PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN (MINOR PROJECTS)
Great Northern Highway Material Pit SLK 1622.00

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PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN (MINOR PROJECTS)

MATERIAL PIT SLK 1622.00

1 INTRODUCTION

Main Roads Pilbara is proposing to realign Great Northern Highway to accommodate current and future transport needs between South Hedland and Port Hedland and also to improve freight access requirements to the port itself.

The location of a suitable materials pit on Great Northern Highway (H006) at SLK 1622.00 in Pippingarra for the commencement of the Great Northern Highway realignment project has been identified based on its close proximity to the project area, reducing haulage movements.

2 DESCRIPTION OF THE PROJECT

It is proposed that clearing endorsements be obtained for the potential material pit site along Great Northern Highway (H006) at SLK 1622.00. The proposed material site is located 640m off the road.
The proposed works will require the clearing of 100ha of native vegetation in a 1km^2 area to allow for the extraction of embankment fill material.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal, refer to Appendix A. As the proposed works involves clearing of native vegetation outside the maintenance zone, the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

2.1 Project Location

The location and boundaries of the study area are shown on Figure 1 and include the following features:

- Material pit on Great Northern Highway at SLK 1622.00, Pippingarra.

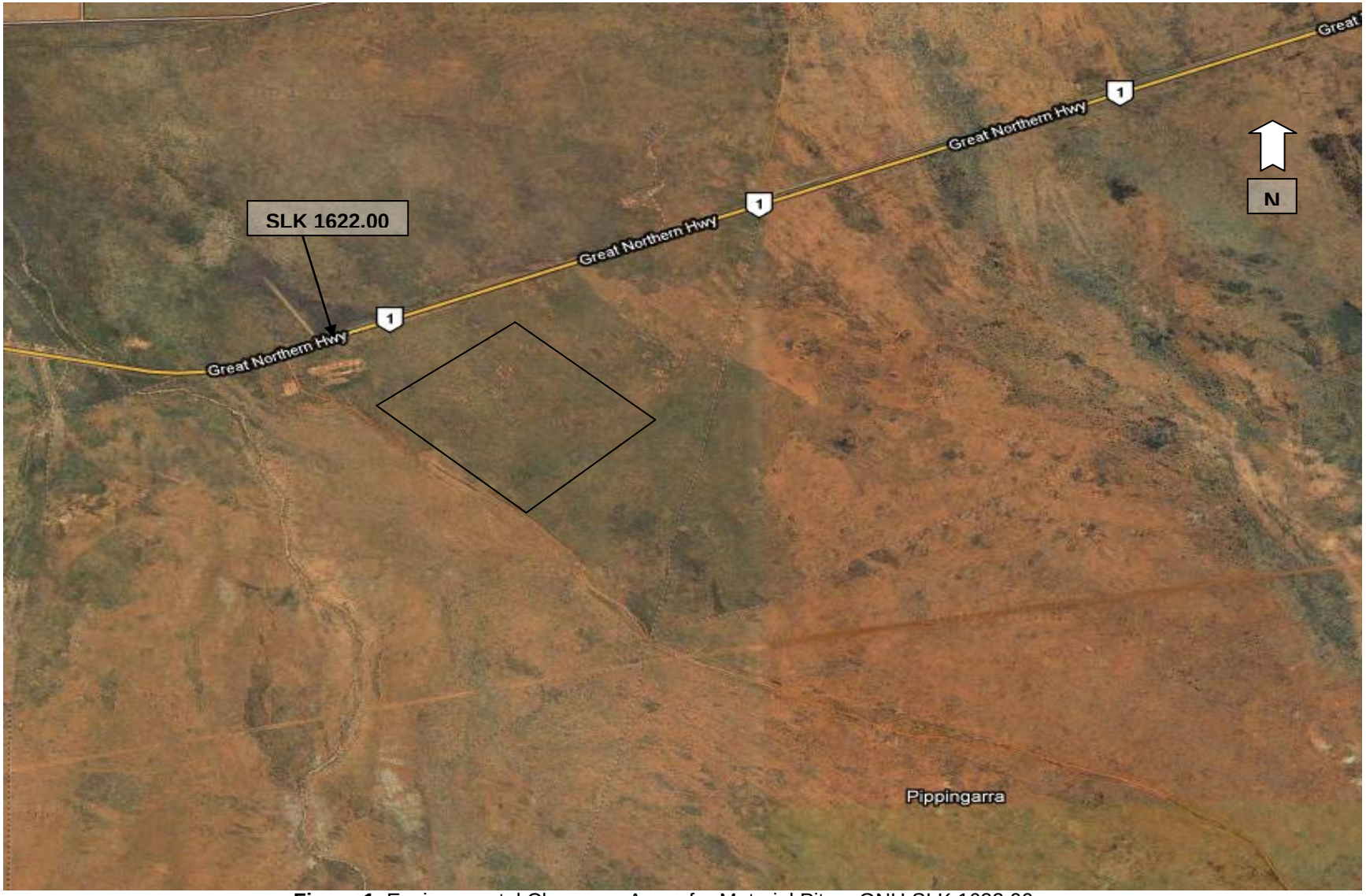


Figure 1: Environmental Clearance Areas for Material Pit on GNH SLK 1622.00

3 METHODOLOGY

3.1 Preliminary Desktop Study

A preliminary assessment of the project area and its potential constraints was undertaken by reviewing a number of government agency managed databases (and consulting where necessary).

3.1.1 Wetlands

The locations of wetlands within the project area was determined using the Commonwealth Department of the Environmental and Heritage (DEH) mapping tool, Department of Environment and Conservation (DEC) Geographic Data Atlas mapping tool and by seeking advice from the regional DEC officer.

3.1.2 Threatened Flora, Fauna and Communities, Conservation Reserves and ESAs

DEC's database was searched for known populations of threatened flora, fauna and Threatened Ecological Communities (TECs) and conservation reserves, refer to Appendix B.

