Wallwork Road

Environmental Impact Assessment

Preliminary Investigation

Prepared by: Anthony Williams
Date: 22 April 2010
Revision: 0

CONTENTS

1.0 PROJECT LOCATION

The proposed project site and construction works will be located along the full length of Wallwork road (SLK 0 to SLK 1.10) and extends 250m West of Wallwork Rd into the road reserve and Crown Land in South Hedland, WA. A graded separation (bridge) is to be constructed over the rail line that intersects Wallwork Rd at SLK 0.74 and a temporary detour road is to be constructed to the West of Wallwork Rd for use until the bridge construction is complete (see Figure 1a).

2.0 BACKGROUND

A strategy of BHP Billiton's RGP5 is the duplication of the rail network from Newman to Port Hedland, including the current signalized crossing on Wallwork road, South Hedland. Due to this, it became necessary for a graded separation (bridge) to be constructed so that vehicular traffic was no longer impacted by rail movements. The bridge will be dual lanes (4 lanes total) in each direction over a rail corridor suitable for 4 train lines.

The bridge itself will be constructed within the current road reserve for Wallwork Road; however a temporary side track will be constructed to divert traffic around Wallwork road during bridge construction. This temporary track will be on greenfield land that is currently covered only by native vegetation.

3.0 PROJECT DESCRIPTION

The proposed works will consist of:

- 4 lane traffic bridge with enough clearance to allow for 4 rail lines within the Wallwork Road reserve.
- Upgrading Wallwork Road from a two lane road to a four lane road.
- Intersection improvements at Pinga St/Wallwork Rd intersection & Wallwork Rd/North Circular Rd intersetion.
- Temporary detour road with rail crossing

The works will include road construction, bridge construction, road widening, construction of ancillary drainage works and the installation of pavement marking and signs.

The location and boundaries of the study area are shown on Figures 1a and 1b.

4.0 METHODOLOGY

4.1 Aspects & Constraints

A preliminary assessment of the project area and its potential environmental constraints was undertaken by compiling information from the Comparative Environmental Assessment of the Route Options for Reconfiguration of the Great Northern Highway at Port Hedland (BG&E 2008) & Main Roads' environmental assessment for the Port Hedland intersections project (2008), which incorporated part of this study area in its investigation.

4.1.1 Wetlands

The locations of wetlands within the project area was determined using the Commonwealth DEWHA mapping tool and the DEC Geographic Data Atlas mapping tool. No wetlands are present within or near the project area.

4.1.2 Threatened Flora, Fauna and Communities, Reserves and ESAs

A DEC database search was conducted for threatened and priority fauna as part of the CEA. Two priority species were recorded in the vicinity of the Port Hedland area and no threatened fauna records were found in the immediate study area (BG&E 2008). The EPBC Act Protected Matter search tool identified no known threatened species that would be affected by the project. Migratory species identified in this search have a range far exceeding the proposed route option clearing areas (BG&E 2008) and therefore are not considered to be an issue.

4.1.3 Air Quality

The need for a local air quality assessment was determined not necessary.

4.1.4 Heritage

Non indigenous heritage was examined utilising the Australian Heritage Places Inventory. No known Matters of National Environmental Significance will be impacted.

4.1.5 Aboriginal Heritage

The project has pending heritage clearance from the traditional owners with Marapikurrinya Pty Ltd.
Also, a DIA AHIS search has been conducted and no sites have been found within or near the project area.

4.1.6 Sensitive Water Resources

None present within or near the project area.

4.1.7 Contaminated Sites

No contaminated sites have been found and a large majority of the proposed work falls within existing road reserves. These have not been used for any activity that may have caused contamination.

4.1.8 Acid Sulphate Soils

No further investigations are necessary as there is no dewatering or excavation below the water table.

4.1.9 Weeds

Numerous common weed species occur throughout the proposed works areas however no declared plants are present in the project area. Two introduced species (Kapok Bush *Aerva javanica* & Buffel Grass *Cenchrus ciliaris*) were found though coverage was limited and impact was minimal.

4.1.10 Dieback

Not applicable to this area as the project area is above the 26` parallel.

