



## CLEARING PERMIT

*Granted under section 51E of the Environmental Protection Act 1986*

<b>Purpose Permit number:</b>	CPS 3218/1
<b>Permit Holder:</b>	John Holland Pty Ltd
<b>Duration of Permit:</b>	3 January 2010 – 3 January 2015

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 railway upgrades.
- 2. Land on which clearing is to be done**  
Railway Reserve (Moondah 6503)  
Railway Reserve (Mooliabeenee 6504)
- 3. Area of Clearing**  
The Permit Holder must not clear more than 2 hectares of native vegetation within the area hatched yellow on attached Plan 3218/1.
- 4. Application**  
This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.
- 5. Compliance with Assessment Sequence and Management Procedures**  
Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

### PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

- 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:
  - (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.

## 7. 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 not move soils in wet 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.

## 8. Offsets

As part or all of the clearing to be done is at variance with Principle (b), the Permit Holder must implement an *offset* in accordance with conditions 8(a) and (b) of this Permit with respect to that clearing.

- (a) Determination of *offsets*:
- (i) in determining the *offset* to be implemented with respect to a particular area of native vegetation proposed to be cleared under this Permit, the Permit Holder must have regard to the *offset* principles contained in condition 8(b) of this Permit;
  - (ii) once the Permit Holder has developed an *offset proposal*, the Permit Holder must provide that *offset proposal* to the CEO for the CEO's approval prior to undertaking any clearing to which the *offset* relates, and prior to implementing the *offset*;
  - (iii) clearing may not commence until and unless the CEO has approved the *offset proposal* to which the clearing relates;
  - (iv) the Permit Holder shall implement the *offset proposal* approved under condition 8(a)(iii); and
  - (v) each *offset proposal* shall include a *direct offset*, timing for implementation of the *offset proposal* and may additionally include *contributing offsets*.
- (b) For the purpose of this condition, the *offset* principles are as follows:
- (i) *direct offsets* should directly counterbalance the loss of the native vegetation;
  - (ii) *contributing offsets* should complement and enhance the *direct offset*;
  - (iii) *offsets* are implemented only once all avenues to avoid, minimise, rectify or reduce environmental impacts have been exhausted;
  - (iv) the environmental values, habitat, species, *ecological community*, physical area, ecosystem, landscape, and hydrology of the *offset* should be the same as, or better than, that of the area of native vegetation being *offset*;
  - (v) a ratio greater than 1:1 should be applied to the size of the area of native vegetation that is offset to compensate for the risk that the *offset* may fail;
  - (vi) *offsets* must entail a robust and consistent assessment process;
  - (vii) in determining an appropriate *offset*, consideration should be given to ecosystem function, rarity and type of *ecological community*, vegetation *condition*, habitat quality and area of native vegetation cleared;
  - (viii) the *offset* should either result in no net loss of native vegetation, or lead to a net gain in native vegetation and improve the *condition* of the natural environment;
  - (ix) *offsets* must satisfy all statutory requirements;
  - (x) *offsets* must be clearly defined, documented and audited;
  - (xi) *offsets* must ensure a long-term (10-30 year) benefit; and
  - (xii) an *environmental specialist* must be involved in the design, assessment and monitoring of *offsets*.



### **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 offset of areas pursuant to condition 8:
  - (i) the location of any area of *offsets* recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (ii) a description of the *offset* activities undertaken; and
  - (iii) the size of the *offset* area (in hectares).

#### **10. Reporting**

- (a) The Permit Holder must provide to the CEO, on or before 30 June of each year, a written report of records required under condition 9 of this Permit and activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
  
- (b) Prior to 3 October 2014, 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:

*condition* means the rating given to native vegetation using the *Keighery scale* and refers to the degree of change in the structure, density and species present in the particular vegetation in comparison to undisturbed vegetation of the same type;

*contributing offset/s* has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No. 9: Environmental Offsets*, January 2006;

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

*direct offset/s* has the same meaning as is given to that term in the Environmental Protection Authority's *Position Statement No. 9: Environmental Offsets*, January 2006;

*ecological community/ies* means a naturally occurring biological assemblage that occurs in a particular type of habitat (English and Blythe, 1997; 1999);

*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;

*Keighery scale* means the vegetation condition scale described in *Bushland Plant Survey: A Guide to Plant Community Survey for the Community (1994)* as developed by B.J. Keighery and published by the Wildflower Society of WA (Inc). Nedlands, Western Australia;

*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;

*offset/s* means an offset required to be implemented under condition 8 of this Permit;

*offset proposal* means an *offset* determined by the Permit Holder in accordance with condition 8 of this Permit;

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

*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*.



