



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4172/1
Permit Holder:	Western Australian Land Authority TA LandCorp
Duration of Permit:	23 May 2011 – 23 May 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 bulk earthworks.

2. Land on which clearing is to be done

Lot 500 on Plan 59331, BAYNTON 6714
Lot 520 on Plan 66522, GAP RIDGE 6714
Lot 522 on Plan 66522, BAYNTON 6714
Lot 524 on Plan 66522, BAYNTON 6714

3. Area of Clearing

The Permit Holder must not clear more than 37.5 hectares of native vegetation within the area cross hatched yellow on attached Plan 4172/1.

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 *Land Administration Act 1997* or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- 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.

8. Period in which clearing is authorised

The Permit Holder shall not clear native vegetation unless undertaking bulk earthworks within 3 months of the authorised clearing being undertaken.

9. 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

10. 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:

- (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).

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 23 February 2016 the Permit Holder must provide to the CEO a written report of records required under condition 10 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:

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;

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*.

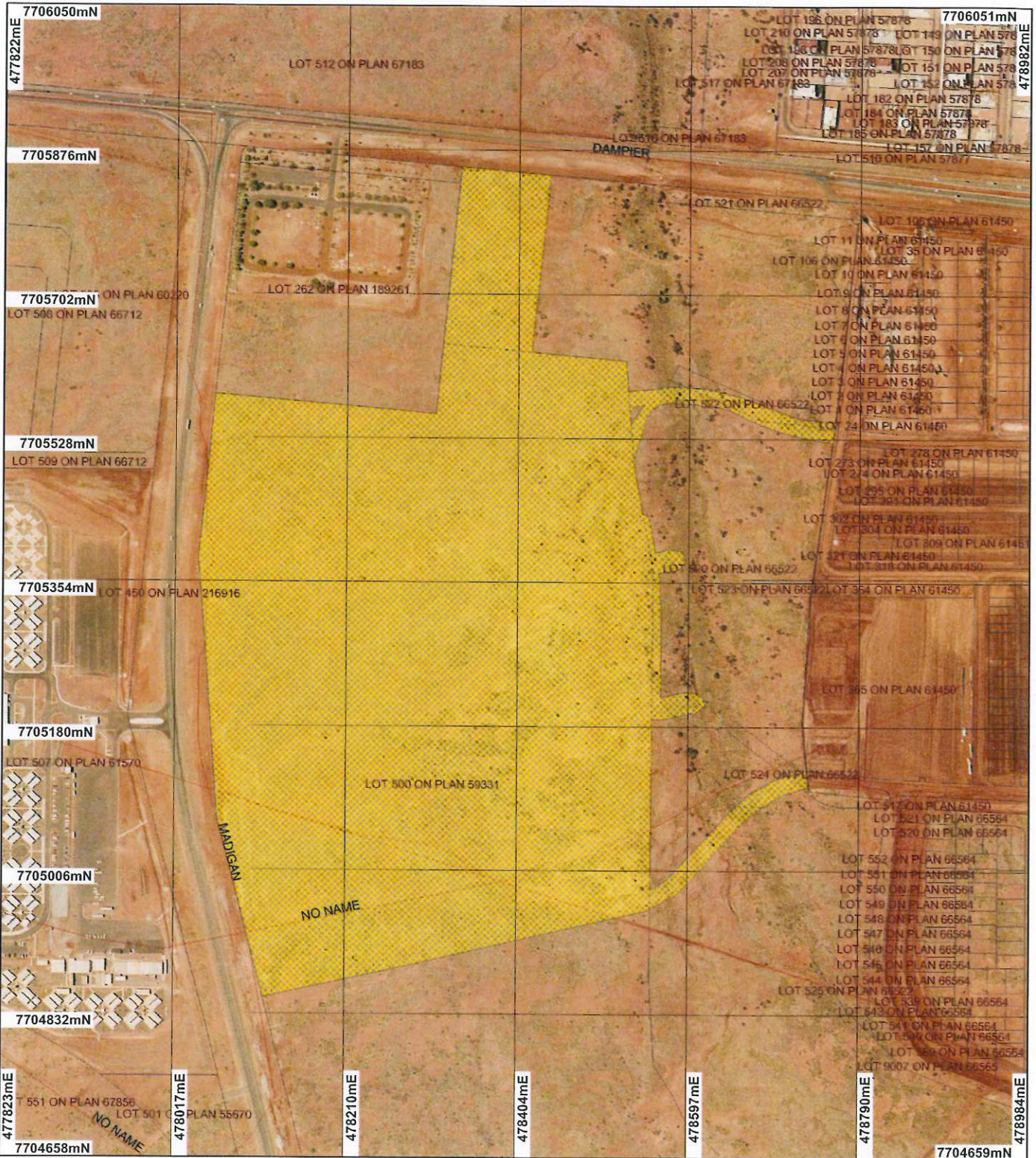


Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

28 April 2011

Plan 4172/1



LEGEND

✂ Road Centrelines
 □ Cadastre for labelling

- Freehold
- Crown Reserve
- State Forest / Timber Reserve
- Marine Park (cont)