3.1.3 Air Quality

The need for a local air quality assessment was determined using the criteria outlined in the MRWA environmental guideline, Air Quality.

3.1.4 Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (http://www.heritage.gov.au), Heritage Council of Western Australia (http://register.heritage.wa.gov.au/) and the Town of Port Hedland's Municipal Heritage Inventory, refer to Appendix C.

3.1.5 Aboriginal Heritage

A Search of the Department of Indigenous Affairs' (DIA's) (http://www.dia.wa.gov.au/Heritage/SitesSurveysSearch.aspx) database was undertaken to determine whether the project area contains any sites of Aboriginal heritage, refer to Appendix D.

3.1.6 Sensitive Water Resources

The Commonwealth Department of the Environment and Heritage (DEH) mapping tool and Department of Environment and Conservation (DEC) Geographic Data Atlas mapping tool was used to determine whether the project area supported, or was adjacent to, any significant lakes, rivers or wetlands or proclaimed areas.

3.1.7 Contaminated Sites

The reserve has been in Main Roads continual control, therefore no further work will be necessary/required.

3.1.8 Acid Sulfate Soils

The Western Australian Planning Commission's (WAPC'c) acid sulfate soils ASSRM dataset (Pilbara Coast) and the updated Planning Bulletin 64/2009 was reviewed (http://www.wapc.wa.gov.au/Publications/213.aspx) to determine what level of risk the project area is exposed to, refer to Appendix F.

3.1.9 Weeds

An onsite investigation of the project area was undertaken to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area.

3.1.10 Dieback

Project receives <400 mm of rain so determined not to be an issue.

3.2 Commonwealth Referral

The decision whether to refer the project to the Commonwealth's DEH was based upon whether the project would impact upon matters of national significance, e.g. World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions (refer to the Commonwealth webpage www.deh.gov.au/epbc/assessmentsapprovals/index.html for further information and the search tool page at http://www.deh.gov.au/erin/ert/epbc/imap/map.html), refer to Appendix E.

3.3 Site Investigation

A site visit was carried out by Senior Project Manager Andrew Pyke and Graduate Environment Officer Fiona van Rijnswoud on 29th January 2010 to examine the general features of the area. The broad vegetation types in the vicinity of the project area were identified. Other issues that were considered included topography, the impacts on creek lines, property access and the potential for noise and vibration impacts (dilapidation).

4 EXISTING ENVIRONMENT

4.1 Description

The proposed material pit occurs within vegetation associations 589 and 647 which are described as "*Mosaic: Short bunched grassland-savanna/grass plain (Pilbara)/Hummock grasslands, grass steppe; soft Spinifex*" and "*Hummock grasslands, dwarf-scrub steppe; Acacia translucens over soft Spinifex*", respectively. According to the Native Vegetation Association Data (DEC & DAF), these vegetation associations are described as well represented in the region with both associations having 100% pre-European extent remaining.

4.2 Site Investigation

Site Investigation	**Description/Comment**
Total area (ha) of native vegetation to be cleared	100 ha
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	0
Weeds present	Buffel Grass
Drainage areas or wetlands present	Nil
Adjacent land uses	Pastoral

5 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 a 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.

5.1 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 principles of clearing, refer to Appendix H.

The project is not likely to be at variance with the DEC's 10 clearing principles.

5.2 Environmentally Sensitive Area (ESA)

Clearing within an Environmentally Sensitive Area (ESA)	Yes/ No	Comments
Does the area to be cleared occur within an ESA where the vegetation is in good or better condition?	No	

6 ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – GNH Material Pit SLK 1622.00

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works. Local air quality assessment is not required for the project since: • the predicted traffic flow is less than 10,000 vehicles per day (in urban areas) or 15,000 vehicles per day in rural areas and; • residential and other sensitive receptors are not within 200 meters of the road centre
Dust	Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works.
Fauna	No significant fauna issues associated with any of the proposed upgrade works. With the generally degraded and exposed nature of the works areas, no significant impacts would be expected on native fauna generally as a result of the proposed works.
Vegetation – clearing	• Approximately 100 ha of native vegetation will be cleared. • The project will involve temporary clearing and so will require revegetation (if temporary clearing is ≥ 0.5ha, a revegetation plan will need to be submitted to the DEC). • The condition of the native vegetation to be cleared is Degraded/Good. • The native vegetation will be cleared is well represented regionally (i.e. it possesses more than 30% of its pre-European extent). • The native vegetation to be cleared does/does not occur within an ESA. • The native vegetation to be cleared will be done so using the purpose permit.
Vegetation – TECs/DRF	None present in the proposed works areas. No significant vegetation types or threatened flora have been recorded within in road reserve. Areas outside the project area must not be disturbed as part of the proposed works. Consultation with DEC confirms that the proposal is not going to have a significant impact upon any DRF or TECs. No Matters of National Environmental Significance as protected under EPBC Act (1999) are likely to be impacted.
Vegetation – weeds	Numerous common weed species occur throughout the proposed works areas. These species are likely to be widespread within the reserve and 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.
Vegetation – dieback	Not an issue given the project area receives less than 400 mm of average annual rainfall or is above the 26˚ parallel.
Reserves / Conservation areas	There are no conservation areas or reserves adjacent to the project area.
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory, Heritage Council of Western Australia and the Town of Port Hedlands's Municipal Heritage Inventory on-line databases has indicated that there are no heritage significance listed sites present in the currently proposed works areas.
Aboriginal heritage	A search of DIA database identified no known sites of Aboriginal heritage significance within the vicinity of the project area. Archaeological and anthropological surveys are in the process of being conducted in conjunction with local community group to confirm no Aboriginal sites of interest.
Surface water/drainage	Onsite visit and DoW database search has confirmed that the proposed works will not disturb or interrupt any natural drainage and surface run-off patterns.
Wetlands	There are no wetlands within the vicinity of the project area.
Groundwater	No dewatering nor 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 during 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.

