



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5543/1
File Number: DEC2096-2
Duration of Permit: From 31 May 2013 to 31 May 2023

PERMIT HOLDER

Holcim (Australia) Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

Lot 3 on Plan 14769, Martin

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 0.987 hectares of native vegetation within the area shaded yellow on attached Plan 5543/1.

CONDITIONS

1. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 31 May 2018.

2. 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) shall only move soils in *dry conditions*;
- (c) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (d) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. 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 12 months following completion of extractive activities, *revegetate* and *rehabilitate* the area shaded yellow on attached Plan 5543/1 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 3(a) on the cleared area.
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 3(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 3(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 3(c)(ii) of this permit, the Permit Holder shall repeat condition 3(c)(i) and 3(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 3(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 3(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 3(c)(ii).

4. 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;
 - (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 3 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.

5. 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 4 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 31 February 2023, the Permit Holder must provide to the CEO a written report of records required under condition 4 of this Permit where these records have not already been provided under condition 5(a) of this Permit.

DEFINITIONS

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

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

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;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, 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;

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 20 kilometres 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 declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*;
or
- (b) published in the Department of Environment and Conservation Regional Weed Assessments, regardless of ranking; or
- (c) not indigenous to the area concerned.

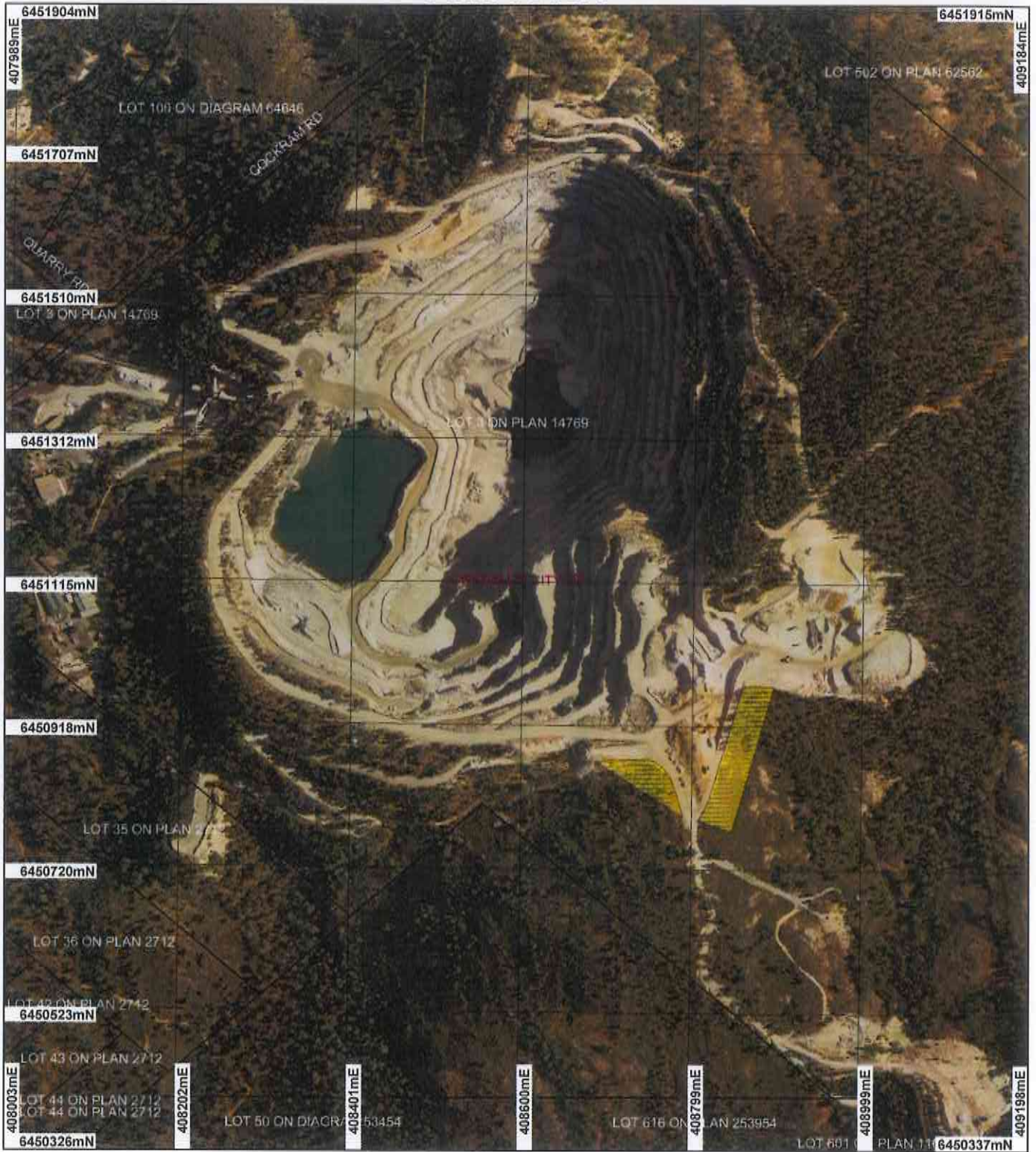


M Warnock
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

9 May 2013

Plan 5543/1



LEGEND

-  Cadastre
-  Clearing Instruments
-  Areas Approved to Clear
-  Local Government Authorities
-  Road Centrelines
-  Perth Metropolitan Area
-  Central 15m Orthomosaic - Landgate 2012



Scale 1:7000
(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 Warnack Date 9/5/13
M Warnack

