



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3528/1
File Number: DEC14121
Duration of Permit: From 3 July 2010 to 3 July 2012

PERMIT HOLDER

Holcim (Australia) Pty Ltd

LAND ON WHICH CLEARING IS TO BE DONE

LOT 518 ON PLAN 50784 (STAKE HILL 6181)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 4.3 hectares of native vegetation within the areas hatched yellow on attached Plan 3528/1.

CONDITIONS

1. Avoid, minimise etc clearing

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

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

2. Dieback and weed control

- (a) When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds* and *dieback*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) shall only move soils in *dry conditions*;
 - (iii) ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iv) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.
- (b) At least once in each 12 month period for the *term* of this Permit, the Permit Holder must remove or kill any *weeds* growing within areas cleared under this Permit.

3. Wind erosion management

The Permit Holder shall not clear native vegetation unless rehabilitation works begin within 1 (one) week of the clearing being undertaken.

Definitions

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

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

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

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

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

term means the duration of this Permit, including as amended or renewed;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*.

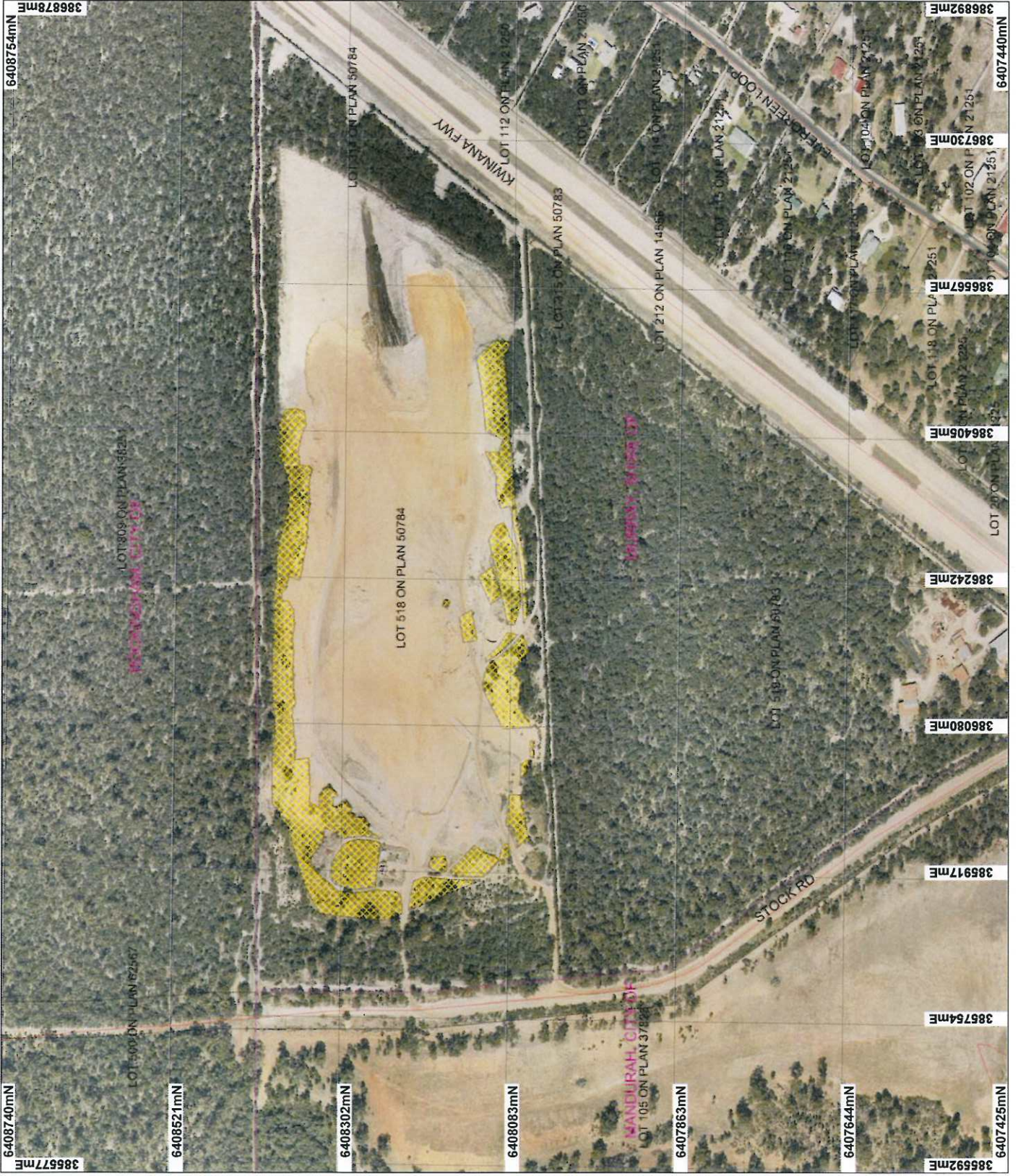


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

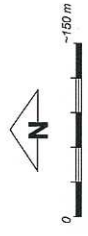
3 June 2010

Plan 3528/1



LEGEND

- Existing Infrastructure**
- Areas Approved to Clear
 - Road Centrelines
 - Cadastre_1
 - Sweet Coastal Plain Orthomosaic - Lane
 - Local Government /



Geocentric Datum Australia 1994

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

[Signature]
K Faulkner

Date 3/6/20

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.



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1. Application details

1.1. Permit application details

Permit application No.: 3528/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Holcim (Australia) Pty Ltd

1.3. Property details

Property: LOT 518 ON PLAN 50784 (STAKE HILL 6181)
Local Government Area: SHIRE OF MURRAY

