



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 3756/1
Permit Holder:	Hamersley Iron Pty Ltd
Duration of Permit:	8 August 2010 – 8 August 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 widening the existing track adjacent to the Hardey River Pipeline.

2. Land on which clearing is to be done

Lot 7 on Plan 28944 (MOUNT SHEILA 6751)

3. Area of Clearing

The Permit Holder must not clear more than 3 hectares of native vegetation within the area hatched yellow on attached Plan 3756/1.

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:

- 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. 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*:
 - (i) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
 - (ii) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
 - (iii) 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.

PART III - RECORD KEEPING AND REPORTING

8. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit in relation to the clearing of native vegetation authorised under this Permit:

- (a) the species composition, structure and density of the cleared area;
- (b) 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;
- (c) the date that the area was cleared; and
- (d) the size of the area cleared (in hectares).

9. 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 8 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 8 May 2015, the Permit Holder must provide to the CEO a written report of records required under condition 8 of this Permit where these records have not already been provided under condition 9(a) of this Permit.

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;

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*.

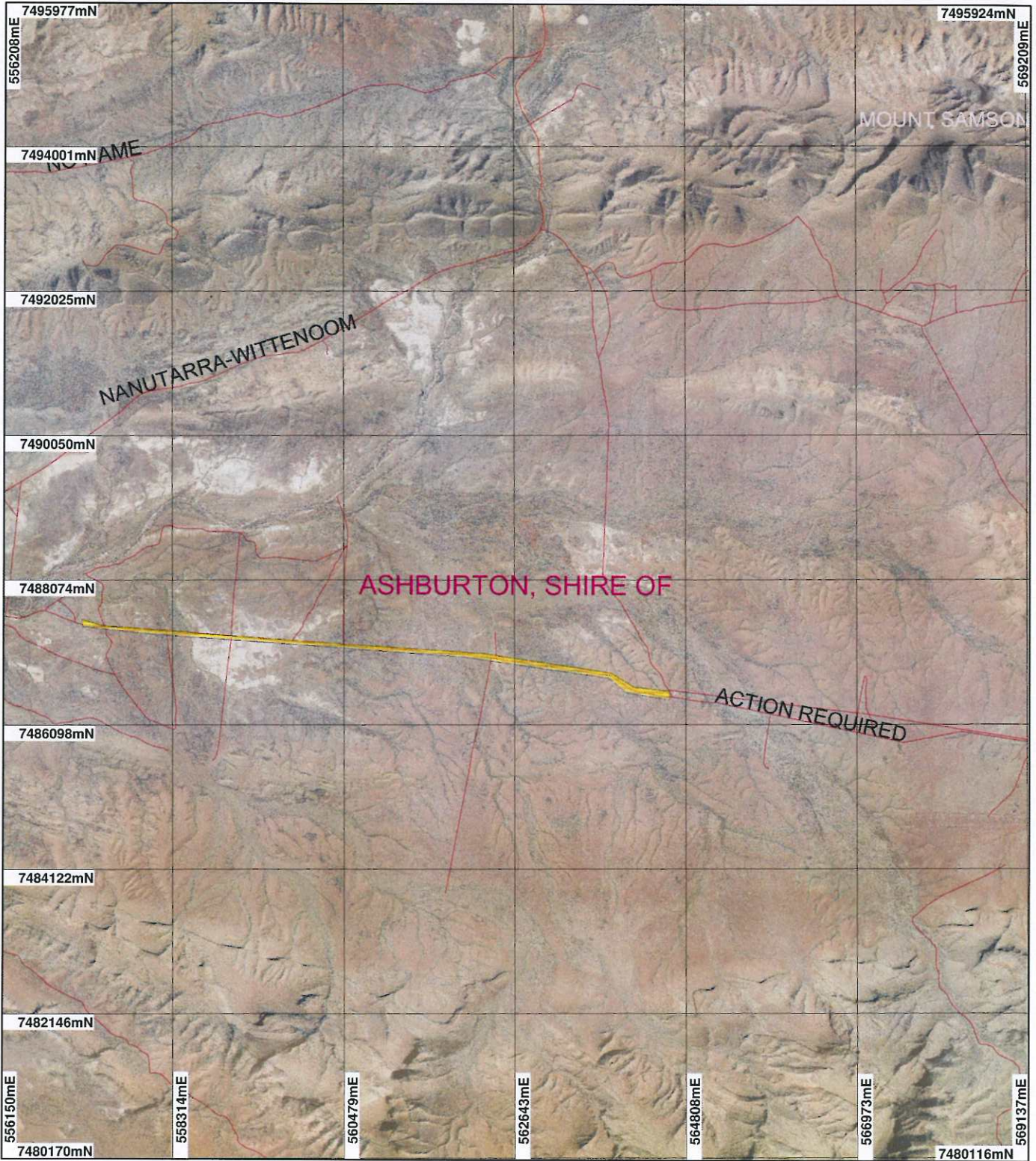


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

8 July 2010

Plan 3756/1



LEGEND

- Cadastre
- Local Government Authorities
- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear

Mount Lionel 50cm
Orthomosaic - Landgate
2004
Geographic Names



0 2 km

Scale 1:72249
(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.

Date 8/7/10
K. Faulkner

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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Environment and Conservation
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1. Application details

1.1. Permit application details

Permit application No.: 3756/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: LOT 7 ON PLAN 28944 (MOUNT SHEILA 6751)
Local Government Area: Shire of Ashburton
Colloquial name: Hardey River Collector 3 to Hardey River Collector 1 Pipeline Upgrade

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3		Mechanical Removal	Road 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: 567: Hummock grasslands; shrub steppe; mulga and kanji over soft Spinifex and Triodia basedowii (Shepherd, 2007)	Up to 3 hectares of native vegetation is proposed to be cleared within the 51.2 hectare application area, which extends approximately 7.5km, following the existing vehicle access track. The purpose of the proposed clearing is to enable the widening of the existing access track adjacent to the underground Hardey River Pipeline in order to upgrade the Hardey River Collector (HRC) 1 to HRC 3 section by constructing an above ground section of pipeline. 