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



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 5543/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Holcim (Australia) Pty Ltd

1.3. Property details

Property: LOT 3 ON PLAN 14769 (House No. 89 COCKRAM MARTIN 6110)
Local Government Area: City of Gosnells
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 9 May 2013

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: 4 - Medium woodland; marri and wandoo (Shepherd et al. 2001).	The application is to clear up to 0.987 hectares of native vegetation within Lot 3 on Plan 14769, Martin, for the purpose of extending the Gosnells Quarry.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994).	Vegetation description and condition were determined through aerial imagery, site inspection (DEC 2013) and supporting documentation provided by the applicant (Astron Environmental Service 2012).
Hedde Vegetation Complex: Darling Scarp Complex - Vegetation ranges from low open woodland to lichens according to depth of soils. Woodland components chiefly Eucalyptus wandoo (Wandoo) with Eucalyptus laeiliae (Darling Range Ghost Gum) in the north, Corymbia haematoxylon (Mountain Marri) in the south, and Corymbia calophylla (Marri) throughout the region. Dominant vegetation types R. R. (Hedde et al. 1980).	The application area is comprised of three vegetation types (Astron Environmental Service 2012): Eucalyptus marginata subsp. Thalassica and Corymbia calophylla Open Forest over Allocasuarina fraseriana Low Woodland over mixed species Open Low Heath dominated by Hibbertia hypericoides and Verticordia acerosa.	To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994).	
Mattiske Vegetation Complex: Darling Scarp - Mosaic of open forest of Eucalyptus marginata subsp. marginata-Corymbia calophylla, with some admixtures with Eucalyptus laeiliae in the north (subhumid zone), with occasional Eucalyptus marginata subsp. elegantella (mainly in subhumid zone) and Corymbia haematoxylon in the south (humid zone) on deeper soils adjacent to outcrops, woodland of Eucalyptus wandoo (subhumid and semiarid zones), low woodland of Allocasuarina huegeliana on shallow soils over granite outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on or near granite outcrops in all climate zones (Mattiske and Havel 1998).	Hakea erinacea and Verticordia acerosa Open Low Heath. Corymbia calophylla occasionally with Eucalyptus marginata subsp. Thalassica Woodland over Eucalyptus drummondii Low Open Woodland over Hakea trifurcata Tall Open Scrub over Hakea undulata Open heath over Hibbertia hypericoides Closed Low Heath.		

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application is to clear up to 0.987 hectares of native vegetation within Lot 3 on Plan 14769, Martin, for the purpose of extending the Gosnells Quarry. The vegetation is in very good to excellent condition (Keighery 1994), with the majority of the vegetation in excellent condition.