1.4. Application

Clearing Area (ha)	Method of Clearing	For the purpose of:
4.3	Mechanical Removal	Extractive Industry

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
<p>Beard Vegetation Associations: 998 - Medium woodland; Tuart and 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina (Hopkins et al, 2001).</p>	<p>The vegetation consists of regrowth across a 4.3ha area within the footprint of the existing sand pit (Holcim (Australia) Pty Ltd, 2009).</p> <p>The vegetation community surrounding the Stock Road Quarry is 'dominated by a woodland of Allocasuarina fraseriana, Banksia attenuata and Banksia menziesii with emergent Eucalyptus marginata over Hibbertia hypericoides, with patches of Kunzea ericifolia' (Mattiske Consulting Pty Ltd, 2007). The patches of Kunzea ericifolia are largely concentrated along the edge of tracks, in disturbed areas and in small depressions (Mattiske Consulting Pty Ltd, 2007). The vegetation may have once consisted of this vegetation type (representative of the Heddle Vegetation Complex - Karrakatta Central and South) however, due to historic clearing in association with the extraction site, the vegetation now comprises only a few species of native vegetation including Kunzea glabrescens and Jacksonia sp. Although the vegetation is mapped as Yoongarillup Complex and surrounding vegetation on the property described by Mattiske Consulting Pty Ltd (2007) as Karrakatta Central and South, the vegetation under application is 'completely degraded' to 'degraded' (Keighery, 1994) and is therefore not considered to be representative of either of these vegetation types.</p>	<p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)</p>	<p>Vegetation condition established from Stock Road Quarry Clearing Permit Application - Supporting Documentation (Holcim (Australia) Pty Ltd, 2009) and aerial photography (Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007).</p>
<p>Heddle Vegetation Complexes: Yoongarillup Complex - Woodland to tall woodland of Eucalyptus gomphocephala (Tuart) with Agonis flexuosa in the second storey. Less consistently an open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri).</p>		<p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)</p>	

Karrakatta Central and South
- Mosaic of woodland of
Eucalyptus gomphocephala
(Tuart) and open forest of
Eucalyptus gomphocephala
(Tuart) - Eucalyptus
marginata (Jarrah) -
Corymbia calophylla (Marri);
closed heath on the
Limestone outcrops (Heddle
et al, 1980).