5.0 EXISTING ENVIRONMENT

5.1 Description

The proposed project area occurs within Vegetation Association number 645 which is described as *Hummock Grasslands, dwarf-shrub steppe; Acacia translucens over soft spinifex.* According to the Native Vegetation Association Data (DEC & DAF) this Vegetation Association is well represented in the region with 100% pre-European extent remaining. The condition of the vegetation at this location is best described as Good-Degraded in quality. Vegetation Association number 647 has been identified by Beard (1975) as extending approximately 50 km east and approximately 120 km west along the coast from Port Hedland, with a maximum distance of 50 km inland.
This project will clear approximately 3.6 ha of native vegetation over the 15 ha area. No known threatened or priority fauna is found in this area. All cleared top soil will be stockpiled and used to line the road shoulders of the completed road.

The Project area does not have any known species or communities that are listed as Threatened Ecological Communities (TEC's) under the *Environment Protection and Biodiversity Conservation Act 1999*, or as Environmentally Sensitive Areas (ESA's) under the *Environmental Protection Act 1986* (WA), or as Priority Ecological Communities (PEC's) by the Department of Environment and Conservation.
Photos of the area have been taken and have been included in Appendix C.

Table 1: Regional Representation of Vegetation Types in the Project Area

	Pre-European area (ha)*	Current extent (ha)*	Remaining (%)*	Pre-European % in IUCN Class I-IV Reserves*	Conservation Status**	TOPH Vegetation Associations
IBRA Bioregion – Pilbara	17,804,187	17,794,646	~99.9	6.3	Least Concern	N/A
Vegetation Type – State						
647	196,371	196,371	~100	0	Least Concern	1a, 1b, 2a
Vegetation Type – Bioregion – Pilbara						
647	196,371	196,371	~100	0	Least Concern	1a, 1b, 2a

* Shepherd *et al.* (2001) and DAFWA (2007b); ** Department of Natural Resources and Environment (2002)

5.2 Site Investigation

A site visit to examine the area was carried out by Project Officer Anthony Williams (ToPH) on 23/04/2010.

Site Investigation	Description/Comment
Total area (ha) of native vegetation to be cleared	3.6 ha
Total area (ha) of other vegetation (e.g. regrowth, landscape areas), to be cleared	0.0ha
Weeds present	Yes; *Kapok Bush & Buffel Grass* (no declared weeds)
Drainage areas or wetlands present	Crossing over open flood drain. No wetlands present

Adjacent land uses	Vacant land. Existing road & rail corridors.

6.0 CLEARING OF NATIVE VEGETATION

Native Vegetation describes all indigenous aquatic and terrestrial vegetation (living or dead). The term does not include vegetation that was intentionally sown, planted or propagated unless it was required under statutory condition.

Apart from activities that are exempt under the clearing regulations, such as clearing vegetation that is less than 10 years old for maintenance, typically all Main Roads clearing will be undertaken using its Statewide Project Purpose Permit. This project is being undertaken by ToPH in conjunction with MRWA. The clearing will be carried out using the MRWA CPS 818/4 as there will be benefit to MRWA, has been approved to do so(granted by MRWA Pilbara region Regional Manager Ian Fennell), and ToPH has adequate resources to comply with all of CPS 818/4 Permit conditions.

6.1 Assessment against Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the DEC's 10 Clearing Principles, refer to Appendix B.

7.0 DECISION TO REFER

The decision whether to refer the project to the Commonwealth's DEWR was based upon whether the project would impact upon matters of national significance.

Given the scale of the project and the environmental management measures proposed, the project does not require referral to the WA Environmental Protection Authority or the Commonwealth Department of the Environment and Water Resources.

8.0 ASSESSMENT OF ASPECTS AND IMPACTS

Table 3: Aspects and Impacts – *Wallwork Road Bridge*

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works.
Dust	Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works. Activities will need to be subject to dust suppression to control short-term dust generation. Likely to be easily managed by standard construction dust management techniques. Temporary detour road will be sealed to alleviate dust production by road users.
Fauna	No significant fauna issues are associated with any of the proposed upgrade works.
Vegetation – clearing	• 3.6 ha of native vegetation will be cleared. • All cleared vegetation will be naturally revegetated over time. • The condition of the native vegetation to be cleared ranges from poor to fair. • The native vegetation to be cleared is well represented regionally. • The native vegetation to be cleared does not occur within an ESA.
Vegetation – TECs/DRF	None present in the work zone (road reserve)
Vegetation – weeds	Numerous common weed species occur throughout the proposed works areas however no declared plants are present in the project area. Although these common species are likely to be widespread within the general area the risk of spreading these weeds species as part of the proposed work should be minimised. Standard weed hygiene measures should be applied for all earthworks in the area, including ensuring that plant and equipment brought on to the site are clean of soil.

