



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5337/1
Permit Holder:	Robe River Mining Co Pty Ltd
Duration of Permit:	8 March 2013 – 30 September 2018

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 bridge construction, associated infrastructure and works.

2. Land on which clearing is to be done

Lot 2 on Diagram 43218 (Roebourne 6718)
Crown Reserve 18571 (Cooya Pooya 6714 and Roebourne 6718)
North West Coastal Highway road reserve (Mount Anketell 6714) (PIN:11726701)
Unnamed Road reserve (Mount Anketell 6714) (PIN: 1361236)
Lot 3002 on Deposited Plan 44785 (Cooya Pooya 6714) (North West Coastal Highway)
Lot 3023 on Deposited Plan 44804 (Roebourne 6718) (North West Coastal Highway)
Lot 265 on Deposited Plan 220920 (Cooya Pooya 6714 and Roebourne 6718)
Unallocated Crown Land (Roebourne 6718) (Closed road PIN 693356)

3. Area of Clearing

The Permit Holder must not clear more than 10 hectares of native vegetation within the area hatched yellow on attached Plan 5337/1.

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. Type of clearing authorised

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

6. 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

7. 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.

8. Weed control

When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Vegetation management

- (a) Where practicable the Permit Holder shall avoid clearing riparian vegetation.
- (b) Where a watercourse is to be impacted by clearing, the Permit Holder shall maintain the existing surface flow by use of culverts.

DEFINITIONS

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

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;

riparian vegetation has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

watercourse has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

weed/s means any plant -

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



M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

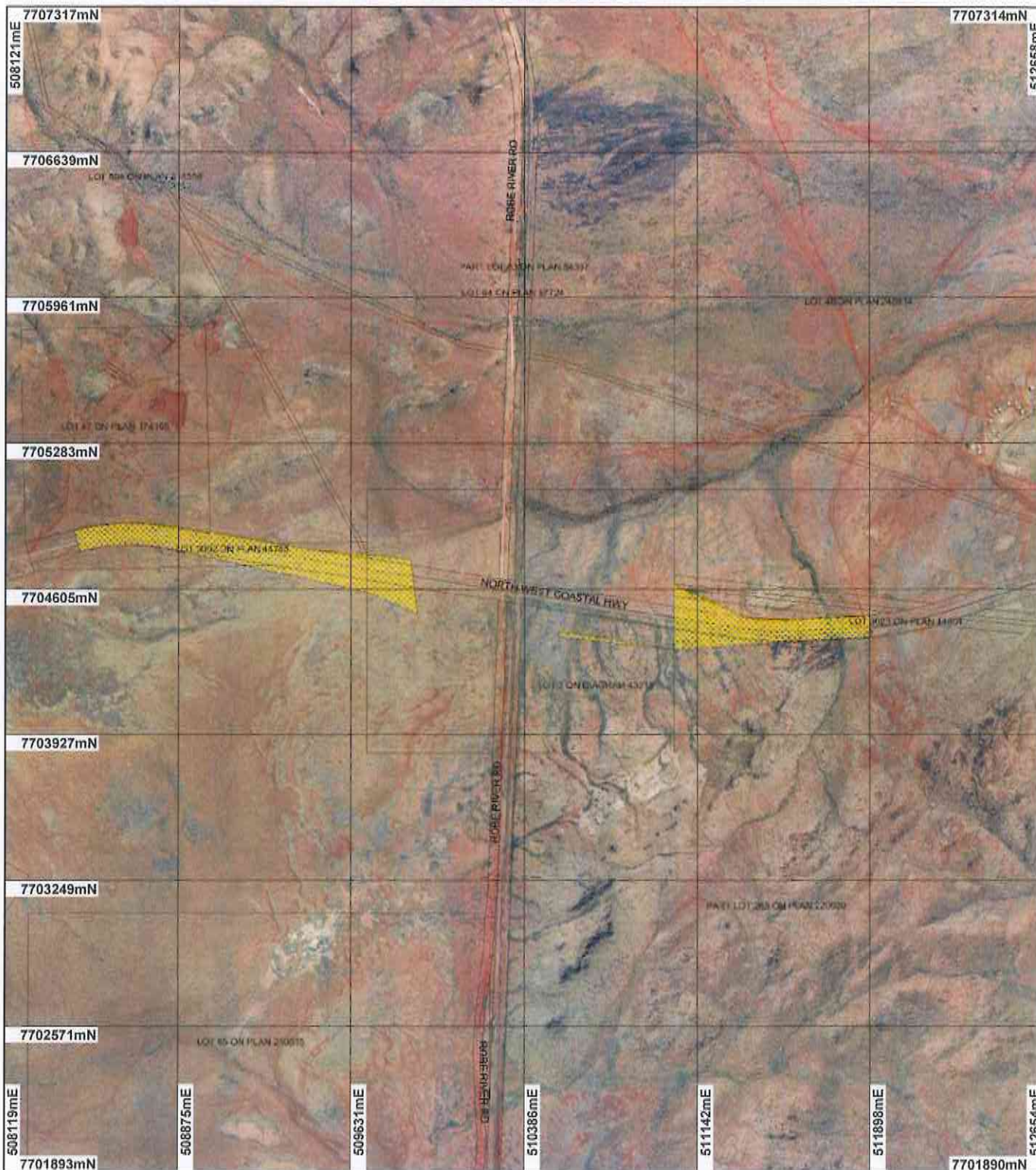
*Officer delegated under Section 20
of the Environmental Protection Act 1986*