Table 1: Aspects and Impacts – GNH Material Pit SLK 1622.00

Aspect	Evaluation of Potential Impacts
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	Given the nature and scale of the project the impact is not relevant.
Acid Sulfate Soils	The WAPC's recently revised Planning Bulletin 64 and the SLIP database, indicates that the area has not been assessed for Acid Sulfate Soils. The ASSRM, Pilbara coastline is the only dataset available for the Pilbara region. The area is classified as unlikely to be at risk. Considering the nature of the proposed works and the location of the proposed works, likely to be a minor issue.
Statutory Land Use Planning	As the proposed works are likely to take place outside the existing road reserve, prior to construction, development approval from the Western Australian Planning Commission should be sought.

7 DECISION TO REFER

Given the scale of the project, the low significance of its impacts to the surrounding environment 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 Heritage.

8 STAKEHOLDER CONSULTATION

Name	Agency	Date	Comments
Cath Rummery	DEC - Karratha	03-Feb-10 11-Feb-10	
Amy Mutton	DEC – Species & Communities Branch	08-Feb-10 16-Feb-10	
Jessica Donaldson	DEC – Species & Communities Branch	08-Feb-10	
Kariyarra people representatives		16-Feb-10	

9 ENVIRONMENTAL MANAGEMENT PLAN

This section of the report (the EMP) has been developed for the project area following the completion of the above sections. The main aim of this EMP is to provide a management plan to assist in minimising the environmental impacts of the activities associated with the proposed works and identify who is responsible for the implementation of the management strategies.

This EMP will only address the actions already listed as well as any site-specific issues that were identified during the PEIA. The project specific management measures identified within this EMP are in addition to the standard specifications used for Category 2 projects. The environmental management measures/conditions in Main Road's Specifications 203, 204, 301, 302 and 304 are still to be followed where applicable.

The areas that require special management will be addressed in terms of:

- the timing of the various management actions;
- the topic (e.g. vegetation);
- the objectives for each area;
- the actions that are necessary to minimise the impact;
- the responsible party for implementing the action; and
- whether the action arose from external advice or is a Main Roads requirement.

9.1 Communication Plan

Environmental issues specific to the project will be communicated as follows:

Method	Frequency	Participants	Reference	Record
Project Site				
Induction	Prior to Work	All personnel and subcontractors	EMP and Contractor Environmental Policy	Induction Meeting
Authority Consultation				
Department of Environment and Conservation	As required	Main Roads' Project Manager and Contractor Project Manager	-	Minutes of meeting

10.1.1 External Communication and Complaints

A complaints register shall be maintained by the contractor. All complaints received shall be forwarded to the Main Roads' Project Manager for action. Serious complaints shall be investigated within 24 hours of the complaint being received.

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
All phases of Construction	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	Clearing: • a copy of the PEIA & EMP (Minor projects) for small projects; • a map showing the location where the clearing occurred, recorded in an ESRI Shapefile; • the size of the area cleared (in hectares); and • the dates on which the clearing was done.	Project Manager	DEC
			Revegetation and rehabilitation of areas: • a copy of each Revegetation Plan; • a map showing the location of any area revegetated and rehabilitated recorded in an ESRI Shapefile; • a description of the revegetation and rehabilitation activities undertaken; and • the size of the area revegetated and rehabilitated (in hectares).	Project Manager	DEC
			Each offset implemented: • a copy of each offset proposal; • a map showing the location of any offset implemented recorded in an ESRI Shapefile; • a description of the offset implemented; and • the size of the area of the offset (in hectares).	Project Manager	DEC
			Each management strategy implemented: • a map showing the location of any area to which a management strategy has been applied recorded in an ESRI Shapefile; • a description of the management strategy implemented; and • the size of the area to which the management strategy was applied (in hectares).	Project Manager	DEC
			Control of weeds, dieback and other pathogens: • a copy of any management plan prepared; and • for any pathogen other than dieback, the appropriate steps taken.	Project Manager	Main Roads
Pre-Construction	Vegetation - Clearing	Ensure that the overall objectives of the alignment and construction works	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
		are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation; and Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible, particularly where associated with riparian zones.	Construction works to be undertaken in summer to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains.	Project Manager	Main Roads
			Control/spray weeds species within the project area prior to construction to limit the amount of propagative material that may be spread during disturbance.	Contractor	Main Roads
			Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either chipped or replaced according to the EMP.	Contractor	Main Roads
Pre-Construction	Surface Drainage	Maintain the hydrological regime that exists prior to the construction of the proposal.	Stormwater drainage shall be treated and disposed of in accordance with DEC requirements.	Project Manager	DEC
Construction	Noise, Vibration and Dust	Ensure that the construction of the proposal does not become a nuisance to the public.	Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction of works.	Contractor	Main Roads
			Any complaints regarding dust will be attended to as soon as possible.	Contractor/Project Manager	Main Roads
			Where it is found that trucks leaving the site are carrying excessive material onto sealed surfaces, these areas will be swept to reduce dust generation and maintain traffic safety.	Contractor	Main Roads
			Watering shall be used as mitigation measures.	Contractor	Main Roads
Construction	Pollution and Litter	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	The designated servicing area will be bunded to contain any spills or leaks and shall not be located in an area adjacent to any drainage areas or watercourses or will drain into a temporary sump.	Contractor	Main Roads
			Emergency cleanup procedures shall be implemented in the case of any spillage. These will include control of spilled material and removal of contaminated soil to an approved site.	Contractor	Main Roads
			All waste oil will be collected for recycling and any empty fuel/oil containers, used filters and waste hydraulic parts to be collected and stored in an allocated area then removed to an approved site.	Contractor	Main Roads
			Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands.	Contractor	Main Roads
			The project areas, including hardstand areas, will be kept in a tidy manner at all times.	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
Construction	Fire	Ensure that the fire risk associated with the construction of the proposal is minimised.	No fires shall be lit within the project area.	Contractor	Main Roads
Construction	Site Management	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment.	Site office and materials storage areas will be located on previously disturbed/ designated area.	Contractor	Main Roads
Post-Construction	Rehabilitation	Leave the project area free from debris; and Rehabilitate the project area so that the revegetated area provides a net increase in area of native vegetation at the site.	Revegetation of temporary cleared areas will be undertaken in accordance with the Main Roads' Revegetation Plan for Pastoral Areas which has been approved by the DEC.	Contractor	Main Roads

