



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 5431/1
File Number: 2011/006912-1
Duration of Permit: From 12 April 2013 to 12 April 2015

PERMIT HOLDER

Shire of Wyndham East Kimberley

LAND ON WHICH CLEARING IS TO BE DONE

Lot 2465 on Deposited Plan 195310 (Reserve 28875) (Kununurra 6743)

AUTHORISED ACTIVITY

The Permit Holder shall not clear more than 7.45 hectares of native vegetation within the area hatched yellow on attached Plan 5431/1.

CONDITIONS

1. Clearing not authorised

The Permit Holder shall not clear native vegetation between 1 December to 30 March.

2. Weed control

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*:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

3. Flora management

- (a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *botanist* to undertake a targeted flora survey of the areas to be cleared, targeting *Brachychiton tuberculatus*, *Heliotropium tachyglossoides* and *Goodenia brachypoda* in accordance with *Guidance Statement No. 51*.
- (b) Where priority flora are identified in relation to condition 3(a) of this Permit, the Permit Holder shall ensure that:
 - (i) no clearing of identified *priority flora* occurs, unless first approved by the CEO; and
 - (ii) no clearing occurs within 10 metres of identified *priority flora*, unless first approved by the CEO.

4. Vegetation management

The Permit Holder shall not clear native vegetation within 50 metres of the *riparian vegetation* of any *watercourse* or *wetland* within and/or adjacent to the area cross-hatched yellow on Plan 5431/1.

5. Records must be kept

The Permit Holder must maintain the following records for activities done in relation to flora management pursuant to condition 3 of this Permit:

- (a) the location of priority flora species recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
- (b) the species name of each priority flora identified; and
- (c) a copy of the botanists flora survey report.

6. 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 5 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 12 January 2015, the Permit Holder must provide to the CEO a written report of records required under condition 5 of this Permit where these records have not already been provided under condition 6(a) of this Permit.

DEFINITIONS

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

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

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;

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

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;

priority flora means those plant taxa described as priority flora classes 1, 2, 3, 4 or 5 in the *Department of Environment and Conservation's Threatened and Priority Flora List for Western Australia* (as amended);

riparian vegetation has the meaning given to it in Regulation 3 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004;

watercourse has the meaning given to it in section 3 of the *Rights in Water and Irrigation Act 1914*;

weed/s means any plant -

- (a) that is declared under section 37 of the *Agriculture and Related Resources Protection Act 1976*;
or
- (b) published in the Department of Environment and Conservation Regional Weed Assessments,
regardless of ranking; or
- (c) not indigenous to the area concerned.

wetland/s means an area of seasonally, intermittently or permanently waterlogged or inundated land, whether natural or otherwise, and includes a lake, swamp, marsh, spring, dampland, tidal flat or estuary.