14 February 2013

CPS 5337/1, 14 February 2013

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Plan 5337/1



LEGEND

- ✓ Road Centrelines
- Clearing Instruments
- ▨ Areas Approved to Clear
- Cadastre for labelling
- Roebourne 50cm Orthomosaic - Landgate 2007



0 625 m

Scale 1:25000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

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

M Warrack Date 14.2.13
M Warrack

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.: 5337/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Mining Co Pty Ltd

1.3. Property details

Property: LOT 2 ON DIAGRAM 43218 (ROEBOURNE 6718)
CROWN RESERVE 18571 (MOUNT ANKETELL 6714)
ROAD RESERVE (MOUNT ANKETELL 6714)
PART LOT 265 ON PLAN 220920 (COOYA POOYA 6714)
LOT 3002 ON PLAN 44785 (COOYA POOYA 6714)
LOT 3023 ON PLAN 44804 (ROEBOURNE 6718)
CLOSED ROAD ROEBOURNE 6718

Local Government Area: Shire of Roebourne
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10		Mechanical Removal	Building or Structure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 February 2013

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard vegetation association 157 is described as Hummock grasslands, grass steppe; hard spinifex <i>Triodia wiseana</i> (Shepherd et al 2001).	The application proposes to clear up to 10 hectares (within a larger footprint of 32.6 hectares) of native vegetation for the purpose of bridge construction, associated infrastructure and works.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the native vegetation under application was determined by digital imagery (Roebourne 50cm Orthomosaic - Landgate 2007) and supporting information provided by Rio Tinto (2012).
	The study area is comprised of four vegetation types:	To	
	DL-ChAtTw - Minor drainage line supporting <i>Corymbia hamersleyana</i> low open woodland over <i>Acacia trachycarpa</i> , <i>Acacia tenuissima</i> and <i>Acacia ancistrocarpa</i> shrubland over <i>Triodia wiseana</i> very open hummock grassland and <i>Cenchrus ciliaris</i> open tussock grassland (Rio Tinto 2012);	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	
	P1-EbCf - Plain with cracking clays supporting <i>Eriachne benthamii</i> and <i>Chrysopogon fallax</i> closed tussock grassland (Rio Tinto 2012);		
	P2-AaTwAc - Gentle rise on plain supporting <i>Acacia ancistrocarpa</i> , <i>Acacia synchronicia</i> and <i>Acacia pyrifolia</i> var. <i>pyrifolia</i> open shrubland over <i>Triodia wiseana</i> and <i>Triodia pungens</i> open hummock grassland over <i>Aristida contorta</i> scattered grasses (Rio Tinto 2012); and		
	P3-AtTe - Plain supporting <i>Acacia tumida</i> var. <i>pilbarensis</i> , <i>Acacia pyrifolia</i> var. <i>pyrifolia</i> and <i>Acacia ancistrocarpa</i> shrubland over <i>Triodia epactia</i> hummock grassland (Rio Tinto 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 **Proposal may be at variance to this Principle**
The application proposes to clear up to 10 hectares (within a larger footprint of 32.6 hectares) of native vegetation for the purpose of bridge construction, associated infrastructure and works.

