



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4442/1
Permit Holder:	Pilbara Iron Company (Services) Pty Ltd
Duration of Permit:	8 June 2012 – 8 June 2017

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 maintenance and improvement of the existing integrated Rio Tinto Iron Ore railway and transport corridor infrastructure system to ensure the ongoing operational efficacy of this system.

2. Type of clearing authorised

- (a) In accordance with this Permit, the Permit Holder may clear native vegetation for *project activities*, which means any one or more of the following:
- (i) establishment of new water *bores* and pipelines to transport water from the water *bores*;
 - (ii) construction of new *turkey nest dams*;
 - (iii) maintenance of existing access tracks within environmentally sensitive areas;
 - (iv) construction of new access tracks;
 - (v) maintenance, installation and upgrade of *culverts, floodways, causeways and bridges* and drainage lines;
 - (vi) maintenance and installation of *level crossings* and road intersections along rail network;
 - (vii) maintenance and installation of signaling equipment and communications equipment;
 - (viii) construction, maintenance and upgrade of *sidings*;
 - (ix) widening of existing rail formations for *turnout* installations;
 - (x) repair works required as a result of flooding/derailment events, including derailment recovery operations and diversions of access roads and railway embankments;
 - (xi) construction of *laydown areas*;
 - (xii) installation of *temporary structures*;
 - (xiii) maintenance and upgrade of rail lines and formation materials;
 - (xiv) providing clear access to all parts of the railway track, including signal infrastructure, driver change out areas, hot bearing detectors, dragging equipment detectors and rail bearing acoustic monitoring assets;
 - (xv) creating and maintaining *firebreaks*;
 - (xvi) clearing of *cutting drains*;
 - (xvii) excavation of test pits and geotechnical works;
 - (xviii) construction of *borrow pits*;
 - (xix) construction of fences around *heritage sites* and other areas to be protected;
 - (xx) installation and maintenance of railway and access road signage;
 - (xxi) rehabilitation of previously cleared areas and rework of rehabilitated areas;
 - (xxii) installation, maintenance and upgrade of infrastructure, including power and fuel infrastructure;

- (xxiii) dumping of *spoil*;
- (xxiv) installation, maintenance and upgrade of *crossovers*.

(b) The Permit authorises the Permit Holder to clear native vegetation for *project activities* to the extent that the Permit Holder has the power to clear native vegetation for those *project activities* under any *written law*.

3. Land on which clearing is to be done

Clearing authorised under this Permit is to be undertaken within land tenure or rights administered under the *Mining Act 1904 (WA)*, *Mining Act 1978 (WA)*, *Land Act 1933 (WA)*, *Land Administration Act 1997 (WA)*, *Property Law Act 1969 (WA)*, *Transfer of Land Act 1893 (WA)*, *Strata Titles Act 1985 (WA)*, the *Rights in Water and Irrigation Act 1914 (WA)* or the following State Agreement Acts –

- *Iron Ore (Hamersley Range) Agreement Act 1963*
- *Iron Ore (Robe River) Agreement Act 1964*
- *Iron Ore (Hamersley Range) Agreement Act 1968(Paraburdoo)*
- *Iron Ore (Mount Bruce) Agreement Act 1972*
- *Iron Ore (Channar Joint Venture) Agreement Act 1987*
- *Iron Ore (Hope Downs) Agreement Act 1992*
- *Iron Ore (Yandicoogina) Agreement Act 1996*

4. Area of Clearing

The Permit Holder must not clear more than 500 hectares of native vegetation per financial year, being a total of 2500 hectares of native vegetation for the term of this permit.

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.

6. Clearing not authorised

- (a) This Permit does not authorise the Permit Holder to clear native vegetation for *project activities*, where:
- (i) The Permit Holder does not have lawful authority to access land;
 - (ii) the *project activity* lies within Millstream Chichester or Karijini National Parks;
 - (iii) the *project activity* is within 200 metres of the outer boundary of known *threatened ecological communities*; or
 - (iv) one or more of the *project activities* are incorporated or related to a proposal that is *referred* to and assessed under Part IV of the *EP Act* by the *EPA*.
- (b) If a *proposal* incorporating one or more of the *project activities* has been *referred* to the *EPA*, this Permit does not authorise any clearing for that *project activity*, until:
- (i) the *EPA* has given notice under section 39A(3) of the *EP Act* that it has decided not to assess the proposal; and
 - (ii) either:
 - (A) the period within which an appeal against the *EPA's* decision may be lodged has expired without an appeal being lodged; or
 - (B) an appeal has been lodged against the *EPA's* decision not to assess the proposal and the appeal was dismissed.
- (c) Condition 6(a) does not apply where the Permit Holder has obtained the consent of the *EPA* to conduct minor and preliminary works in accordance with section 41A(3), the Permit Holder may conduct any clearing in order to undertake those minor and preliminary works.
- (d) If the Permit Holder intends to clear native vegetation under this Permit for one or more of the *project activities* that are incorporated in a proposal *referred* to the *EPA*, then the Permit Holder must have regard to any advice or recommendations made by the *EPA* under section 39A(7) of the *EP Act*.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared, the Permit Holder must abide by 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 pursuant to 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. Flora management

(a) Prior to undertaking any clearing, the Permit Holder shall engage a *botanist* to undertake a Level 1 survey of the area(s) to be cleared in accordance with *Guidance Statement No. 51* to identify possible occurrences of, and habitat suitable for, rare and *priority flora*.

(b) Prior to undertaking any clearing, where an area has been identified in accordance with condition 9(a) as containing possible occurrences of, and habitat suitable for, rare or *priority flora*, the Permit Holder shall engage a *botanist* to inspect that area for the presence of rare and *priority flora*.

