



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4868/1
Permit Holder:	Peel Resource Recovery Pty Ltd
Duration of Permit:	From 26 December 2015 to 26 December 2025

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 sand extraction.

2. Land on which clearing is to be done

Lot 43 on Plan 17161, Wellesley

3. Area of Clearing

The Permit Holder must not clear more than 0.47 hectares of native vegetation within the area hatched yellow on attached Plan 4868/1.

4. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 26 December 2020.

5. 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.

PART II – MANAGEMENT CONDITIONS

6. Avoid, minimise etc clearing

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

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

7. 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*:

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared;
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared; and
- where *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is to be removed from the area to be cleared, ensure it is transferred to areas of comparable *soil disease status*.

8. 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 six months following completion of works, *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 five metres of uncleared land;
 - (ii) ripping the ground on the contour to remove soil compaction;
 - (iii) ripping the pit floor and contour batters within the extraction site; and
 - (iv) laying the vegetative material and topsoil retained under condition 8(a) on the cleared area(s).
- (c) within 18 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 8(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 8(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 8(c)(ii) of this permit, the Permit Holder shall repeat condition 8(c)(i) and 8(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 8(c)(i) and 8(c)(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 8(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 8(c)(ii).

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

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

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

10. 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 9 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 26 September 2025, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(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;

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;

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;

soil disease status means soil types either infested, not infested, uninterpretable or not interpreted with a pathogen; and

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.



Jane Clarkson
A/SENIOR MANAGER
CLEARING REGULATION

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

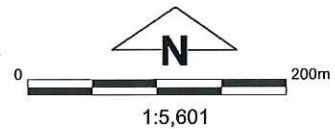
26 November 2015

Plan 4868/1



Legend

-  Cadastre
-  Roads
-  Imagery
-  Clearing Instruments Activities



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

 Date 26/11/15
Jane Clarkson

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



1. Application details

1.1. Permit application details

Permit application No.: 4868/1
Permit type: Purpose Permit

1.2. Applicant details

Applicant's name: Peel Resource Recovery Pty Ltd

1.3. Property details

Property: LOT 43 ON PLAN 17161, WELLESLEY
Colloquial name:
Local Government Authority: Shire of Harvey
DER Region: South West
Localities: WELLESLEY

1.4. Application

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

1.5. Decision on application

Decision on Permit: Granted
Application:
Decision Date: 26 November 2015

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 1000 is described as: Mosaic: Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree (<i>Melaleuca</i> spp.) (Shepherd et al, 2001).	The application proposes to clear 0.47 hectares of native vegetation within Lot 43 on Plan 17161, Wellesley, Shire of Harvey, for the purpose of sand extraction.	Good; Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).	The vegetation under application is associated with upland and upper slopes of the Bassendean Dune within the application area and is dominated by <i>Banksia attenuata</i> , <i>Eucalyptus marginata</i> low open forest with emergent <i>Corymbia calophylla</i> , <i>Agonis flexuosa</i> over <i>Kunzea glabrescens</i> open heath over <i>Xanthorrhoea brunonis</i> , <i>Hypolaena exsulca</i> , <i>Desmocladius</i> spp. herbs and sedges. This vegetation community occurs in good to very good (Keighery 1994) condition (DEC 2012).
Hedde vegetation complex Bassendean Complex Central/South: Vegetation ranges from woodland of <i>Eucalyptus marginata</i> (Jarrah) - <i>Allocasuarina fraseriana</i> (Sheoak) - <i>Banksia</i> species to low woodland of <i>Melaleuca</i> species, and sedgelands on the moister sites. This area includes the transition of <i>Eucalyptus marginata</i> (Jarrah) to <i>Eucalyptus todtiana</i> (Pricklybark) in the vicinity of Perth (Hedde et al, 1980).		to Very Good; Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The description and condition of the vegetation was established through a site visit on 29 February 2012 by the former Department of Environment and Conservation (DEC 2012).

3. Assessment of application against clearing principles

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

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

The application proposes to clear 0.47 hectares of native vegetation within Lot 43 on Plan 17161, Wellesley, Shire of Harvey, for the purpose of sand extraction.

The vegetation under application is in good to very good (Keighery, 1994) condition (DEC, 2012). The application area lies adjacent to an area currently used for extraction and is likely to have been subjected to disturbance from these operations and edge effects such as increase light, wind and weeds.

A priority 4 flora species has been located within close proximity to the application. Priority 4 species are considered to have been adequately surveyed and not in need of special protection, but could be if circumstances change. The proposed clearing of 0.47 hectares of native vegetation is not likely to impact upon the conservation status of this species if it was present within the application area.

