



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 6160/1
Permit Holder:	Brierty Limited
Duration of Permit:	4 October 2014 – 4 October 2024

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.

2. Land on which clearing is to be done

Lot 57 on Deposited Plan 221186 (Bullabulling 6429)

Lot 122 on Deposited Plan 217886 (Bullabulling 6429)

Lot 91 on Deposited Plan 221186 (Bullabulling 6429)

Lot 178 on Deposited Plan 217882 (Bullabulling 6429)

Unallocated Crown Land (PIN: 1031725) (Bullabulling 6429)

Great Eastern Highway Road reserve (PIN: 11692458) (Bullabulling 6429)

3. Area of Clearing

The Permit Holder must not clear more than 89.09 hectares of native vegetation within the combined areas hatched yellow on attached Plan 6160/1a, Plan 6160/1b and Plan 6160/1c.

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. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the right to access land under the *Land Administration Act 1997* or any other written law.

6. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 4 October 2019.

PART II – MANAGEMENT CONDITIONS

7. 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.

8. Flora management

Where *priority flora* have been identified and their written location(s) provided to the CEO, the Permit Holder shall ensure that:

- (a) no clearing of identified *priority flora* occurs;
- (b) no clearing occurs within 50 metres of *Baeckea sp. Bulla Bulling* (P1), unless first approved by the CEO; and
- (c) no clearing occurs within 20 metres of *Baeckea sp. Parker Range* (P3) and *Gompholobium cinereum* (P3), unless first approved by the CEO.

9. 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 clearing authorised 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 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 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 9(a) on the cleared area(s)
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 9(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 9(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 9(c)(ii) of this permit, the Permit Holder shall repeat condition 9(c)(i) and 9(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 9(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 9(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(c)(ii).

10. 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 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 9 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.

11. 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 10 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 4 July 2024, the Permit Holder must provide to the CEO a written report of records required under condition 10 of this Permit where these records have not already been provided under condition 11(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;

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 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 May for undertaking *direct seeding*;

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

priority flora means those plant taxa described as priority flora classes 1, 2, 3, 4 or 5 in the *Department of Parks and Wildlife's Threatened and Priority Flora List for Western Australia* (as amended);

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.

