



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 7018/1
Permit Holder:	Commissioner of Main Roads Western Australia
Duration of Permit:	17 June 2016 to 17 December 2032

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 extracting road building materials.

2. Land on which clearing is to be done

Lot 375 on Plan 52022 (Reserve 48800), Boorabbin
Lot 1651 on Plan 29632 (Reserve 28257), Yellowdine
Unallocated Crown land (PIN 11481069), Boorabbin

3. Area of Clearing

The Permit Holder must not clear more than 35 hectares of native vegetation within the area cross-hatched yellow on attached Plan 7018/1.

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. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 17 June 2026.

6. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for the project 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 project activities under the *Main Roads Act 1930* 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:

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

8. 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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *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 undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *fauna specialist* to inspect the Permit Area for the presence of *Leipoa ocellata* (Malleefowl) mounds.
- (b) Where *Leipoa ocellata* (Malleefowl) mounds are identified under condition 9(a) of this Permit, the Permit Holder shall ensure that no clearing within 50 metres of the identified *Leipoa ocellata* (Malleefowl) mounds occurs, unless first 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) within 3 months following completion of extraction operations in any area cleared under this Permit, *revegetate* and *rehabilitate* the area(s) by:
 - (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 pit floor and contour batters within the extraction site; and
 - (iii) laying the vegetative material and topsoil retained under condition 10(a) on the cleared area(s).
- (c) within 3 years of laying the vegetative material and topsoil on the cleared area(s) 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 to 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 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;
 - (ii) the date that the area was cleared; and
 - (iii) the size of the area cleared (in hectares).
- (b) In relation to fauna management pursuant to condition 9 of this Permit, the location of each *Leipoa ocellata* (Malleefowl) mound 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.
- (c) 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 dates of the *revegetation* and *rehabilitation* activities undertaken;
 - (iv) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (v) the species composition, structure and density of *revegetation* and *rehabilitation*; and
 - (vi) 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 year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 15 September 2032, 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;

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

local provenance means native vegetation seeds and propagating material from natural sources within 100 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;

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

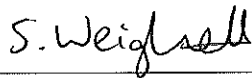
regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing mulch;

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



Simon Weighell
A/MANAGER
CLEARING REGULATION

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

26 May 2016

Plan 7018/1



Legend

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



1:12,500

(Approximate when reproduced at A4)
GDA 94 (Lat/Long)

Geocentric Datum of Australia 1994

S. Weighell Date *26/5/16*
Simon Weighell

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.: 7018/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Commissioner of Main Roads Western Australia

1.3. Property details

Property: LOT 375 ON PLAN 52022, BOORABBIN
LOT 1651 ON PLAN 29632, YELLOWDINE
UNALLOCATED CROWN LAND (PIN 11481069), BOORABBIN
SHIRE OF COOLGARDIE and SHIRE OF YILGARN
Local Government Authority: SHIRE OF COOLGARDIE and SHIRE OF YILGARN
DER Region: GOLDFIELDS
DPaW District: CENTRAL WHEATBELT
Localities: YELLOWDINE and BOORABBIN

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
35		Mechanical Removal	Extractive industry

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 26 May 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 may be at variance to Principle (b) and Principle (h) and is not likely to be at variance to any of the remaining clearing principles.

The application area has the potential to provide foraging and nesting habitat for malleefowl (*Leipoa ocellata*). To mitigate the potential impacts to this species a condition has been placed on the permit requiring the identification of malleefowl mounds and the retention of a 50 metre buffer to any identified mounds.

Through assessment it has been determined that the clearing may directly impact environmental values of conservation areas and remnant vegetation through the introduction or spread of weeds. Weed management measures will minimise impacts to these areas.

Relevant 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

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation association 128 is described as bare areas; rock outcrops (Shepherd et al. 2001).	The application is to clear 35 hectares within Lot 375 on Plan 52022 (Reserve 48800), unallocated Crown land (PIN 11481069), Boorabbin, and Lot 1651 on Plan 29632 (Reserve 28257), Yellowdine, for the purpose of extractive industry.	Excellent; Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994).	The vegetation condition was determined via aerial imagery and review of nearby biological assessments (GHD 2016a).
Beard vegetation association 214 is described as mosaic: medium woodland; goldfield eucalypts / Succulent steppe with open low woodland; myoporum over saltbush (Shepherd et al. 2001).		To	
Beard vegetation association 1148 is described as shrublands; scrub-heath in the Coolgardie Region (Shepherd et al. 2001).		Completely Degraded: No longer intact; completely /almost completely without native species (Keighery 1994).	