- Crown Lease
- Lease / Reserve
- Lease on State Forest / Timber Reserve
- Public Roads
- Unallocated Crown Land
- Water
- Clearing Instruments (cont)

■ Areas Approved to Clear
**Dampier and Extensions 50cm
 Orthomosaic - Landgate
 2008**



0 150 m

Scale 1:6399

(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 28/09/11
 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.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 4172/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Western Australian Land Authority TA LandCorp

1.3. Property details

Property: LOT 500 ON PLAN 59331 (BAYNTON 6714)
LOT 520 ON PLAN 66522 (GAP RIDGE 6714)
LOT 524 ON PLAN 66522 (BAYNTON 6714)
LOT 522 ON PLAN 66522 (BAYNTON 6714)

Local Government Area:

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
35		Mechanical Removal	Miscellaneous

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 21 April 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
Beard Vegetation Association: 589 Mosaic: Short Branch grassland - savanna/grass plain (Pilbara)/ hummock grasslands, grass steppe; soft spinifex	The proposed clearing is for bulk earthworks prior to subdivision in the town of Karratha. The majority of the vegetation under application (~24.5ha) consists of Open Tussock grassland dominated by the weed <i>Cenchrus ciliaris</i> (Buffel Grass) and occurs in a degraded (Keighery, 1994) condition.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The condition of the vegetation was established by Coffey Environments (2010) and was based on condition scale by M.E Trudgen. The condition of the vegetation under application stated in this report has been converted to the Keighery scale (Keighery 1994).
157 Hummock grasslands, grass steppe; hard spinifex, <i>Triodia wiseana</i> .			

(Shepherd et al 2009)

As above

Tall Open Shrubland of *Acacia inaequilatera*, *Acacia pyrifolia*, *Acacia xiphophylla* and *Acacia bivenosa* to 3 m over hummock to Mid dense hummock Grassland of *Triodia wiseana* and *Triodia epactia* to 1m. This vegetation type occurred in a degraded condition in the north of the application area (~0.5 ha) and in a Good to very Good (Keighery, 1994) condition in the south of the application area (~ 10 ha).

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)

As above

The area that crosses the watercourse to the east contained similar species found within the Tall Open Shrubland along with *Acacia coriacea* which is found along creeks and rivers. This area is in a very good (Keighery, 1994) condition.

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 majority of the vegetation under application (~24.5ha) consists of Open Tussock grassland dominated by the weed *Cenchrus ciliaris* (Buffel Grass) (Coffey Environments 2010b) and occurs in a degraded (Keighery 1994) condition.

Tall Open Shrubland of *Acacia inaequilatera*, *Acacia pyrifolia*, *Acacia xiphophylla* and *Acacia bivenosa* to 3 m over hummock to Mid dense hummock Grassland of *Triodia wiseana* and *Triodia epactia* to 1m (Coffey Environments 2010b). This vegetation type occurred in a degraded condition in the north of the application area (~0.5 ha) and in a Good to Very Good (Keighery 1994) condition in the south of the application area (~ 10 ha).

The Shire of Roebourne has close to 100% of its native vegetation remaining. Each of the Beard's vegetation associations occurring over the proposed area also are well represented in the Pilbara IBRA Region, also having close to 100% of their vegetation types remaining (Shepherd, 2009).

The Priority Ecological Community (PEC) Roebourne Plains Coastal Grasslands (P1) is known to be located west and north of Seven Mile Creek (McKenzie et al 2002). However, clearing permit applications (CPS 1985/2 and CPS 2059/1) which occur on the eastern side of Seven Mile Creek have identified this PEC as occurring adjacent to the application area (west and south) in good (Keighery 1994) condition. However, the application area is in a predominantly degraded (Keighery 1994) condition and therefore it is not considered likely for this PEC to occur within the application area.