10 MONITORING

After project completion, revegetated areas will be inspected every six months for the first two years to ensure weed spread or establishment has not occurred and to measure the effectiveness of revegetation works.

Monitoring of the weeds identified in the project area will comprise the use of input criteria listed below.

Criterion	Target	After three months	After one year	After three years
Mean weed foliage cover (%).	<20	<20	<20	<20

11 CONTINGENCY MEASURES

Given the scale and nature of the project, no contingency measures are identified as the inherent environmental risks are small.

12 AUDITING

Given the scale and nature of the project, there is no requirement for auditing the implementation of the EMP as the environmental risks are small.

13 REFERENCES

Government of Western Australia. (1950). *Wildlife Conservation Act (WA).* State Law Publisher. Perth, Western Australia.

Government of Western Australia. (1960). *Agricultural and Related Resources Control Act (WA).* State Law Publisher. Perth, Western Australia.

Government of Western Australia. (1986). *Environmental Protection Act (WA).* State Law Publisher. Perth, Western Australia.

Main Roads Corporate Procedure Environmental Guideline "Assessment of Roadside Vegetation Condition" Document No. 6707/004.

Appendix A
Low Impact Environmental Screening Checklist

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 Great Northern Highway SLK 1622.00 Material Pit

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* [signature] *Date* 29/1/10
Name A. PYKE *Title* SPM

To be reviewed by a Main Roads Environment Officer: *Signature* [signature] *Date* 29/01/2010
Name Fiona van Rijnswoud *Title* Genv.

Comments:

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

Appendix B

DEC's Threatened Flora and Fauna Database Searches

TRIM: RE: THFL Database Search - Message (HTML)

You forwarded this message on 11/02/2010 10:06 AM.

From: Donaldson, Jessica [Jessica.Donaldson@dec.wa.gov.au] Sent: Thu 11/02/2010 9:41 AM
To: VAN RIJNSWOUD Fiona (GEnv)
Cc:
Subject: TRIM: RE: THFL Database Search

Message | 25-0210-Waherb.dbf (29 KB) | 25-0210-DEFL.dbf (2 KB) | 25-0210-dplist.doc (24 KB) | 25-0210-letter.doc (157 KB)

Hi Fiona

Please find attached the results from the Threatened Flora Database (DEFL), the WA Herbarium database (WAHerb) and the Declared Rare and Priority Flora Species List for the area of interest.

Please refer to the attached letter for the Conditions of Supply for this information.

The request for information reference number for this search is: 25-0210 (refer to Condition #8 for more information).

Regards

Jessica Donaldson
Threatened Flora Database Technical Officer
Species and Communities Branch
Department of Environment and Conservation
Ph: 9334 0123

From: VAN RIJNSWOUD Fiona (GEnv) [mailto:fiona.vanrijnswoud@mainroads.wa.gov.au]
Sent: Monday, 8 February 2010 7:31 AM
To: Donaldson, Jessica
Subject: THFL Database Search

Good morning Jessica,

Main Roads Pilbara Region is proposing to clear a 1km^2 area on Great Northern Highway in Pippingarra, for the purpose of material extraction for road building materials. The material is hoped to be used for the upcoming Great Northern Highway Realignment project in Port Hedland.

So that I can complete the necessary internal Preliminary Environmental Impact Assessments for this project in accordance with our state-wide Purpose Clearing Permit CPS818/4, could you please provide me with a Threatened Flora database search of this area?
I have attached a map of the area with the GPS coordinates.

Kind regards,
Fiona.

Fiona van Rijnswoud
Graduate Environment Officer
Pilbara Region
Main Roads Western Australia
www.mainroads.wa.gov.au

phone (08) 9172 8820 | **fax** (08) 9140 1076
email: fiona.vanrijnswoud@mainroads.wa.gov.au

RE: Threatened Fauna Database Search #3050 - Message (HTML)

Message | Add-Ins

Reply | Reply to All | Forward | Delete | Move to Folder | Create Rule | Other Actions | Block Sender | Safe Lists | Not Junk | Categorize | Follow Up | Mark as Unread | Find | Related | Select

Respond | Actions | Junk E-mail | Options | Find

From: Mutton, Amy [Amy.Mutton@dec.wa.gov.au]
Sent: Tue 16/02/2010 11:19 AM
To: VAN RIJNSWOUD Fiona (GEnv)
Cc:
Subject: RE: Threatened Fauna Database Search #3050

Message | raref_MainRoads_vanRijnswoud3050.pdf (24 KB) | raref_MainRoads_vanRijnswoud3050.doc (828 KB)

Hi Fiona

Please find attached the results for the Threatened and Priority Fauna Database search for the vicinity of the Pippingarra study area (plus ~10km buffer).

Please refer to the attached letter for the conditions relating to the supplied data.

Let me know if you have any questions regarding the information supplied.

Kind Regards,
Amy

The Threatened Species pages have been updated on the DEC website.