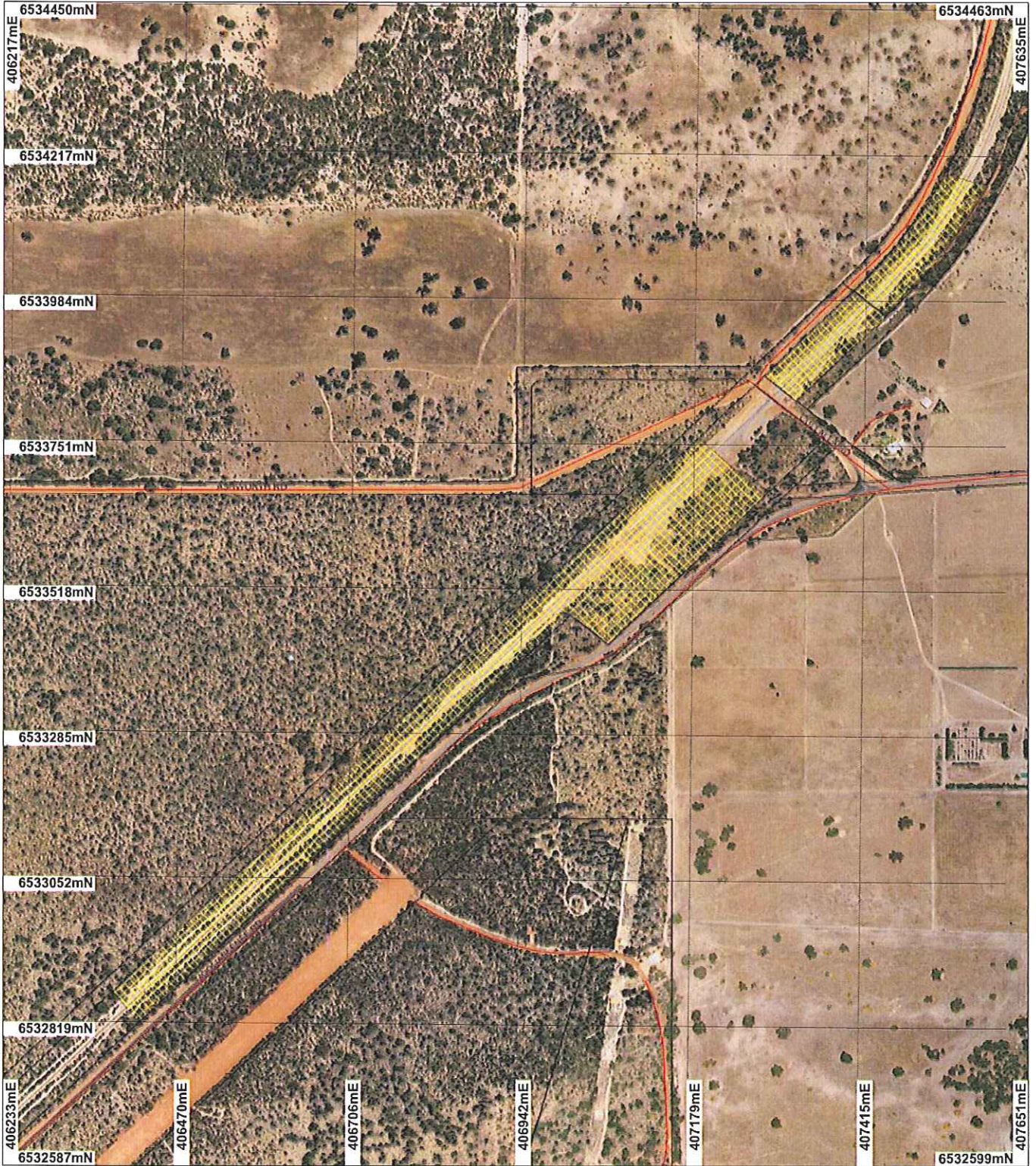
Keith Claymore  
A/ ASSISTANT DIRECTOR  
NATURE CONSERVATION DIVISION