(c) Where rare flora or *priority flora* are identified in relation to condition 9(b) of this Permit, the Permit Holder shall ensure that:

- (i) no clearing occurs within 50 metres of identified rare flora, unless approved by the CEO in writing;
- (ii) no clearing of identified rare flora occurs unless approved under section 23F(2) of the *Wildlife Conservation Act 1950*;
- (iii) no clearing of identified *priority flora* occurs unless approved by the CEO in writing; and
- (iv) no clearing occurs within 10 metres of identified *priority flora*, unless approved by the CEO in writing.

10. Priority and threatened ecological community management

(a) Prior to undertaking any clearing within or within 20m of the boundary of the following priority ecological communities, the Permit Holder shall engage a *botanist* to undertake a Level 2 flora and vegetation survey of the area(s) to be cleared in accordance with *Guidance Statement No. 51*:

- (i) West Angelas Cracking-Clays (Site Identifications: ANGELAS02, ANGELAS04, ANGELAS05, ANGELAS06, ANGELAS07, ANGELAS08, ANGELAS09 and ANGELAS10);
- (ii) Roebourne Plains Gilgai Grasslands (Site Identifications: Edna01, Edna02, Blackhill S, RPG1, DRW14, KA01a, KA01c, KA01d and KA01e);
- (iii) Coolibah - Lignum flats, sub type 1 (Site Identifications: Coondewanna, Coolibah07, Coolibah09, Coolibah29, Coolibah30, Coolibah32, Coolibah33, Coolibah 34, Coolibah35, Coolibah36, Coolibah37, Coolibah38, Coolibah39, Coolibah40 and Coolibah41);
- (iv) Coolibah – Lignum flats, sub type 2 (Site Identifications: Lake Robinson and Coolibah06);
- (v) Sand sheet vegetation (Robe Valley) (Site Identification: MEA14);
- (vi) Wona Land System (Site Identification: Wittenoorn); or
- (vii) Horseflat Land System (Site Identifications: hof1077, hof1204, hof614, hof845, hof890 and hof993)

- (b) The Permit Holder must ensure that no clearing occurs within or within 20m of the mapped boundary of any community as listed in condition 10(a), unless approved by the CEO in writing.
- (c) If any possible new occurrences of any priority ecological community on the *Department's* "Priority Ecological Communities for Western Australia" list, or threatened ecological community on the *Department's* "threatened ecological communities for Western Australia" list are located during surveys, then this information must be provided to DEC.
- (d) The Permit Holder must ensure that no clearing occurs within or within 20m of the mapped boundary of any possible new occurrences of priority or threatened ecological community located during surveys, unless approved by the CEO in writing.

11. Fauna management

- (a) Prior to undertaking any clearing, the Permit Holder shall engage a *fauna specialist* to undertake a Level 1 survey of the area(s) to be cleared, in accordance with *Guidance Statement No. 56* to identify areas of habitat on which fauna, listed in the *Wildlife Conservation (Specially Protected Fauna) Notice* in operation at the time, have a specific dependence.
- (b) Prior to undertaking any clearing, where habitat areas are identified in accordance with condition 11(a), the area(s) shall be inspected for the presence of fauna listed in the *Wildlife Conservation (Specially Protected Fauna) Notice* by a *fauna specialist*, in accordance with *Guidance Statement No. 56*.
- (c) Prior to undertaking clearing, where habitat areas are identified in accordance with condition 11(a), the Permit Holder must:
 - (i) avoid areas identified in accordance with condition 11(a); or
 - (ii) where the areas identified in accordance with condition 11(a) can not be avoided, prepare, implement and adhere to a *Fauna Management Plan*, designed by a *fauna specialist*.
- (d) Prior to undertaking any clearing, where fauna is identified in accordance with condition 11(b), the Permit Holder must prepare, implement and adhere to a *Fauna Management Plan*, designed by a *fauna specialist*.
- (e) The *Fauna Management Plan* must include the following:
 - (i) a plan for managing the *impacts*;
 - (ii) a plan for managing any fauna identified in accordance with condition 11(b);
 - (iii) a table setting out the Permit Holder's commitments to the *Fauna Management Plan* requirements; and
 - (iv) a program for monitoring compliance with the Permit Holder's commitments.
- (f) Once the Permit Holder has developed a *Fauna Management Plan*, the Permit Holder must provide that *Fauna Management Plan* to the CEO for the CEO's approval. The clearing to which the *Fauna Management Plan* relates and the implementation of the *Fauna Management Plan* shall not take place until the Permit Holder receives approval from the CEO.
- (g) If it is necessary to modify the *Fauna Management Plan* approved by the CEO, then the Permit Holder must provide that modified *Fauna Management Plan* to the CEO for the CEO's approval.

12. Revegetation and rehabilitation

- (a) The Permit Holder must *revegetate* and *rehabilitate* any area(s) no longer required for the purpose for which they were cleared under this Permit.
- (b) The Permit Holder need not *revegetate* and *rehabilitate* an area specified in condition 12(a) of this Permit if the Permit Holder intends to use that cleared area for another *project activity* within 12 months of that area no longer being required for the purpose for which it was originally cleared under this Permit.