The Biodiversity Audit of the Pilbara (McKenzie et al., 2002) classifies the Roebourne Plains coastal grassland, as being part of an ecosystem at risk, of vulnerable status with a declining condition rating and it is not protected in any reserve. Therefore is a high priority for its conservation. Clearing on a large scale has been occurring within the Karratha area and it is not know to what extent of this PEC has been cleared. Therefore the continue development around this PEC such as the proposed clearing may cause further degradation and therefore the proposed clearing may be at variance to this Principle.

Methodology References

- Coffey Environments (2010b)
- Keighery (1994)
- Shepherd (2009)
- McKenzie et al (2002)
- GIS Databases
- SAC Bio Datasets (27/01/2011)

(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**

Six conservation significant species have been recorded within 20 km radius of the application area, including the Northern Quoll (*Dasyurus hallucatus*), Western Pebble-mound Mouse (*Pseudomys chapmani*), Eastern Curlew (*Numenius madagascariensis*), Pilbara Olive Python (*Liasis olwaceus barroni*), Little North-western Mastiff Bat (*Mormopterus loriae cobocrgiana*) and Flock Bronzewing (*Phaps histrionica*).

The Shire of Roebourne has close to 100% of its native vegetation remaining. Each of the Beard's vegetation associations occurring over the proposed area also are well represented in the Pilbara IBRA Region, also having close to 100% of their vegetation types remaining (Shepherd, 2009).

It is considered for the application area to provide habitat for the Pilbara Olive Python, Northern Quoll, Peregrine Falcon and the Australia Bustard (Coffey Environments 2010a).

However given the extent of native vegetation remaining in the region, the proximity of the application area to the Karratha Town site and that the majority of the application area is in a degraded condition (25ha) (Keighery, 1994) it is not likely for the vegetation under application to contain significant fauna habitat.

Methodology References

- Shepherd (2009)
- Coffey Environments (2010a)
- Keighery (1994)
- GIS Databases
- SAC Bio Datasets (27/01/2011)

(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 rare flora species have been recorded within 20km of the area under application, additionally no rare flora were identified during flora surveys conducted during October 2010 (Coffey Environments 2010a).

The targeted flora survey of the application area was taken during October which is not the ideal season for establishing presence of flora due to very dry seasonal conditions. Therefore the flora survey assessment may not provide a true representation of the flora species present within the application area.

However, given the predominately degraded (Keighery 1994) condition of the application area and that no rare flora has been identified within a 20km radius of the area under application, it is not considered for the proposed clearing to be at variance to this Principle.

Methodology References
-Coffey Environments (2010a)
-Keighery (1994)
GIS Databases
-SAC Bio Datasets (27/01/2011)

(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 threatened ecological communities (TEC) have been recorded within 20km of the area under application.

Therefore, the vegetation under application is not likely to comprise or be necessary for the continued existence of TEC. The clearing as proposed is therefore not likely to be at variance to this principle.

Methodology GIS Databases
-SAC Bio Datasets (27/01/2011)

(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 is described as Beard vegetation association 589 and 157, which there is 100% and 99.94% of pre-European extent remaining, respectively (Shepherd 2009).

Both the vegetation associations retains more than the threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Western Australia 2001).

In addition, the Shire of Roebourne has 97.82% of pre-European vegetation remaining. Therefore the proposed clearing is not of a significant remnant in an extensively cleared area and therefore is not at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining %
IBRA Bioregion Pilbara*	17,804,193	17,785,000	99.89*
Shire of Roebourne*	1,535,627	1,502,080	97.82*
Beard type in Bioregion*			
589	730,717	730,717	100.00
157	198,633	198,518	99.94

(Shepherd 2009)*

Methodology References
-Shepherd (2009)
-Commonwealth of Western Australia (2001)
GIS Databases
-Pre-European vegetation
-Interim Biogeographic Regionalisation of Australia

(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 application area transverses a minor non perennial watercourse in two areas for access points to the Baynton subdivision to the east. Two drainage relief paths are also to be constructed within the watercourse. In addition~ 0.7ha of the proposed clearing area occurs within the 50m buffer to this watercourse

The area that crosses the watercourse to the east contained similar species found within the Tall Open Shrubland along with *Acacia coriacea* (Coffey Environments 2010a) which is found along creeks and rivers. This area is in a very good (Keighery, 1994) condition.

Given that the application area contains species that are found along watercourses, it is considered that a portion of the application area is growing in or in association with a watercourse. Therefore the proposed clearing is at variance to this Principle.

Methodology References
-Coffey Environments (2010a)
GIS Databases
-Hydrography, linear

(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

The vegetation under application is mapped as occurring on alluvial plains with occasional stony residuals of basic and ultrabasic rocks. The chief soils are deep cracking clays (Northcote et al 1968).