The vegetation under application consists of three vegetation types (Astron Environmental Service 2012). These include *Eucalyptus marginata* subsp. *Thalassica* and *Corymbia calophylla* Open Forest over *Allocasuarina fraseriana* Low Woodland over mixed species Open Low Heath dominated by *Hibbertia hypericoides* and *Verticordia acerosa*; *Hakea erinacea* and *Verticordia acerosa* Open Low Heath; *Corymbia calophylla* occasionally with *Eucalyptus marginata* subsp. *Thalassica* Woodland over *Eucalyptus drummondii* Low Open Woodland over *Hakea trifurcata* Tall Open Scrub over *Hakea undulata* Open heath over *Hibbertia hypericoides* Closed Low Heath (Astron Environmental Service 2012).

A flora and vegetation survey was conducted over 15 hectares within Lot 3 on Plan 14769, including the one hectare of vegetation under application (Astron Environmental Service 2012). Seven relevés were sampled across representative vegetation units within the survey area. No relevé was sampled within the application area.

There are numerous priority flora recorded within the local area (10 kilometre radius). The flora survey recorded one priority three and one priority four flora species within the entire survey area (Astron Environmental Service 2012). A flora survey conducted previously recorded these two species as well as an additional priority three and priority four species (Bennett Environmental Consulting Pty Ltd 2005). Considering the results of the flora survey and observations made on site, the application area is unlikely to contain priority flora (DEC 2013).

There are several priority ecological communities (PEC) within the local area (10 kilometre radius). The vegetation under application is not representative of any of these communities.

A dieback survey assessing the presence of *Phytophthora cinnamomi* concluded that the application area was uninfested (Glevan Consulting 2010). However, during a DEC site inspection (2013) one section of the application area appeared to be infested, concluded through the observation of numerous *Xanthorrhoea preissii* deaths.

The disturbance caused by the proposed clearing will increase the risk of weeds and dieback being introduced into the remaining adjacent vegetation. Weed and dieback management practices will assist in mitigating this risk.

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

Methodology

References:

Astron Environmental Service 2012
Bennett Environmental Consulting Pty Ltd 2005
DEC 2013
Glevan Consulting 2010
Keighery 1994
GIS Databases:
- SAC Biodatasets

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

Comments

Proposal is not likely to be at variance to this Principle

There are numerous conservation significant fauna species within the local area (10 kilometre radius) (DEC 2007-). A fauna survey was conducted over 15 hectares of vegetation within Lot 3 on Plan 14769 and included the one hectare of vegetation under application (Astron Environmental Service 2012). During this survey, 14 fauna species were recorded through direct observation and secondary evidence. The application area is comprised of two major fauna habitats; eucalyptus woodland and heath (Astron Environmental Service 2012).

Within the survey area, one Carnaby's Cockatoo (*Calyptorhynchus latirostris*; rare or likely to become extinct, Wildlife Conservation Act 1950 (WC Act); endangered, Environment Protection and Biodiversity Conservation Act 1999 (EPBC) and three Forest Red-tailed Black-Cockatoos (*Calyptorhynchus banksii* subsp. *Naso*; rare or likely to become extinct, WA Act; vulnerable, EPBC) were observed (Astron Environmental Service 2012). The application area has medium to high value as black cockatoo foraging habitat, given the presence of *Eucalyptus marginata*, *Corymbia calophylla*, and *Hakea*, *Banksia* and *Dryandra* species. Within the survey area, evidence of black cockatoo foraging was identified through chewed *Corymbia calophylla* nuts (Astron Environmental Service 2012). The survey did not identify any suitable breeding habitat for black cockatoos within the application area (Astron Environmental Service 2012).

The Rainbow Bee-eater (*Merops ornatus*; protected under international agreement) was recorded within the survey area (Astron Environmental Service 2012). The Rainbow Bee-eater is a migratory bird with a distribution across most of mainland Australia (DSEWPC 2013). The total population size has not been estimated, but is assumed to be reasonably large (DSEWPC 2013). The application area is unlikely to provide suitable breeding habitat for this species.

Within the survey area, evidence of Quenda (*Isodon obesulus fusciventer* (priority 5)) was observed (Astron Environmental Service 2012). In particular, the heath vegetation under application is likely to provide habitat for this species.

The application area is adjacent to a large remnant of vegetation in excellent (Keighery 1994) condition. Given the surrounding vegetation, the application area is unlikely to provide significant habitat for fauna species.

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

The applicant has advised that clearing will occur in areas closest to the quarry first and will then progress away from existing cleared areas to allow fauna movement into adjacent areas of vegetation (Holcim (Australia) Pty Ltd 2013). DEC supports this method of clearing.

