



## CLEARING PERMIT

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

<b>Purpose Permit number:</b>	CPS 4591/1
<b>Permit Holder:</b>	Roy Hill Infrastructure Pty Ltd
<b>Duration of Permit:</b>	From 07 November 2011 to 07 November 2016

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 temporary construction corridor to support construction of a rail-loop

**2. Land on which clearing is to be done**

Lot 203 on Deposited Plan 220594 and Lot 311 on Deposited Plan 194620, Boodarie, and Lot 372 on Plan 35620, Port Hedland

**3. Area of Clearing**

The Permit Holder must not clear more than 14.4 hectares of native vegetation within the area hatched yellow on attached Plan 4591/1.

**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 power to clear native vegetation for those activities under the *Local Government Act 1995* 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

- (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.

## 9. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- (a) Retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) within six months, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this permit by:
- (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
  - (ii) ripping the ground on the contour to remove soil compaction; and
  - (iii) laying the vegetative material and topsoil retained under condition 9(a) on the cleared area(s).
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition (b) of this Permit:
- (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
  - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 9(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 9(c)(ii) of this permit, the Permit Holder shall repeat condition 9(c)(i) and 9(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 9(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 9(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 9(c)(ii).

## PART III - RECORD KEEPING AND REPORTING

### 10. Records must be kept

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

- (a) In relation to the clearing of native vegetation authorised under this Permit:
- (i) the species composition, structure and density of the cleared area;

- (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
  - (iii) the date that the area was cleared; and
  - (iv) the size of the area cleared (in hectares).
- (b) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 9 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;
  - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
  - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares); and
  - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*.

## 11. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 10 of this Permit; and
  - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 16 July 2015, the Permit Holder must provide to the CEO a written report of records required under condition 11 of this Permit where these records have not already been provided under condition 11(a) of this Permit.

## DEFINITIONS

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

***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;

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

***local provenance*** means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared;

***mulch*** means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

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

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

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

***revegetate/ed/ion*** means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

*weeds* 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*.



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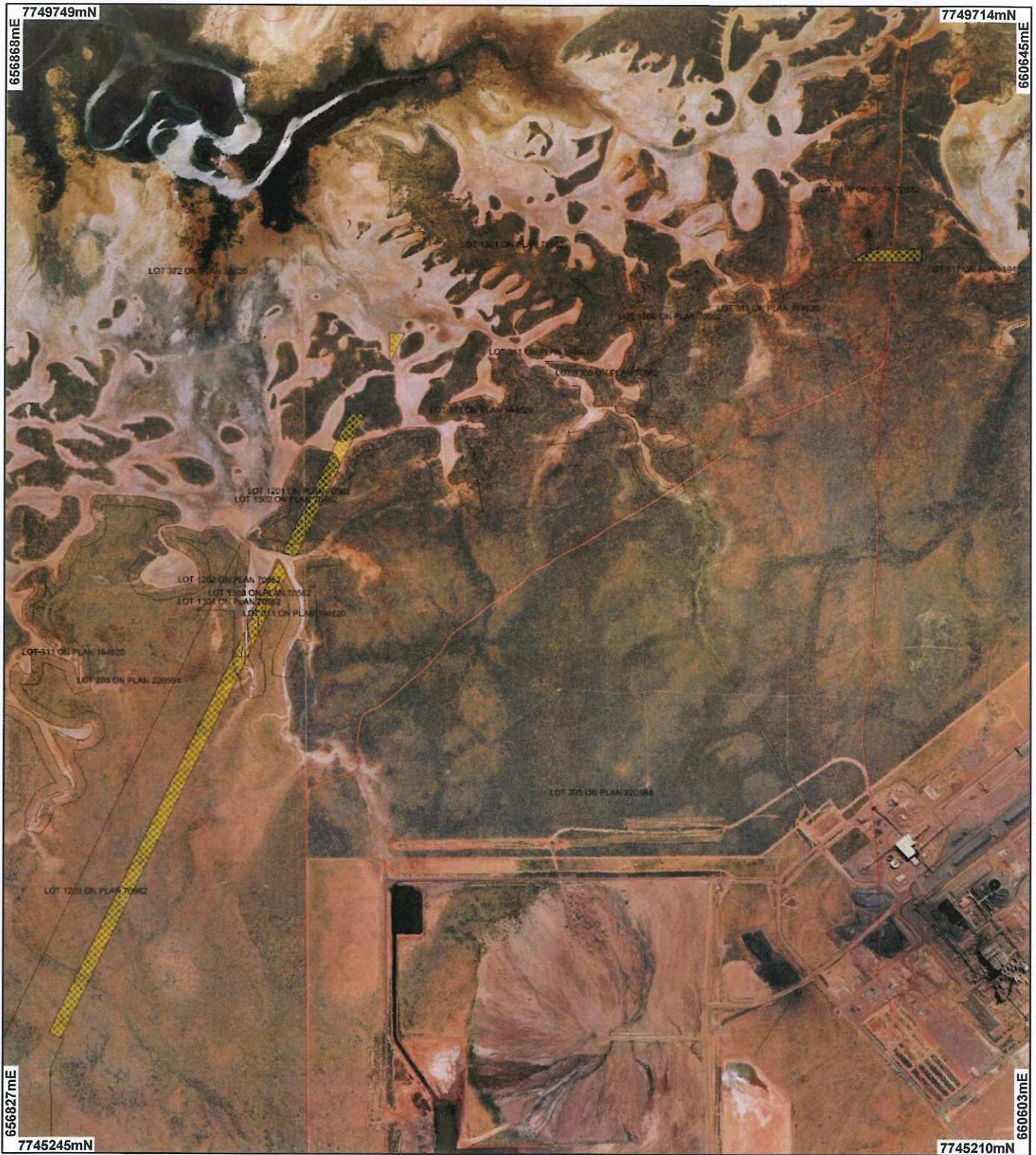
Kelly Faulkner  
MANAGER  
NATIVE VEGETATION CONSERVATION BRANCH