Table 3: Aspects and Impacts – *Wallwork Road Bridge*

Aspect	Evaluation of Potential Impacts
Vegetation – dieback	Not applicable.
Reserves / Conservation areas	There are no conservation areas or reserves near the project area.
Heritage (non-indigenous)	There are no registered European Heritage sites within or adjacent to the work site. No known Matters of National Environmental Significance will be impacted.
Aboriginal heritage	Aboriginal heritage field surveys are currently being undertaken with Marapikurrinya Pty Ltd.
Surface water/drainage	The proposed works will not disturb or interrupt any natural drainage or surface run-off patterns and the works are not located within a proclaimed surface water area.
Wetlands	No wetlands occur within the proposed works site
Groundwater	No dewatering or drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	No major sensitive local receivers. Construction works is not be expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours. The requirements of the Town of Port Hedland must be met in respect of noise management and construction working hours.
Visual amenity	The proposed works will result in minor and short-term visual impacts, revegetation will occur post construction.
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety. The proposed works will serve to enhance public safety by improving traffic flow on Wallwork Road.
Hazardous substances	Not relevant to the proposed works.
Contamination	Given the relatively superficial nature of the required earthworks, there appears to be a low risk of any significant contamination issues.
Salinity	There were no visual signs of salinity observed in the project area.
Acid Sulfate Soils	The site is not within an Acid Sulfate Soils risk area and the project requires no dewatering or excavation below the water table.
Statutory Land Use Planning	The proposed works are within the existing road reserve. No further amendments would be required to the Local Government Planning Scheme or Region Scheme.

9.0 REFERENCES

Golder Associates (2008) Comparative Environmental Assessment of Route Options for Reconfiguration of The Great Northern Highway at Port Hedland, WA. Prepared for BG&E and Main Roads WA, February 2008.

Main Roads Preliminary Environmental Impact Assessment for the Port Hedland Intersections project. Prepared by Jeremy Burkett – Project Manager, Main Roads Western Australia. 17 April 2008

Flora & Vegetation Assessment for the Wallwork Road Bridge project. Report No 10/013 Prepared for BHPBIO by Kerryn McCann – ENV Australia. 16 April 2010

Fauna Assessment for the Wallwork Road Bridge project. Report No 10/014 Prepared for BHPBIO by Michael Brown – ENV Australia. 16 April 2010

Beard, JS (1975). Vegetation Survey of Western Australia: Sheet 5 Pilbara, University of Western Australia Press, Perth, Western Australia.