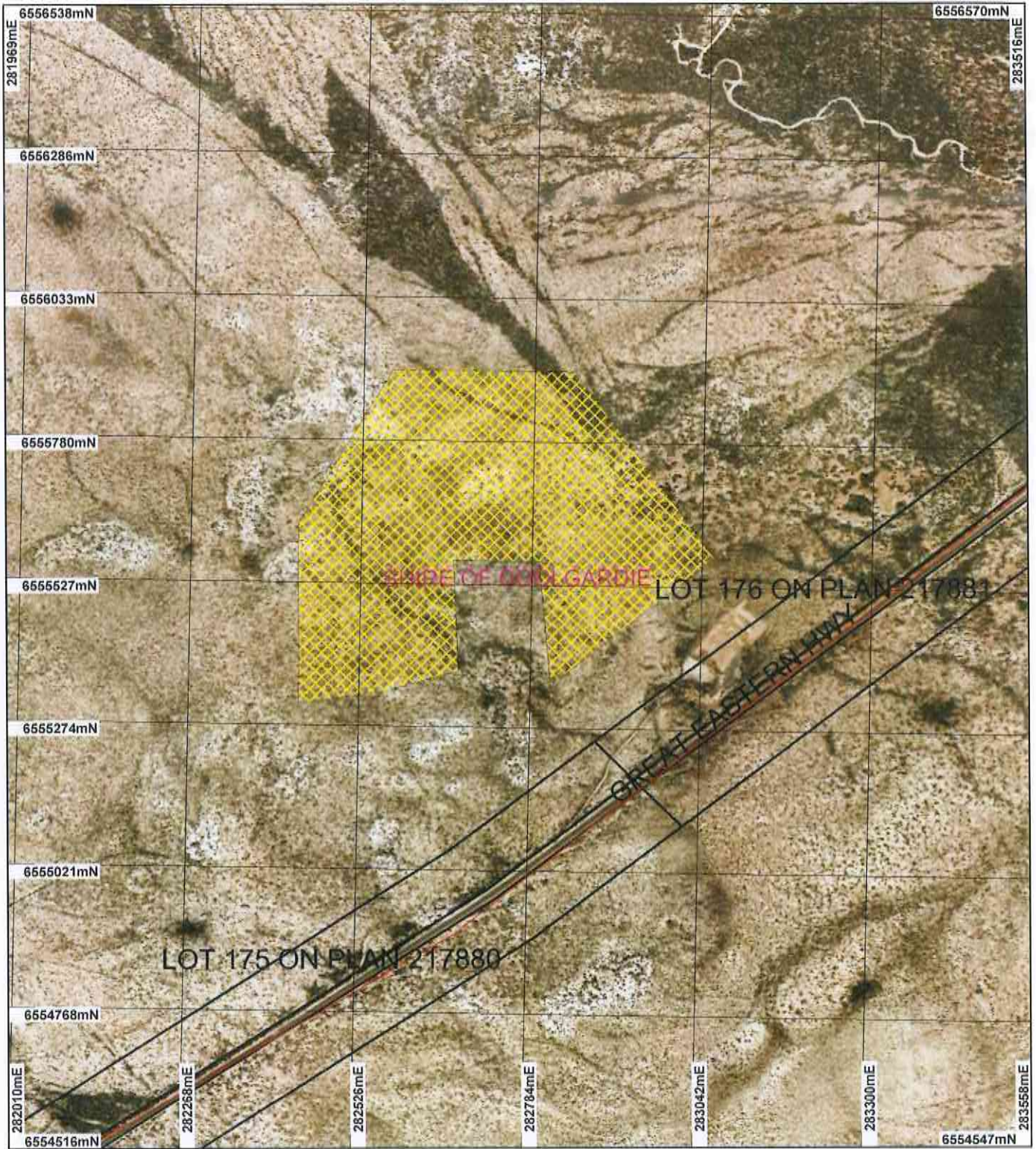


M Warnock
SENIOR MANAGER
CLEARING REGULATION

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

4 September 2014

Plan 6160/1a



LEGEND

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

Woolgangie 1.4m
Orthomosaic - Landgate
2003



Scale 1:9000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

M Warnock Date 24/9/14

M Warnock

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

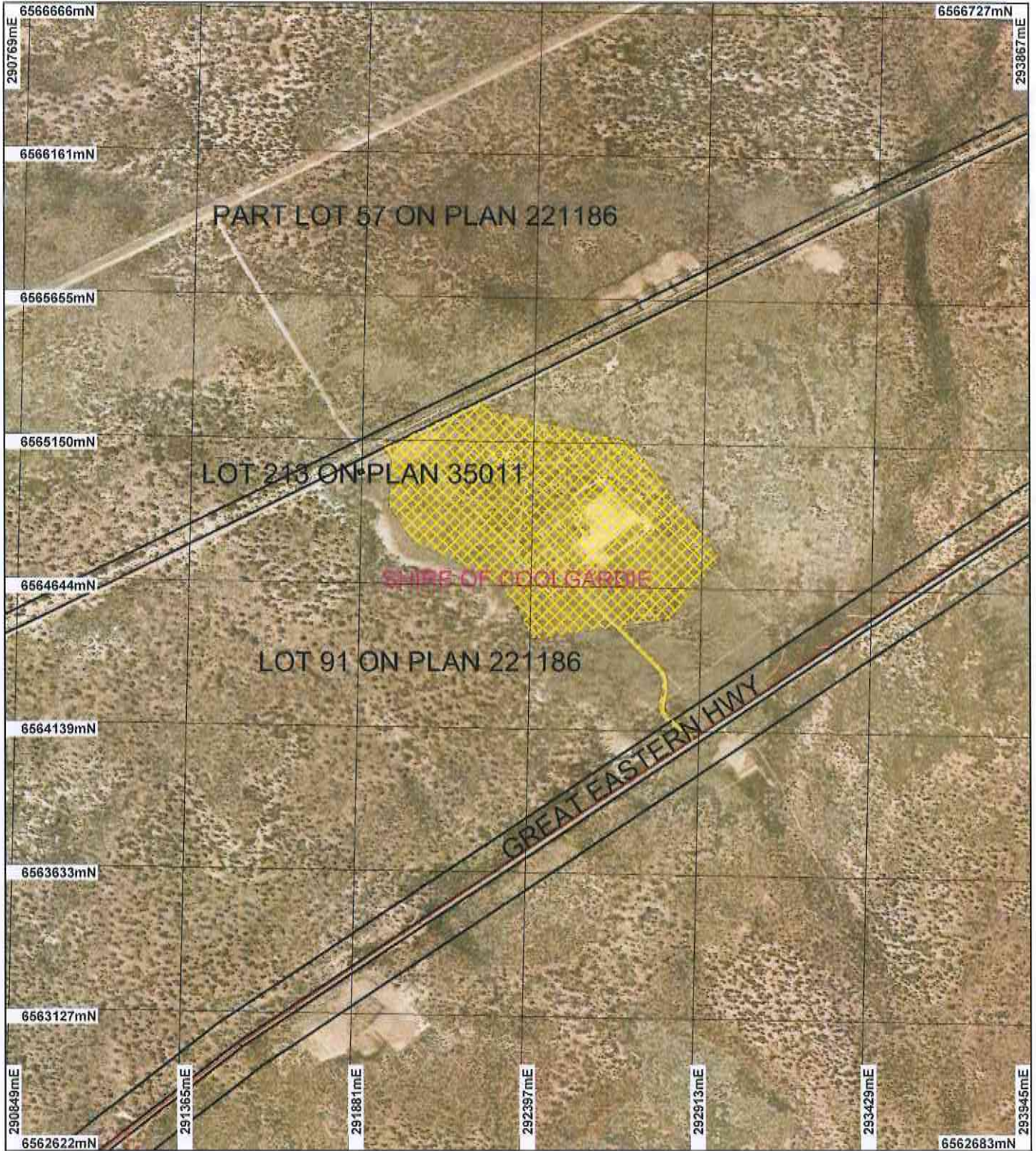
Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Government of Western Australia
Department of Environment Regulation

WA Crown Copyright 2002

Plan 6160/1b



LEGEND

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

Woolgangle 1.4m
Orthomosaic - Landgate
2003



Scale 1:18000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

M Warnock Date *4/9/14*
M Warnock

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

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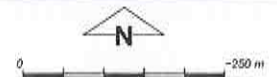
Plan 6160/1c



LEGEND

- Cadastre for labelling
- Road Centrelines
- Local Government Authorities
- Clearing Instruments

Dunnsville 1.4m Orthomosaic
 Landgate 2002



Scale 1:9000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

M Warnock Date 11/9/14
 M Warnock

Officer with delegated authority under Section 20 of the Environmental Protection Act 1988

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



Government of Western Australia
 Department of Environment Regulation

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Clearing Permit Decision Report

Government of Western Australia
Department of Environment Regulation

1. Application details

1.1. Permit application details

Permit application No.: 6160/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Brierty Limited