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

3 December 2009



# Plan 3218/1



## LEGEND

### Clearing Instruments

-  Areas Approved to Clear
-  Road Centrelines



0 ~200 m

Scale 1:8267

(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.

*Keith Claymore* Date *2/1/09*

K Claymore

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.



**Department of Environment and Conservation**

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## 1. Application details

### 1.1. Permit application details

Permit application No.: 3218/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: John Holland Pty Ltd / WestNet Rail Pty Ltd

### 1.3. Property details

Property: RAILWAY RESERVE ( MOONDAH 6503)  
RAILWAY RESERVE ( MOOLIBEENEE 6504)

Local Government Area:

Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2		Mechanical Removal	Railway construction or maintenance

## 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 1027: Mosaic: Medium open woodland; jarrah & marri, with low woodland; banksia / Medium sparse woodland; jarrah & marri. (Shepherd et al. 2001)	The application is to clear 2 ha of native vegetation for the construction of a bauxite siding. The vegetation ranges from excellent to good (Keighery 1994) condition. A vegetation survey confirmed the vegetation consists of open Banksia woodland in the north eastern section and Marri/Banksia woodland in the south west (Niche 2009).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The vegetation description and condition was determined from vegetation and flora survey (Niche 2009) and orthomosaic imagery (Chittering 50cm Orthomosaic - Landgate 2006, Gingin 50cm Orthomosaic - Landgate 2006).
Mattiske Vegetation Complex Cullula (Cu): Mixture of low open forest of Banksia spp. - Eucalyptus todiana (Pricklybark) and open woodland of Corymbia calophylla (Marri) with second storey of Eucalyptus todiana (Pricklybark) - Banksia attenuata (Slender Banksia). (Mattiske 1998)			

## 3. Assessment of application against clearing principles

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

#### Comments

#### Proposal may be at variance to this Principle

The application is to clear 2 ha of native vegetation for the construction of a bauxite siding. The vegetation ranges from good to excellent (Keighery 1994) condition (Niche 2009). The vegetation is mapped as a mosaic of medium open woodland of jarrah & marri, with low woodland of Banksia and medium sparse woodland of jarrah & marri (Shepherd et al. 2001). A vegetation survey confirmed the vegetation consists of open Banksia woodland in the north eastern section and Marri/Banksia woodland in the south west (Niche 2009).

The vegetation under application has been identified in the Shire of Chittering Biodiversity Discussion Paper (2008) as being part of a regionally significant ecological linkage (Ironbark Environmental 2008). The clearing as proposed has the potential to further fragment this ecological linkage, however the application area is surrounded by a remnant of native vegetation approximately 140ha in area, and as such the significance of the 2ha under application within the linkage is reduced.

Fourteen priority flora species have been recorded within the local area (10km radius) of the proposed clearing. A flora and vegetation survey was carried out for the proposed clearing site, and one priority flora species was identified. *Haemodorum loratum* (P3) was recorded within the application area, and noted as being widespread (Niche 2009, Niche 2009a). The clearing as proposed is likely to impact on approximately 10 of the 50 to 100 individuals of this species recorded during the flora survey.

The proposed clearing includes vegetation within the buffer of the priority 2 ecological community 'Banksia woodland of the Gingin area, which is restricted to soils dominated by yellow to orange sands' (Niche 2009). Additionally, the initial vegetation survey identified the community type to be SCP-23 group as described in Gibson et al. (1994) (Niche 2009). This community type contains the Priority 3 ecological community SCP-23b:

Northern *Banksia attenuata* - *Banksia menzeisii* woodlands, which is recorded 8.6km north of the application area. The data collected during the subsequent vegetation survey was analysed using multi-dimensional scaling against the PEC SCP-23b and was found to be not closely related, and a better representation of SCP28 (Niche 2009a).