12 native vegetation types were recorded in the area under application during a flora and vegetation survey conducted by Rio Tinto botanists in November 2009 (Rio Tinto, 2010). The condition of the vegetation was reported as ranging from Good to Excellent, according to the Trudgen (1988) scale. Soil disturbance, erosion and minor weed invasion were the most common types of disturbance encountered, particularly adjacent to the existing pipeline and powerline easements (Rio Tinto, 2010). Obvious signs of use by cattle were also recorded from drainage channels of moderate-sized creeklines near the eastern and western ends of the applied area (Rio Tinto, 2010).	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994)	Vegetation condition was determined from aerial photography, information and photographs provided by the applicant (Rio Tinto, 2010)
As above	As above	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994)	As above

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 proposal is to clear up to 3 hectares of native vegetation for the purpose of widening the existing vehicle access track adjacent to the Hardey River Pipeline, Mount Sheila, in order to construct an above ground section of pipe to replace the leaking buried pipeline (Rio Tinto, 2010). A significant portion of the applied area encompasses the existing access track and easements to powerline and pipeline infrastructure and vegetation has previously been cleared to construct these features.

The vegetation under application is assessed as being in very good to excellent (Keighery, 1994) condition and has been reported to support 12 native vegetation types from the 4 broad habitats of stony undulating plains, stony hillslopes and crests, moderate-sized flowlines and minor flowlines (Rio Tinto, 2010). Five of the vegetation units identified in a flora and vegetation survey undertaken by Rio Tinto botanists in November 2009 are considered to be of moderate conservation significance at a local scale (Rio Tinto, 2010).

120 species of native vascular plant from 59 genera and 29 families were identified within the area under application (Rio Tinto, 2010). This species richness is reported to be of moderate floristic diversity when compared with other surveys of the local area (Rio Tinto, 2010). There are no known records of flora of conservation significance occurring within the applied area, however numerous mapped records of 17 priority and 1 rare flora species exist within the local area (50km radius), with *Sida* sp. Hamersley Range (Priority 1 species) recorded 30m north of the area under application in a recent (November, 2009) flora and vegetation survey (Rio Tinto, 2010). The applied area is reported to contain habitat for this species (Rio Tinto, 2010), however, as *S. sp. Hamersley Range* has been recorded from a variety of different habitat types, the proposed clearing of 3ha is not likely to significantly impact this species if it does occur within the applied area.