The application area is located within close proximity to an area identified under the Greater Bunbury Regional Scheme as being part of the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North-south) and the Brunswick River (East - West) Ecological Linkage (EPA 2003). These same linkages are also identified within the South West Regional Ecological Linkage technical report (Molloy et al. 2009). These linkages provide an important corridor for the dispersal of native fauna as well as consisting of significant breeding and foraging habitat for local fauna. Given the small size of the application area and its proximity to an existing extraction area the proposed clearing is not likely to impact upon these linkages.

The application area contains suitable habitat for the western ringtail possum (*Pseudocheirus occidentalis*) (listed as rare or likely to become extinct under the Wildlife Conservation Act (WC Act) and vulnerable under the Environment Protection and Biodiversity Conservation Act (EPBC Act)), forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*) (listed as rare or likely to become extinct under the WC Act and vulnerable under EPBC Act), Baudin's cockatoo (*Calyptorhynchus baudinii*) (listed as rare or likely to become extinct under the WC Act and vulnerable under EPBC Act) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) (listed as rare or likely to become extinct under the WC Act and endangered under EPBC Act). Although suitable habitat is available within the application area it is unlikely that the 0.47 hectares adjacent to an operational pit will provide significant habitat for fauna.

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

Methodology

References

- DEC (2012)
- Keighery (1994)
- EPA (2003)
- Commonwealth of Australia (2001)
- Molloy et al. (2009)

GIS Databases

- SAC Bio Datasets

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

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

There are eight conservation significant species recorded within the local area (10 kilometre radius). The application area is in a very good to good (Keighery 1994) condition (DEC 2012).

Forest red-tailed black cockatoo (*Calyptorhynchus banksii* subsp. *naso*) (listed as rare or likely to become extinct under the WC Act and vulnerable under EPBC Act), Baudin's cockatoo (*Calyptorhynchus baudinii*) (listed as rare or likely to become extinct under the WC Act and vulnerable under EPBC Act) and Carnaby's cockatoo (*Calyptorhynchus latirostris*) (listed as rare or likely to become extinct under the WC Act and endangered under EPBC Act) have been recorded within the local area and are known to feed on a variety of species including *Banksia*, *Corymbia calophylla* and *Eucalyptus marginata* (Johnstone and Kirkby 2008, Shah 2006, Johnstone and Storr 1998) which occur within the application area. Given the small size of the application area it is unlikely that the vegetation under application provides significant habitat for black cockatoos.

A tree assessment of a 1.52 hectare area, which included the application area, identified six trees that contained hollows. One of these trees contained a hollow large enough for a black cockatoo, however no evidence of past or present use was observed (Harewood, 2012).

No evidence (dreys, scats or individuals) of western ring-tailed possums using vegetation within the study area was observed during a day time survey which included the application area (Harewood, 2012). *Agonis flexuosa* (Peppermint trees) is present in the application area, however they are relatively sparse and are mainly young, regrowth specimens (Harewood, 2012).

The application area is located within close proximity to an area identified under the Greater Bunbury Regional Scheme as being part of the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North-south) and the Brunswick River (East - West) Ecological Linkage (EPA 2003). These same linkages are also identified within the South West Regional Ecological Linkage technical report (Molley et al. 2009). These linkages provide an important corridor for the dispersal of native fauna as well as consisting of significant breeding and foraging habitat for local fauna. Given the small size of the application area and its proximity to an existing extraction area the proposed clearing is not likely to impact upon these linkages.

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

Methodology

References

- DEC (2012)
- EPA (2003)
- Johnstone and Kirkby (2008)
- Johnstone and Storr (1998)
- Harewood (2012)
- Keighery (1994)
- Molley et al. (2009)
- Shah (2006)

GIS Databases

- NLWRA, Current Extent of Native Vegetation
- Pre-European Vegetation
- Hedde Vegetation Complexes

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

Comments

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

A rare flora species has been recorded within the local area on the same soil and Beard vegetation type as the application area.

This orchid species occurs within low lying depressions in peaty and sandy clay swamps that contain water into summer (Brown et al. 1998).

The application area does not consist of suitable habitat for this species as the vegetation under application consists of *Banksia attenuata*, *Eucalyptus marginata* low open forest with emergent *Corymbia calophylla*, *Agonis flexuosa* over *Kunzea glabrescens* open heath over *Xanthorrhoea brunonis*, *Hypolaena exsulca*, *Desmocladius* spp. herbs and sedges (DEC, 2012).

