



1. Application details

1.1. Permit application details

Permit application No.: 1134/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: EDL NGD (WA) Pty Ltd

1.3. Property details

Property: LOT 228 ON PLAN 216500 (Lot No. 228 BROOME WATERBANK 6725)

Local Government Area: Shire Of Broome

Colloquial name: Buckleys Road - Lot 228 on Plan 216500, Reserve 40813

1.4. Application

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

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 750: Shrublands, pindan; <i>Acacia tumida</i> shrubland with grey box & cabbage gum medium woodland over ribbon grass (<i>Chrysopogon</i> spp.) & curly spinifex (<i>Triodia bitextura</i>) (Hopkins et al, 2001).	The vegetation of the site is severely degraded as the area is currently used as a land fill site with access tracks dissecting the area. The shrubland storey is non-existent and the ribbon grasses and curly spinifex that remain are dispersed and in a very poor condition (EDL NDG (WA) Pty Ltd (2006).	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The description of the vegetation under application was obtained from a consultant's report containing site photos (DoE TRIM Ref: KNI1446).

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 vegetation at the site is comprised of a single, relatively uniform community, represented by Beard Vegetation Association 750. Species likely to be present include *Acacia tumida* shrublands, grey box & cabbage gum woodlands over ribbon grass (*Chrysopogon* spp.) & curly spinifex (*Triodia bitextura*).

The proposal area is highly disturbed from existing landfill activities. The remaining vegetation on the site is highly degraded from these activities and aerial photos from 2000 show there is not much vegetation remaining within the proposal area. This small loss of degraded vegetation is not likely to significantly impact the biological diversity of the local area and the vegetation is unlikely to represent a biologically diverse environment.

This Association is well represented in the surrounding local area, which has not been subject to degradation. It is more likely that the surrounding area contains a higher biological diversity than the proposal area due to the relatively undisturbed condition.

No Declared Rare and Priority Flora, Threatened Fauna or Threatened Ecological Communities were located within the site proposed for clearing (EDL NDG (WA) Pty Ltd, 2006).

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology Hopkins et al (2001);
EDL NDG (WA) Pty Ltd (2006);
GIS Databases:
- Declared Rare and Priority Flora List - CALM 01/07/05
- Threatened Fauna - CALM 30/09/05
- Threatened Ecological Communities - CALM 12/4/05
- Broome 1m Orthomosaic - DOLA 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

An on-ground fauna survey did not find any known Threatened Fauna within the area proposed to be cleared (EDL NDG (WA) Pty Ltd, 2006).

A desktop survey indicated the possibility of 14 Threatened Fauna existing within a 10 kilometre radius of the area applied to clear. These include birds and mammals with classifications varying from Priority 2, 3 and 4 to Schedule 1. The closest Threatened Fauna located was a Schedule 1 mammal approximately 5.9 kilometres to the east of the proposal area.

The proponent will implement a Flora and Fauna Management Procedure to minimise impacts on fauna within the development area. This commenced with the surveying of the site under application to identify any protected species of flora and fauna, of which none were identified within the area to be cleared (EDL NDG (WA) Pty Ltd, 2006). Other management practices include fencing the construction area to prevent fauna movement into the disturbance site and immediately contacting local wildlife rescue services should any fauna be injured (EDL NDG (WA) Pty Ltd, 2006).

The clearing of 2.8 hectares of vegetation from the proposal area is not likely to significantly impact on the fauna species of the area, priority or otherwise, due to the small area to be cleared, the severely disturbed condition of the vegetation and the large distances between the proposal area and the Threatened Fauna. The implementation of the Flora and Fauna Management Procedure will significantly reduce any impacts on the fauna of the local area. Additionally, the areas surrounding the proposal site are well vegetated and undisturbed which will provide habitat for any fauna displaced during the clearing process.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology EDL NDG (WA) Pty Ltd (2006);
GIS Databases:
- Threatened Fauna - CALM 30/9/05

(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

An on-ground flora survey did not find any Declared Rare or Priority Flora within the area proposed to be cleared (EDL NDG (WA) Pty Ltd, 2006).

A desktop survey located the closest known Declared Rare Flora approximately 11.7 kilometres to the south south-west of the area applied to clear. This comprises 7 sub-populations of *Keraudrenia exastia*, classified as a rare species and prone to threatening processes of urban impacts and potential land clearing (Graham, 2001).