A flora and vegetation survey conducted in the applied area, in November 2009, identified four species of weed within the area under application (Rio Tinto, 2010). *Bidens bipinnata*, *Cenchrus ciliaris*, *Malvastrum americanum* and *Setaria verticillata*, were observed within the area under application and were reported as typically restricted to areas of past disturbance associated with the existing pipeline and powerline easements and access tracks, with cover scattered and no dense monoculture patches of weeds observed (Rio Tinto, 2010). The applicant should implement weed hygiene and control measure to ensure that there is no risk of additional weed species being introduced as a result of disturbance activities and that weeds are adequately controlled in the area (DEC, 2010). Weed management conditions will be place on the permit to mitigate the spread of weeds.

Given the above, and the relatively small (3ha) size and linear nature of the proposed clearing, the proposed clearing is considered not likely to significantly impact on the biological diversity values of the applied area.

Methodology References:
DEC, 2010
Keighery, 1994
Rio Tinto, 2010
GIS Databases:
- DEC Managed Lands & Waters - DEC 28/10/09
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 09/06/10
- Soils, Statewide - 30/11/99

(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**
While there are no known records of fauna of conservation significance within the area under application, there are numerous records in the local area (50km radius). The Pilbara Olive Python (*Liasis olivaceus barroni*) is listed as vulnerable and was recorded 11.7km east-northeast of the area under application. The nine other conservation significant fauna species recorded in the local area are in the Priority 4 conservation category, the closest being the Australian bustard (*Ardeotis australis*), Western Pebble-mound Mouse (*Pseudomys chapmani*) and the Lakeland Downs Mouse (*Leggadina lakedownensis*), which were mapped 11km, 14.9km and 17.4km, from the applied area, respectively.

The fauna habitats identified within the applied area are generally considered to be widespread and abundant within the locality (Rio Tinto, 2010). The proposed clearing of 3ha is a relatively small area within the larger application area of approximately 50ha, of which a significant portion shows signs of disturbance due to the construction and operation of the Hardey River Pipeline and existing vehicle access track (Rio Tinto, 2010). This, together with the high representation of the vegetation types within the surrounding area and the very good to excellent (Keighery, 1994) condition of the surrounding vegetation results in the consideration that the applied area is not likely to be significant as habitat for indigenous fauna.

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

Methodology References:
Keighery, 1994
Rio Tinto, 2010
GIS Databases:
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 09/06/10
- Soils, Statewide - 30/11/99

(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

Vegetation within the area under application is considered to be in very good to excellent (Keighery, 1994) condition, however a significant portion of the applied area has been subjected to previous and ongoing disturbance due to clearing for the construction and operation of the existing Hardey River pipeline and access track.

There are no known records of declared rare flora (DRF) within the area under application. However, there are five records of the DRF *Lepidium catapycnon* in the local area (50km radius), with the closest record mapped as occurring 12.2km east of the area under application, within the same vegetation association as the vegetation proposed to be cleared. This species grows on hillsides, in skeletal red brown gritty soil, with an over-storey of *Eucalyptus leucophloia* and in hummock grassland (Brown et al, 1998; Mattiske and Assoc., 1994 cited in DEWHA, 2008). A flora and vegetation survey of the area under application conducted in November 2009 did not record the presence of this species (Rio Tinto, 2010).

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

Methodology References:
Brown et al, 1998
Keighery, 1994
Mattiske and Assoc., 1994 cited in DEWHA, 2008
Rio Tinto, 2010
GIS Databases:
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 09/06/10
- Soils, Statewide - 30/11/99

(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

Eight records of the vulnerable Themeda grasslands on cracking clay (Hamersley Station, Pilbara) Threatened Ecological Community are mapped as occurring within the local area (50km radius), with the closest known record located 41km northeast of the area under application. These communities are mapped as occurring in short bunch grassland - savanna/grass plain (Beard Vegetation Association 175) (Shepherd, 2007), which is not the same vegetation type that the area under application consists of.

As the TECs are a significant distance from the area under application and not known within the same vegetation association as the vegetation proposed to be cleared, the proposed clearing is not likely to be at variance to this clearing principle.