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








13 October 2011

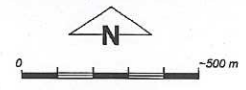


# Plan 4591/1



## LEGEND

-  Road Centrelines
-  Clearing Instruments
-  Areas Applied to Clear
-  Areas Subject to Conditions
-  Areas Approved to Clear
-  Cadastre for labelling
-  Port Hedland 50cm Orthomosaic - Landgate 2004



Scale 1:20776  
(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.

*K Faulkner* Date 13/10/11

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.





## 1. Application details

### 1.1. Permit application details

Permit application No.: 4591/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Roy Hill Infrastructure Pty Ltd

### 1.3. Property details

Property: LOT 203 ON PLAN 220594 (BOODARIE 6722)  
LOT 372 ON PLAN 35620 (PORT HEDLAND, TOWN OF)  
LOT 311 ON PLAN 194620 (OODARIE 6722)  
Local Government Area: Town of Port Hedland

Colloquial name:

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 13 October 2011

## 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
Two Beard vegetation types are mapped within the applied area:  Mapped Beard vegetation association 647 is described as Hummock grasslands, dwarf-shrub steppe; Acacia translucens over soft Spinifex (Shepherd, 2009).  Mapped Beard vegetation association 127 is described as Bare areas; mud flats (Shepherd, 2009)	This application proposes to clear 14.4 ha of native vegetation for the purpose of temporary construction corridor to support rail-loop	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The description and condition of the vegetation under application was determined via the use of aerial imagery, supporting information supplied by the applicant (RHIO, 2011) and a flora and vegetation survey conducted by Pilbara Flora (2011).

## 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 proposed clearing of 14.4 ha is required for the purpose of developing a temporary 50 m wide construction corridor, and a separate smaller access area to support construction of a rail-loop, located approximately 9 km southwest of Port Hedland, Western Australia. This proposal is required to support the development of the Roy Hill Iron Ore Project, which comprises mining operation located 280 km south of Port Hedland, a railway to transport ore from the mine to Port Hedland, and port infrastructure.

The local area (20 km radius) is well vegetated containing approximately 90 per cent vegetation cover. The application area is unlikely to represent an area of higher biodiversity value when compared to representative

vegetation in a local and regional context.