Methodology

References:

Astron Environmental Service 2012

DEC 2007-

DSEWPC 2013

Holcim (Australia) Pty Ltd 2013

Keighery 1994

GIS Databases:

- Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011

(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

There are numerous rare flora species recorded within the local area (10 kilometre radius). The flora survey conducted over 15 hectares of vegetation within Lot 3 on Plan 14769 did not identify any rare flora species.

There are three records of a rare flora species within the boundary of the approved limit of extraction of the Gosnells Quarry. This species was not observed during the most recent flora survey, which was conducted within the optimal time for the identification of this species (Astron Environmental Service 2012).

Considering the results of the flora survey and observations made on site, the application area is unlikely to contain rare flora (DEC 2013).

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

Methodology

References:

Astron Environmental Service 2012

DEC 2013

GIS Databases:

- SAC Biodatasets

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

Comments

Proposal is not likely to be at variance to this Principle

There are two threatened ecological communities mapped within the local area (10 kilometre radius). The closest of these communities is 'Eucalyptus calophylla-Eucalyptus marginata woodlands on sandy clay soils of the southern Swan Coastal Plain' (vulnerable), which is located approximately 1.3 kilometres from the application area.

The vegetation under application consists of three vegetation types (Astron Environmental Service 2012). These include Eucalyptus marginata subsp. Thalassica and Corymbia calophylla Open Forest over Allocasuarina fraseriana Low Woodland over mixed species Open Low Heath dominated by Hibbertia hypericoides and Verticordia acerosa; Hakea erinacea and Verticordia acerosa Open Low Heath; Corymbia calophylla occasionally with Eucalyptus marginata subsp. Thalassica Woodland over Eucalyptus drummondii Low Open Woodland over Hakea trifurcata Tall Open Scrub over Hakea undulata Open heath over Hibbertia hypericoides Closed Low Heath (Astron Environmental Service 2012).

Given the vegetation under application does not represent a threatened ecological community, the proposed clearing is not likely to be at variance to this principle.

Methodology References:
 Astron Environmental Service 2012
 GIS Databases:
 - SAC Biodatasets

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

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

Aerial photography indicates the local area (10 kilometre radius) is approximately 50 percent vegetated.

The IBRA Bioregion (Jarrah Forest) and the local government agency (City of Gosnells) retain approximately 55 percent and 29 percent of their respective pre-European extents (Government of Western Australia 2013).

The application area is mapped as Beard Vegetation Association 4, which retains approximately 293 208 hectares (29 percent) of its pre-European extent within the Jarrah Forest IBRA Bioregion.

The area is mapped as Heddle Vegetation Complex Darling Scarp Complex and Mattiske Vegetation Complex Darling Scarp, which retain approximately 17 563 hectares (36 percent) and 11 167 hectares (38 percent) of their pre-European extents.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001).

Beard Vegetation Association 4 retains less than 30 percent of its pre-European extent. However, the proposed clearing consists of approximately 0.003 percent of the remaining vegetation.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Jarrah Forest	4 506 657	2 473 560	55	68
Shire*				
City of Gosnells	12 718	3 673	29	16
Beard Vegetation Association in Bioregion*				
4	1 022 712	293 208	29	22
Heddle Vegetation Complex **				
Darling Scarp Complex	49 338	17 563	36	9
Mattiske Vegetation Complex ***				
DS	29 110	11 167	38	10

* Government of Western Australia 2013

** Heddle et al. 1980

*** Mattiske and Havel 1998

Methodology References:
 Commonwealth of Australia 2001
 Government of Western Australia 2013
 Heddle et al. 1980
 Mattiske and Havel 1998
 GIS Databases:
 - Heddle Vegetation Complexes
 - Mattiske Vegetation Complexes
 - NLWRA, Current extent of Native Vegetation
 - Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011
 - 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 is not likely to be at variance to this Principle**

There are no watercourses or wetlands mapped within the application area. A DEC site inspection (2013) and

flora and vegetation survey (Astron Environmental Service 2012) did not identify any riparian vegetation within the application area.

The closest watercourse to the application area is a minor, perennial watercourse, which is located approximately 130 metres from the application area. The closest wetland is a multiple use geomorphic wetland, which is located approximately 1.5 kilometres from the application area.