The clearing of 37.5ha of native vegetation as proposed is likely to result in land degradation such as erosion and weed introduction or spread.

Therefore, the clearing as proposed may be at variance to this principle.

Methodology References
-Northcote et al (1968)
GIS Databases
-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

There are no conservation areas within a 10km radius of the application area. The nearest DEC-managed reserve is located approximately 18 kilometres from the area under application, and consists of islands within the Dampier Archipelago. The nearest DEC managed lands are the Millstream-Chichester National Park, approximately 43.5km southeast of the application area.

Based on the large distance to the nearest conservation reserve, this proposal is unlikely to have an impact on any conservation area. Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases
-DEC, Tenure

(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 application area intersects a non-perennial watercourse. These drainage systems have seasonal flows following heavy rainfall events.

Given that the vegetation is in a majority degraded condition and comprises of shrubs and grasses (rather than deep-rooted trees), it is unlikely that the removal of this vegetation will cause deterioration in the quality of underground water.

The application area is not within a Public Drinking Water Source Area, catchment or wetland and clearing will not cause significant sedimentation or erosion to local watercourses. Given the above, this proposal is not likely to be at variance to this principle.

Methodology GIS Databases
-Hydrography, linear
-Public Drinking Water Source Areas (PDWSAs)

(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 may be at variance to this Principle

The application area transverses a minor non perennial watercourse in two areas for access points to the Baynton subdivision to the east. In addition, two drainage relief paths are also to be constructed within the watercourse. In addition~ 0.7ha of the proposed clearing area occurs within the 50m buffer to this watercourse.

The clearing of 37.5 ha of native vegetation as proposed may result in an increase runoff into this watercourse and increase flooding during high rainfall events.

It is noted that Bulk Earth Works approval that has been received from the Shire of Roebourne contains conditions for a Stormwater Management Plan and a Sediment and Erosion Control Plan to be submitted prior to bulk earth works. These plans should reduce the above impacts within Lot 500.

The clearing as proposed may be at variance to this principle.

Methodology GIS Databases
-Hydrography, linear

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

Comments

The proposed clearing of 37.5ha (amended from 35 hectares to include an extra portion to the south) is for bulk earthworks prior to subdivision in the town of Karratha. The proposed development is for long-term residential use. This site has been identified under the State Government's Pilbara Cities Program for future development. Development of the site is part of the Karratha Revitalisation Project which depicts a strategy for growth of Karratha to a population of 50000 (Coffey Environments 2010b).

Lot 500 is zoned Urban Development, and Lot 520 is zoned Parks, Recreation and Drainage under the Shire of Roebourne's Town Planning Scheme No. 8.

The application area occurs on Unallocated Crown Land which is owned by State Lands.

Bulk earth works approval from Shire of Roebourne has been received for Lot 500. Several Aboriginal heritage sites have been identified within the application area on Lot 500. As a condition of the bulk earthworks approval for Lot 500, these sites are to be fenced off and no works are to encroach on to these areas.

LandCorp currently holds two section 91 licence of the Land Administration Act 1997 for Lot 500 for the purposes of heavy vehicle access (Licence number 50851/2007_2_189) and for the purpose of investigative works and preliminary ground works associated with those investigated works (Licence number 50851-2007_2_220). Department of Regional Development and Land (RDL) state that these licences permit clearing and earthworks to be undertaken on Lot 500.

LandCorp does not have a s91 licence to access Lots 520, 522, 523 and 524 and bulk earth works approval have not been approved or applied for within these lots. Department of Regional Development and Lands (RDL) state that a s91 Licence for these properties will be issued and that they have no objections to the proposed clearing. RDL also state that they understand that the clearing within Lot 520 is for vehicle access and drainage.

The applicant currently does not have an application for subdivision approval with the Shire of Roebourne.

A bed and banks permit from the Department of Water is required to interfere with the watercourse occurring within Lot 520.

A Native Title Claim exists over a greater area encompassing the clearing application area.

Methodology References
-Coffey Environments (2010b)
GIS Databases
-Town Planning Scheme Zones

4. References

Coffey Environments (2010a) Preliminary Environmental Assessment Madigan, Karratha. Prepared for LandCorp. DEC ref A368944

Coffey Environments (2010b) Supporting Information for CPS 4172/1 - Lot 500, 520, 522 and 524 Madigan Rd Karratha. DEC ref A364107

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

McKenzie N. L., May J. E and McKenna S, (2002) Bioregional Summary of the 2002 Bioregional Audit for Western Australia. CALM 2003.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Shepherd, D.P. (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.

5. Glossary

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