



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1790/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Fleetwood Corporation

### 1.3. Property details

Property: LOT 4931 ON PLAN 37826 (- BULGARRA 6714)  
LOT 4471 ON PLAN 188196 (Lot No: 4471 SEARIPPLE BULGARRA 6714)  
Local Government Area: Shire Of Roebourne  
Colloquial name:

### 1.4. Application

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

## 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 bunch grassland - savannah / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex.	Of the four vegetation associations identified within the application area by the survey (Astron Environmental, 2007), the following were considered to be completely degraded (Keighery, 1994); - Closed Tussock grassland (70-100%) of <i>Cenchrus ciliaris</i> , with scattered exotic trees and native herbs of <i>Ptilotus exaltatus</i> , <i>Indigofera linifolia</i> , and <i>Indigofera trita</i> on a disturbed area of the lease. - Low heath (30-70% 1m) of <i>Aerva javanica</i> over tussock grassland of <i>Cenchrus ciliaris</i> on sands with marine fragments.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)	The majority of the area has been disturbed in the past and once housed an operating caravan park (Astron 2007). The area is dominated by buffel grass <i>Cenchrus ciliaris</i> which is closely associated to the presence of imported gravel left on site (coarse sands, gravel and rubble - with some marine sands in some areas) (Astron 2007). Several exotic tree and shrub species occur in this area and it is believed these were planted by the previous caravan park owners for shade purposes (Astron 2007).
Beard vegetation association 589: Mosaic: Short bunch grassland - savannah / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex.	The proposal includes clearing of 7.577ha of vegetation. A vegetation and flora survey conducted by Astron Environmental Services in March 2007 concluded that the vegetation under application consists of four main associations, two of which were considered in excellent condition; - Tussock grassland of <i>Chrysopogon fallax</i> , with a scattered to open hermland (2-5%) of <i>Indigofera trita</i> with vine <i>Cassytha capillaris</i> - Tussock grassland (30-70%) of	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The small area of undisturbed, weed free vegetation in the south-western portion of the site has minor degradation due to a couple of tracks (Astron 2007).

Eragrostis xerophila with patches of Eriachne benthamii (in gilgai soils) with open scattered low shrubs of Scleroleana hostilis.

Beard vegetation association 157: Hummock grasslands, grass steppe; hard spinifex Triodia wiseana.

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994)

This vegetation association only covers a very small area on the south east corner of the application area (GIS database). This area is adjacent to the road reserve and has been extensively degraded by vehicle access and weed invasion.

### 3. Assessment of application against clearing principles

#### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments**

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

The proposed clearing of 7.577ha comprises four vegetation types including;

# Tussock grassland of Eragrostis xerophila with patches of Eriachne benthamii with open to scattered low shrubs of Scleroleana hostilis,

# Tussock grassland of Chrysopogon fallax with a scattered to open herbland of Indigofera trita with vine Cassytha capillaris,

# Closed tussock grassland of Cenchrus ciliaris with scattered exotic trees and scattered native herbs of Ptilotis exaltatus, Indigofera linifolia, and Indigofera trita, and

# Low heath of Aerva javanica over tussock grassland of Cenchrus ciliaris (Astron 2007).

The vegetation that has been applied to be cleared is highly disturbed due to previous land uses that included a caravan park (Astron 2007) and current and continued disturbance due to recreational activities. Therefore the vegetation to be cleared is unlikely to be of a higher biodiversity than other similar vegetation associations in the region.

The area under application is small, highly disturbed and the vegetation associated with in the site is highly represented elsewhere in the state. Therefore, the proposed clearing is not likely to be at variance to this principle.

**Methodology**

Astron 2007

Shepherd et al (2001);

Department of Natural Resources and Environment (2002);

GIS Database:

- Pre-European Vegetation - DA 01/01;

- Interim Biogeographic Regionalisation of Australia - EA 18/10/00;

- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00.

#### (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**

The Eastern Curlew (Numenius madagascariensis) has been observed approximately 4.5 and 8.25 kilometres from the application area (SAC BIO Datasets 130407). Due to the small area applied to clear, this proposal is unlikely to significantly reduce available habitat for this species.

The Bush Stone-curlew is likely to be present in areas of acacia shrubland, particularly in open areas near Karratha and in valleys on the Burrup Peninsula, often foraging on open ground adjacent to roads (Bamford, 2003). Due to the lack of native vegetation and the high level of disturbance of this site, the proposed clearing will not significantly affect the habitat of this species.

The Western Pebble mound Mouse is relatively widespread through out the Pilbara and is regarded by Kendrick and McKenzie (2001) as not threatened or likely to be threatened by any processes.