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

Methodology References:
Astron Environmental Service 2012
DEC 2013
GIS Databases:
- Geomorphic wetlands, Swan Coastal Plain
- 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

The soil within the application area is mapped as Mw31, which Northcote et al (1960 - 1968) describes as deeply incised, steep scarp and valley side slopes of the Darling scarp and its more deeply incised tributary valleys: chief soils of the steep scarp and valley side slopes, on which massive rock outcrops are a feature, seem to be acid red earths on the colluvial slope deposits.

The application area has a mean annual rainfall of 1000mm.

Given the relatively small size of the application area and the surrounding vegetation, the proposed clearing is not likely to cause appreciable land degradation.

Methodology References:
Northcote et al. 1960 - 1968
GIS Databases:
- Mean annual rainfall
- 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

There are numerous DEC managed lands and conservation areas within the local area (10 kilometre radius).

Banyowla Regional Park is located adjacent to Lot 3 on Plan 14769 on three sides. The application area is located approximately 150 metres from this park. Korung National Park is located approximately one kilometre from the application area.

The proposed clearing is unlikely to fragment this remnant of vegetation, given that the application area is adjacent to the quarry. However, the disturbance caused by the proposed clearing will increase the risk of weeds and dieback being introduced into the remaining adjacent vegetation. Weed and dieback management practices will assist in mitigating this risk.

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

Methodology GIS Databases:
- CALM Regional Parks
- DEC Tenure
- Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011

(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

There are no watercourses or wetlands located within the application area, therefore surface water quality is unlikely to be impacted by the proposed clearing.

The groundwater salinity within the application area is 500 - 1000 milligrams per litre of Total Dissolved Solids. This level of groundwater salinity is considered marginal. Given the application area is surrounded by remnant vegetation, the clearing is unlikely to significantly increase groundwater salinity.

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

Methodology GIS Databases:
- Groundwater Salinity, Statewide
- Hydrography, Linear

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

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

Given the low annual rainfall (1000mm), the relatively small application area and the surrounding vegetation, the proposed clearing is not likely to increase the incidence or intensity of flooding.

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

Methodology GIS Databases:
- Mean annual rainfall
- Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011

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

Comments

The applicant has an Extractive Industry Licence over Lot 3 on Plan 14769 (Holcim (Australia) Pty Ltd 2013).

The City of Gosnells has no objections to the application to clear native vegetation as the subject area is within the footprint for which approval for quarrying activities has been granted (City of Gosnells 2013).

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

Methodology References:
City of Gosnells 2013
Holcim (Australia) Pty Ltd 2013

4. References

- Astron Environmental Service (2012) Gosnells Quarry Field Flora, Vegetation and Fauna Survey. Astron Environmental Services, Western Australia. DEC REF: A622936.
- Bennett Environmental Consulting Pty Ltd (2005) Vegetation and Flora, Readymix Quarry Gosnells. Bennett Environmental Consulting Pty Ltd, Western Australia.
- City of Gosnells (2013) Response to Direct Interest Letter for clearing permit application CPS 5543/1. Received 28/03/2012. DEC REF: A614744.
- 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 15/04/2013.
- DEC (2013) Site Inspection Report for Clearing Permit Application CPS 5543/1, Lot 3 on Plan 14769, Martin. Site inspection undertaken 22/04/2013. Department of Environment and Conservation, Western Australia (DEC REF: A624904 and A624888).
- Department of Sustainability, Environment, Water, Population and Communities (2013). Merops ornatus in Species Profile and Threats Database. Department of Sustainability, Environment, Water, Population and Communities, Canberra.
- Glevan Consulting (2010) Phytophthora cinnamomi occurrence assessment of Gosnells Quarry. Glevan Consulting, Western Australia.
- Government of Western Australia. (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Hedde, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
- Holcim (Australia) Pty Ltd (2013) Clearing Permit Application - Lot 3 on Plan 14769, Martin - CPS 5543/1. Received 18/03/2013. DEC REF: A610788.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske, E.M. and Havel, J.J. (1998) Vegetation Complexes of the South-west Forest Region of Western Australia. Maps and report prepared as part of the Regional Forest Agreement, Western Australia for the Department of Conservation and Land Management and Environment 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.
- Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)