The **Threatened Flora, Fauna and Ecological Communities Data Searches information sheet** can be downloaded from
http://www.dec.wa.gov.au/index.php?option=com_content&Itemid=2006&id=5379&lang=en&task=view

The **Threatened Fauna List** and the **Threatened and Priority Fauna Rankings** can be downloaded from
http://www.dec.wa.gov.au/index.php?option=com_content&task=view&id=852&Itemid=2010

The **Fauna Report Form** can be downloaded from
http://www.dec.wa.gov.au/content/view/5388/2237/

Amy Mutton
Project Officer - Fauna Database
Species and Communities Branch
Department of Environment and Conservation
Phone (08) 9219 8636
Fax (08) 9334 0278

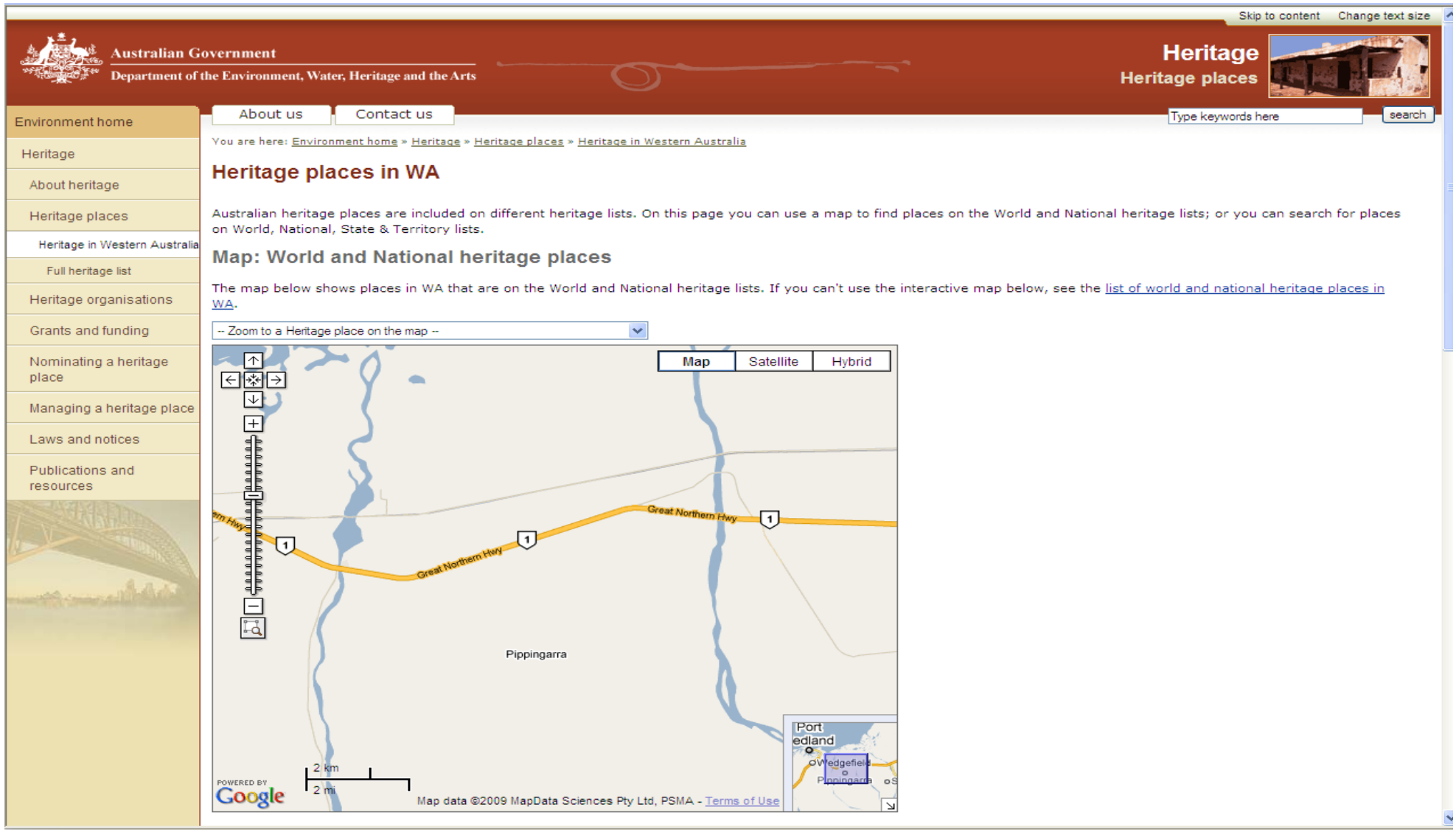
From: VAN RIJNSWOUD Fiona (GEnv) [mailto:fiona.vanrijnswoud@mainroads.wa.gov.au]
Sent: Monday, 8 February 2010 7:33 AM
To: Mutton, Amy
Subject: Threatened Fauna Database Search

Good morning Amy,

Main Roads Pilbara Region is proposing to clear a 1km^2 area on Great Northern Highway in Pippingarra, for the purpose of material extraction for road building materials. The material is hoped to be used for the upcoming Great Northern Highway Realignment project in Port Hedland.