3. Assessment of application against clearing principles

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

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

The vegetation under application comprises regrowth within a 4.3ha area which was historically cleared in association with the existing sand pit and is in a 'completely degraded' to 'degraded' (Keighery, 1994) condition.

The regrowth consists of only a few indigenous species such as *Kunzea glabrescens* and *Jacksonia* sp. and is therefore not representative of the mapped vegetation types at this site.

Nine priority and two declared rare flora species have been recorded within the local area (10km radius) within similar vegetation and soil types to the areas under application. The closest priority species record is *Acacia benthamii* (Priority 2), approximately 140m south west, and the closest declared rare species is *Drakaea elastica*, approximately 210m south of the vegetation under application. During flora surveys undertaken within the quarry expansion area, directly east of the applied clearing area, one specimen of *Acacia benthamii* was recorded adjacent to the firebreak along the northern boundary (Mattiske Consulting Pty Ltd, 2007 & Holcim (Australia) Pty Ltd, 2009)).

Given that the vegetation consists of regrowth around an existing sand pit, it is concluded that the vegetation in its current condition is not likely to provide suitable habitat for flora or fauna of conservation significance and does not comprise a high level of biological diversity and is therefore not likely to be at variance to this principle.

Methodology **References:**

- Holcim (Australia) Pty Ltd (2009)
- Keighery (1994)
- Mattiske Consulting Pty Ltd (2007)

GIS Databases:

- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
- SAC Biodatasets (Accessed 27/1/2010 & 22/1/2010)

(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**

Nine threatened and priority fauna species have been recorded within the local area (10km radius) of the applied clearing area with the closest record being the Quenda (*Isodon obesulus fusciventer*, Priority 5) approximately 3.1km west of the applied clearing area.

The Quenda's preferred habitat is dense scrubby vegetation with dense cover up to one metre high with feeding grounds in adjacent forest and woodland or pasture with dense cover. Quenda also inhabit swampy areas or areas adjacent to watercourses (DEC, 2007).

A Black Cockatoo and Quenda fauna assessment was undertaken for the extension of the Stock Road Quarry to the east of the existing pit (previous clearing applications 1852/2 and 2250/1) by Bamford Consulting Ecologists (2007). The surveyed area covered the expansion area, approximately 7.6ha of native vegetation in 'very good' to 'excellent' (Keighery, 1994) condition. The survey identified that the site may provide suitable feeding habitat for Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) and possibly Carnaby's black cockatoo (*Calyptorhynchus latirostris*). Quenda diggings were also identified within the expansion site. The vegetation currently under application is in a 'completely degraded' to 'degraded' (Keighery, 1994) condition comprising only a few indigenous species including *Kunzea glabrescens* and *Jacksonia* sp. scattered throughout a 4.3ha area. Although the vegetation may provide some habitat for fauna movement around the existing pit, the value of this vegetation as fauna habitat is considered to be very limited.

A 20m vegetation buffer is being retained on the northern and southern boundaries of the property and a 40m buffer is retained to the west of the applied clearing area, in accordance with previous Shire approvals (Holcim (Australia) Pty Ltd, 2009). The vegetation is part of a larger vegetated remnant, including Bush Forever Site 395 (Paganoni Swamp and adjacent bushland, Karnup (Singleton)) and the Serpentine River area that provide significant fauna habitat directly adjacent to and nearby these areas of regrowth.

It is concluded that the regrowth in 'completely degraded' to 'degraded' (Keighery, 1994) condition is not necessary for the maintenance of or is considered to be significant fauna habitat and therefore the proposal is not likely to be at variance to this principle.

- Methodology** References:
- Bamford Consulting Ecologists (2007)
 - DEC (2007)
 - Holcim (Australia) Pty Ltd (2009)
 - Keighery (1994)
- GIS Databases:
- Bush Forever - DPI
 - Hydrography, linear (hierarchy) - DoW
 - Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
 - SAC Biodatasets - Accessed 27/1/2010

(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

Two declared rare flora species have been recorded within the local area (10km radius) of the proposed clearing area, with the closest being *Drakaea elastica* approximately 210m south.