Additionally, the clearing as proposed has the potential to introduce or spread weeds or dieback to neighbouring native vegetation, and as such weed and dieback conditions will be imposed on the permit to mitigate these risks.

**Methodology** Keighery (1994)  
Gibson et al. (1994)  
Ironbark Environmental (2008)  
Niche (2009)  
Niche (2009a)  
Shepherd et al. (2001)

GIS database:

- CALM Managed Lands and Waters - CALM 01/06/05
- SAC Biodatasets - accessed 5 August 09
- Mattiske Vegetation (01/03/1998)
- Declared Rare and Priority Flora List - CALM 13/08/03
- Hedde Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005

**(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 at variance to this Principle**

Of the three rare fauna species recorded within the local area (10km radius), two have the potential to utilise the vegetation under application. *Dasyurus geoffroi* (Chuditch) was recorded 7km south east of the application area and *Calyptorhynchus latirostris* (Carnaby's Black Cockatoo) 3.3km east.

The Black-Cockatoo is known to feed on a large variety of plants including Proteaceous species (e.g. *Banksia*, *Dryandra* and *Grevillea*), Marri nuts (*Corymbia calophylla*), Jarrah (*Eucalyptus marginata*) and Tuart (*Eucalyptus gomphocephala*) (Shah, 2006).

A vegetation survey (Niche 2009) of the area under application identified the vegetation as containing open *Banksia* woodland with a rich shrub, and Marri and *Banksia* woodland with diverse shrub and herb layer. The vegetation is described as ranging from good to excellent (Keighery 1994) condition. This area would therefore be suitable and valuable foraging habitat for Carnaby's Black-Cockatoo (DEC 2009).

It is acknowledged that there are large remnants of native vegetation in the local area; however the cumulative impacts from the reduction of Carnaby's foraging habitat on the Swan Coastal Plain has resulted in vegetation that provides a food source for Carnaby's cockatoos being considered as significant habitat. The continual net loss of critical habitat will result in additional pressure on the current population of Carnaby's cockatoos.

The vegetation under application has been identified by the Shire of Chittering Biodiversity Discussion Paper as being part of a regionally significant ecological linkage (Ironbark Environmental 2008). The clearing as proposed has the potential to further fragment this ecological linkage and reduce connectivity with surrounding remnants.

Given the vegetation types and excellent (Keighery 1994) condition, the area under application is likely to be providing valuable foraging habitat for Carnaby's Black Cockatoo (DEC 2009), and as such the proposal is at variance to this principle. Offset conditions will be imposed on the permit to mitigate the impact to foraging habitat availability.

**Methodology** DEC (2009)  
Niche (2009)  
Ironbark Environmental (2008)

GIS database:

- CALM Managed Lands and Waters - CALM 01/06/05
- Mattiske Vegetation (01/03/1998)
- SAC Biodatasets - accessed 5 August 09
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06



**(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**

Four rare flora species have been recorded within the local area (10km radius) of the proposed clearing. *Diuris drummondii* was recorded 9.5km north east, *Eleocharis keigheryi* 5.3km east, *Goodenia arthrotricha* 7.8km east and *Ptychosema pusillum* 8.7 km north east of the application area. The vegetation ranges from excellent to good (Keighery 1994) condition.

*Diuris drummondii* and *Eleocharis keigheryi* are found in seasonally wet areas, and therefore, given the nearest wetland is 1.6km east, are not likely to be present within the application area. *Goodenia arthrotricha* occurs within gravel soils near granite rocks and slopes. The soil types within the application area are chiefly sands and as such not likely to be suitable habitat for this species.

Whilst, *Ptychosema pusillum* is found on sandy soils and as such may be present within the application area, flora and vegetation surveys were carried out for the proposed clearing site in June and September/October 2009. No rare flora species were recorded (Niche 2009, Niche 2009a).

The vegetation under application is not likely to include rare flora and is therefore not likely to be at variance to this principle.