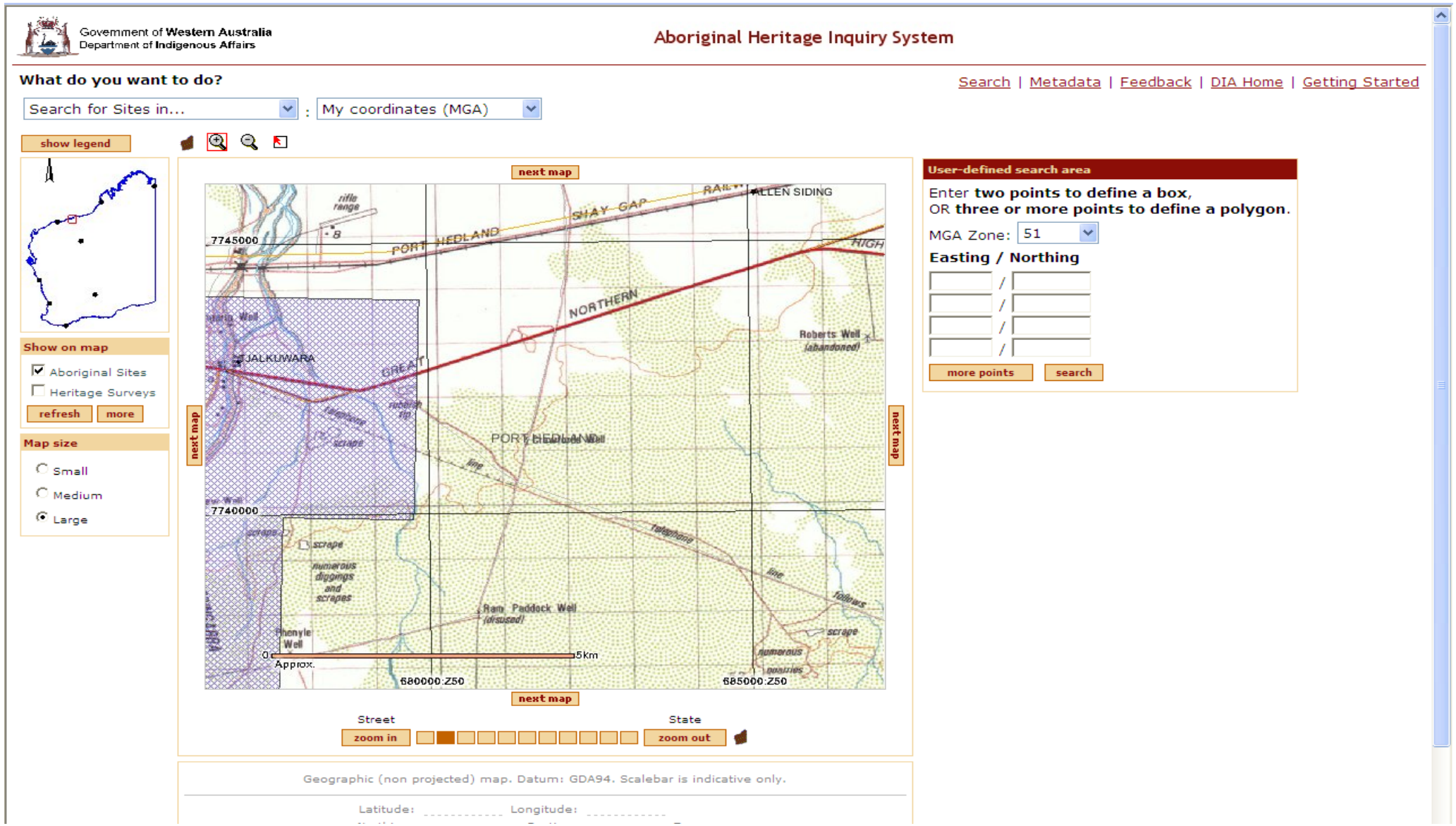
start | 2 Microsof... | TRIM Conte... | TRADE PRA... | X:\Standard... | PNTS region... | Borrow Pit 1... | Search Desktop | 12:13 PM

Appendix C
Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches



Australian Heritage Places Inventory Search (http://www.environment.gov.au/heritage/places/wa/index.html

Appendix D
Department of Indigenous Affairs Database Search



Search of DIA Aboriginal Heritage Enquiry System database (http://www.dia.wa.gov.au/AHIS/)

Appendix E
Department of the Environment and Heritage Database Search

3 February 2010 17:23

14 Database Report

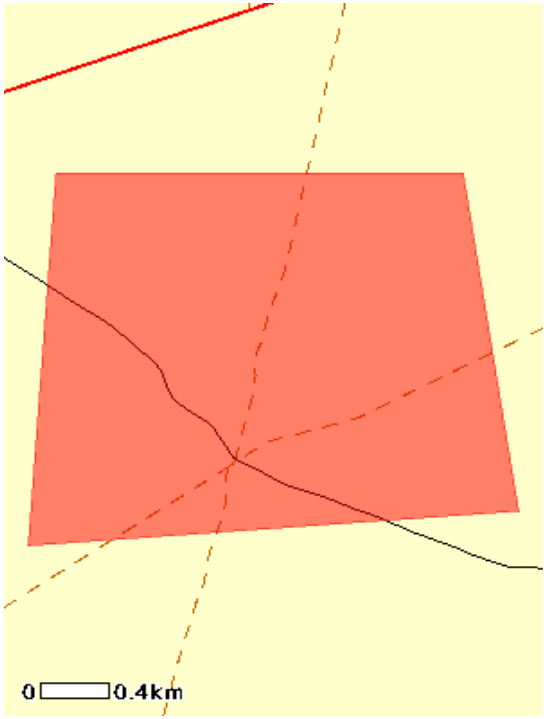
This report includes places of national environmental significance that are registered in the Department of the Environment and Water Resources' databases, for the selected area. The information presented here has been provided by a range of groups across Australia, and the accuracy and resolution varies.