- (c) The Permit Holder must prepare a *Revegetation Plan*, designed by an *environmental specialist*, if required to *revegetate* and *rehabilitate* an area specified in condition 12(a) of this Permit.
- (d) The *Revegetation Plan* must include the following:
 - (i) *site preparation*;
 - (ii) *weed control*;
 - (iii) *regeneration* or *direct seeding*, at an *optimal time*;
 - (iv) a *vegetation establishment period*;
 - (v) *revegetation* success completion criteria;
 - (vi) remedial actions to be undertaken if success completion criteria are not met;
 - (vii) ongoing maintenance and monitoring of the area to be *revegetated* and *rehabilitated*;
 - (viii) timeframes for completion of the activities and
 - (ix) management commitments that will be achieved.
- (e) Once the Permit Holder has developed a *Revegetation Plan*, the Permit Holder must provide that *Revegetation Plan* to the CEO for the CEO's approval.
- (f) If it is necessary to modify the *Revegetation Plan* approved by the CEO, then the Permit Holder must provide that modified *Revegetation Plan* to the CEO for the CEO's approval.
- (g) The Permit Holder shall implement the *Revegetation Plan* approved by the CEO.
- (h) The *revegetation* and *rehabilitation* of an area pursuant to condition 12, must be carried out as soon as possible, but no later than 24 months, after the Permit Holder no longer requires the area for a *project activity*.
- (i) The Permit Holder need not comply with condition 12(a) if the area to be *revegetated* and *rehabilitated* is:
 - (i) less than 0.5 hectares and
 - (ii) not located in an environmentally sensitive area.

PART III – MONITORING, RECORD KEEPING AND REPORTING

13. Monitoring

The Permit Holder must monitor areas *revegetated* and *rehabilitated* under this Permit to determine compliance with the relevant *Revegetation Plan* and the conditions of this Permit.

14. 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 or decimal degrees;
 - (iii) the dates on which clearing was done; and
 - (iv) the size of the area cleared (in hectares).
- (b) In relation to flora management pursuant to condition 9 of this Permit:
 - (i) the location of each rare flora and *priority flora* species 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) the species name of each rare flora and *priority flora* identified; and
 - (iii) a copy of the *botanist's* flora survey report.

- (c) In relation to priority and threatened ecological community management pursuant to condition 10 of this Permit:
 - (i) the name and site identification of each priority ecological community and possible new occurrences of priority or threatened ecological community;
 - (ii) the location of each priority ecological community and possible new occurrences of priority or threatened ecological community 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;
 - (iii) the boundary of the priority ecological community or possible new occurrences of priority or threatened ecological community identified;
 - (iv) the species composition of each priority ecological community identified;
 - (v) a map of the condition of each priority ecological community identified; and
 - (vi) a copy of the *botanist's* flora and vegetation survey report.
- (d) In relation to fauna management pursuant to condition 11 of this Permit:
 - (i) a description and results of the fauna management activities undertaken in accordance with the *Fauna Management Plan* approved by the CEO; and
 - (ii) a copy of the *fauna specialist's* survey report.
- (e) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 12 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 and results of the *revegetation* and *rehabilitation* activities undertaken in accordance with the *Revegetation Plan* approved by the CEO;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
 - (iv) the species composition, structure and density of areas *revegetated* and *rehabilitated*.

15. Reporting

- (a) The Permit Holder must provide to the CEO on or before 31 July of each year, a written report:
 - (i) of records required under condition 15 of this Permit; and
 - (ii) of activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 17 March 2017 the Permit Holder must provide to the CEO a written report of records required under condition 15 of this Permit where these records have not already been provided under condition 16(a) of this Permit.

16. Interpretation

The following rules of interpretation apply to this Permit:

- (a) a reference to any written law includes a reference to that written law as amended, repealed or replaced from time to time; and
- (b) if a word or phrase is defined, other parts of speech and grammatical forms of that word or phrase have corresponding meanings.

17. Severance

It is the intent of these conditions that they shall operate so that, if a condition or part of a condition is beyond the CEO's power to impose, or is otherwise ultra vires or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the CEO's power to impose and are not otherwise ultra vires or invalid.

18. Inconsistency

- (a) The *EP Act* prevails to the extent of any inconsistency between its provisions and the conditions of this Permit.
- (b) Subject to condition 19(a), this Permit prevails to the extent of any inconsistency between its conditions, and the provisions of any other document referred to in this Permit.

Definitions

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

botanist means a person with specific training and/or experience in the biology, identification and taxonomy of Western Australian flora and knowledge and experience in the region being surveyed;

bore/s an opening in the ground made or used to obtain access to underground water;

borrow pit/s means an area from which material is sourced to construct infrastructure or to alter the ground level, including by filling a hole;

bridge/s a structure spanning an area, including a river, chasm, road or railway, and affording passage;

causeway/s means a raised road or path, as across low or wet ground or water bodies;

crossover/s means a connection between two tracks achieved by linking two adjacent *turnouts*;

culvert/s means a metal, wooden, plastic, or concrete conduit through which surface water can flow under or across roads, railways or embankments;

cutting drain means a drain to allow water to be diverted away from an engineered structure;

Department means the Department of Environment and Conservation (Western Australia);

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 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;

EPA means the Western Australian Environmental Protection Authority;

EP Act means the *Environmental Protection Act 1986*;

fauna clearing person means a person who has obtained a licence from the Department, issued pursuant to the *Wildlife Conservation Regulations 1970* authorising them to take fauna;

Fauna management plan means a plan developed by the Permit Holder for the management of fauna at the site in accordance with condition 11 of this Permit;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna and knowledge and experience in the region being surveyed;

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

firebreak/s means a firebreak established in accordance with the *Bush Fires Act 1954*;

floodway/s means an engineered path to channel floodwaters away from areas to be protected;

Guidance Statement No. 51 means the Environmental Protection Authority "Guidance Statement No 51, Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia" (2004);

Guidance Statement No 56 means Guidance for the Assessment of Environmental Factors: Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia. Guidance Statement No 56, Environmental Protection Authority (2004);

heritage sites means:

- (a) an "Aboriginal site" as defined in the *Aboriginal Heritage Act 1972* (WA);
- (b) a "significant Aboriginal area" or "significant Aboriginal object" as defined in the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cth); or
- (c) a site that has or is proposed to be listed on the "Register", as that term is defined in the *Heritage of Western Australia Act 1990* (WA); and
- (d) a place that is listed, or proposed to be listed on the "National Heritage List", as that term is defined in the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

impacts means any impact of clearing on environmental values;

laydown areas means a place where materials, topsoil and equipment can be regularly stored on the ground for a period of time;

level crossing/s a place where a road and railway intersect at the same level;