A total of 58 taxa from 17 families and 39 genera were recorded from the study area (Rio Tinto 2012). The vegetation within the application area is considered to be in a degraded to good (Keighery 1994) condition (Rio Tinto 2012).

One priority three flora species has been recorded within a 10 kilometre radius. This species is described as a dense, glabrous shrub or tree approximately 1.8-6 metres high, it is found on red loam, sandy loam, clay and Floodplains (Western Australian Herbarium 1998-). The application area may provide suitable habitat for this species however it is widely distributed throughout the local government areas; Ashburton, Broome, East Pilbara, Port Hedland and Roebourne. The clearing of 10 hectares within a larger footprint of 32.6 hectares is unlikely to have a significant impact on the conservation values of this priority flora species. The applicant has advised that a number of reports have previously been completed within and in the vicinity of the study areas. In addition in March 2012 a field study was undertaken and the application area was traversed for conservation significant flora. No rare or priority species were recorded (Rio Tinto 2012).

Four fauna species considered rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within the local area (30 kilometre radius) being, *Dasyurus hallucatus* (Northern Quoll), *Lerista neviniae* (slider, skink), *Ctenotus angusticeps* (Airlie Island Skink) and *Liasis olivaceus* subsp. *barroni* (Pilbara Olive Python) (DEC 2007-). The vegetation within the application area is well represented within the local and regional area therefore no significant loss of habitat for fauna indigenous to Western Australia is expected.

A Priority Ecological Community (PEC) 'Horseflat Land System' is mapped within the application area. The vegetation type within the area under application 'Plain with cracking clays supporting *Eriachne benthamii* and *Chrysopogon fallax* closed tussock grassland' is considered to be synonymous with this PEC. The application area is considered to be in a degraded to good (Keighery 1994) condition with historical disturbance to the soil surface as a result of previous clearing for the construction of the North West Coastal Highway and grazing (Rio Tinto 2012). The PEC has 53 current locations mapped within the Department of Environment and Conservation (DEC) database, covering an area of approximately 174249 hectares. Given the location of this occurrence next to the North West Coastal Highway and the relatively disturbed nature of the vegetation under application, the clearing as proposed is unlikely to have a significant impact on the conservation status on this PEC (DEC 2012b). A significant threat to this PEC is weed invasion, weed management practices will help minimise impacts to this PEC.

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

Methodology References:
DEC (2007-)
Rio Tinto (2012)

GIS databases:
- SAC Biodatasets – accessed 16 November 2012

(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

Four fauna species considered rare or likely to become extinct have been recorded within the local area (30 kilometre radius) being, *Dasyurus hallucatus* (Northern Quoll), *Lerista neviniae* (slider, skink), *Ctenotus angusticeps* (Airlie Island Skink) and *Liasis olivaceus* subsp. *barroni* (Pilbara Olive Python) (DEC 2007-).

The fauna habitats within the area proposed to be cleared are well represented elsewhere within the local and regional area, and no significant loss of habitat for fauna indigenous to Western Australia is expected.