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

Methodology

References

- DEC (2012)
- Brown et al. (1998)

GIS Databases

- SAC Bio Datasets
- Pre-European Vegetation
- Soils, statewide

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

Comments

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

One Threatened Ecological Community (TEC) has been recorded within the local area (10 kilometre radius), being SCP08 herb rich shrublands in clay pans. This TEC occurs 8.5 kilometres south of the application area.

The application area is dominated by *Banksia attenuata*, *Eucalyptus marginata* low open forest with emergent *Corymbia calophylla*, *Agonis flexuosa* over *Kunzea glabrescens* open heath over *Xanthorrhoea brunonis*, *Hypolaena exsulca*, *Desmocladius* spp. herbs and sedges (DEC, 2012).

It is not likely that the area under application consists of this TEC. Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology

References

- DEC (2012)

GIS Databases

- SAC Bio Datasets

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

Comments

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

The application area consists of the Beard Vegetation Association 1000 and Heddle Vegetation Complex Bassendean Central and South which have 29 per cent and 28 per cent of their pre-European vegetation extent remaining respectively (Government of Western Australia, 2014 and Parks and Wildlife, 2015).

The proposed clearing area occurs within the Swan Coastal Plain bioregion which retains approximately 39 per cent of its pre-European vegetation extent. The local area retains approximately 40 per cent vegetation.

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

The Beard and Heddle vegetation complexes are slightly below the recommended threshold level of 30 per cent, however given the small size of the application area it is not likely to be a significant remnant in a highly cleared landscape. As the application area adjoins remnant vegetation, to mitigate the risk of spread, weed and dieback condition will be placed on the permit. Therefore the proposed clearing is not likely to be at variance to this principle.

	Pre-European (ha)	Current (ha)	Extent Remaining (%)
IBRA Bioregion			
Swan Coastal Plain	1,50,221	580,697	39
Shire			
Shire of Harvey	170,788	88,380	52
Beard Vegetation Association in Bioregion*			
1000	94,175	23,873	25
Heddle Vegetation Complex**			
Bassendean Complex Central and South	87,476	22,869	26

Methodology

References:

- Commonwealth of Australia (2001)
- *Government of Western Australia (2014)
- **Parks and Wildlife (2015)

GIS Databases

- Pre-European vegetation
- Heddle Vegetation Complexes
- NLWRA, Current Extent of Native Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposed clearing is not at variance to this Principle

The application area occurs 200 metres north of a conservation category wetland which is the floodplain to the Brunswick River.

The application area does not consist of wetland dependent vegetation as the vegetation under application consists of *Banksia attenuata*, *Eucalyptus marginata* low open forest with emergent *Corymbia calophylla*, *Agonis flexuosa* over *Kunzea glabrescens* open heath over *Xanthorrhoea brunonis*, *Hypolaena exsulca*, *Desmodcladus* spp. herbs and sedges (DEC, 2012).

Given that there is a buffer of 200 metres to the identified wetland, the proposed clearing is not at variance to this Principle.

Methodology

References

- DEC (2012)

GIS Databases

- Hydrography, linear
- Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
Chief soils within application area are leached sands (Northcote et al. 1960-69).

The proposed clearing of 0.47 hectares may cause land degradation in the form of soil erosion given the sandy soils present within the application area. However, given the small size of the proposed clearing it is not likely that the proposed clearing will cause appreciable land degradation (Commissioner of Soil and Land Conservation 2012).

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

Methodology References
-Northcote et al. (1960-69)
-Soil and Land Conservation Commissioner (2012)

GIS Databases
-Soils, statewide
-Topography, 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 **Proposed clearing is not likely to be at variance to this Principle**
The closest conservation area is Leschenault Peninsular Conservation Park situated 4.9 kilometres west of the application area.

The vegetation under application is identified under the Greater Bunbury Regional Scheme as being part of the McLarty/Kemerton/Twin Rivers/Preston River/Gwindinnup ecological link (North- south) and the Brunswick Rover (East - West) Ecological Linkage (EPA 2003). These same linkages are also identified within the South West Regional Ecological Linkage technical report (Molley et al. 2009). Given the small size of the application area it is not likely to disrupt these linkages.

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

Methodology References
-EPA (2003)
-Molley et al. (2009)

GIS Databases
-Parks and Wildlife, Tenure
-Clearing Regulations, Environmentally Sensitive Areas

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposed clearing is not likely to be at variance to this Principle**
The application area occurs 200 metres north of a conservation category wetland which is the floodplain to the Brunswick River.

The application area does not consist of wetland dependent vegetation as the vegetation under application consists of *Banksia attenuata*, *Eucalyptus marginata* low open forest with emergent *Corymbia calophylla*, *Agonis flexuosa* over *Kunzea glabrescens* open heath over *Xanthorrhoea brunonis*, *Hypolaena exsulca*, *Desmodcladus* spp. herbs and sedges (DEC 2012).