Drakaea elastica is normally associated with *Banksia* woodlands on deep white-grey sands as well as low-lying areas adjacent to winter-wet swamps (Brown et al, 1998 & WA Herbarium, 1998-2010) as well as inhabiting *Kunzea* thickets. *Drakaea elastica* has been recorded in similar vegetation complexes, soil types and topography to the areas under application and for this reason it may have been possible that this species could occur at this location.

However, given that the area under application has been previously cleared and is predominantly 'completely degraded' to 'degraded' (Keighery, 1994) in condition, it is unlikely that this species persists within these regrowth areas. It is therefore concluded that the proposal is unlikely to be at variance to this principle.

- Methodology** References:
- Brown et al (1998)
 - Keighery (1994)
 - WA Herbarium (1998-2010)
- GIS Databases:
- Heddle Vegetation Complexes - DEP
 - SAC Biodatasets (Accessed 27/1/2010 & 22/1/2010)
 - Soils, Statewide - DA

(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

Three threatened ecological communities (TEC) occur within the local area (10km radius) of the applied clearing area with the closest record being the Critically Endangered SCP19b - Woodlands over sedgeland in Holocene dune swales of the southern Swan Coastal Plain, approximately 3.9km north west.

The mapped vegetation complexes for this site are predominantly medium woodland comprising species such as *Eucalyptus gomphocephala*, *Eucalyptus marginata*, *Agonis flexuosa*, *Corymbia calophylla* and *Banksia* and *Casuarina* species (Hopkins et al, 2001). Species indicative of the SCP19b TEC include *Muehlenbeckia adpressa*, *Baumea juncea* and *Isolepis nodosa* (Gibson et al, 1994), none of which were recorded during a flora and vegetation survey of the Stock Road Quarry expansion area east of the area currently under application (Mattiske, 2007).

The vegetation under application is predominantly in a 'completely degraded' to 'degraded' (Keighery, 1994) condition and has no affinities with the SCP19b TEC. Therefore, the vegetation under application is not likely to be considered to comprise a whole or a part of, or is necessary for the maintenance of a TEC and is not likely to be at variance to this principle.

- Methodology** References:
- Gibson et al (1994)
 - Hopkins et al (2001)
 - Keighery (1994)
 - Mattiske (2007)
- GIS Databases:
- Heddle Vegetation Complexes - DEP
 - SAC Biodatasets - Accessed 27/1/2010
 - Soils, Statewide - DA

(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 property lies within the Shire of Murray in the Swan Coastal Plain IBRA region which have 56.1% and 38.8% of their pre-European extent remaining respectively (Shepherd, 2007).

The vegetation has been mapped as the Beard Vegetation Association 998 - Medium woodland; Tuart and 1001 - Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina of which there is 41.7% and 25.3% of the pre-European extents of these associations remaining within the Swan Coastal Plain IBRA region (Shepherd, 2007).

The area under application is also mapped as the Heddle Vegetation Complex - Yoongarillup Complex with vegetation consisting of woodland to tall woodland of Eucalyptus gomphocephala (Tuart) with Agonis flexuosa in the second storey and less consistently an open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) (Heddle et al, 1980). However, surveys of the quarry expansion site directly east of the applied clearing area were undertaken by Mattiske Consulting Pty Ltd (2007) and the vegetation was described as being representative of the Karrakatta Complex Central and South which is predominantly open forest of Eucalyptus gomphocephala (Tuart) - Eucalyptus marginata (Jarrah) - Corymbia calophylla (Marri) and woodland of Eucalyptus marginata (Jarrah) - Banksia species (Heddle et al, 1980).

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30% of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). The Beard Vegetation Association 1001 on the Swan Coastal Plain and Karrakatta Complex Central and South are below 30% of their pre-European extents.