Search Type: Area

Buffer: 0 km

Coordinates: -20.40953,118.72915, -20.40953,118.74943, -20.42750,118.75219, -20.42934,118.72777

Report Contents: Summary >> Details >> Caveat >> Acknowledgment



Biodiversity

Threatened Species:	4
Migratory Species:	10
Listed Marine Species:	8
Invasive Species:	7
Whales and Other Cetaceans:	None
Threatened Ecological Communities:	None

Heritage

World Heritage Properties:	None
Australian Heritage Sites:	None

Wetlands

Ramsar sites: (Internationally important)	None
Nationally Important Wetlands:	None

National Pollutant Inventory

Reporting Facilities:	None
Airsheds:	1
Catchments:	None

Protected Areas

Reserves and Conservation Areas:	None
Regional Forest Agreements:	None

Biodiversity

Threatened Species [Dataset Information]	Status	Comments
Mammals		
Dasycercus cristicauda Mulgara	Vulnerable	Species or species habitat likely to occur within area
Dasyurus hallucatus Northern Quoll	Endangered	Species or species habitat likely to occur within area
Macrotis lagotis Greater Bilby	Vulnerable	Species or species habitat likely to occur within area
Rhinonicteris aurantia (Pilbara form) Pilbara Leaf-nosed Bat	Vulnerable	Species or species habitat likely to occur within area

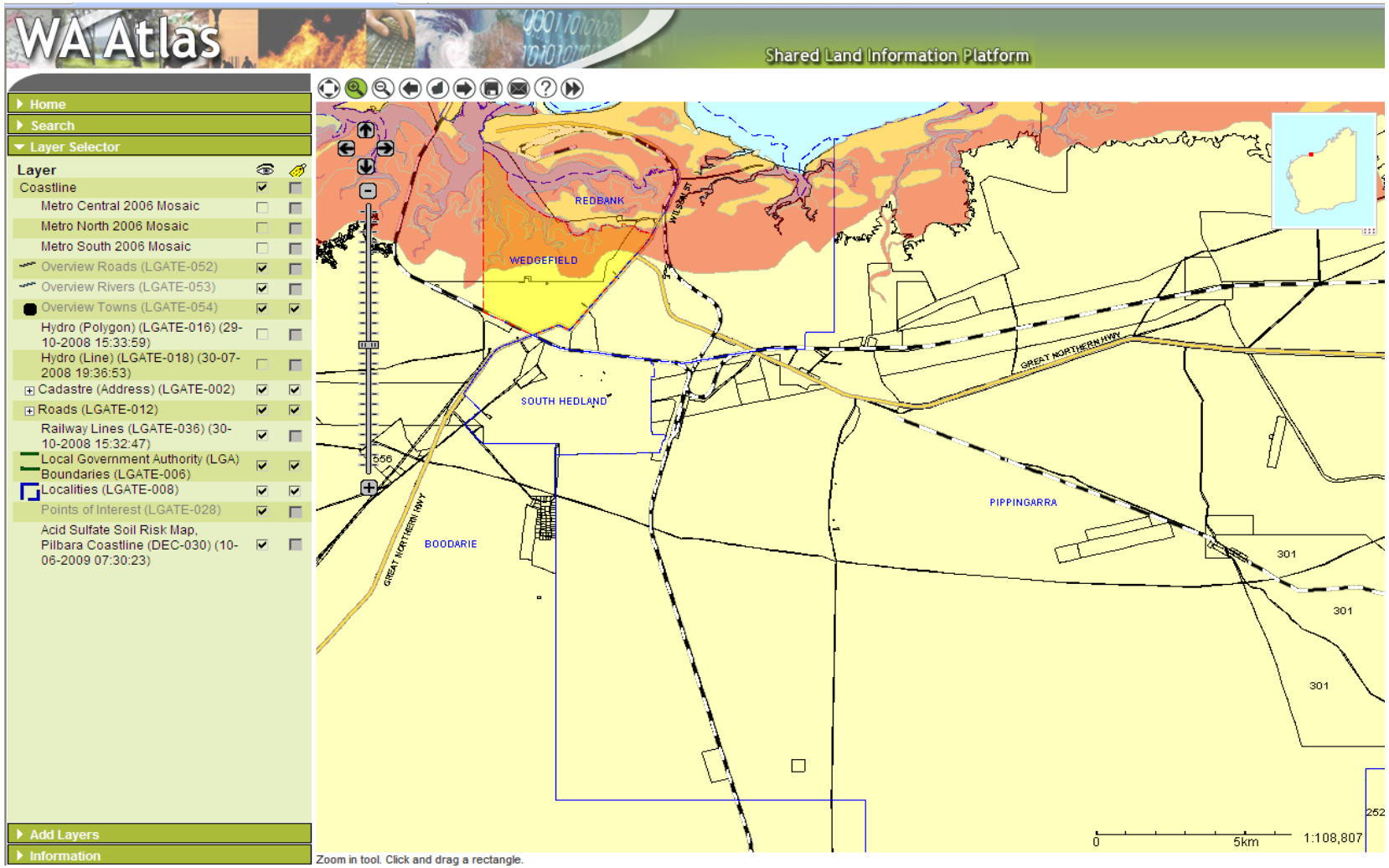
Migratory Species [Dataset Information]	Status	Comments
Migratory Terrestrial Species		

Birds		
Haliaeetus leucogaster White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area
Hirundo rustica Barn Swallow	Migratory	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater	Migratory	Species or species habitat may occur within area
Migratory Wetland Species		
Birds		
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel	Migratory	Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole	Migratory	Species or species habitat may occur within area
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift	Migratory	Species or species habitat may occur within area
Ardea alba Great Egret, White Egret	Migratory	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Migratory	Species or species habitat may occur within area
Listed Marine Species [Dataset Information]	Status	Comments
Birds		
Apus pacificus	Listed -	Species or species habitat may occur within area

Fork-tailed Swift	overfly marine area	
Ardea alba Great Egret, White Egret	Listed - overfly marine area	Species or species habitat may occur within area
Ardea ibis Cattle Egret	Listed - overfly marine area	Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel	Listed - overfly marine area	Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole	Listed - overfly marine area	Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
Hirundo rustica Barn Swallow	Listed - overfly marine area	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
Invasive Species [Dataset Information]	Status	Comments
Selected Invasive Species: Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.		
Mammals		
Felis catus	Feral	Species or species habitat likely to occur within area