Methodology References:
Shepherd, 2007
GIS Databases:
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 09/06/10
- Soils, Statewide - 30/11/99

(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 vegetation proposed to be cleared is well represented in the surrounding area and the Shire of Ashburton retains approximately 99.86% of its pre-European vegetation extent (Shepherd, 2007). The area under application is mapped as being vegetation of Beard Vegetation Association 567, of which approximately 100% of the pre-European extent remains within the shire (Shepherd, 2007).

Given the above, the local area is not considered to be highly cleared and, therefore, the applied area is not significant as a remnant and the proposed clearing is not likely to be at variance to this principle.

Methodology References:
Shepherd, 2007
GIS Databases:
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation - DA 01/01
- SAC Biodatasets - 09/06/10

(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 at variance to this Principle

The area under application lies adjacent to the Hardey River and is within 550m of it in several locations. As the Hardey River is a moderate-sized watercourse, vegetation growing in association with this system is considered to have conservation significance at the local scale (Rio Tinto, 2010). Multiple minor, ephemeral watercourses and 3 moderate-sized creeklines traverse the applied area, crossing the existing access track and flowing in a northerly direction (Rio Tinto, 2010).

All of the vegetation units identified as occupying the channels of tributaries of the Hardey River are reported to have been modified to a moderate extent during the construction and operation of the existing water pipeline and powerline easement (Rio Tinto, 2010). Moderate-sized creeklines containing *Eucalyptus victrix* have been identified as having moderate conservation significance at the local scale. The applicant has advised that, wherever possible, clearing within riparian vegetation will be kept to a minimum (Rio Tinto, 2010).

Given the above, the proposed clearing is at variance to this principle. Avoid minimise clearing conditions will be placed on the permit to minimise impacts to riparian vegetation.

Methodology References:

Rio Tinto, 2010

GIS Databases:

- ANCA, Wetlands - 26/03/99

- Hydrogeology, statewide - DoW 13/07/06

- Hydrography, linear - DoW 13/7/06

- Mount Lionel 50cm Orthomosaic - Landgate 2004

- RAMSAR, Wetlands - 15/10/09

(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 most extensive soils of the Pilbara region are shallow stony soils on hills and ranges, and sands on sandplains, with soils in the south being predominantly red earths overlying hardpan on level to gently inclined plains (van Vreeswyk et al, 2004). The soils within the applied area are described as valley plains with hard alkaline red soils dominant and occasional low flat-topped residuals that are often capped by iron ore formations, or sometimes by calcrete. Many hill and plain land units with stony surface mantles or rock outcrop are considered to be resistant to erosion (van Vreeswyk et al, 2004).

Therefore, the relatively small (3ha) size of the area under application, the linear nature of the proposed clearing, high extent and very good to excellent (Keighery, 1994) condition of surrounding vegetation, the proposed clearing is considered not likely to cause significant soil erosion or degradation within the area.

Methodology References:

DEC, 2010

Keighery, 1994

Rio Tinto, 2010

van Vreeswyk et al, 2004

GIS Databases:

- Acid Sulfate Soils Risk Map, Pilbara Coastline - DEC 06/09/06

- Evapotranspiration, Area Actual - BOM 30/09/01

- Groundwater Salinity, statewide - DoW 13/07/06

- Hydrogeology, statewide - DoW 13/07/06

- Rainfall, Mean Annual - BOM 30/09/01

- Soils, Statewide - 30/11/99

- Topographic Contours, Statewide - DOLA 12/09/02

(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 Class-A nature reserve Karijini National Park is located to the east of the area under application, with a nearest distance of approximately 27.5km. Due to the significant distance between Karijini National Park, the small scale (3ha) of the proposed clearing and the very good to excellent (Keighery, 1994) condition of the surrounding vegetation, this proposal is considered unlikely to have any appreciable impacts on Karijini National Park and therefore is not likely to be at variance to this principle.

Methodology References:

Keighery, 1994

- GIS Databases:
- DEC Managed Lands & Waters - DEC 28/10/09
 - Pre-European vegetation - DA 01/01
 - Soils, Statewide - 30/11/99

(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 may be at variance to this Principle

The proposed clearing is within the Ashburton River catchment area. It is not within a Public Drinking Water Source Area or an area proclaimed under the Country Areas Water Supply Act (Part II) 1947.