**Methodology** Keighery (1994)  
Niche (2009)  
Niche (2009a)

GIS database:

- Declared Rare and Priority Flora List - CALM 13/08/03
- Mattiske Vegetation (01/03/1998)
- Heddle Vegetation Complexes - DEP 22/06/95
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 5 August 09
- Soils, Statewide DA 11/99

**(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 no known Threatened Ecological Communities (TECs) recorded within a 10km radius of the application area. Therefore the clearing as proposed is not likely to be at variance to this principle.

**Methodology** GIS Database:  
- SAC Biodatasets - accessed 5 August 09  
- Mattiske Vegetation (01/03/1998)  
- Heddle Vegetation Complexes - DEP 22/06/95  
- Pre European Vegetation - DA 01/01  
- Soils, Statewide DA 11/99

**(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 application area lies within the Shire of Gingin and the Swan Coastal Plain IBRA Bioregion, which retain 52.8% and 38.84% native vegetation respectively (Shepherd 2007). Orthomosaic imagery suggests the local area (10km radius) is approximately 40% vegetated.

The vegetation under application is of Beard Vegetation Associations 3 and 1144, which retain 81% and 82.15% of their pre-European extent (Shepherd 2007). The vegetation also consists of Mattiske Vegetation Complexes *Crowea* (CRy), *Crowea* (CRb) and Pemberton (PM1) which retain 70%, 81.2% and 65.6% of their pre-European extents (Mattiske Consulting 1998).

The area is not considered to be extensively cleared, and therefore the vegetation under application is not a significant remnant in the local area. The clearing of 2ha of native vegetation as proposed is not likely to be at variance to this principle.

**Methodology** Mattiske Consulting (1998)  
Shepherd (2007)  
Shepherd et al (2001)



GIS Databases:

- Heddle Vegetation Complexes - DEP 22/06/95
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- Matiske Vegetation - CALM 1/03/1998
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 5 August 09
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

**(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**

Moondah Brook, a minor non-perennial watercourse, and Brockman River, a major perennial watercourse, lie 3km west and 6km east of the area under application. Additionally, conservation category and resource enhancement wetlands lie 1.6km east, and a conservation category palusplain 4km west of the application. The vegetation under application is not considered to be growing in association with a watercourse. The clearing as proposed is therefore not likely to be at variance with this principle.

**Methodology GIS Databases:**

- ANCA wetlands - Environment Australia 26/3/99
- CALM Managed Lands and Waters - CALM 01/06/05
- EPP Lakes Policy Area - DEP 14/05/97
- EPP, Wetlands 2004 (DRAFT) - EPA 21/7/04
- Clearing Regulations, Environmentally Sensitive Areas 30 May 2005
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DEC 11/04/07
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Ramsar wetlands - DEC 03

**(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 chief soil types are described as sandy acidic yellow mottled soils containing much ironstone gravel in the A horizons (Northcote et al. 1968). The salinity risk is mapped as ranging from low to high.

The application area is surrounded by a remnant of native vegetation approximately 140ha in size and the local area (10km radius) is approximately 40% vegetated. The clearing of 2ha in a linear strip as proposed is not likely to cause appreciable land degradation. The proposed clearing is therefore not likely to be at variance to this principle.

**Methodology Northcote et al. (1968)**

GIS database:

- Average Annual Rainfall Isohyets - WRC 29/09/98
- Annual Evaporation Contours (Isopleths) - WRC 29/09/98
- Hydrogeology, statewide - DOW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 11/99
- Topographic contours statewide - DOLA and ARMY 12/09/02
- Hydrogeology, Statewide 05 Feb 2002

**(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 may be at variance to this Principle**

The vegetation under application has been identified by the Shire of Chittering Biodiversity Discussion Paper as being part of a regionally significant ecological linkage (Ironbark Environmental 2008). The clearing as proposed has the potential to further fragment this ecological linkage and reduce connectivity between conservation areas. These impacts are likely to be reduced due to the relatively small (2ha) linear area under application, and the presence of larger remnants of native vegetation surrounding it.