1.3. Property details

Property: PART LOT 57 ON PLAN 221186 (BULLABULLING 6429)
LOT 122 ON PLAN 217886 (BULLABULLING 6429)
UNALLOCATED CROWN LAND (BULLABULLING 6429)
LOT 91 ON PLAN 221186 (BULLABULLING 6429)
UNALLOCATED CROWN LAND (BULLABULLING 6429)
LOT 178 ON PLAN 217882 (BULLABULLING 6429)
ROAD RESERVE (BULLABULLING 6429)
Local Government Area: Shire of Coolgardie
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 September 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard vegetation association 435 is described as Shrublands; Acacia neurophylla, A. beauverdiana & A. resinomarginea thicket (Pit 505).	The clearing of 89.09 hectares of native vegetation within Part Lot 57 on Deposited Plan 221186, Lot 121 and 122 on Deposited Plan 217886, Lot 91 on Deposited Plan 221186, Unallocated Crown Land and Great Eastern Highway road reserve, Bullabulling, is for the purpose of gravel extraction.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The clearing of 89.09 hectares is require for three proposed borrow pits, being; Pit 505 (Plan a), Pit 519 (Plan b) and Pit 534 (Plan c). Pit 505 : A total of six vegetation associations were identified within Pit 505. The vegetation within Pit 505 ranges from an excellent to good (Keighery 1994) condition. Pit 519 : A total of five vegetation associations were identified within Pit 519. The vegetation ranged from an excellent to degraded (Keighery 1994) condition. Pit 534 : A total of five vegetation association were identified within Pit 534. The vegetation ranged from excellent to degraded (Keighery 1994) condition. (Coffey 2014)
Mapped Beard vegetation association 1413 is described as Shrublands; acacia, casuarina & melaleuca thicket (Pit 519).			
Mapped Beard vegetation association 522 is described as Medium woodland; redwood (Eucalyptus transcontinentalis) & merrit (E. floctoniae) (Pit 519).			
Mapped Beard vegetation association 128 is described as Mosaic: Succulent steppe with open scrub; scattered Acaica sclerosperma & bowgada over saltbush & bluebush/Succulent steppe; samphire (Pit b & c).			
Mapped Beard vegetation association 8 is described as Medium woodland; salmon gum & gimlet (Pit 534) Medium woodland; salmon gum & gimlet. (Shepherd et al 2001).			

3. Assessment of application against clearing principles

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

Comments

Proposal may be at variance to this Principle

The clearing of 89.09 hectares of native vegetation within Part Lot 57 on Deposited Plan 221186, 122 on Deposited Plan 217886, Lot 91 on Deposited Plan 221186, Lot 178 on Deposited Plan 217882, Unallocated Crown Land and Great Eastern Highway road reserve, Bullabulling, is for the purpose of gravel extraction.

The clearing of 89.09 hectares is required for three proposed borrow pits Pit 505 (Plan a), Pit 519 (Plan b) and Pit 534 (Plan c).

Numerous rare and priority flora species have been recorded within the local area (10 kilometre radius). A flora and fauna survey undertaken by Coffey (2014) identified one Priority 1 and one Priority 3 flora species within the area under application for Pit 519. An additional Priority 3 flora species was potentially identified within Pit 505 however due to the lack of flowering and fruiting at the time of the survey this species could not be accurately identified.

The Priority 1 flora species has been recorded from one other location approximately 60 kilometres from Kalgoorlie. A flora survey undertaken by GHD (2013) identified six populations of this species within the project area for the Great Eastern Highway widening project. Pit 519 and 534 occur approximately 100 metres north of the survey area where this species was identified. The area proposed to be cleared for Pit 519 is approximately 51.8 hectares and it may represent a substantial area of habitat for this species. The Level 1 flora survey undertaken by Coffey (2014) did not survey or quantify the extent of the population outside of the application area. The applicant has advised that they will avoid impacts to priority flora. Flora management practices requiring the retention of a 50 metre buffer around identified Priority 1 flora species will assist in ensuring that priority flora is not disturbed.

The Priority 3 flora species recorded within Pit 519 occurs on yellow to orange sandy loam with laterite gravel on gently undulation sandplains, low ridges and road verges. The individual identified in Coffey's (2014) Level 1 Flora survey is currently the most eastern known occurrence and therefore may potentially be significant.

The Priority 3 flora species identified in Pit 505 occurs on yellow sand, clayey sand, brown loam, sandy gravel, and laterite within well-drained open sites, slopes, plains, roadsides (Western Australian Herbarium 1998-).

The applicant has advised that they will avoid impacts to priority flora. Flora management practices requiring the retention of a 20 metre buffer around identified Priority 3 flora species will assist in ensuring that priority flora is not disturbed.

One fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950, Malleefowl (*Leipoa ocellata*) has been recorded within the local area (10 kilometre radius). The vegetation proposed to be cleared may provide suitable habitat for the Malleefowl. However a fauna survey undertaken within the areas under application did not identify any Malleefowl mounds. The habitat types found within the areas under application area well represented within the local area (10 kilometre radius) and no loss of significant fauna habitat is expected.