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 application is to clear 35 hectares of native vegetation within Lot 375 on Plan 52022 (Reserve 48800), unallocated Crown land (PIN 11481069), Boorabbin, and Lot 1651 on Plan 29632 (Reserve 28257), Yellowdine, for the purpose of extractive industry.

Three biological assessments were commissioned by Main Roads Western Australia for a related application in the region (CPS 6952/1) (GHD 2016a; GHD 2016b; GHD 2016c). 17 extraction pits were included in the scope of the assessments, two of which occur approximately 1.5 kilometres from the application area. Based on aerial imagery, the structure and condition of the vegetation within the application area is similar to the vegetation types identified within the two nearby pits. The vegetation within the application area is in completely degraded to excellent (Keighery 1994) condition.

Beard vegetation associations 128, 214 and 1148, and soil type AC1 have been mapped as occurring within the application area. Beard vegetation association 1148 and soil type AC1 also occurs within one of the nearby surveyed pits and Beard vegetation association 214 and soil type AC1 occurs within the other nearby surveyed pit. A biological assessment undertaken within these pits identified two priority three flora species, being *Acacia desertorum* var. *nudipes* and *Banksia lullfitzii* (GHD 2016a). Based on the commonality of the mapped soil and vegetation types within the application area and the surveyed pits, and that a biological assessment undertaken within the survey pits identified priority flora, it is possible that the application area contains these priority flora species. In addition, *Cryptandra polyclada* subsp. *aequabilis*, priority one, *Daviesia sarissa* subsp. *redacta*, priority two, *Cyathostemon verrucosus*, *Gastrolobium semiteres*, and *Verticordia mitodes*, all priority three, are mapped within the same soil and vegetation types as the application area. Therefore, the application area may also contain these species. Given the extent of native vegetation adjacent to the application area, in similar condition and of similar structure to the vegetation proposed to be cleared, the application area is not likely to comprise of significant habitat for these species if they do occur. In addition, the proposed clearing is for a temporary land use and the application area will be revegetated, reducing any impacts to priority flora populations that may occur within the application area.

There are no priority ecological communities (PEC) mapped within the local area (20 kilometre radius). The closest PEC is Duladgin Quartzite Ridge, priority three, which is located approximately 37 kilometres from the application area.

The application area is within the mapped occurrence of the Great Western Woodlands (GWW), which is recognised as an internationally significant area of great biological richness (DEC 2010). The GWW cover an area of nearly 16 million hectares, whereby it comprises a continuous band of native vegetation that stretches from the edge of the Western Australian Wheatbelt to Kalgoorlie-Boulder in the north, to the inland deserts to the north-east and the Nullarbor Plain to the east (DEC 2010). Woodland communities cover approximately 63 per cent of the GWW, shrublands comprise 20 per cent and mallee vegetation 10 per cent, with bare areas (five per cent) and grassland (two per cent) over the remainder (DEC 2010). The entire application area is within the GWW which is a highly significant landscape conservation area. However, approximately 90 per cent vegetation cover remains in the local area, within the GWW, and considering the application is for extraction which will be revegetated upon the decommissioning of the pit, it is unlikely the proposed clearing will significantly impact on the GWW.

The vegetation within the application area may provide habitat for fauna species, including conservation significant species. However given the presence of extensive undisturbed areas of native vegetation within the local area, the application area is not likely to provide unique habitat for fauna.

Aerial imagery indicates that the local area (20 kilometre radius) surrounding the application area is extensively vegetated and retains approximately 90 per cent vegetation cover, the majority of which appears to be of similar structure and condition to the vegetation within the application area. Therefore the application area is not likely to comprise a high level of biological diversity compared to other remnant vegetation within the area.