The Shire has advised that there is 49% of the Yoongarillup Complex remaining within the Shire of Murray and is concerned that as a result of an 18% reduction of this vegetation complex (as a result of clearing from this site) that the percentage of this complex remaining within the Shire may be approaching the 30% threshold (Shire of Murray, 2010a).

The vegetation under application consists of regrowth within a previously cleared area associated with the existing sand pit. The vegetation is in a 'completely degraded' to 'degraded' (Keighery, 1994) condition consisting of only a few indigenous species including Kunzea glabrescens and Jacksonia sp. and is not considered to be representative of any of the mapped or described vegetation types. It is therefore concluded that the proposal is not likely to be at variance to this principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain (SCP)	1,501,209	583,141	38.8	32.55
Shire*				
Shire of Murray	177,619	99,614	56.1	84.94
Beard vegetation type*				
998 (within SCP)	50,867	21,226	41.7	38.10
1001 (within SCP)	57,410	14,546	25.3	5.13
Heddle vegetation complex**				
Yoongarillup Complex	24,767	11,140	45.0	13.90
Karrakatta Complex Central and South	49,912	14,729	29.5	2.50

*Shepherd (2007)

** DEP (2002)

Methodology

- References:
- Commonwealth of Australia (2001)
 - DEP (2002)
 - Heddle et al (1980)
 - Keighery (1994)
 - Mattiske Consulting Pty Ltd (2007)
 - Shepherd (2007)
 - Shire of Murray (2010a)

GIS Databases:

- Heddle Vegetation Complexes - DEP
- Interim Biogeographic Regionalisation of Australia - DEH
- Local Government Authorities - DOLA
- SAC Biodatsets - Accessed 27/01/2010
- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007

(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

Approximately half of the local land area within a 10km radius of the applied clearing area consists of wetlands, with approximately a third of this being Multiple Use, approximately 40 Conservation Category wetlands (CCW) and approximately 50 Resource Enhancement wetlands. The closest CCW is Paganoni Swamp (sumpland), approximately 215m west on the opposite side of Stock Road.

The closest watercourse to the applied clearing area is the Serpentine River, a major, perennial watercourse approximately 800m to the east.

Given the distance to the closest watercourse and the vegetation under application does not comprise species indicative of wetland vegetation, it is concluded that the proposal is not growing in, or in association with, an environment associated with a wetland and therefore the proposal is not likely to be at variance to this principle.

Methodology GIS Databases:

- EPP, Lakes - DEP
- Geomorphic wetlands (Mgmt Category), Swan Coastal Plain - DEC
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007

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

Comments Proposal may be at variance to this Principle

The site has been mapped by Northcote et al (1960-68) as having an undulating dune landscape with some steep dune slopes and underlain by aeolianite at depth with chief soils being brown sands and associated siliceous sands on the deeper dunes and leached sands on the more subdued dunes. The soils are consistent with the Spearwood sands which have characteristically high risk of phosphorous leaching and wind erosion (State of Western Australia, 2005).

The site has a groundwater salinity ranging between 1000-3000 mg/L total dissolved solids with a low to nil risk of salinity.

Given the scale of the vegetation under application (being regrowth in 'completely degraded' to 'degraded' (Keighery, 1994) condition across a 4.3ha area) the potential for excessive phosphorus export as a result of this clearing is considered to be low. However, there is still a risk of wind erosion post clearing should revegetation of the site be delayed after the construction of the appropriate gradient profiles.

The proposed seeding of pasture grasses and the planting/seeding of native vegetation amongst the grass, which is a condition of local government planning approval (Shire of Murray 2010c), will stabilise the soils and reduce the risk of wind erosion. It is also a condition of the clearing permit that clearing of the site must only be undertaken within one week of the commencement of rehabilitation works.