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;

optimal time means the period from November to December for undertaking *direct seeding*;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

priority flora means those plant taxa described as priority flora classes 1, 2, 3 or 4 in the *Department's Declared Rare and Priority Flora List for Western Australia* (as amended);

project activity/ies means those activities described in condition 2(a) of this permit;

referred means referred to the Environmental Protection Authority under Part IV of the *Environmental Protection Act 1986*;

regeneration means *revegetation* that can be established from in situ seed banks contained either within the topsoil or seed-bearing *mulch*;

rehabilitate means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate 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;

Revegetation plan means a plan developed by the Permit Holder for the revegetation and *rehabilitation* of a site in accordance with condition 13 of this Permit;

siding/s means a short siding or passage which enables vehicles, including trains, to pass one another;

site preparation means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation;

spoil material that has built up around a structure, for example as a result of a derailment or weather event;

temporary structure/s means a structure not placed on permanent footings;

threatened ecological community/ies means those ecological communities endorsed by the Minister for the Environment and described in the "List of Threatened Ecological Communities on the Department of Environment and Conservation's Threatened Ecological Community (TEC) Database";

turkey nest dam/s means a dam constructed on relatively flat ground with earth walls on all sides;

turnout crossover means an earthworks pad constructed to allow for access to install and maintain a rail crossover;

vegetation establishment period means a period of at least two summers after the *revegetation* during which time replacement and infill *revegetation* works may be required for areas in which revegetation has been unsuccessful, and involves regular inspections of *revegetation* sites to monitor the success of *revegetation*;

weed 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*;

Wildlife Conservation (Specially Protected Fauna) Notice means those fauna taxa gazetted as rare fauna pursuant to section 14(4)(a) of the *Wildlife Conservation Act 1950* (as amended);

written law has the same meaning as it is given in section 5 of the *Interpretation Act 1984*.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

17 May 2012



1. Application details

1.1. Permit application details

Permit application No.: 4442/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Pilbara Iron Company (Services) Pty Ltd

1.3. Property details

Property:

- LOT 24 ON PLAN 241372 (BURRUP 6714)
- LOT 32 ON PLAN 47815 (MAITLAND 6714)
- LOT 54 ON PLAN 243163 (DAMPIER 6713)
- LOT 175 ON PLAN 26146 (GAP RIDGE 6714)
- LOT 663 ON PLAN 30490 (GAP RIDGE 6714)
- ROAD RESERVE (MAITLAND 6714)
- LOT 663 ON PLAN 30490 (COOYA POOYA 6714)
- LOT 32 ON PLAN 47815 (MAITLAND 6714)
- ROAD RESERVE (COOYA POOYA 6714)
- ROAD RESERVE (COOYA POOYA 6714)
- ROAD RESERVE (COOYA POOYA 6714)
- LOT 507 ON PLAN 61847 (MILLSTREAM 6716)
- UNALLOCATED CROWN LAND (MILLSTREAM 6716)
- PART LOT 63 ON PLAN 54397 (COOYA POOYA 6714)
- ROAD RESERVE (ROEBOURNE 6718)
- PART LOT 63 ON PLAN 54397 (MOUNT ANKETELL 6714)
- LOT 280 ON PLAN 217843 (ANTONYMYRE 6714)
- PART LOT 63 ON PLAN 54397 (POINT SAMSON 6720)
- LOT 65 ON PLAN 241547 (POINT SAMSON 6720)
- PART LOT 63 ON PLAN 54397 (POINT SAMSON 6720)
- LOT 106 ON PLAN 54397 (POINT SAMSON 6720)
- LOT 404 ON PLAN 194355 (POINT SAMSON 6720)
- LOT 61 ON PLAN 54397 (MILLSTREAM 6716)
- LOT 32 ON PLAN 47815 (MILLSTREAM 6716)
- LOT 508 ON PLAN 61847 (MILLSTREAM 6716)
- PART LOT 63 ON PLAN 54397 (FORTESCUE 6716)
- LOT 52 ON PLAN 54397 (FORTESCUE 6716)
- LOT 62 ON PLAN 55278 (FORTESCUE 6716)
- LOT 107 ON PLAN 55283 (FORTESCUE 6716)
- LOT 57 ON PLAN 55282 (FORTESCUE 6716)
- LOT 56 ON PLAN 55282 (FORTESCUE 6716)
- LOT 107 ON PLAN 55283 (FORTESCUE 6716)
- LOT 107 ON PLAN 55283 (FORTESCUE 6716)
- LOT 68 ON PLAN 55312 (FORTESCUE 6716)
- LOT 107 ON PLAN 55283 (FORTESCUE 6716)
- LOT 54 ON PLAN 241547 (PANNAWONICA 6716)
- LOT 106 ON PLAN 56277 (FORTESCUE 6716)
- LOT 313 ON PLAN 63520 (FORTESCUE 6716)
- LOT 108 ON PLAN 56277 (FORTESCUE 6716)
- LOT 303 ON PLAN 63514 (FORTESCUE 6716)
- LOT 302 ON PLAN 63514 (FORTESCUE 6716)
- LOT 301 ON PLAN 63514 (FORTESCUE 6716)
- LOT 300 ON PLAN 63514 (FORTESCUE 6716)
- ROAD RESERVE (MILLSTREAM 6716)
- LOT 13 ON PLAN 47815 (FORTESCUE 6716)
- LOT 510 ON PLAN 61847 (MILLSTREAM 6716)
- LOT 24 ON PLAN 242287 (MILLSTREAM 6716)
- LOT 33 ON PLAN 240249 (FORTESCUE 6716)