The disturbance resulting from the proposed clearing will increase the risk of weeds spreading into adjacent land. A weed condition will assist in mitigating this risk.

Pilbara Flora (2011) conducted a Threatened and Priority Flora survey over the application area, 88 vascular plant taxa from 58 genera and 22 families were recorded. One *Abutilon pritzelianum* ms (Priority 1) individual was recorded. *Abutilon pritzelianum* ms is a shrub which occurs on red sand dunes and has a known range from Port Hedland to Carnarvon (WA Herbarium, 2011). Given the size of the application area and the surrounding vegetation the proposed clearing it is not likely to impact upon the conservation status of priority flora species in the area.

No priority ecological communities (PECs) were mapped within the local area (20km radius). In addition, a Threatened and Priority Flora survey (Pilbara Flora, 2011) has been carried out over the application area and no PECs were observed.

Given the fauna habitats available within the study area there is the potential for four vertebrate fauna species of conservation significance to occur. These species are the Little North-western Mastiff, Australian Bustard, the Eastern Curlew and the Brush tailed Mulgara (Biota 2010). The majority of 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.

Considering the above the proposed clearing may be at variance to this Principle.

**Methodology** References:  
Biota (2010)  
DEC (2007)  
Pilbara Flora (2011)  
WA Herbarium (2011)

GIS Database:  
- SAC Biodatasets - Accessed 14 September 2011  
- Pre European Vegetation

**(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**  
Numerous fauna species considered rare or likely to become extinct have been recorded within the local area (20 km radius) of the application area, including *Dasyercus cristicauda* (Crest-tailed Mulgara), *Dasyurus hallucatus* (Northern Quoll), *Lagostrophus fasciatus* subsp. *Fasciatus* (Bernier Is. Banded Hare-wallaby) and *Macrotis Lagotis* (Bilby) (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. The proposed clearing will not sever any wildlife corridors and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna.

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

**Methodology** References:  
DEC (2007-)  
  
GIS Databases:  
- Port Hedland 50cm Orthomosaic - Landgate 2004  
- Pre-European vegetation  
- SAC Biodatasets - accessed 14 September 2011

**(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**  
No records of rare flora were identified within the local area (20km radius).

In addition, Pilbara Flora (2011) conducted a flora and vegetation survey over the application area and did not identify any rare flora.

Therefore, this application is not likely to be at variance to this clearing principle.

**Methodology** References:

Pilbara Flora (2011)

GIS Databases:

- Port Hedland 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation
- SAC Biodatasets - accessed 14 September 2011

**(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**

No known threatened ecological communities have been recorded within the local area (20km radius).

A flora and vegetation survey (Pilbara Flora, 2011) has been carried out over the application area and no TECs were observed.

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

**Methodology**

References:

Pilbara Flora (2011)

GIS Databases:

- Port Hedland 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation
- SAC Biodatasets - accessed 14 September 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 area under application is located within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 100 per cent of its Pre European vegetation extent remaining (Shepherd, 2009).

The vegetation under application is mapped as Beard Vegetation Associations 647 and 127, both of which have approximately 100 per cent of their Pre European extent remaining in the Pilbara bioregion (Shepherd, 2009).

Digital imagery (Port Hedland 50cm Orthomosaic - Landgate) indicates that the local area (20km 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 likely to be at variance to this principle.

	Pre-European (ha)	Current Extent Remaining (ha)	Extent Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Pilbara	17, 8041 193	17, 785, 000	99.89	8.32
Shire*				
Town of Port Hedland	1,850,070	1,845,056	99.78	0
Beard Vegetation Association in Bioregion*				
647	196,370	196,370	100	0
127	719,024	704,021	97.91	8.1

**Methodology**

References:

Shepherd (2009)

GIS Database:

- Local Government Authority
- Pre-European Vegetation
- SAC Biodatasets - Accessed 14 September 2011
- Port Hedland 50cm Orthomosaic - Landgate



**(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**

No wetlands or watercourses are mapped within the application area, however the northern section of the application area is adjacent to the coast.

The applicant has advised that the temporary construction corridor will be below the high tide level in some areas, culverts will be used to ensure free movement of tidal flows.