The implementation of the Flora and Fauna Management Procedure will significantly reduce any impacts on the flora of the surrounding local area. These include fencing the area to prevent unauthorised clearing, and preventing the spread of weeds in and outside the proposal area. Additionally, the areas between the proposal site and the Declared Rare Flora are well vegetated and undisturbed providing a suitable buffer between them, and the distance between the two is considered adequate to ensure the clearing will not have any adverse impacts on the *Keraudrenia exastia* populations.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology EDL NDG (WA) Pty Ltd (2006);
Graham (2001);
GIS Databases:
- Declared Rare and Priority Flora List - CALM 01/07/05
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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

An on-ground flora survey found there were no Threatened Ecological Communities within the area proposed to be cleared (EDL NDG (WA) Pty Ltd, 2006).

The flora survey and a desktop survey indicated that the closest Threatened Ecological Community is 10 kilometres from the proposal area. This is the Broome Townsite Vine Thickets (EDL NDG (WA) Pty Ltd, 2006).

The Broome Townsite Vine Thickets are located in the shelter of the sand dunes, inland from Cable Beach and

extending south to Gantheaume Point. The thickets represent the southernmost stand of rainforest vegetation in the Kimberley and an important seasonal food resource for Aborigines, so are of high ecological importance (Burbidge et al, 1991).

At the closest point, the vine thickets are 2 kilometres to the west of the proposal area. The key threat to vine thickets is increased urban development which results in the modification of natural drainage regimes. The proponent will implement a Surface Water and Soil Erosion Management Plan which involves the installation of a site drainage system to appropriately manage surface water and stormwater run-off. The distance between the proposed clearing and the vine thickets, and that this area is well vegetated and undisturbed, will provide a suitable buffer to minimise significant impacts on the vine thickets.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology EDL NDG (WA) Pty Ltd (2006);
Burbidge et al (1991);
GIS Databases:
- Threatened Ecological Communities - CALM 12/4/05
- Broome 1m Orthomosaic - DOLA 00

(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 applied to clear is a component of Beard Vegetation Association 750 (Hopkins et al, 2001). Approximately 2.3% of this Association is located within an IUCN Class I-IV Reserves (Shepherd et al, 2001). There is approximately 99% of the pre-European extent of this Association remaining (Shepherd et al, 2001), which indicates it is well represented in the natural environment. Therefore, this Association is of least concern for biodiversity conservation (Department of Natural Resources and Environment, 2002).

Clearing of 2.8 hectares will not significantly reduce the remaining extent of this vegetation Association, therefore the 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 (2001);
GIS Databases:
- Pre-European Vegetation - DA 01/01

(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

The area proposed to be cleared is located approximately 2.5 kilometres east of the coast line and approximately 2 kilometres north west of Dampier Creek (EDL NDG (WA) Pty Ltd, 2006). A desktop survey also located the RAMSAR and ANCA classified wetland of Roebuck Bay approximately 3.5 kilometres to the south-east, and the Roebuck Plains and Lake Eda areas approximately 3 kilometres to the south-east of the proposal area.

There is the potential for siltation to occur in adjacent drainage areas resulting from water erosion on the site due to construction activities. The proponent will implement a Surface Water and Soil Erosion Management Plan which involves the installation of a site drainage system to prevent erosion and avoid siltation of the surrounding areas (EDL NDG (WA) Pty Ltd, 2006). Therefore, the small size of the area to be disturbed and the distances between the areas, in conjunction with the implementation of the Management Plan, will significantly reduce any impacts of the clearing on the wetlands.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology EDL NDG (WA) Pty Ltd (2006);
GIS Databases:
- Hydrography, linear (hierarchy) - DOE 13/4/05
- Register of National Estate - EA 28/01/03
- RAMSAR, Wetlands - CALM 14/02/03
- ANCA, Wetlands - CALM 08/01

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

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

The clearing is likely to be blade down, resulting in removal of all root systems that currently stabilise soils and prevent erosion. The soils on site are red earthy sands with hummocks of siliceous sands (Northcote et al, 1960-68) so have a moderate potential for wind erosion (Schoknecht, 2002). The area is currently highly disturbed from land fill activities, and as such already quite degraded.