LOT 34 ON PLAN 216143 (FORTESCUE 6716)
 ROAD RESERVE (FORTESCUE 6716)
 LOT 13 ON PLAN 47815 (CHICHESTER 6751)
 LOT 24 ON PLAN 242287 (FORTESCUE 6716)
 LOT 52 ON PLAN 238012 (CHICHESTER 6751)
 LOT 9 ON PLAN 47815 (CHICHESTER 6751)
 LOT 83 ON PLAN 238012 (CHICHESTER 6751)
 UNALLOCATED CROWN LAND (CHICHESTER 6751)
 ROAD RESERVE (CHICHESTER 6751)
 LOT 9 ON PLAN 47815 (CHICHESTER 6751)
 ROAD RESERVE (CHICHESTER 6751)
 LOT 37 ON PLAN 29815 (CHICHESTER 6751)
 UNALLOCATED CROWN LAND (MOUNT SHEILA 6751)
 LOT 47 ON PLAN 216156 (MOUNT SHEILA 6751)
 LOT 47 ON PLAN 216145 (MOUNT SHEILA 6751)
 LOT 9 ON PLAN 47815 (MOUNT SHEILA 6751)
 ROAD RESERVE (MOUNT SHEILA 6751)
 LOT 102 ON PLAN 243174 (MOUNT SHEILA 6751)
 LOT 106 ON PLAN 243222 (MOUNT SHEILA 6751)
 PART LOT 99 ON PLAN 238653 (MOUNT SHEILA 6751)
 LOT 40 ON PLAN 242287 (HAMERSLEY RANGE 6716)
 LOT 102 ON PLAN 243174 (MOUNT SHEILA 6751)
 LOT 97 ON PLAN 243145 (MOUNT SHEILA 6751)
 PART LOT 77 ON PLAN 220192 (ROCKLEA 6751)
 LOT 9 ON PLAN 47815 (TOM PRICE 6751)
 ROAD RESERVE (TOM PRICE 6751)
 LOT 20 ON PLAN 47816 (TOM PRICE 6751)
 LOT 9 ON PLAN 47815 (MOUNT SHEILA 6751)
 LOT 3007 ON PLAN 58290 (MOUNT SHEILA 6751)
 LOT 8 ON PLAN 241372 (MOUNT SHEILA 6751)
 LOT 20 ON PLAN 47816 (MOUNT SHEILA 6751)
 LOT 359 ON PLAN 58290 (MOUNT SHEILA 6751)
 LOT 126 ON PLAN 242851 (ROCKLEA 6751)
 LOT 20 ON PLAN 47816 (ROCKLEA 6751)
 LOT 36 ON PLAN 47816 (ROCKLEA 6751)
 LOT 32 ON PLAN 241590 (PARABURDOO 6754)
 LOT 108 ON PLAN 220373 (INNAWANGA 6751)
 LOT 153 ON PLAN 243222 (KARIJINI 6751)
 LOT 121 ON PLAN 219121 (KARIJINI 6751)
 LOT 122 ON PLAN 219121 (KARIJINI 6751)
 LOT 301 ON PLAN 41097 (JUNA DOWNS 6751)
 LOT 95 ON PLAN 220269 (JUNA DOWNS 6751)
 UNALLOCATED CROWN LAND (NEWMAN 6753)
 LOT 302 ON PLAN 50856 (NEWMAN 6753)
 LOT 189 ON PLAN 219306 (NEWMAN 6753)
 LOT 302 ON PLAN 41097 (NEWMAN 6753)
 LOT 95 ON PLAN 220269 (NEWMAN 6753)
 LOT 303 ON PLAN 41097 (NEWMAN 6753)
 LOT 304 ON PLAN 41097 (NEWMAN 6753)
 LOT 103 ON PLAN 220270 (NEWMAN 6753)
 UNALLOCATED CROWN LAND (NEWMAN 6753)
 LOT 302 ON PLAN 50856 (NEWMAN 6753)
 LOT 303 ON PLAN 50856 (NEWMAN 6753)
 Shires of East Pilbara, Roebourne and Ashburton
 Rio Tinto Iron Ore Pilbara Rail Network

Local Government Area:
Colloquial name:

1.4. Application

Clearing Area (ha)
 2500

Method of Clearing
 Mechanical Removal

For the purpose of:
 Railway construction or maintenance

1.5. Decision on application

Decision on Permit Application: GRANT

Decision Date: 17 MAY 2012

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 (1980) vegetation association 117 is described as Hummock grasslands, grass steppe; soft spinifex	The vegetation under application is likely to range from 'degraded' to 'pristine' (Keighery, 1994) condition with some areas having already being impacted as a result of the construction of the existing railway line and associated infrastructure.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The vegetation condition was assessed through aerial imagery (Dampier Preston 1.4m Orthomosaic - Landgate 2000; Yarraloola 1.4m Orthomosaic - Landgate 2001; Pannawonica 1.4m Orthomosaic - Landgate 2000; Elvire 1.4m Orthomosaic - Landgate 2000; Pinderi Hills 1.4m Orthomosaic - Landgate 2000; Roebourne 50cm Orthomosaic - Landgate 2007; Cooya Pooya 1.4m Orthomosaic - Landgate 1998; Millstream 80cm Orthomosaic - Landgate 2007; Mount Billroth 1.4m Orthomosaic - Landgate 2000; Jeerinah 50cm Orthomosaic - Landgate 2004; Rocklea 50cm Orthomosaic - Landgate 2004; Paraburdoo 50cm Orthomosaic - Landgate 2004; McRae 50cm Orthomosaic - Landgate 2004; Mount Bruce 50cm Orthomosaic - Landgate 2004; Munjina 50 cm Orthomosaic - Landgate 2004 and Mount Lionel 50cm Orthomosaic - Landgate 2004).
Association 127 - Bare areas; mud flats		To	
Association 589 - Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex		Pristine: No obvious signs of disturbance (Keighery 1994)	
Association 157 - Hummock grasslands, grass steppe; hard spinifex, <i>Triodia wiseana</i>			
Association 152 - Hummock grasslands, grass steppe; soft & hard spinifex soft spinifex			
Association 93 - Hummock grasslands, shrub steppe; kanji over soft spinifex			
Association 619 - Medium woodland; river gum (<i>Eucalyptus camaldulensis</i>)			
Association 587 - Mosaic: Hummock grasslands, open low tree-steppe; snappy gum over <i>Triodia wiseana</i> / Hummock grasslands, shrub-steppe; kanji over <i>Triodia pungens</i>			
Association 603 - Hummock grasslands, sparse shrub steppe; <i>Acacia bivenosa</i> over hard spinifex			
Association 175 - Short bunch grassland - savanna/grass plain (Pilbara)			
Association 607 - Hummock grasslands, low tree steppe; snappy gum & bloodwood over soft spinifex & <i>Triodia wiseana</i>			
Association 609 - Mosaic: Hummock grasslands, open low tree steppe; bloodwood with sparse kanji shrubs over soft spinifex / Hummock grasslands, open low tree steppe; snappy gum over <i>Triodia wiseana</i> on a lateritic crust			
Association 605 - Hummock grasslands, shrub steppe; <i>Acacia pachycarpa</i> & waterwood over soft spinifex			
Association 82 - Hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i>			
Association 29 - Sparse low woodland; mulga, discontinuous in scattered groups			
Association 583 - Hummock grasslands, sparse shrub steppe; kanji & <i>Acacia bivenosa</i> over hard spinifex <i>Triodia basedowii</i> & <i>T. wiseana</i>			
Association 646 - Hummock grasslands, shrub steppe; snakewood over <i>Triodia basedowii</i>			
Association 644 - Hummock grasslands, open low tree steppe; mulga & snakewood over soft spinifex & <i>Triodia basedowii</i>			
Association 645 - Hummock grasslands, shrub steppe; kanji & snakewood over soft spinifex & <i>Triodia wiseana</i>			

Association 565 - Hummock grasslands, low tree steppe; bloodwood over soft spinifex

Association 567 - Hummock grasslands, shrub steppe; mulga & kanji over soft spinifex & *Triodia basedowii*

Association 18 - Low woodland; mulga (*Acacia aneura*)

Association 162 - Shrublands; snakewood scrub

Association 181 - Shrublands; mulga & snakewood scrub

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 at variance to this Principle

The vegetation under application comprises a diverse array of vegetation types covering a vast area of the Pilbara landscape.

A large number of priority flora species have been recorded within the vicinity of the railway network and associated Rio land tenure. In addition, the proposed clearing will go through a number of priority ecological communities (PEC) and/ or buffers of these communities including West Angelas Cracking Clays, Coolibah lignum flats sub type 2, Horseflat land system, Robe Valley Mesas (P1), Robe Valley Pisolitic Hills (P1), Roebourne Plains Gilgai grasslands and the Wona Land System (P3). Due to the presence of these communities and rare and priority flora occurring within and in close proximity to the applied clearing areas, level one surveys will be required to determine the possible occurrence of, or habitat suitable for, flora of conservation significance. Subsequently, targeted flora surveys will be required where possible occurrences of, and habitat suitable for, flora of conservation significance have been identified and level 2 vegetation surveys will be required within known PEC sites prior to any clearing.

The vegetation under application is restricted to lands under mining and miscellaneous leases and tenure granted to the applicant and its subsidiary companies. Much of the area under application has already had some disturbance through historic clearing associated with the existing Pilbara railway line, access tracks and associated infrastructure.

The area under application runs through the Hamersley Range (Karijini) and Chichester Range (Millstream Chichester) national parks and the Themeda grasslands on cracking clays threatened ecological community classed as Vulnerable under WA threat criteria and endorsed by the Minister for Environment and is also an environmentally sensitive area. In order to mitigate the impact to national parks and the Themeda grasslands on cracking clays TEC, these areas have been removed from the permitted clearing area through a condition of the permit and will undergo further consideration and assessment as part of a separate application should one be submitted.

Given the large scale of clearing proposed (up to 500ha per financial year being 2500ha for the term of the permit) over the length of the rail tenure, approximately 1,400km, and that the clearing is to extend through a number of priority ecological communities and is likely to provide habitat for rare and priority flora species and significant habitat for indigenous fauna, the proposal is considered to be at variance to this principle. Potential impacts will be mitigated through appropriate conditions.

Methodology

GIS Databases:

- DEC Tenure - DEC
- Environmentally Sensitive Areas - DEC
- Register of National Estate - EA
- SAC Biodatasets - Last accessed July 2011
- Aerial imagery (as referred to under 2.2.1 'Description of the native vegetation under application' above)

(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 may be at variance to this Principle

A number of threatened and priority fauna species have been recorded within, and close to, the area under application with the closest records being western pebble-mound mouse (*Pseudomys chapmani*, priority 4) and northern quoll (*Dasyurus hallucatus*, Endangered) both recorded within the applied clearing area as well as Lakeland Downs mouse (*Leggadina lakedownensis*) and bushstone curlew (*Burhinus grallarius*) both priority 4 species and mesa A *Paradraculoides* (*Paradraculoides anachoretus*) and mesa B *Paradraculoides* (*Paradraculoides bythius*) both classed as Vulnerable under the Wildlife Conservation Act 1950 recorded less than 500m from the applied clearing area.