FIGURE 1a

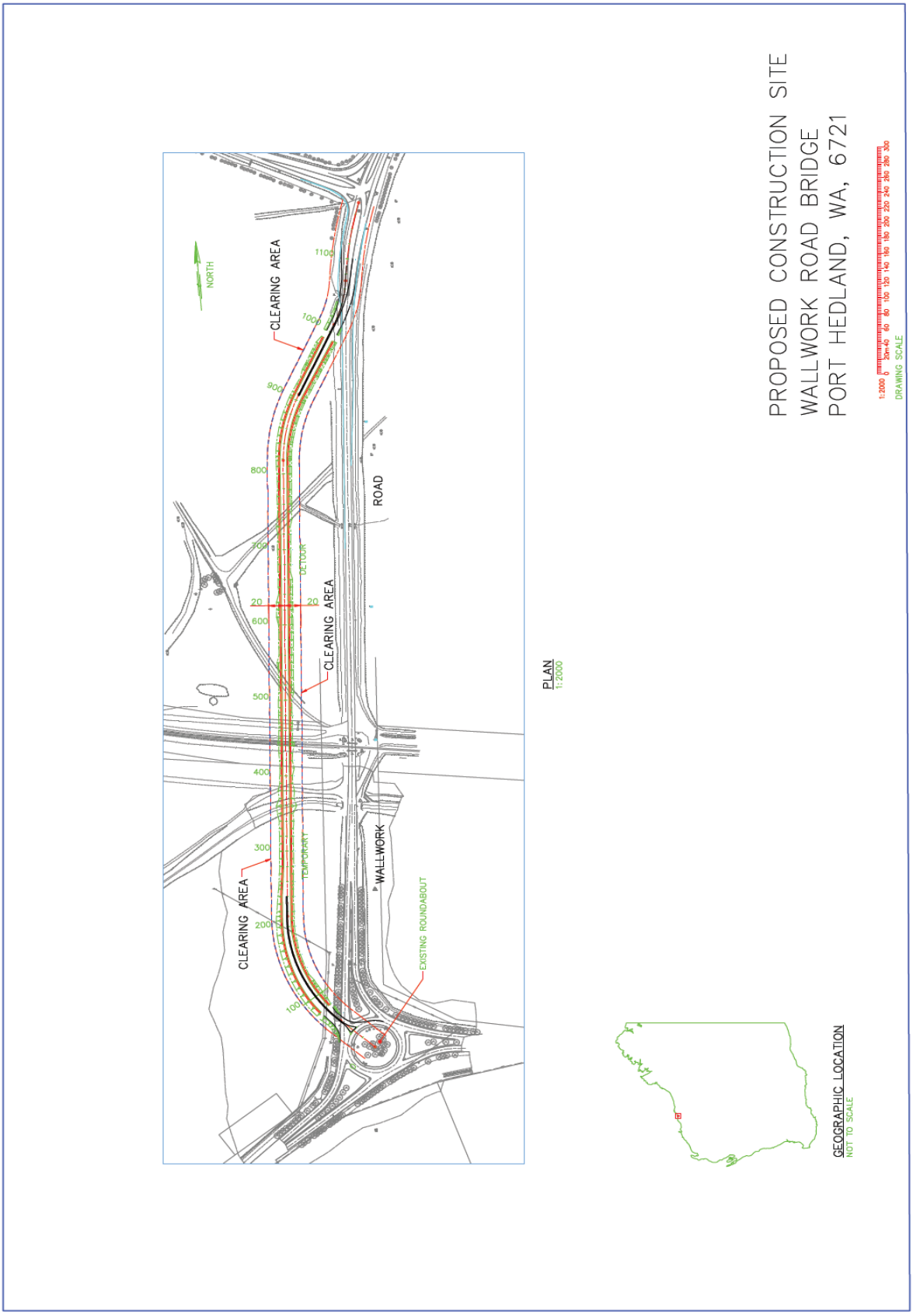

Figure 1a: Construction drawing of Wallwork Road project

FIGURE 1b

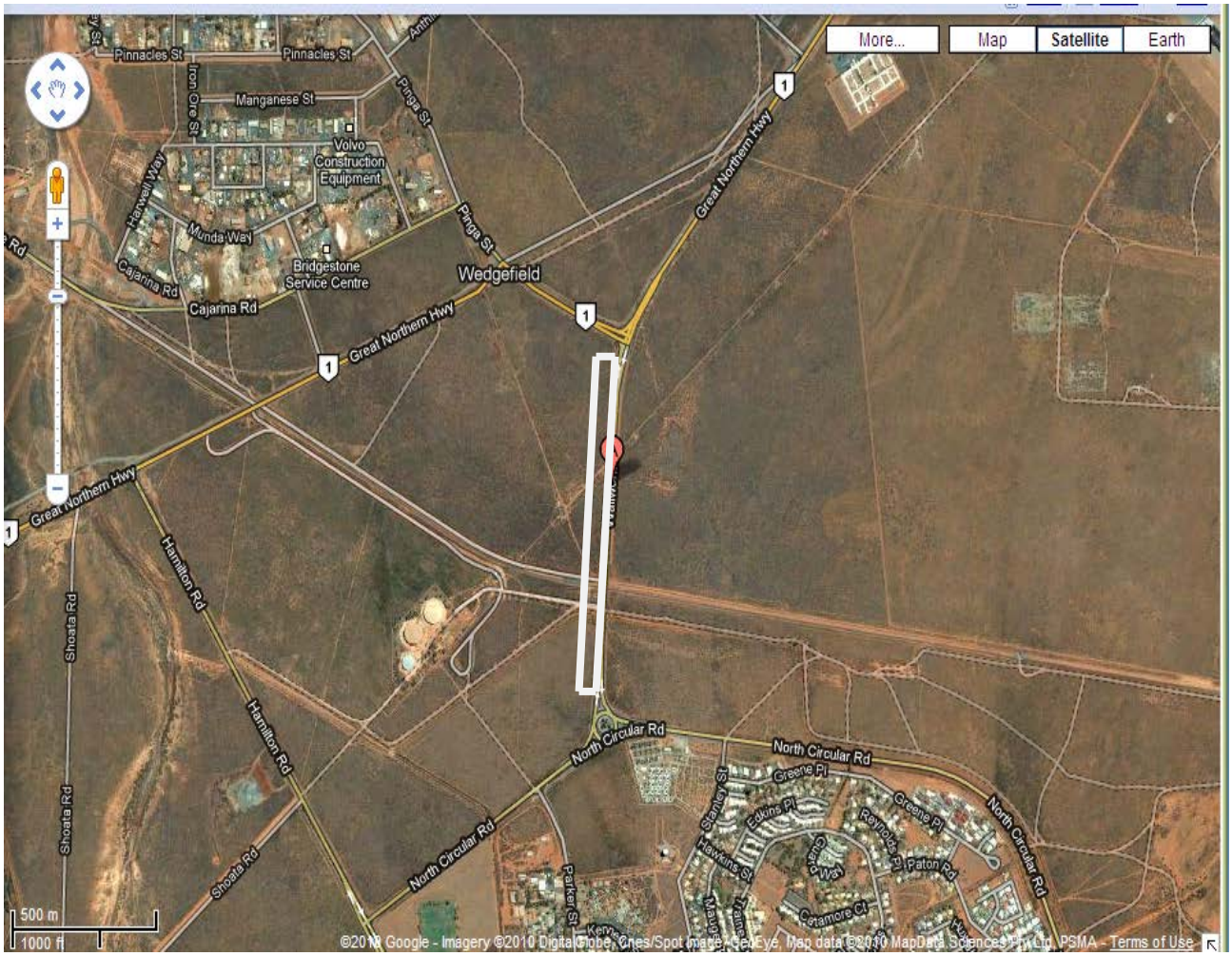

Figure 1b: Locality of Wallwork Road project area

Form No. 6707/001/01

Checklist - Low Impact Screening Checklist

The Low Impact Screening Checklist is part of the environmental assessment and approval process, refer to in Figure 2 in the Main Roads environmental guideline Environment Assessment and Approvals. It should be noted that the checklist does not address Aboriginal heritage issues. Please refer to Main Roads guideline *Aboriginal Heritage* for the heritage assessment process.

All projects are to be screened to identify those that are Low Impact.

Projects that have "No" to **all** items are classed as Low Impact and should be implemented using standard contract clauses in the Tender Document Process.
Projects that have "Yes" to **any** item will require further environmental assessment and will be implemented using an Environmental Management Plan.
Tick "Yes" or "No" for every item.

Project Name Wallwork Road Bridge

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.		✓
2	Works require clearing of native vegetation outside the maintenance zone.	✓	
3	Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.		✓