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

Methodology References:
- DEC (2012)

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

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

There are no records of rare flora located within the local area (30 kilometre radius).

Two species of rare flora are listed from the Pilbara bioregion, one is known from mountain crests with elevation of 1000 metres or greater and is not expected to occur in the study area (Rio Tinto 2012).

The second is a pioneer ephemeral, occurring on skeletal soils in open woodland in usually hilly areas (Rio Tinto 2012). No habitat suitable for this species has been recorded within the application (Rio Tinto 2012).

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

Methodology References:
Rio Tinto (2012)

GIS databases:
- SAC Biodatasets – accessed 16 November 2012

(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 records of threatened ecological communities (TEC) in the local area (30 kilometre radius).

The nearest TEC is 'Themeda grasslands' on cracking clays which is located approximately 150 kilometre south-west of the study area (Rio Tinto 2012).

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

Methodology GIS databases:
- SAC Biodatasets – accessed 16 November 2012

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

Comments **Proposal is not likely to be at variance to this Principle**
The area under application is located within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 99 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2011).

The vegetation under application is mapped as Beard Vegetation Association 157, which has approximately 99 per cent of its Pre-European extent remaining in the Pilbara bioregion (Government of Western Australia 2011).

Digital imagery (Roebourne 50cm Orthomosaic - Landgate 2007) indicates that the local area (30 kilometre radius) surrounding the area under application retains approximately 90 per cent vegetation cover.

Given the vegetation representation within the local area it is unlikely that the vegetation under application is significant as a remnant in an extensively cleared landscape.

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

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Pilbara	17,804,427.34	17,729,352.37	99.58	8.39
Shire*				
Shire of Roebourne	1,535,627.86	1,496,779.22	97.47	0.81
Beard Vegetation Association in Bioregion*				
157	198,633.97	197,098.03	99.23	5.73

* Ref: Government of Western Australia (2011)

Methodology References:
Government of Western Australia (2011)

GIS Database:
- IBRA Australia
- Local Government Authority
- Pre-European vegetation
- Roebourne 50cm Orthomosaic – Landgate 2007
- SAC Biodatasets - accessed 16 November 2012

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

Comments Proposal may be at variance to this Principle

Numerous non-perennial minor watercourses intersect the application area.

A major watercourse 'Harding River' is located approximately 3.5 km east of the application area.

The application area contains surface drainage features which only flow following significant localised rainfall (Rio Tinto 2012), therefore the proposed clearing is unlikely to have a significant impact on the minor watercourses located within the application area.

Given the above, the clearing as proposed may remove vegetation that is associated with the known watercourses. Therefore the application may be at variance to this principle.

Watercourse management practices will assist in mitigating this risk.

Methodology Reference:
-Rio Tinto (2012)

GIS Databases:
-Hydrology, linear

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

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

Two soil types are mapped within the area under application. Soil type MM17 is described as Alluvial plains with occasional stony residuals of basic and ultrabasic rocks. Chief soils are deep cracking clays (Northcote et al 1960 - 1968).

Soil type Fa19 is described as Steep stony hills and ranges on metamorphosed basic and ultra basic rocks, with some iron ore formations. There may also be small areas of granite. Limited areas of steep dissected pediments and valley plains are included. The soils are generally shallow and stony and there are extensive areas without soil cover: chief soils are shallow stony earthy loams (Northcote et al 1960 - 1968).

Given the nature of the soil within the application area it is unlikely that appreciable land degradation in the form of water or wind erosion will occur.

The application is not likely to be at variance to this principle.

Methodology Reference:
- Keighery 1994
- Northcote et al. (1960 - 1968)

GIS Database:
- Soils, statewide

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

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

The closest known conservation reserve is a unnamed nature reserve located approximately 21 kilometre west of the application area.

A large proportion of the vegetation in the Pilbara bioregion remains uncleared, approximately 99 per cent (Government of Western Australia 2011). Therefore, it is unlikely that the application area provides an important buffer or ecological linkage to this unnamed nature reserve.