The majority of the proposed clearing is confined to along the existing railway line and associated tenure and there are large areas adjoining the applied area that will not be impacted as a result of this proposal, including national parks and a threatened ecological community. However, given the large scale of the clearing proposed (up to 500ha per financial year being 2500ha for the term of the permit) over approximately 1,400km length of railway and transport corridor, the proposal may comprise and impact significant fauna habitat. Any areas identified as providing habitat on which fauna species are dependent or where fauna of conservation significance have been identified are required to be avoided and where this is not possible, fauna management measures including the preparation of, implementation and adherence to an approved fauna management plan will be required.

- Methodology** GIS Databases:
- NatureMap (21/3/2011)
 - Aerial imagery (as referred to under 2.2.1 'Description of the native vegetation under application' above)
 - SAC Biodatasets - Last accessed July 2011
 - DEC tenure - DEC
 - Register of National Estate - EA

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

Comments **Proposal may be at variance to this Principle**

Two threatened flora species, *Lepidium catapycnon* and *Thryptomene wittweri*, have been recorded within close proximity of the current railway line alignment with records occurring down the southern and south-east arms of the existing rail tenure. There are however, no known records of rare flora within the applicant's tenure.

Thryptomene wittweri is known to inhabit steep slopes, rock faces and mountain breakaways, on skeletal red stony soils, in open areas with sparse canopy (Brown et al, 1998, WA Herbarium, 1998-2011), and is currently not known to occur near the existing rail line and therefore known populations of these species recorded within the vicinity of the applied clearing area are not likely to be impacted by this proposed clearing.

Lepidium catapycnon is known to inhabit hill side areas and steep slopes containing red brown skeletal soils and areas comprising an overstorey of *Eucalyptus leucophloia* (Brown et al, 1998 & WA Herbarium (1998-2011)) and given similar soil and vegetation types to known populations of this species have been mapped within the applied clearing area, this species may occur within the area under application.

Given that the proposed clearing extends through habitat suitable for rare flora species, level 1 flora surveys will be required to identify areas of suitable habitat and possible occurrences of rare flora and where suitable habitat and possible occurrences are identified, targeted flora surveys will be required to confirm the presence or absence of flora of conservation significance. In addition, no clearing of, or within 50m of, rare flora will be permitted without CEO approval.

- Methodology** References:
- Brown et al (1998)
 - WA Herbarium (1998-2011)
- GIS Databases:
- Pre-European Vegetation - DA
 - SAC Biodatasets - Last accessed July 2011
 - Soils, Statewide - DA

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

Comments **Proposal is at variance to this Principle**

The applied clearing area runs through the Themeda grasslands on cracking clays threatened ecological community which is classed as Vulnerable under WA threat criteria and endorsed by the Minister for Environment.

Due to the potential to impact this community through this proposal, any clearing required to be undertaken within 200m of this community will be removed from the permitted clearing area through conditions of the permit. Any clearing required within 200m of the Themeda grasslands TEC will be required to be assessed as a separate application should one be submitted for assessment.

Therefore the proposed clearing is at variance to this principle. Potential impacts will be mitigated through appropriate conditions.

- Methodology** GIS Databases:
- Clearing Regulations - Environmentally Sensitive Areas - DEC
 - SAC Biodatasets - Last accessed July 2011

(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 under application covers a vast array of different Beard vegetation associations all of which had greater than 80% of their pre-European extents remaining in 2009. Given the local area is also highly vegetated, with large areas retained in national parks and conservation estate, the proposal is not considered likely to be at variance to this principle.

Methodology References:

- Shepherd (2009)

GIS Databases:

- Aerial imagery (as referred to under 2.2.1 'Description of the native vegetation under application' above)
- DEC Tenure - DEC
- Local Government Authorities - Landgate
- Pre-European Vegetation - DA

(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

The applied clearing area crosses a large number of minor watercourses, major tributaries and significant streams including Robe River, Jimmawurrada Creek, Fortescue River, Portland River, Western Creek, Harding River, Weelumurra Creek, Barnett Creek, Wackilina Creek, Duck Creek, Three Creek and Marillana Creek.

The closest nationally recognised wetland to the applied area is Mt Bruce Coolibah-lignum flats approximately 3.5km away. Four lakes cross the applied area including areas of coastal flat and mangrove, however, from aerial imagery the mangrove areas appear to have already been impacted.

The proposed clearing may be at variance to this principle due to the likelihood of some riparian vegetation likely to require clearing for the purposes for this proposal however, for the purposes of this application most of the low-lying areas are likely to be avoided where possible or have already been impacted through the existing rail network. The applicant maintains an ISO 14001 certified environmental management system under which all environmental management plans, including for the management of impacts to riparian vegetation, watercourses and water quality are all managed (RTIO, 2011). Therefore, any potential impacts to watercourses will be mitigated through the applicant's existing environmental management plans. In addition, the proposals are related to the existing rail network and therefore any additional impacts to watercourses in the area as a result of these works are likely to be minor.

Methodology References:

- RTIO (2011)

GIS Databases:

- ANCA wetlands - DEWHA
- Geodata, Lakes - AUSLIG
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- Aerial imagery (as referred to under 2.2.1 'Description of the native vegetation under application' above)

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

Comments Proposal may be at variance to this Principle

A large range of soil types occur throughout the area with soils ranging from rocky hills and bare outcrops to deep cracking clays, shallow siliceous sands, areas of iron ore formations and granite and shallow and stony earth loams (Northcote et al, 1960-68).

Given the sandy soils in some areas there is the potential for wind erosion to occur and there may also be the potential for some erosion through water flows as a result of clearing adjacent to creeklines however, much of the clearing will avoid the low-lying areas. The applicant also maintains an ISO 14001 certified environmental management system under which all environmental management plans, including for the management of impacts to watercourses and water quality are all managed (RTIO, 2011). Therefore, any potential land degradation in association with waterways should be mitigated through the applicant's existing environmental management plans. In addition, revegetation and rehabilitation of areas after they are no longer required for any project activity will help to mitigate the risk of long term land degradation within the applied clearing area.