4	Works to occur outside normal working hours.		✓
5	Passes over, adjoins or drains directly into a wetland or sensitive watercourse.		✓
6	Local natural drainage regime / hydrology will be changed.		✓
7	Dewatering, or a new water bore required.		✓
8	Known potential source of hazardous materials within or adjoining project area. e.g. Acid Sulphate Soils, existing petrol station, industrial site or waste disposal site (landfill)		✓
9	Buildings will require demolition.		✓

Completed By: *Signature* R. Dyer *Date* 28/7/2010
Name Russell Dyer *Title* Director Engineering ToPH

To be reviewed by a Main Roads Environment Officer: *Signature* [signature] *Date* 28/7/2010
Name Fiona van Rijnswoud *Title* Environment Officer (MRWA)

Comments:
Clearing to be undertaken utilising the MRWA CPS 818/4 Clearing Permit. Works to be done in conjunction with the Town of Port Hedland.

MAIN ROADS Western Australia
Form 670700101 Screening Checklist Rev 3.doc 30/05/07

MRWA Vegetation Clearing Assessment Report

This report has been prepared to assist MRWA in addressing condition 7 "Assessment of Clearing Impacts" under Clearing Permit CPS 818/3.

For guidance on how to complete the form, refer to DEC completed reports (active permits) at http://203.20.251.100/cps_reports/.