Methodology References:

- Keighery (1994)
 - Northcote et al (1960-68)
 - Shire of Murray (2010c)
 - State of Western Australia (2005)
- GIS Databases:
- Groundwater Salinity, Statewide - DoW
 - Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
 - Salinity Risk LM 25m - DOLA 00
 - Soils, Statewide - DA

(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

The area under application lies approximately 20m south of Bush Forever site 395 (Paganoni Swamp and Adjacent Areas, Karnup (Singleton)) and 55m south of the Register of National Estate boundary for the same conservation area.

There are Conservation Category Wetlands on either side of the proposed clearing site, Paganoni Swamp, approximately 215m to the west, which is also recognised as an EPP Lake, and a Sumpland, approximately 660m east.

A 20m vegetation buffer is being retained on the northern boundary of the property between the proposed clearing area and Bush Forever Site 395 in accordance with Shire approvals (Holcim (Australia) Pty Ltd, 2009 and Holcim (Australia) Pty Ltd, 2010).

As this area is part of the footprint of the existing pit and has been historically cleared, it is unlikely that the proposed clearing of vegetation in a 'completely degraded' to 'degraded' (Keighery, 1994) condition will impact upon the environmental values of the adjacent and nearby conservation areas. It is therefore concluded that the proposed clearing is not likely to be at variance to this principle.

Due to the close proximity of the proposed clearing area to conservation areas, it is a condition of the permit that weed and dieback management measures are implemented to reduce the introduction and/or spread of weeds and dieback into neighbouring bushland.

Methodology

References:

- Holcim (Australia) Pty Ltd (2009)
 - Holcim (Australia) Pty Ltd (2010)
 - Keighery (1994)
- GIS Databases:**
- DEC Tenure - DEC
 - Geomorphic Wetlands (Mgmt Categories), Swan Coastal Plain - DEC
 - Register of National Estate - EA
 - Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007

(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

The property lies within the Coastal and Peel Estuary_Serpentine River catchments of the Murray River basin.

The site has a low salinity risk with a groundwater salinity ranging between 1000-3000 mg/L total dissolved solids.

The vegetation under application consists of regrowth within a previously cleared area in association with the existing sand pit and is in a 'completely degraded' to 'degraded' (Keighery, 1994) condition. It is therefore unlikely that the clearing of this vegetation will cause deterioration in the quality of surface and underground water resources.

Methodology

References:

- Keighery (1994)
- GIS Databases:**
- Groundwater Salinity, Statewide - DoW
 - Hydrographic Catchments, Catchments - DoW
 - Perth Metropolitan Area South 20cm Orthomosaic - Landgate 2007
 - Salinity Risk LM 25m - DOLA 00

(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 closest watercourse to the applied clearing area is Serpentine River, a major, perennial watercourse, approximately 800m east of the applied clearing area. A perennial swamp and areas subject to inundation lie approximately 200m and 430m west of the applied clearing area respectively.

The chief soils at this site have been mapped as being brown sands and associated siliceous sands on the deeper dunes and leached sands on the more subdued dunes (Northcote et al, 1960-68). These sands have characteristically high infiltration rates and therefore are not prone to waterlogging.

The vegetation under application consists of regrowth in a 'completely degraded' to 'degraded' (Keighery, 1994) condition and has previously been cleared. In addition, given the distance to areas subject to inundation and watercourses separated by areas of native vegetation, it is unlikely that the proposed clearing will cause, or exacerbate, the incidence or intensity of flooding.

It is therefore concluded that the proposed clearing is not likely to be at variance to this principle.

Methodology

References:

- Keighery (1994)
 - Northcote et al (1960-68)
- GIS Databases:
- Hydrography, linear - DoW
 - Hydrography, linear (hierarchy) - DoW
 - Soils, Statewide - DA

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

Comments

The property is zoned 'Rural' under the Shire of Murray Town Planning Scheme and 'Urban' under the Peel Region Scheme.