Given that there is a buffer of 200 metres to the identified wetland and the small size of the application area, the proposed clearing is not likely to cause deterioration of surface or groundwater and is not likely to be at variance to this Principle.

Methodology References
-DEC (2012)

GIS Databases
-Hydrography, linear
-Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain

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

Comments **Proposed clearing is not likely to be at variance to this Principle**
The application area occurs 200 metres north of a conservation category wetland which is the floodplain to the Brunswick River.

Given that there is a buffer of 200 metres to the identified wetland and the small size of the proposed clearing, the proposed clearing is not likely to cause or exacerbate the incidence of flooding.

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

Methodology GIS Databases
-Hydrography, linear
-Geomorphic Wetlands (Mgt Categories) Swan Coastal Plain

Planning instruments and other relevant matters.

Comments In response to the original application of 12.9 hectares a letter was sent to the applicant on the 5 April 2012 outlining the environmental issues identified during the assessment. The applicant responded to this letter on 16 May 2012 and provided an amended area of 1.52 hectares. A letter was sent to the applicant on the 21 June 2012 requesting measures to offset unavoidable impacts of the proposed clearing. The applicant responded to this letter on the 20 August 2012 and provided an offset proposal in the form of a conservation covenant over five hectares of excellent condition vegetation on the same property.

In an email dated 4 March 2014 the application area was further reduced to 0.47 hectares. A reassessment of the application found that the variance to all of the clearing principles is now 'not likely to be' or are 'not at variance'. Therefore, an offset for the proposed clearing is not warranted.

The Department of Water (DoW, 2012) advised in respect of the original application area of 12.9 hectares that appropriate vegetation buffering to the Environmentally Sensitive Area and Conservation Category Wetland is required as well as appropriate management of stormwater within the property. The buffer needs to filter contaminants within stormwater runoff, uptake nutrients and prevent erosion and sedimentation of the nearby wetlands and Brunswick River (DoW, 2012). The applicant has reduced the proposed clearing to 0.47 hectares and has provided a buffer of 200 metres.

On 16 November 2015, the Shire of Harvey issued an Extractive Industry Licence to Oasis Holdings Pty Ltd.

The application area is zoned rural under the Greater Bunbury Regional Scheme.

The application area has not been identified as an area containing basic raw materials of State or regional significance under the Greater Bunbury Region Scheme Strategic Minerals and Basic Raw Materials Resource Policy 2005.

Methodology References
-DoW (2012)

GIS Databases
-Town Planning Scheme Zones
-Greater Bunbury Regional Scheme Zones

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.
- Commissioner of Soil and Land Conservation (2012); Land Degradation Advice and Assessment Report for clearing permit application CPS 4868/1; Department of Agriculture and Food Western Australia (DER Ref: A506528).
- DEC (2012) Site Inspection Report and Regional advice for Clearing Permit Application CPS 4868/1, Lot 43 Stanley Road, Wellesley. Site inspection undertaken 29/2/2012. Department of Environment and Conservation, Western Australia (DEC ref A488038).
- Department of Water (2012) Advice for Clearing Permit Application CPS 4868/1, Lot 43 Stanley Road, Wellesley. Department of Environment and Conservation, Western Australia (DEC ref A484129).
- EPA (2003) Greater Bunbury Region Scheme. Bulletin 1108. Environmental Protection Authority, Western Australia.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Environment Regulation, Perth.
- Harewood (2012) Threatened Fauna Assessment, Proposed Clearing Area, Lot 43 Stanley Road, Wellesley. August 2012, Version 1 (DER Ref: A738813).
- Heddl, 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.
- Johnstone and Kirkby (2008) Distribution, status, social organisation, movement and conservation of Baudin's Cockatoo (*Calyptorhynchus baudinii*) in Southwest Western Australia. Records of the Western Australian Museum. V24 p 107-118.

- Johnstone, C., Storr, G.M., 1998. Handbook of Western Australian Birds Volume I - Non-passerines (Emu to Dollarbird). Western Australian Museum.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Molloy, S., Wood, J., Hall, S., Wallrodt, S. and Whisson, G. (2009) South West Regional Ecological Linkages Technical Report, Western Australian Local Government Association and Department of Environment and Conservation, Perth.
- 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.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- 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.
- Soil and Land Conservation Commissioner (2012) Land Degradation Assessment for CPS 4868/1 -Lot 43 on Plan 17161 Stanley Road Australind. DEC ref A506528.