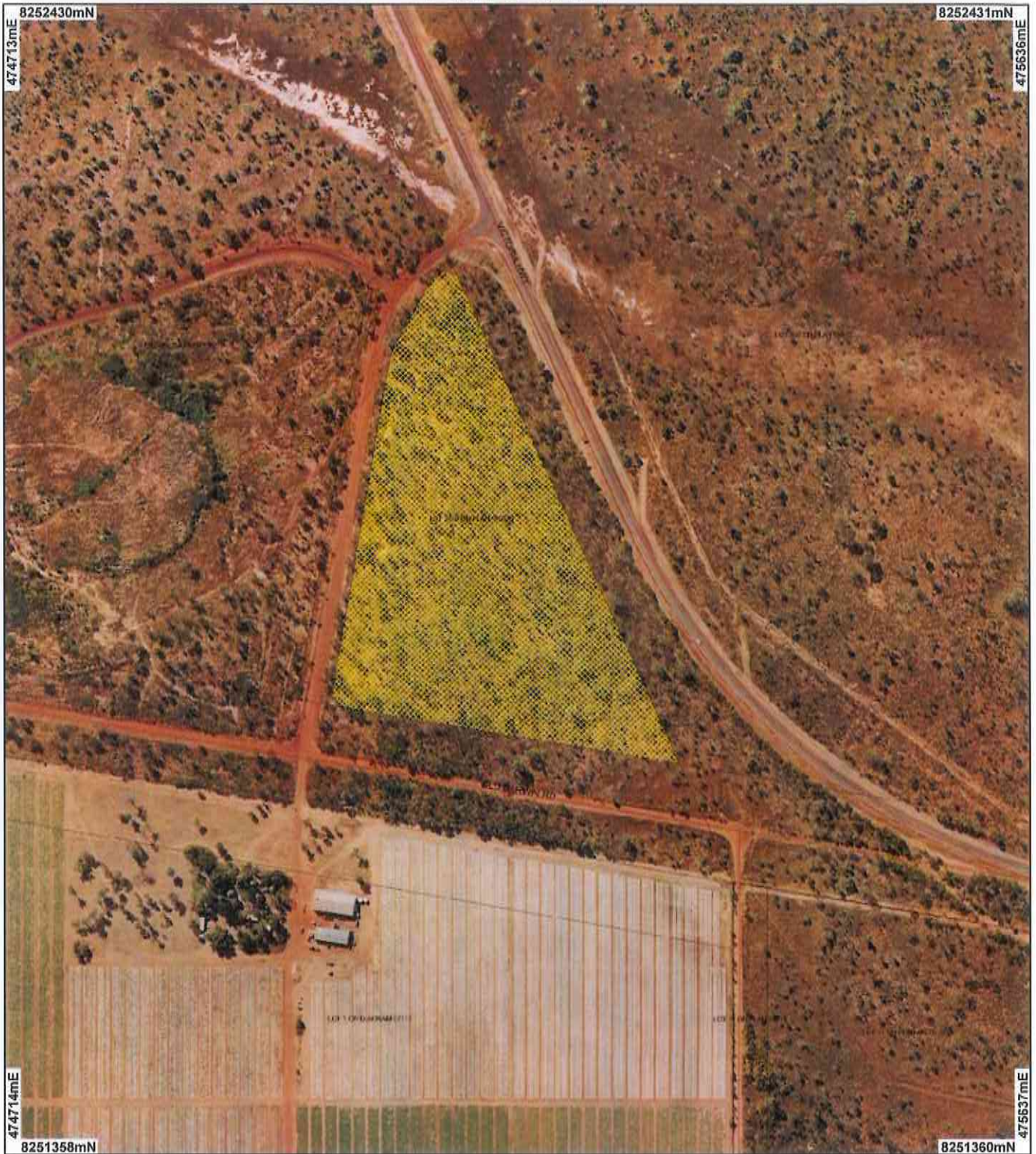


M Warnock
A/MANAGER
NATIVE VEGETATION CONSERVATION BRANCH




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

21 March 2013

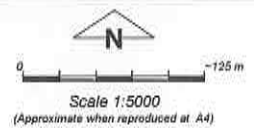
Plan 5431/1



LEGEND

-  Road Centrelines
-  Cadastre for labelling Clearing Instruments
-  Areas Approved to Clear

Kununurra 50cm Orthomosaic
- Landgate 2005



Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M Warnock Date 21/3/13
M Warnock

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.: 5431/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Shire of Wyndham East Kimberley

1.3. Property details

Property: LOT 2465 ON PLAN 195310 (KUNUNURRA 6743)
Local Government Area: Shire of Wyndham East Kimberley
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 March 2013

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Mapped Beard vegetation association 909 is described as Grasslands, high grass savanna woodland; bloodwood, stringybark & woollybutt over upland tall grass & curly spinifex on sandplain (Shepherd et al 2001).	<p>The application proposes to clear 7.45 hectares of native vegetation for the purpose of constructing the Kununurra Landfill Liquid Waste Facility, sullage pits and associated infrastructure.</p> <p>The area under application is open woodland with an over-storey containing <i>Erythrophleum chlorostchys</i>, <i>Adansonia gregorii</i>, <i>Gyrocarpus americanus</i> and numerous <i>Eucalypt</i> species (DEC 2013).</p> <p>The middle storey is patchy due to a fire occurring in September 2012, however it consists of <i>Cochlospermum fraseri</i>, <i>Acacia tumida</i> and <i>Brachychiton tuberculatus</i> occurring in clusters or single plants. The ground cover consists mostly of introduced grass species with some native species including <i>Platyzoma microphyllum</i> and <i>Triodia</i> sp (DEC 2013).</p>	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The condition of the native vegetation under application was determined by digital imagery (Kununurra 50cm Orthomosaic - Landgate 2005) and a site inspection undertaken by the Department of Environment and Conservation (DEC 2013).