Four vegetation types associated with tidal creeks have been mapped by Pilbara Flora (2011) within the application area.

As the area under application is within close proximity to the coast and vegetation associated with tidal flats is proposed to be cleared the proposed clearing is at variance to this principle. However, the areas associated with the tidal flats area relatively small and are well represented within the local area therefore is not likely to significantly effect tidal flats.

**Methodology** Reference:  
Pilbara Flora (2011)

GIS Databases:  
- ANCA, Wetlands  
- Hydrography, 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**

There are two types of soils within the application area which Northcote (1960-68) describes as:

AB19: Extensive sandy plains with chief soils of red earthy sands with extensive areas of red earths and with some hard red soils along creek lines.

Lh1: Coastal plains mainly beyond marine flooding influence: main soils are pedal calcareous earths with some associated highly calcareous earths. On the seaward side are firstly samphire flats and then bare saline mud. Calcareous dunes commonly occur on the seaward edge of the plains. (Northcote, 1960-68).

The topography of the site is relatively flat and rainfall is low (400mm) therefore water erosion is not likely to an issue.

**Methodology** References:  
Northcote et al. (1960 - 1968)

GIS Database:  
- Rainfall, Mean Annual  
- 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**

No conservation reserves have been recorded within a 20km radius of the application area.

The clearing as proposed is not likely to impact on the environmental values of any conservation reserves. Therefore, this proposal is not likely to be at variance to this clearing principle.

**Methodology** 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**

The topography of the site is relatively flat thus little water is likely to leave the site as runoff and is unlikely to have a significant impact on the quality or quantity of surface water.

The existing vegetation consists of shallow rooted grasses and shrubs with minimal tree root systems, thus the proposed clearing of vegetation is unlikely to significantly affect the level of the ground water table.

Given the above the proposed clearing is not likely to cause deterioration in the quality of surface or underground water. Therefore, this proposal is not likely to be at variance to this principle.

**Methodology** GIS Databases:  
-Soils, Statewide  
-Pre-European vegetation  
-Rainfall, Mean Annual

**(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 do occur in the Pilbara region following cyclonic activity. However, the proposed clearing is not expected to increase the incidence or intensity of such events.

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**  
Roy Hill Infrastructure is currently in the process of applying for a Section 91 licence from the Department of Regional Development and Lands (RDL). RDL (2011) has confirmed this and has confirmed that they have no objections with Roy Hill Infrastructure applying for a Native Vegetation Clearing Permit. Roy Hill has previously held a Section 91 Licence (Lic 00727/2009\_3\_9) over this area however it expired on 29 August 2011.

Native Title: The applied area is within the boundaries of the Kariyarra People's registered native title claim. The claimants and their representatives have been notified of this proposal. No comments have been received.

The application area is within the Turner River Public Drinking Water Reserve gazetted under the Country Water Supply (CAWS) Act 1947. The Department of Water (2011) has confirmed they have no objection to the proposal and considers the application to clear 14.4 ha of native vegetation is unlikely to have an impact on the quality or quantity of groundwater..

**Methodology** Reference:  
RDL (2011)

#### 4. References

- Biota (2010) Boodarie Port Infrastructure, Port Hedland - Level 1 Vegetation and Flora Survey and Fauna Review. Unpublished Report prepared for Hancock Prospecting. (DEC Ref: A425773)
- DEC (2007 - ) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed 19 September 2011
- Department for Regional Development and Lands (RDL) (2011) Confirmation of a section 91 licence application from Roy Hill Infrastructure Pty Ltd. (DEC Ref: A433742)
- Department of Water (2011) Advice for clearing permit application CPS 4591/1. Department of Water, Pilbara Region, Western Australia. (DEC Ref: A439858)
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- Pilbara Flora (2011) Threatened and Priority Flora Survey of the Port Construction Corridor through BHPB Tenements. Unpublished Report prepared for Roy Hill Infrastructure Pty Ltd. (DEC Ref: A425773)
- Shepherd, D.P. (2009) 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 19 September 2011).

#### 5. Glossary

Term	Meaning
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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)