The area under application is adjacent to the existing Karratha Town Centre and was once the site of a caravan park. Therefore the habitat values of the site have been significantly disturbed in the past and the vegetation is unlikely to support significant habitat for fauna populations.

Overall, the vegetation in the area under application is highly disturbed and clearing is unlikely to have a significant impact to the scheduled and priority listed fauna species that could potentially occur in the area. All the species listed above are mobile and not limited to the vegetation types associated with the application. Given that the disturbance will be confined to a small area of principally disturbed vegetation, it is unlikely that significant habitat for those species will be cleared.

**Methodology** SAC BIO Datasets 130407  
Bamford (2003);  
Kendrick and McKenzie (2001);  
May and McKenzie (2002).

**(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**

A survey undertaken of the site by Astron Environmental Services 30 March 2007 found no Declared Rare Flora as gazetted under subsection 2 of section 23F of the Wildlife Conservation Act (1950). The survey also found no Priority Flora as listed on the Department of Environment and Conservation's Priority Flora List 2006. A specimen of *Mimulus* was found during the survey but it is not believed to be the rare species *Mimulus clementii* (Astron 2007). *Mimulus* sp., is a Pilbara species which is currently undescribed, and as such, is of high conservation significance (Astron 2007). Advice provided to Astron by a DEC Botanist indicates that *Mimulus* sp., in the Pilbara is more likely to be poorly collected than rare and that the habitat in which it occurs is relatively widespread and therefore it is unlikely that it is restricted to the application area.

Due to the presence of an unidentified and potentially rare species of flora within the area applied to clear, the proposal may be at variance to this proposal.

**Methodology** Astron 2007  
GIS Database;  
- Declared Rare and Priority Flora List - CALM 01/07/05

**(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**

A vegetation and flora survey undertaken by Astron Environmental Services of the site in March 2007 identified no Threatened Ecological Communities within the area under application therefore the proposal is not likely to be at variance to this principle.

**Methodology** Astron 2007  
GIS Database;  
-Threatened Ecological Communities - CALM 15/7/03.

**(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 State Government is committed to the national Objectives and Targets for Biodiversity Conservation, which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present pre-European settlement (Department of Natural Resources and Environment, 2002).

The vegetation of the area applied to clear consists of Beard Vegetation Associations 157 and 589 (Hopkins et al., 2001).

There is approximately 542,861 hectares of Association 157 remaining, approximately 100% of the pre-European extent (Shepherd et al., 2002), which indicates that it is well represented in the natural environment. Approximately 17.6% of this Association is located within IUCN Class I-IV Reserves (Shepherd et al., 2002).

Beard vegetation association 589 has approximately 100% of its pre-European extent remaining (Shepherd et al., 2002), with approximately 1.6% of the association represented within IUCN Class I-IV Reserves (Shepherd et al., 2002).

Given the extensive range of the vegetation associations, and that the area to be cleared is small, this proposal is not likely to be at variance to this principle.

**Methodology** Department of Natural Resources and Environment, 2002  
Hopkins et al., 2001  
Shepherd et al., 2002  
GIS Database;  
- Pre-European Vegetation - DA 01/01  
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

**(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 not likely to be at variance to this Principle**

There are no permanent watercourses or wetlands within the application area (GIS Database).

There is a perennial watercourse to the west of the application that runs parallel to the western boundary of the site at a distance of between 137 and 192 metres (GIS Database).

The coastline is approximately 400 metres to the north of the application area (GIS Database) and there is an associated mangrove and tidal flat system which begins approximately 300 metres from the application boundary (GIS Database).

The mangroves along the Pilbara coastline are the largest single unit of relatively undisturbed tropical arid zone habitats in the world and as such the EPA recognises the intrinsic value of these systems and the need to protect their distribution and function (EPA 2001). Clearing under this application does not include coastal mangrove habitat, therefore the clearing is unlikely to be at variance to this principle.

**Methodology** EPA (2001)  
GIS Database;  
- Hydrology, linear - DOE 1/02/04;  
- Lakes 250K - GA;  
- Rivers 250K - GA;

**(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 area under application is located close to the Pilbara coastline and as such the soils contain marine sands and fragments (Astron 2007). The vegetation within the application area are shallow rooted shrubs and grasses and it is unlikely that the clearing of this vegetation will have an effect on surface water recharge and therefore soil salinity.