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 application proposes to clear up to 7.45 hectares of native vegetation for the purpose of constructing the Kununurra Landfill Liquid Waste Facility, sullage pits and associated infrastructure.

Numerous flora species have been recorded within the local area (10 kilometre radius), suitable habitat has been identified within the application area for one Priority 1 and one Priority 3 flora species. There is little information on the preferred habitat for one Priority 1 flora species found within the local area (10 kilometre radius) and therefore suitable habitat may be located within the application area. During a site inspection undertaken by the Department of Environment and Conservation (DEC 2013) the Priority 3 flora species was identified.

The Priority 3 flora species found within the application commonly occurs on gently undulating plains from near seal level to 100 metres. Soils are invariably deep yellow or red sands. They are derived from sandstone, calcareous sandstone and conglomerate. This species occurs in eucalypt woodlands dominated by either

Eucalyptus tetrodonta or E.grandifolia or occasionally in frontage woodland usually dominated by Adansonia gregorii together with Melaleuca nervosa, M. Argentea, Terminalia platyphylla and occasionally E. Confertiflora.

The first Priority 1 flora species which could possibly occur within the application area occurs on silt and sandy clay in woodland of Corymbia, Eucalyptus and Adansonia gregorii. It has been recorded on sandstone amongst Triodia and on cracking clay in open scrub of Melaleuca viridiflora over very open grassland of Eragrostis tenellula. The second Priority 1 flora species has been found on cockatoo sand.

Two fauna species considered rare or likely to become extinct have been recorded within a 20 kilometre radius of the application area being, Erythrura gouldiae (Gouldian Finch) and Rhinonicteris aurantius (Orange Leafnosed-bat) (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.

Given the good (Keighery 1994) condition of the vegetation proposed to be cleared and priority flora species are located within the application area, the clearing as proposed may be at variance to this principle.

A targeted flora survey is required to determine the presence and population of priority flora and impacts of the proposed clearing on identified priority flora.

Methodology References:
- DEC (2013)
- DEC (2007-)
- Keighery (1994)

GIS databases:
- SAC Biodatasets - accessed January 2013

(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**

Two fauna species listed as 'rare or likely to become extinct' under the Wildlife Conservation Act 1950 have been recorded within a 20 kilometre radius of the application area being, Erythrura gouldiae (Gouldian Finch) and Rhinonicteris aurantius (Orange Leafnosed-bat) (DEC 2007-).

The Gouldian Finch inhabits open woodlands that are dominated by Eucalyptus trees and support a ground cover of Sorghum and other grasses. It has also been recorded in undescribed thickets of vegetation along streams and gorges, and at the margins of stands of mangroves. The Gouldian Finch drinks regularly and thus is often seen at watering points and associated habitat such as beds of grass and grass-covered banks around shallow waterholes, watercourses, soaks and springs (Department of Sustainability, Environment, Water, Population and Communities 2013a).

The Pilbara Leaf-nosed Bat is restricted to caves and mine adits (horizontal shafts) with stable, warm and humid microclimates because of its poor ability to thermoregulate and retain water. The roost is usually over pools of water in deeper mines, or deep within the mine or cave structure in an area that maintains elevated temperature and humidity. Thus, the roosting site is often at depth in mines; in small crevices within caves, usually those ascending between sedimentary rock layers; and with associated groundwater seeps (Department of Sustainability, Environment, Water, Population and Communities 2013b).

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.

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

Methodology References:
- DEC (2007-)
- Department of Sustainability, Environment, Water, Population and Communities (2013a).
- Department of Sustainability, Environment, Water, Population and Communities (2013b).

GIS databases:
- SAC Biodatasets - accessed January 2013

(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**

There are no records of rare flora located within the local area (10 kilometre radius).