The vegetation under application is 140m north west of a nature reserve and 8.4km south west of Boonanning System 6 nature reserve. The proposed clearing has the potential to impact the nearby conservation areas through introduction or spread of weed and dieback, and as such may be at variance to this principle. Weed and dieback conditions will be imposed on the permit.

**Methodology** Ironbark Environmental (2008)

GIS Databases:

- CALM Managed Lands and Waters - CALM 01/06/05
- Hydrography, linear - DOW 13/7/06
- Register of National Estate - Environment Australia, Australian and world heritage division 12 Mar 02
- System 1 to 5 and 7 to 12 areas - DEC 11/7/06

**(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**

Moondah Brook, a minor non-perennial watercourse, and Brockman River, a major perennial watercourse, lie 3km west and 6km east of the area under application. Additionally, conservation category and resource enhancement wetlands lie 1.6km east, and a conservation category palusplain 4km west of the application.

The application area is surrounded by an approximately 140ha remnant of native vegetation, and the local area (10km radius) is approximately 40% vegetated. The clearing of 2ha as proposed is not likely to have a significant impact on the groundwater recharge in the catchment. Additionally, the linear nature of the proposed clearing significantly reduces the likelihood of significant impacts on the quality of surface and underground water. The proposed clearing is therefore not likely to be at variance to this principle.

**Methodology** GIS database:

- Groundwater Salinity Statewide DoW 13/07/06
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrographic catchments, subcatchments - DoW 01/06/07
- Hydrography, linear - DOW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 12/09/02

**(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 area proposed for clearing is small (2ha) and linear, with the majority surrounded by a large remnant of native vegetation. The average annual rainfall is 700mm, and the evaporation rate 600mm per year. The clearing as proposed is therefore not likely to cause or exacerbate the incidence or intensity of flooding, and not likely to be at variance to this principle.

**Methodology** GIS database:

- Evaporation Isoleths - WRC 29/09/98
- Hydrographic catchments, catchments - DoW 01/06/07
- Hydrographic catchments, subcatchments - DoW 01/06/07
- Hydrography, linear - DoW 13/7/06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05
- Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**

The application area is within rail reserves vested with the Public Transport Authority. The applicant is accessing the land via a 49 year lease agreement with WestNet Rail Pty Ltd. The purpose for clearing is for railway infrastructure, including a bauxite loading facility and siding.

Five public submissions have been received regarding this application.

Concerns raised include:

- the proximity of the application to a conservation category wetland;
- the possibility of rare or priority flora within the application area;
- the potential for the spread of dieback into surrounding areas;
- clearing within a regionally significant ecological linkage;
- the retention of a wildlife corridor and buffer to the road;
- the lack of targeted flora surveys carried out at the site; and
- the presence of orchids within the vegetation.

These concerns have been addressed, where relevant to this assessment, under the clearing principles.

**Methodology** GIS database:



- Cadastre - Landgate Dec 07
- Native Title Claims - LA 2/5/07
- Town Planning Scheme Zones - MFP 31/08/98
- Aboriginal Sites of Significance 26 April 2007

#### 4. Assessor's comments

##### Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (b), may be at variance to Principle (a) and (h), and is not likely to be at variance to the remaining clearing Principles.

#### 5. References

- DEC (2009) Carnaby's Black Cockatoo Advice. Department of Environment and Conservation Trim Ref DOC95899.
- 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.
- Ironbark Environmental (2008). Shire of Chittering Draft local Biodiversity Strategy. Mount Lawley.
- 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.
- Niche Environmental Services (2009). Interim Report Documenting the Findings of the First Pass Flora and Vegetation Survey over Proposed Extension of the Mooliabeenie Rail Siding. TRIM ref DOC91144.
- Niche Environmental Services (2009a). Report Documenting the Findings of a Level 2 Flora and Vegetation Survey over Proposed Extension of the Mooliabeenie Rail Siding. TRIM ref DOC107659.
- Niche Environmental Services (2009b). Assessment of Habitat Trees for Carnaby's Black Cockatoo within the Vegetation to be Cleared for the Proposed Extension of the Mooliabeenie Rail Siding. TRIM ref DOC107659.
- 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. (2007). Adapted from: 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. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

#### 6. 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)