The three application areas are located adjacent to remnant vegetation in a very good (Keighery 1994) condition. The clearing proposed may indirectly impact the adjacent vegetation through the spread of weeds. Weed management practices will help mitigate this risk.

The vegetation proposed to be cleared contains vegetation in an excellent condition and contains priority flora.

Therefore the clearing proposed may be at variance to this principle.

Methodology

References:

- Coffey (2014)
- DEC (2007-)
- GHD (2013)
- Parks and Wildlife (2014)
- Western Australian Herbarium (1998-)

GIS Databases:

- SAC Bio Datasets - accessed July 2014

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

One fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950, Malleefowl (*Leipoa ocellata*) has been recorded within the local area (10 kilometre radius)(DEC 2007-).

A fauna survey undertaken by Coffey (2014) identified two dominant habitat types within the areas under application, Mallee Woodland and Acacia shrubland.

The Mallee Woodland vegetation structure is dominated by low Eucalyptus species over mixed Acacia species over a low shrubland or hummock grassland. This vegetation structure provides a number of habitats for ground dwelling animals and a variety of birds. However the vegetation structure did not contain mature Eucalypt species and therefore no tree hollows were identified within the areas under application (Coffey 2014).

The Acacia Shrubland vegetation structure is dominated by mixed Acacia species over a low shrubland or hummock grassland. This habitat type lacks the microhabitats of tree hollows, logs and exfoliated bark. However the shrubs present within this vegetation structure is likely to provided habitat to a variety of birds particularly while flowering (Coffey 2014).

The above vegetation structures may provide suitable habitat for the Malleefowl. The Malleefowl inhabits shrublands and low woodlands that are dominated by mallee vegetation. This species also occurs in other habitats including eucalypt or native pine Callitris woodlands, acacia shrublands, Broombush Melaleuca uncinata vegetation or coastal heathlands (Department of the Environment 2014). A flora and fauna survey undertaken by Coffey (2014) did not identify any Malleefowl mounds within the areas under application. Therefore the clearing as proposed is not likely to have an impact on significant habitat for this species.

The local area (10 kilometre radius) retains approximately 90 per cent vegetation cover and therefore the habitat types present are well represented and no loss of significant fauna habitat is expected.

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

Methodology References:
- Coffey (2014)
- DEC (2007-)
- Department of the Environment (2014)

GIS Databases:
- SAC Bio Datasets - accessed July 2014

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

Comments **Proposal is not likely to be at variance to this Principle**
One rare flora species has been recorded within the local area (10 kilometre radius), the closest record being recorded approximately 3.9 kilometres east of the area under application required for Pit 519.

A flora and fauna survey undertaken by Coffey (2014) did not identify any rare flora within the areas under application. Therefore it is unlikely that the vegetation proposed to be cleared includes or is necessary for the continued existence of rare flora.

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

Methodology References:
- Coffey (2014)

GIS Databases:
- SAC Bio Datasets - accessed July 2014

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
No Threatened Ecological Communities (TEC) have been recorded within the local area (10 kilometre radius).

Therefore the clearing as proposed is not likely to be necessary for the maintenance of a TEC.

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

Methodology GIS Database:
- SAC Bio Datasets - accessed July 2014

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not likely to be at variance to this Principle

The area under application 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 2013).

The vegetation under application is mapped as Beard Vegetation Associations 8, 128, 435, 522 and 1413 which have approximately 98 to 99 per cent of their pre-European extent remaining in the Coolgardie bioregion (Government of Western Australia 2013).

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).

Digital imagery indicates that the local area (10 kilometre radius) retains approximately 90 per cent vegetation cover.

Given the vegetation representations outlined above, the area under application is not likely to be a significant remnant in an extensively cleared area.