The closest know record of a rare flora species is approximately 11 kilometres north west of the application area. This species is described as an erect perennial, herb found on dark grey clay and black soil and on sites which are waterlogged in summer and inundated after rain. Therefore suitable habitat is not located within the application area for this species.

Given the above, the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS databases:
- SAC Biodatasets - accessed January 2013

(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**
There are no records of threatened ecological communities (TEC) in the local area (10 kilometre radius).

The nearest TEC is 'Black Spring organic mound spring community' which is located approximately 255 kilometres west of the application area.

Given the above, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS databases:
- SAC Biodatasets - accessed January 2013

(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 Victoria Bonaparte Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 99 per cent of its Pre European vegetation extent remaining (Government of Western Australia 2011).

The vegetation under application is mapped as Beard Vegetation Association 909, which has approximately 99 per cent of its Pre-European extent remaining in the Victoria Bonaparte bioregion (Government of Western Australia 2011).

Digital imagery (Kununurra 50cm Orthomosaic - Landgate 2005) indicates that the local area (10 kilometre 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 (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Victoria Bonaparte	1,871,372	1,847,490	99	16
Shire*				
Shire of Wyndham East Kimberley		11,188,851	11,015,748	98
				13
Beard Vegetation Association in Bioregion*				
998	281,416	278,754	99	17

*Government of Western Australia (2011)

Methodology References:
Government of Western Australia (2011)

GIS Database:
- IBRA Australia
- Local Government Authority
- Pre-European vegetation
- Kununurra 50cm Orthomosaic - Landgate 2005
- SAC Biodatasets - accessed January 2013

(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 watercourses or wetlands are mapped within the area under application. A minor non-perennial watercourse is located approximately 70 metres north of Lot 2465 which drains into a seasonally-inundated wetland area 70 metres to the west of the area under application.

A site inspection (DEC 2013) identified some sites of inundation in the northern section of the application area, two drainage basins were noted and a drainage line/gutter rain parallel with the road. Given that damp areas were located within the application area the vegetation proposed to be cleared is considered to be associated with a wetland or watercourse.

The natural drainage of Lot 2465 is to the north east, directly toward an existing damp land/swamp. Any eroded material could potentially be deposited in this damp land/swamp (DEC 2013).

As the area under application is located close to a waterway, the Department of Water (DoW 2013) recommends that best practice management of erosion and storm water runoff be used during clearing of the site to minimise impacts on water quality, this includes undertaking clearing of vegetation during the dry season.

Given the above the clearing as proposed is at variance to this principle.

Methodology **References:**
- DEC (2013)

GIS Databases:
- Hydrology, 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**
Mapped soil type B31 is described as 'Gently undulating sandy plains with very small areas of low bouldery sandstone hills: chief soils are deep red and yellow siliceous sands' (Northcote et al 1960 - 1968).

Given the sandy nature of the soil the application may be prone to wind erosion.

The Kimberley region can experience significant rain events which may result in water erosion (DEC 2013).

Given the above the clearing as proposed may be at variance to this principle.

Clearing outside of the wet season will ensure that water erosion does not occur.

Methodology **References:**
- DEC (2013)
- Northcote et al (1960 - 1968)

GIS Database:
- 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**
Two conservation areas are located within the local area (10 kilometre radius). Mirima National Park and Darram Conservation Park are located approximately 1.2km north and 2.8 km west of the application area respectively.

A large proportion of the vegetation in the Victoria Bonaparte bioregion remains uncleared, approximately 99 per cent (Government of Western Australia 2011). Therefore, it is unlikely that the application area provides an important buffer or ecological linkage to the two nature reserves.

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

Methodology **Reference:**
- Government of Western Australia (2011)

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 may be at variance to this Principle

No watercourse or wetlands are mapped within the area under application. A minor non-perennial watercourse is located approximately 70 metres north of Lot 2465 which drains into a seasonally-inundated wetland area 70 metres to the west of the area under application.

A site inspection identified some sites of inundation in the northern section of the application area, two drainage basins were noted and a drainage line/gutter rain parallel with the road. Given damp areas were located within the application area the vegetation proposed to be cleared is considered to be associated with a wetland or watercourse.