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

Methodology

References:

DEC (2010)
GHD (2016a)
GHD (2016b)
GHD (2016c)
Keighery (1994)

GIS Databases:

- Pre-European vegetation
- SAC Bio Datasets (accessed May 2016)
- Soils, statewide
- Virtual mosaic

(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

Five fauna species of conservation significance have been recorded within the local area (20 kilometre radius), being chuditch (*Dasyurus geoffroii*), listed as rare or likely to become extinct under the *Wildlife Conservation Act 1950* (WC Act), rainbow bee-eater (*Merops ornatus*), protected under international agreement, woma (*Aspidites ramsayi*), Major Mitchell's cockatoo (*Cacatua leadbeateri*) and carpet python (*Morelia spilota* subsp. *imbricata*), all listed as specially protected fauna (Parks and Wildlife 2007-). The vegetation within the application area is likely to provide suitable habitat for these species. In addition, the application area may contain habitat suitable for malleefowl (*Leipoa ocellata*), listed as rare or likely to become extinct under the WC Act, western rosella (*Platycercus icterotis xanthogenys*) and central long-eared bat (*Nyctophilus major tor*), both listed as priority four.

A biological assessment undertaken over the nearby pits, which are likely to have the same vegetation structure and condition as the application area, considered that the vegetation types present were likely to provide suitable habitat for the abovementioned conservation significant fauna species (GHD 2016a).

Malleefowl are found in southern Australia, in semi-arid shrublands and low woodlands dominated by mallee eucalypts and acacias, and feed opportunistically on a variety of flora, fungi and invertebrates (DotE 2016). Malleefowl require sandy substrate and abundant leaf litter for breeding (DotE 2016). It is possible that malleefowl nest and forage within the application area.

Whilst the remaining fauna species may utilise the application area for traversing and foraging, the vegetation present does not appear to be exclusive to the application area, being well represented at a local and regional scale.

Given the above the proposed clearing may be at variance to this principle. A condition requiring a survey for malleefowl mounds prior to clearing will ensure impacts to this species are minimised.

Methodology

References:

DotE (2016)
GHD (2016a)
Parks and Wildlife (2007-)

GIS Databases:

- Virtual mosaic

(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

One rare flora species has been recorded within the local area (20 kilometre radius), approximately 19 kilometres from the application area. This species has been mapped within different vegetation types to the application area. Considering this, it is unlikely that the application area includes or is necessary for the continued existence of this rare flora.

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

Methodology

GIS Databases:

- Pre-European vegetation
- SAC Bio Datasets (accessed May 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

No threatened ecological communities (TEC) have been recorded within the local area (20 kilometre radius).

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

Methodology

GIS Databases:

- SAC Bio Datasets (accessed May 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 at variance to this Principle

The application area is located within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 98 per cent of its pre-European vegetation extent remaining (Government of Western Australia 2014).

The application area is mapped as Beard vegetation associations 128, 214, and 1148 which have approximately 100, 100 and 99 per cent of their respective pre-European vegetation extents remaining in the Coolgardie bioregion (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).

Aerial imagery indicates that the local area (20 kilometre radius) retains approximately 90 per cent vegetation cover.

The proposed clearing is not at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed Lands (%)
IBRA Bioregion*				
Coolgardie	12 912 204	12 648 491	98.0	16
Shire*				
Shire of Coolgardie	3 029 733	3 017 748	99.6	14
Shire of Yilgarn	3 042 760	2 480 373	81.5	29
Beard Vegetation Association in Bioregion*				
128	184 550	183 891	99.6	19
214	16 585	16 585	100.0	29
1148	254 932	252 775	99.2	17

Methodology

References:

Commonwealth of Australia (2001)

*Government of Western Australia (2014)

GIS Databases:

- IBRA Australia
- Local Government Authority
- Pre-European vegetation
- Virtual mosaic

(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

Numerous watercourses, lakes and wetlands are located within the local area (20 kilometre radius). No watercourses, lakes or wetlands have been mapped within the application area.

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

Methodology

GIS Databases:

- Hydrography, hierarchy
- Hydrography, linear
- Geomorphic wetlands wheatbelt

(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 mapped soil type within the application area is AC1, which is described as gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps, some granitic bosses, and tors; and irregularly traversed by narrow shallow valleys and flats: chief soils are yellow earthy sands and sandy yellow earths on depositional sites, and ironstone gravels together (Northcote et al. 1960 – 1968).

The application area is located within the Norseman Zone of the Kalgoorlie Soil-landscape Province (GHD 2016a). This zone is generally characterised by undulating plains and uplands (with some salt lakes and sandplains) (GHD 2016a).