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

Lands	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in Parks and Wildlife Managed (%)
IBRA Bioregion*				
Coolgardie	12,912,204	12,648,491	98	16
Shire*				
City of Coolgardie	3,029,733	3,017,747	99	14
Beard Vegetation Association in Eastern Goldfields Bioregion*				
8	280,248	275,589	98	10
128	184,550	183,891	99	18
435	738,214	732,470	99	28
522	688,407	687,920	99	6
1413	1,061,213	1,042,554	98	18

* Government of Western Australia (2013)

Methodology

References:

- Commonwealth of Australia (2001)
- Government of Western Australia (2013)
- Keighery (1994)

References:

- 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 Proposal may be at variance to this Principle

Numerous watercourses are located within the local area (10 kilometre radius) of the areas under application.

The closest being located approximately 20 metres from the area under application for Pit 534. A minor watercourse is located approximately 630 metres east of the area under application for Pit 519.

Given the closest watercourse is located approximately 20 metres east of Pit 505, the clearing proposed may impact upon vegetation considered to be growing in association with a watercourse. The impact to riparian vegetation area likely to be minimal and the clearing proposed is not likely to have a significant impact on the environmental values of a watercourse.

Therefore the clearing as proposed may be at variance to this principle.

Methodology

GIS Databases:

- Hydrography, linear

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

Comments Proposal is not likely to be at variance to this Principle

Two soil types have been recorded within the areas under application in which Northcote et al (1960 - 1968) describes as:

Soil type AC1: 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 with and, both containing ironstone gravels on erosional sites where they are underlain by hardened mottled-zone material.

Soil type Mx41: flat to undulating pediments marginal to unit AC1; granitic rock outcrop; some low escarpments: chief soils are alkaline red earths, often underlain by nodular limestone pans at shallow depth.

The sand soils within the area under application may cause wind erosion. The local area (10 kilometre radius) is highly vegetated (approximately 90 per cent cover) and the clearing proposed over three areas is not likely to cause appreciable land degradation.

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

Methodology

References:

- Northcote et al (1960 - 1968)

GIS Databases:

- Soils, statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal is not likely to be at variance to this Principle

Numerous conservation areas are located within the local area (10 kilometre radius) of the areas under application. The closest being Goldfields Woodlands Conservation Park located approximately 850 metres from the area under application for Pit 505.

Given the distance of the closest conservation area the clearing as proposed is not likely to have an impact on the environmental values of any conservation areas.

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

Numerous watercourses are located within the local area (10 kilometre radius) of the areas under application.

The closest being located approximately 20 metres from the area under application for Pit 534. A minor watercourse is located approximately 630 metres east of the area under application for Pit 519.

Given the closest watercourse is located approximately 20 metres east of Pit 505, the clearing proposed may cause runoff or sedimentation into the watercourse. However the impacts are likely to be short term and minimal and therefore the clearing proposed is not likely to cause deterioration in the quality of surface water.

Groundwater salinity is mapped between 14000 - 35000 milligrams per litre of Total Dissolved Solids (TDS) which is considered to be highly saline. However the local area (10 kilometre radius) retains approximately 90 per cent vegetation cover and the clearing proposed is not likely cause deterioration in the quality of surface or underground water.

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

Methodology

GIS Databases:

- Hydrography, linear

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

The local area (10 kilometre radius) retains approximately 90 per cent vegetation cover. The proposed clearing of 89.09 hectares of native vegetation over three different pits is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology

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

Comments

The clearing of 89.09 hectares of native vegetation is for the purpose of gravel extraction. The proposed gravel extraction is required to upgrade (including realignment and widening) Great Eastern Highway between Bullabulling and Coolgardie in the Shire of Coolgardie.

The application areas area located within the Kaparn People and Maduwongga People native title claimant area. Notification of the proposed clearing was sent to the Karparn People and Maduwongga People as required under Section 24KA of the Native Title Act 1993. A response has not been received in relation to this application.

Methodology

No Aboriginal Sites of Significance are located within the areas under application.

No submissions have been received in relation to this application

4. References

- Coffey (2014) Level 1 Flora and Fauna Survey Assessment of Proposed Borrow Pits. Western Australia, DER Ref:A802179
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed July 2014
- Department of the Environment (2014). *Leipoa ocellata* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- GHD (2013) Main Roads Western Australia Great Eastern highway 5016 to 553 SLK Targeted Flora and Fauna Assessment. Western Australia, DER Ref: A802180.
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