Methodology References:

- Northcote et al (1960-68)

- RTIO (2011)

GIS Databases:

- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW
- Soils, Statewide - DA

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

Comments Proposal is at variance to this Principle

The area under application extends through two conservation estates and system 8 conservation reserves, Karijini (Hamersley Range) and Millstream Chichester (Chichester Range) national parks. Given the high conservation value of these areas, further consideration and management and protection measures would be required to mitigate any clearing required in these areas.

The national parks have been removed from the permitted clearing area through a condition of the permit and any clearing proposed within the national parks will need to be assessed as a separate application.

Therefore the current proposal is at variance to this principle. Potential impacts will be mitigated through appropriate conditions.

Methodology GIS Databases:
- DEC Tenure - DEC
- Register of National Estate - EA
- System 1 to 5 and 7 to 12 Areas - DEC

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

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

The applied clearing area crosses four mapped lakes and a large number of minor watercourses, major tributaries and significant streams including Robe River, Jimmawurrada Creek, Fortescue River, Portland River, Western Creek, Harding River, Weelumurra Creek, Barnett Creek, Wackilina Creek, Duck Creek, Three Creek and Marillana Creek.

Any clearing proposed within the applied clearing area is likely to avoid low-lying areas where possible or clearing will occur along the existing rail network where impact has already occurred. If clearing of riparian vegetation is required there may be some localized short term sedimentation during the clearing process however, this is not likely to be an ongoing issue. In addition, the applicant maintains an ISO 14001 certified environmental management system under which, all environmental management plans are managed including the management of watercourses and water quality impacts (RTIO, 2011). The clearing of vegetation as a result of this proposal is therefore unlikely to result in any further deterioration in surface or groundwater quality in the local area.

Methodology References:
- RTIO (2011)
GIS Databases:
- Geodata, Lakes - AUSLIG
- Hydrography, linear - DoW
- Hydrography, linear (hierarchy) - DoW

(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 proposed clearing consists of 500ha per financial year within an approximate 1400km rail and transport corridor with areas comprising soils of deep cracking clays (Northcote et al, 1960-68) which are characteristically non-porous and as such there is the potential for some localized flooding as a result of the proposed clearing. Areas created for turkey nest dams will intentionally result in flooding however, this is likely to be the only area where long-term flooding will result.

In addition it is unlikely, given that the proposed area is subject to seasonal flooding events, that the clearing will exacerbate the incidence and intensity of flooding within the landscape.

Much of the proposed clearing purposes will comprise small localised areas of clearing and revegetation and rehabilitation of areas no longer required for any project activity will be required in order to mitigate the risk of localised flooding.

The proposed clearing is therefore unlikely to result in increased incidence or intensity of flooding.

Methodology References:
- Northcote et al (1960-68)
GIS Databases:
- Soils, Statewide - DA
- Topographical Contours, Statewide - DOLA and ARMY

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

Comments

All of the works proposed to be covered by this permit lie within rail tenure covered by the Mining Act, mining lease and state agreements.

The clearing under application falls within the Harding Dam (priority 1) and Millstream - North West (priority 1 and 2) public drinking water source areas and the Pilbara RiWI Act ground and surface water areas. These areas are proclaimed and managed under the Rights in Water and Irrigation Act 1914 administered by the Department of Water (DoW). Therefore approvals from DoW will be required for any interference with beds and banks of watercourses, construction of bores and taking of ground or surface water. Department of Water (2011) advises that they do not support the creation or expansion of new infrastructure corridors within priority 1 drinking water source areas however, "considers that the proposed clearing of 500ha per annum for the purpose of maintenance, improvements and minor modification acceptable provided activities are carried out in accordance with the previously approved Rio Tinto CEMP, DoW water quality protection advice and guidelines."

DoW also advised that the Millstream aquifer, over which some of the applied clearing area lies, is unconfined and highly transmissive and therefore susceptible to contamination from inappropriate landuses (DoW, 2011). The proposed landuses for which the clearing applies will be required to be compatible with DoW's land use compatibility tables and where activities are compatible, best management practice will be required to be applied (DoW), 2011).

The area under application lies directly adjacent to a Register of National Estate site - Dampier Art Site (Indigenous). There are also a large number of Aboriginal Sites of Significance through which the applied area runs and therefore DEC will be advising the applicant that they should seek advice from Department of Indigenous Affairs prior to undertaking any clearing or works.

The Shire of Ashburton (2011) advised that they had no objections to the clearing application.

The Shire of Roebourne (2011) advised that the proposed clearing of 500ha per year appeared to be large given the proposed purposes for the clearing but could not provide any further information without knowing the extent and location of the proposed clearing and do not have sufficient information to understand the reason for or impact associated with the proposed clearing.

Methodology

References:

- DoW (2011)
- Shire of Ashburton (2011)
- Shire of Roebourne (2011)

GIS Databases:

- Aboriginal Site of Significance - DIA
- Register of National Estate - EA
- RiWI Act, Areas - DoW
- RiWI Act, Groundwater Areas - DoW
- RiWI Act, Surface Water Areas, Irrigation Districts - DoW

4. References

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- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
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- Shire of Roebourne (2011) Response to Direct Interest Letter - CPS 4442/1 - Pilbara Iron Company (Services) Pty Ltd - Pilbara Rail Network. Shire of Roebourne, Karratha. DEC ref A417301.
- Western Australian Herbarium (1998-2011) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Most recently accessed 09/2011).

5. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DA	Department of Agriculture (now DAFWA)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DIA	Department of Indigenous Affairs
DoE	Department of Environment
DoIR	Department of Industry and Resources
DOLA	Department of Land Administration (now Western Australian Land Information Authority (Landgate))
DRF	Declared Rare Flora
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities
EA	Environment Australia (now DSEWPC)
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DoW)