The natural drainage of Lot 2465 is to the north east, directly toward an existing damp land/swamp. Any eroded material could potentially be deposited in this damp land/swamp (DEC 2013).

As the area under application is located close to a waterway, the Department of Water (DoW 2013) recommends that best practice management of erosion and storm water runoff be used during clearing of the site to minimise impacts on water quality, this includes undertaking clearing of vegetation during the dry season.

DoW (2013) has identified a number of water quality risks associated with the proposed land use. These include contamination from overflows, inappropriate management of potentially contaminated stormwater and contamination to groundwater due to high groundwater levels and waterlogging in this area. Although there are possible risks that might impact surface and groundwater quality, it is noted this will be as a result of the end land use and not the proposed clearing.

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

Clearing outside of the wet season and the retention of a 50 metre buffer to any known watercourse will reduce the risk of sedimentation of watercourses.

Methodology References:
- DEC (2013)
- DoW (2013)

GIS Databases:
- Hydrology, linear

(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 may occur in the Kimberley region following cyclonic activity. However, the proposed clearing is not expected to increase the incidence or intensity of flooding.

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

The application proposes to clear up to 7.45 hectares of native vegetation for the purpose of constructing the Kununurra Landfill Liquid Waste Facility, sullage pits and associated infrastructure.

DoW (2013) has identified a number of water quality risks associated with the proposed land use. These include contamination from overflows, inappropriate management of potentially contaminated stormwater and contamination to groundwater due to high groundwater levels and waterlogging in this area.

DEC's industry regulation team in Kununurra have advised that the existing liquid waste ponds do not have the capacity to handle the current influx of liquid waste and as a result overflow is a risk. The construction of the proposed liquid waste ponds will therefore reduce the risk of surface water and groundwater contamination due to overflows (Dow 2013). DEC's industry regulation team are currently in the process of finalising the works approval (DEC 2012b).

The proposed land use poses a significant risk to groundwater quality due to the high groundwater levels and waterlogging in this area. DoW's standard advice is that a minimum vertical separation distance of 3 metres

is required between liquid waste ponds and the maximum groundwater level. Whilst the DoW does not have any site specific information for the area under application, groundwater levels recorded in a monitoring bore approximately 290 m south west of Lot 2465 show a depth to groundwater at less than 3m.

DoW (2013) noted that the area under application is a less than suitable location for the proposed land use. However, the DoW recognises that there are issues with the existing facility that pose a significant risk to water resources and that the construction of the proposed liquid waste ponds will rescue the overall risks to water resources in this location.

DEC's industry regulation team is working to relocate the landfill facility to a more appropriate site, and that the current aspiration indicated this will occur in five years (DoW 2013). Therefore DoW (2013) has no objection to the intended land use associated with this clearing permit.

The area under application is located within the Canning-Kimberley Groundwater area, Ord river and Tributaries Surface Water Area and the Ord Irrigation District all of which are proclaimed under the Rights in Water and Irrigation Act 1914 (RIWI Act). If Shire of Wyndham-East Kimberley requires groundwater or surface water for any purpose they will need to apply for a 5C licence to take water (DoW 2013).

Methodology

References:
- DoW (2013)

4. References

- DEC (2013) Site Inspection Report for Clearing Permit Application CPS 5431/1, Lot 2465 Corner Old Darwin Road and Victoria Hwy, Kununurra. Site inspection undertaken 14 February 2013. Department of Environment and Conservation, Western Australia (DEC Ref: A606739).
- Department of Sustainability, Environment, Water, Population and Communities (2013a). *Erythura gouldiae* in Species Profile and Threats Database, Department of Sustainability, Environment, Water, Population and Communities, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed Mon, 25 Feb 2013.
- Department of Sustainability, Environment, Water, Population and Communities (2013b). *Rhinonictis aurantia* (Pilbara form) in Species Profile and Threats Database, Department of Sustainability, Environment, Water, Population and Communities, Canberra. Available from: <http://www.environment.gov.au/sprat>. Accessed Mon, 25 Feb 2013.
- DoW (2013) Advice for Clearing Permit CPS 5431/1. Department of Water. Western Australia. DEC Ref: A600929
- Government of Western Australia (2011); 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- 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.
- 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)