The south western third of the area under application is at a moderate to low Acid Sulphate Soil (ASS) disturbance risk (<3m from surface) (GIS Database). The remaining area of the site has no known ASS disturbance risk (<3m from surface) (GIS Database). Due to the presence of ASS in the application area with the potential to cause land degradation, this proposal may be at variance to this principle.

**Methodology** Astron 2007  
GIS Database;  
- Acid Sulphate Soil Risk Map, Pilbara Coastline - DEC (Riskclass)

**(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 occurring within 10 kilometres of the area under application. Given that the closest DEC-managed reserve (and Environmentally Sensitive Area) is located approximately 18 kilometres from the application, this proposal is unlikely to be at variance to this principle.

**Methodology** GIS Dataset  
- Ramsar wetlands (CALM February 2003)  
- System 1-5 and 7-12 Areas (DOE June 1995)  
- CALM Managed Lands and Waters (CALM July 2005)  
- Clearing Regulations - Environmentally Sensitive Areas (DOE May 2005)  
- Covenant sites (DEC 2007)  
- Land for Wildlife sites (DEC 2007)

**(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 low rainfall (approximately 400mm/annum) and high evaporation rate (approximately 1600mm/annum) (GIS database) is unlikely to cause large amounts of run-off or recharge for the site except during high rainfall and cyclonic events.

Given that the vegetation within the area under application is in predominantly poor condition (Astron 2007), and the vegetation comprises shrubs and grasses (rather than deep-rooted trees), it is unlikely that the removal of this vegetation will cause deterioration in the quality of surface or underground water.

Given the low rainfall, high evaporation rate, poor condition of the vegetation as well as the vegetation composition it is unlikely that the proposal will be at variance to this principle.

**Methodology** Astron 2007

**(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 landform of the area under application is essentially flat (1:100) and the vegetation is predominantly shallow rooted grasses and shrubs.

The low rainfall (approximately 400mm/annum) and high evaporation rate (approximately 1600mm/annum) (GIS database) is unlikely to cause large amounts of run-off except during high rainfall and cyclonic events.

The area under application rises less than 10 meters above mean sea level (GIS Database) and as such is at risk of flooding during high tidal fluctuations mainly during cyclonic activity. Clearing the vegetation in this area will not affect the possibility or intensity of flooding.

Given the above, it is unlikely that the application will cause or increase the incidence or intensity of flooding, therefore this proposal is not likely to be at variance to this principle.

**Methodology** GIS Databases;  
 -Topographic Contours, Statewide - DOLA 12/09/02  
 - Rainfall, Mean Annual - BOM 30/09/01

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

**Comments**

The property is zoned for tourism. Tourism Western Australia has raised no concerns with the clearing of the area under this application.

No objections have been raised by the Shire of Roebourne, Department of Conservation and Environment, nor by the Department of Water to the proposed clearing.

There are no other relevant approvals or planning instruments that affect this proposal.

The area under application lies within one Native Title Claim. The Ngaluma / Injibandi claim was determined on 02/05/2005.

No sites listed on the Register of Heritage Places are located within or in the vicinity of the area under application.

**Methodology** GIS Themes:  
 - Register of Heritage Places - DPI 14/7/03;  
 - Register of National Estate - EA 28/01/03;  
 - Aboriginal Sites of Significance - DIA 28/02/03;  
 - Native Title Claims - DLI 7/11/05

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Building or Structure	Mechanical Removal	7.577	Assessable criteria have been addressed and no objections were raised. The application was found not likely to be at variance to Principles (A), (B), (D), (E), (G), (H), (I) and (J). The proposal may be at variance to Principle (C) due to the unidentified flora that may be a rare	

species, and (G)  
due to the  
existence of  
Acid Sulphate  
Soils.

## 5. References

- Astron Environmental Services (2007) Searipple Village Expansion Vegetation and Flora Survey. DEC TRIM Ref: DOC19279
- Bamford, M.J. and Bamford, A.R. (2003) Duplication of the Dampier Highway Between Karratha and Dampier: Assessment of Fauna Values.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Environmental Protection Authority (2001) Guidance for the Assessment of Environmental Factors (in accordance with the Environmental Protection Act 1986); Guidance Statement for Protection of Tropical Arid Zone Mangroves Along the Pilbara Coastline, No. 1.
- Hopkins, A. J. M., Beeston, G.R., and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALM Science after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Kendrick, P. and Stanley, F. (2001) Pilbara 4 (PIL4 - Roebourne synopsis). From "Bioregional Summary of the 2002 biodiversity Audit for Western Australia". Department of Conservation and Land Management.
- May, J.E. and McKenzie, N.L. (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Department of Conservation and Land Management
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

## 6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)