The area under application lies within the Peel Inlet - Harvey Estuary Environmental Protection Policy (EPP) Area (EPA, 1992). The primary purpose of this policy is to ensure the rehabilitation and protection of the estuary from further degradation (EPA, 1992). Although the clearing of vegetation will result in the release of some nutrients, the site consists of regrowth in 'completely degraded' to 'degraded' (Keighery, 1994) condition, and therefore the removal of the vegetation under application is unlikely to result in excessive nutrient loss within the catchment and estuary.

The property has been mapped as an extraction area within State Planning Policy 2.4 Resource Protection Map.

The applicant received planning approval from the Shire of Murray to undertake the rehabilitation of the sand quarry at Lot 518 Stock Road, Stake Hill on the 26 May 2010 (Shire of Murray, 2010c). This includes the seeding of pasture grasses and some native vegetation across the existing pit (excluding the pit expansion site to the east of the current applied clearing area which is subject to clearing permits CPS 1852/2 and 2250/1 which are required, as a condition of the permits and requested by the Shire for the revised rehabilitation plan (Holcim (Australia) Pty Ltd, 2010 and Shire of Murray, 2010b) to be revegetated using native species).

Department of Planning (DoP) submitted advice in regards to the proposed clearing being near Bush Forever site 395 (Paganoni Swamp and Adjacent Areas). DoP raised issues regarding the Karrakatta Central and South Complex having 8% remaining in the Perth Metropolitan Region, the site being Carnaby's Black-Cockatoo feeding, breeding and roosting site and the presence of an registered Aboriginal site (DoP, 2010). These matters have been addressed against the relevant clearing principles. The DoP has no objection to the clearing subject to vegetative material and overburden not being disposed of within the Bush Forever Site and offset and fencing conditions (DoP, 2010).

The property also lies within the South West Coastal RiWI Act ground water area, within which groundwater resources are managed under the Rights in Water and Irrigation Act 1914 administered by the Department of Water. The applicant (in previous company name Rinker Australia Pty Ltd) has a current groundwater licence issued by the Department of Water, which is valid until 30 July 2014 and is allocated for the purposes of dust suppression (Holcim (Australia) Pty Ltd, 2009).

The acid sulphate soil risk across the site ranges from no known risk to moderate to low risk. The applicant has advised that dewatering has not and will not be required to take place as a result of the proposal and therefore the risk of acid sulphate soils being exacerbated is low.

A registered Aboriginal Site of Significance, the Serpentine River area, lies very close to the eastern portion of the vegetation under application and covers the eastern portion of Lot 518. The applicant has been advised to seek advice from the Department of Indigenous Affairs prior to the commencement of clearing and works.

Methodology

References:

- DoP (2010)
 - EPA (1992)
 - Holcim (Australia) Pty Ltd (2009)
 - Holcim (Australia) Pty Ltd (2010)
 - Shire of Murray (2010b)
 - Shire of Murray (2010c)
- GIS Databases:
- Aboriginal Site of Significance - DIA
 - Acid Sulphate Soil Risk Map, Swan Coastal Plain
 - EPP, Areas - DEP

- Peel Region Scheme - DPI
- RiWI Act, Areas - DoW
- RiWI Act, Groundwater Areas - DoW
- Town Planning Scheme Zones - DPI

4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.
- DEP (2002) Remnant vegetation of the Swan Coastal Plain Bioregion within the System 6 and System 1. Department of Environmental Protection, Perth.
- DoP (2010) Direct Interest Submission for clearing permit application CPS 3528/1. Received 19/02/2010. State Strategic Policy, Department of Planning, Western Australia (TRIM Ref. DOC119938).
- EPA (1992) Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992. Western Australian Government Gazette, 11 December, 1992, pp 1-9.
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994) A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
- 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.
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5. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DA	Department of Agriculture (now DAFWA)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DEWHA	Department of Environment, Water, Heritage and the Arts (previously EA and DEH)
DIA	Department of Indigenous Affairs
DoE	Department of Environment (now DEC)
DoP	Department of Planning
DoW	Department of Water
DMP	Department of Mines and Petroleum (ex DoIR)
DPI	Department of Planning and Infrastructure (now DoP)
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 DoW)