Based on the landscape and soil types, it is likely the soils within the application area are highly permeable.

The annual rainfall of the region is approximately 400 millimetres per annum. According to available databases, no watercourses or wetlands have been mapped within the application area.

Aerial imagery indicates that the local area (20 kilometre radius) retains approximately 90 per cent vegetation cover. Considering this, along with the soil type and relatively low annual rainfall, the proposed clearing is unlikely to cause appreciable land degradation.

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

Methodology References:
GHD (2016a)
Northcote et al. (1960-68)

GIS Databases:
- Rainfall, mean annual
- Soils, statewide
- Virtual mosaic

(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

There are several Department of Parks and Wildlife managed lands within the local area. The application area occurs between Boorabbin National Park and Yellowdine Nature Reserve, being approximately 700 metres and 3.8 kilometres from the areas respectively. Given the extent of the native vegetation within the local area, the proposed clearing will not sever the connectivity between these two conservation areas.

The application area is adjacent to remnant vegetation and there is potential for weeds to spread or be introduced into this area and the nearby conservation areas.

The proposed clearing may be at variance to this principle. Weed management measures will assist in mitigating the risk of weeds spreading into the abovementioned conservation areas and adjacent vegetation.

Methodology GIS Databases:
- Parks and Wildlife Tenure
- Virtual mosaic

(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

According to available databases, no watercourses or wetlands have been mapped within the application area. On this basis it is considered that the proposed clearing is unlikely to cause deterioration in the quality of surface water.

Groundwater salinity is mapped between 14000 – 35000 milligrams per litre of total dissolved solids which is considered to be highly saline. However, the local area (20 kilometre radius) retains approximately 90 per cent vegetation cover and therefore the proposed clearing is not likely to cause deterioration in the quality of underground water.

The application area does not occur within a *Country Areas Water Supply Act 1914* area or a Public Drinking Water Source Area.

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

Methodology GIS Databases:
- Country Areas Water Supply Act (Part IIA) – Clearing control catchments
- Groundwater salinity, statewide
- Hydrography, hierarchy
- Hydrography, linear
- Geomorphic wetlands wheatbelt
- Public drinking water source areas
- Virtual mosaic

(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 annual rainfall of the region is approximately 400 millimetres per annum.

Given the relatively low annual rainfall and that the local area (20 kilometre radius) retains approximately 90 per cent vegetation cover, the proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology GIS Databases:
- Rainfall, mean annual
- Virtual mosaic

Planning instruments and other relevant matters.

Comments The application is to clear 35 hectares of native vegetation within Lot 375 on Plan 52022 (Reserve 48800), unallocated Crown land (PIN 11481069), Boorabbin, Lot 1651 on Plan 29632 (Reserve 28257), Yellowdine, for the purpose of extractive industry. The materials extracted from the application area will be used for construction along Great Eastern Highway between Southern Cross and Kalgoorlie. Clearing for these road works is permitted under Clearing Permit CPS 6921/1.

The application was referred to the Shire of Coolgardie and Shire of Yilgarn for comment. The Shire of Coolgardie advised it has no objections to the application (Shire of Coolgardie 2016).

There have been no submissions received from the public in response to the proposed clearing.

The application area does not occur within an Aboriginal Site of Significance.

Methodology References:
Shire of Coolgardie (2016)

GIS Databases:
- Aboriginal sites of significance

4. References

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2010) A Biodiversity and Cultural Conservation Strategy for the Great Western Woodlands. Department of Environment and Conservation, Perth, Western Australia.
- DotE (2016) *Leipooa ocellata* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- GHD (2016a) Great Eastern Highway Material Pits, Southern Cross to Kalgoorlie, SLK 432 – 484, Biological Assessment. DER REF: A1049806.
- GHD (2016b) Great Eastern Highway Material Pits, Southern Cross to Kalgoorlie, SLK 387 – 393, Biological Assessment. DER REF: A1049806.
- GHD (2016c) Great Eastern Highway Material Pits, Southern Cross to Kalgoorlie, SLK 501 – 507, Biological Assessment. DER REF: A1049806.
- 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.
- 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 May 2016.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shire of Coolgardie (2016) Advice provided in relation to Clearing Permit application CPS 7018/1. Advice received 12 May 2016. DER REF: A1098111.