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

Methodology Reference:
- Government of Western Australia (2011)

GIS Databases:
- DEC Tenure
- Pre-European vegetation

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

Comments **Proposal is not likely to be at variance to this Principle**
Numerous non-perennial minor watercourses intersect the application area.

A major watercourse 'Harding River' is located approximately 3.5 kilometre east of the application area.

The application area contains surface drainage features which only flow following significant localised rainfall (Rio Tinto 2012). Impacts from the proposed clearing are expected to be short term therefore it is unlikely the clearing will cause deterioration in the quality of surface water to the minor watercourses located within the application area.

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

Methodology Reference:
Rio Tinto (2012)

GIS Databases:
-Hydrology, Linear

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

Comments **Proposal is not likely to be at variance to this Principle**
Natural flood events may occur in the Pilbara region following cyclonic activity. However, the proposed clearing is not expected to increase the incidence or intensity of flooding.

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

Methodology GIS Database:
- Rainfall, Mean Annual

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

Comments

The application proposes to clear up to 10 hectares (within a larger footprint of 32.6 hectares) of native vegetation for the purpose of bridge construction, associated infrastructure and works.

The Shire of Roebourne (2012) has advised they have no objection to the vegetation removal for CPS 5337/1.

Main Roads Western Australia (MRWA 2012) have advised that they have no objection to Rio Tinto Iron Ore seeking a native vegetation clearing permit for the construction of grade separated crossing on North West Coastal Highway over Robe Railway.

The Department of Regional Development and Lands (2013) have advised it is currently proceeding with the issue of a Section 91 licence to Main Roads Western Australia under section 91 of the Land Administration Act 1997 for the construction of a grade separated crossing of the North West Coastal Highway over Robe railway.

The application area falls within Pilbara Groundwater Area under the Rights in Water Irrigation Act 1914.

A Native Title claim exists over the area under application. The Ngarluma/Yindjibarndi Native Title Claimants and their representative body have been notified of the clearing application.

The application area falls within the Pilbara Surface Water Area under the Rights in Water Irrigation Act 1914. The interference with bed and/or banks of any watercourse may require a licence from the Department of Water.

No Aboriginal Sites of Significance have been recorded within the application area.

Methodology References:
- MRWA (2012)
-Shire of Roebourne (2012)

GIS Databases:
- Aboriginal Sites of Significance
- RIWI Act, Groundwater Areas
- RIWI Act, Groundwater Areas, Irrigation Districts

4. References

- DEC (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 16 November 2012
- DEC (2012a) Regional Advice for Clearing Permit Application CPS 5337/1. Department of Environment and Conservation. Pilbara Region. Western Australia. (DEC Ref: A580239)
- DEC (2012b) Advice for Clearing Permit Application CPS 5337/1 - Threatened Ecological Communities. Department of Environment and Conservation. Species and Communities Branch. Western Australia. (DEC Ref: A580241).
- DRDL (2013) Land Administration Act 1997 (LAA) Section 91 Licence 11765/1904_A2841353 – Construction of a grade separated crossing of the North West Coastal Highway over Robe Railway – Shire of Roebourne. Department of Regional Development and Lands. Western Australia (DEC Ref: A599187).
- Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MRWA (2012) Construction of Grade Separated Crossing on North West Coastal Highway over Robe Railway – Proposed Clearing of Native Vegetation. Main Roads Western Australia. (DEC Ref: A560171).
- 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.
- Rio Tinto (2012) Statement Addressing the 10 Clearing Principles - North West Coastal Highway Separated Road Over Rail Bridge. Western Australia. (DEC Ref: A560171).
- 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.
- Shire of Roebourne (2012) Advice for CPS 5337/1 - Robe River Mining Co Pty Ltd. Shire of Roebourne. Western Australia. (DEC Ref: A566496)
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 16 November 2012).

5. Glossary

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