AREA UNDER ASSESSMENT DETAILS

Proponent details

Proponent's name: **MRWA**

Contacts:
Name: Fiona van Rijnswoud
Phone: 9172 8820
Fax: 9140 1076
Email: fiona.vanrijnswoud@mainroads.wa.gov.au

Property details

Property: Wallwork Road Bridge

Colloquial name:

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
3.6ha	-	Mechanical	Bridge Construction (temporary access track)	X Yes ☐ No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

BACKGROUND

Existing environment and information

Description of the native vegetation under application

(suggestion: To determine Vegetation Condition use - Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.)

Site Visit Undertaken	X Yes	☐ No	Fauna / Flora Survey Undertaken	X Yes	☐ No
Site Report Attached	X Yes	☐ No	Fauna / Flora Survey Report Attached	X Yes	☐ No
Site Photos Attached	X Yes	☐ No	Other Relevant References Attached	X Yes	☐ No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
Vegetation Association No. 647			

ASSESSMENT OF APPLICATION AGAINST CLEARING PRINCIPLES

1.1.1.1 (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 area under application consists of Hummock Grasslands over soft Spinifex (Vegetation Association number 647) which is well represented with 100% pre-European extent remaining. The area is considered to be of a degraded and poor quality nature as it is within close proximity to the road reserve and the area consists of a number of dirt tracks that are frequented by off road bikes and 4-wheelers.

Methodology Site visit 23/04/2010
NRM SLIP Database

(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 native vegetation in the area is considered to be of good to degraded in quality and does not act as a wildlife corridor as the footprint to be cleared runs parallel to the current Wallwork Road, which already acts as a barrier for any wildlife corridors. The site already contains an existing track that is frequented by dirt bikes and off road vehicles.

Methodology Site visit 23/04/2010

1.1.1.2 (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

As with Clearing Principle B, the site is considered to be somewhat degraded in nature. The project area does not include any known rare flora.

Methodology Site visit 23/04/2010
ArcGis Database Search

1.1.1.3 (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

The project area is not located within or adjacent to any known Threatened Ecological Communities (TEC's) and therefore it is expected that this proposal will not likely be at variance to this Principle.

Methodology Site visit 23/04/2010
ArcGis Database Search

1.1.1.4 (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 clearing proposal occurs within Vegetation Association number 647 which is well represented with 100% of the pre-European extent remaining. Therefore it is unlikely that this project will be at variance to this clearing principle.

Methodology Site Visit 23/04/2010
NRM Slip Database Search
ArcGis Database Search

1.1.1.5 (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 project area does not occur within a wetland or watercourse and any vegetation that will be cleared is not growing in or existing in association with an environment associated with a watercourse or wetland.

Methodology Site visit 23/04/2010
ArcGis Database Search
NRM Slip Database Search

1.1.1.6 (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

Works associated with this project will only involve mechanical vegetation removal and will not impact on any water bodies or other environmental factors. Considering the industrial nature of the area, the works are not expected to cause considerable land degradation.

Methodology Site visit 23/04/2010

1.1.1.7 (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
The project area is not near any conservation areas and therefore not likely to be at variance with this Clearing Principle.

Methodology ArcGis Database Search
Site Visit 23/04/2010

1.1.1.8 (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 area under application receives less than 400mm of annual rainfall (average 329mm/annum). Due to the low rainfall rate, the proposal will not cause deterioration in the quality of surface or underground water and therefore will not likely be at variance to this Principle.

Methodology Site visit 23/04/2010

1.1.1.9 (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
Due to the nature of the soils and the relatively low amount of rainfall, the proposal will not exacerbate the incidence of flooding and therefore is not likely to be at variance with this Clearing Principle.

Methodology Site visit 23/04/2010
ArcGis Database Search

1.1.1.10 Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

Methodology

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised / Comments Made

ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance **Recommendation:**

References

OFFICER/s PREPARING REPORT

Fiona van Rijnswoud (MRWA (with Anthony Williams (ToPH))

Position: Environment Officer
Pilbara Regional Office
MRWA
9172 8820

28/07/2010

APPENDIX C – SITE PHOTOS

Road reserve along western boundary of Wallwork Rd

Vegetation either side of drainage reserve parallel with rail line

Verge trees along Pinga St

Typical vegetation covering the majority of the area