To minimise land degradation of these sandy soils, the proponent will implement a Surface Water and Soil Erosion Management Plan which involves the installation of a site drainage system to prevent erosion and avoid siltation of the surrounding areas (EDL NDG (WA) Pty Ltd, 2006). Given the small size of the proposed clearing, 2.8 hectares, it is likely that the Plan will be adequate to manage any potential land degradation, and possibly improving the condition of the site from its currently degraded state.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology Northcote et al (1960-68);
Schoknecht (2002);
EDL NDG (WA) Pty Ltd (2006);
Application form;
GIS Database:
- Soils, Statewide - DA 11/99

(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

A conservation reserve is located approximately 2 kilometres to the south-west of the area proposed to be cleared. This reserve is for the care and rehabilitation of wildlife, a wildlife veterinary clinic and a wildlife education area.

The distance between the reserve and the proposal area is considered adequate for separation of these activities and it is unlikely that the proposed clearing will impact on the conservation reserve.

Therefore, this proposal is not likely to be at variance to this Principle.

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 1/07/05

(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 proposal area is located within the Roebuck Subarea of the Broome Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914*. Dampier Creek lies approximately 2 kilometres to the south-east and the coast line lies approximately 2.5 kilometres to the west. The Public Drinking Water Source Protection Area, consisting of P1 and P3 protection zones, lies approximately 5 kilometres to the north east of the proposal area.

Due to the distances between the application area and the water source areas, and the small size of the proposed clearing, it is unlikely that the proposal will impact on the water quality of the groundwater within or around the Public Drinking Water Source Protection Area or the surface water of the nearby creek.

Additionally, the proponent will implement a Surface Water and Soil Erosion Management Plan to further reduce the potential for degradation of the water quality of the area (EDL NDG (WA) Pty Ltd, 2006).

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology EDL NDG (WA) Pty Ltd (2006);
GIS Databases:
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06
- RIWI Act, Surface Water Areas - WRC 18/10/02
- RIWI Act, Groundwater Areas - WRC 13/06/00
- Hydrography, linear (hierarchy) - DOE 13/4/05

(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

Flooding occurs seasonally over the December to March period, where the flood height and duration are lengthy and extreme. The clearing of 2.8 hectares of vegetation is not likely to increase the incidence or intensity of these naturally occurring flood events.

Therefore, the proposal is not likely to be at variance to this Principle.

Methodology GIS Database:

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

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

Comments

EDL NDG (WA) Pty Ltd holds a lease over a portion of Reserve 40813 from the Shire of Broome. The Reserve is vested with the Shire for the purposes of Rubbish Disposal Site and Gas Storage Facility.

There are no Native Title claims over the area under application. As the lease has been granted and the proposed activity complies with the land zoning, the granting of a clearing permit does not constitute a future act under the *Native Title Act 1993*.

There are no Aboriginal Sites of Significance within the area under application.

The construction and operation of the fuel storage facility does not require a Works Approval or Licence under the *Environmental Protection Act 1986*.

Water is not required for the operation of the power station, however is required for ablution facilities and emergency showers. It has not been determined how water will be obtained on site for these purposes, however the alternatives are either connecting to the main water supply system or trucking water to the facility from off site sources. A Water Licence under the *Rights in Water and Irrigation Act 1914* is not required.

The area under application has been subject to four referrals to the Environmental Protection Authority. Three of the referrals are not related to the proposal under assessment. The fourth referral applies to the fuel storage facility, however it was not assessed and no advice was given (CRN 212420). Therefore the proposal is not in conflict with this decision.

Methodology GIS Databases:

- Native Title Claims - DLI 7/11/05
- Aboriginal Sites of Significance - DIA
- Environmental Impact Assessments - DOE 24/02/06

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Industrial	Mechanical Removal	2.8	Grant	Assessable criteria have been addressed and no objections were raised. The proposal was found not likely to be at variance for principles a, b, c, d, e, f, g, h, i and j. The Assessing Officer therefore recommends that the permit should be granted.

5. References

Burbidge, A., McKenzie, N. & Kenneally K. (1991) Nature Conservation Reserves in the Kimberley Western Australia. Published by Department of Conservation and Land Management.

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.

EDL NDG (WA) Pty Ltd (2006) Supporting information for Land Clearing Permit Application. Broome Fuel Storage Facility West Kimberley Power Project Broome, Western Australia. Revision 1. DOE TRIM Ref: KNI1448.

Graham G. (2001) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Dampierland 2 (DL2 - Pindanland subregion)

Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience 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.

- 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.
- Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3.
- 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)