The applied area lies within an area proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act) for surface and groundwater. The proposed clearing of 3ha of native vegetation is considered unlikely to have an impact on the quantity or quality of groundwater (DoW, 2010). The applicant advised that clearing of watercourses would be kept to a minimum and avoided where possible (Rio Tinto, 2010).

Interference with minor watercourses and the clearing of riparian vegetation may result in the deterioration of surface water quality due to increased sedimentation. The DoW advised that all clearing activities should adhere to established codes of practice and best management practices should be implemented to prevent impacts to water quality (DoW, 2010).

The proposed clearing may be at variance to this principle, however, due to the small scale of the proposed clearing impacts on water quality are expected to be minimal.

Methodology

References:

DoW, 2010

Rio Tinto, 2010

GIS Databases:

- Country Area Water Supply Act (Part IIA) Clearing Control Catchments - DoW 29/06/06
- Hydrogeology, statewide - DoW 13/07/06
- Public Drinking Water Source Areas (PDWSAs) - DoW 07/02/06
- Rainfall, Mean Annual - BOM 30/09/01
- RIWI Act, Areas - DoW 05/04/02
- RIWI Act, Groundwater Areas - DoW 13/07/06
- Soils, Statewide - 30/11/99
- 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

Local flooding occurs seasonally in the Pilbara region between December and March and some flooding of minor watercourses within the applied area is expected during periods of heavy rain (Rio Tinto, 2010). A significant portion of the area under application has been previously cleared for the construction and operation of the existing pipeline and access road. Due to the linear nature, relatively small scale of the proposed clearing, and the high extent and condition of the surrounding vegetation, the proposed clearing is not expected to exacerbate the incidence or intensity of flooding in the area and is, therefore, considered not likely to be at variance to this principle.

Methodology

References:

Rio Tinto, 2010

GIS Databases:

- Evapotranspiration, Area Actual - BOM 30/09/01
- Hydrogeology, statewide - DoW 13/07/06
- Pre-European vegetation - DA 01/01
- Rainfall, Mean Annual - BOM 30/09/01
- Soils, Statewide - 30/11/99
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The clearing is within an area proclaimed under the *Rights in Water and Irrigation Act 1914* and, as such, any diversion or taking of surface water for purposes other than domestic and/or stock watering, interference with the bed or banks of a watercourse, and abstraction of ground water in this area is subject to licensing by the Department of Water (DoW, 2010).

No submissions from the public have been received.

The Shire of Ashburton has no objection to the issuance of a clearing permit for this proposal (DEC Ref: A313193).

The applied area is within the boundaries of the Eastern Guruma registered native title determination. There is an Indigenous Land Use Agreement between Hamersley Iron Pty Ltd and the Eastern Guruma people (DEC Ref: A310517). The claimants and their representatives have been informed of this proposal (DEC Ref: A310496, A310490). No comments have been received. There are no known Aboriginal Sites of Significance within the area under application.

Methodology

References:

DoW, 2010

GIS Databases:

- Aboriginal Sites of Significance - DIA 02/10
- Cadastre - Landgate 12/09
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments - DoW 29/06/06
- Native Title Claims - LA 02/5/07
- Public Drinking Water Source Areas (PDWSAs) - DoW 07/02/06
- RIWI Act, Areas - DoW 05/04/02
- Town Planning Scheme Zones - MFP 31/08/98

4. References

- Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- DEC (2010) Pilbara Regional Advice. Department of Environment and Conservation, DEC Ref: A310521
- DoW (2010) Rights in Water and Irrigation Act Advice - Pilbara River and Tributaries Surface Water Area. Department of Water Pilbara Region. DEC Ref: A312524.
- 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 Assoc. (1994) cited in DEWHA (2008) Approved Conservation Advice for *Lepidium catapycnon* (Hamersley *Lepidium*). Department of the Environment, Water, Heritage and the Arts, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed Wed, 30 Jun 2010.
- Rio Tinto (2010) Clearing permit application - supporting information. DEC Ref: A304683
- 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.
- Trudgen, M.E. (1988) A report on the flora and vegetation of the Port Kennedy area. Unpublished report prepared for Bownmand Bishaw and Associates, West Perth.
- van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia. Technical Bulletin 92. Department of Agriculture Western Australia, South Perth.

5. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
DoW	Department of Water
DMP	Department of Mines and Petroleum (ex DoIR)
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)