Given the low salinity levels and that the proposed clearing occurs along a stretch of approximately six kilometres of road reserve and adjacent to an existing gravel pit, the proposed clearing is not likely to impact upon the quality of underground water.

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

Methodology GIS Databases:
Groundwater Salinity
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 soils within the application area are of a permeable nature and the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology GIS Databases:
Hydrography, linear

Planning instruments and other relevant matters.

Comments No submissions have been received in relation to this application.

No Aboriginal Sites of Significance have been recorded within the application areas.

Parks and Wildlife (2016) has issued an agreement relating to entry under the Land Administration Act 1997 being a Section 91 licence for the purpose of removing basic raw materials from Conservation and Land Management Act 1984 lands.

Methodology References:
Parks and Wildlife (2016)

GIS Databases:
Aboriginal Sites of Significance

4. References

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