Cat, House Cat, Domestic Cat		
Oryctolagus cuniculus Rabbit, European Rabbit	Feral	Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox	Feral	Species or species habitat may occur within area
Plants		
Cenchrus ciliaris Buffel-grass, Black Buffel-grass	Invasive	Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean	WoNS	Species or species habitat may occur within area
Prosopis spp. Mesquite, Algaroba	WoNS	Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed	WoNS	Species or species habitat may occur within area
National Pollutant Inventory		
NPI Location Report		
Airshed [Dataset Information]	Substances	Sources
Pilbara, WA	53	21

Appendix F
WAPC's Acid Sulfate Soils Mapping



Appendix G
Main Roads WA – Revegetation Plan for Pastoral Areas

Main Roads WA – Revegetation Plan for Pastoral Areas

Condition 14(e), CPS 818

Date:	Date of revegetation not yet known (>12 months)	**Project:**	GNH 1622SLK Material Pit
Manager:	Main Roads WA.		
Location and size of clearing:	For project areas located within the pastoral / rangelands region north of the agricultural area as described in the Environmental Protection Authority's Position Statement No.2.		
Location and size of revegetation:	Primarily for areas that were cleared for searching and extracting road building materials (e.g. borrow pits, etc.), and other project related temporary clearing.		
Clearing description:	Machine clearing.		
Revegetation description:	Replacement of topsoil material regeneration.		
Reason for revegetation:	Revegetation of temporary cleared areas, in accordance with condition 14 of clearing permit CPS 818.		
Revegetation / rehabilitation requirements:			
Site preparation:	All vegetation will be cleared from the works area and non-weed infested vegetation is stockpiled. Stockpiled vegetation will be placed in a manner that will prevent damage to adjacent vegetation by machinery. Weed infested vegetation will be disposed of at an appropriate site and not used for revegetation purposes. Burning of the cleared vegetation will not be permitted. Topsoil will be stripped to a maximum depth of 100mm, and will be stored in a weed free (as far as possible) area, as close as possible to the area to be rehabilitated. Topsoil will be placed in windrows of less than 1.5m in height and reinstated as soon as practicable to maintain viability of in-situ seeds.		

Weed control:

Appropriate weed control will be carried out when weeds are present, both prior to topsoil stripping and where weeds become established on or between the stockpiled materials. Weed control will take place prior to the respreading of topsoil to ensure weeds are killed and not transported to other areas.

Control measures include the removal of weeds to an approved dumpsite, or treatment of weeds such as by using herbicides mixed in accordance with manufacturer's instructions and applied by a licensed operator. Where practicable, weeds will be removed prior to or when they are in flower, and prior to seeding.

All machinery will be cleared of soil build up and vegetative material before entering and leaving the site to help minimise the transportation of weeds and their seeds.

Exposed areas such as bare batters and borrow pits shall be promptly rehabilitated to reduce the potential for weed establishment. Where works are adjacent to good quality vegetation, where weeds from within the project area are likely to spread to and result in environmental harm to the adjacent area, those weeds will be controlled annually for a minimum of 2 years post revegetation.

Regeneration / direct seeding / planting at an optimal time:

The following rehabilitation works are undertaken on areas of disturbed earth requiring rehabilitation:

- Topsoil is uniformly respread to a typical depth of 100mm over the project area. In project areas where topsoil has not been removed and/or is not available, other substrate, such as gravel, may be substituted as a growth medium.

- Project areas will be ripped to a minimum depth of 200mm deep with rip lines approximately 300mm apart. Where slopes are present, rip lines shall follow natural contours.

The following rehabilitation works are undertaken at borrow / gravel pits:

- Overburden and then topsoil will be uniformly and evenly spread over the disturbed areas of the pit. Depending on the slope of drainage lines within the pit, small swales from the topsoil will be formed to reduce erosion velocities and encourage the deposition of seeds.

- The whole of the existing pit floor, including drainage lines, will be ripped to a depth of 300-500mm deep with rip lines between 500-800mm apart (if the material in the pit is able to be ripped).

- All stockpiled vegetation will be spread along the contour and the pit floor to help promote seed deposition and to reduce erosion velocities.

Vegetation establishment period:

The vegetation establishment period is for at least twelve months following the completion of the works. During this period, maintenance and monitoring will be undertaken (see below).

Ongoing maintenance and monitoring:	After revegetation works, revegetated areas will be inspected annually for a minimum of two years to monitor and control weeds and to measure the effectiveness of revegetation works. When unwanted weed foliage cover exceeds 25% after the initial two year period, further actions will be implemented to monitor and control these weeds. The additional monitoring and weed control will be conducted annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.
Monitoring commitments:	*Post revegetation site inspections will be carried out annually for a minimum of two years to monitor unwanted weeds and measure the effectiveness of revegetation works. Monitoring of sites where unwanted weed foliage cover exceeds 25% after the initial two year period will continue annually until 12 Dec 2010 or until the unwanted weed foliage cover falls below 25%, whichever is sooner.*
Management commitments:	Undertake annual weed control of unwanted weeds annually or for a period of 2 years post revegetation or until the unwanted weed foliage cover falls below 25%, whichever is sooner.
Agencies consulted and submissions received:	Nil.

Appendix H
Vegetation Clearing Assessment Report

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

Property details

Property:	Material Pit – Great Northern Highway, SLK 1622.00
Colloquial name:	

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
100		Mechanical	Material Extraction	X Yes ☐ No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

BACKGROUND

Existing environment and information

The material pit occurs within Vegetation Associations 589 and 647 which are described as "Mosaic: Short bunched grassland-savanna/grass plain (Pilbara)/Hummock grasslands, grass steppe; soft Spinifex" and "Hummock grasslands, dwarf-scrub steppe; Acacia translucens over soft Spinifex", respectively. According to the Native Vegetation Association Data (DEC & DAF), these vegetation associations are described as well represented in the region with both associations having 100% pre-European extent remaining.

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

Vegetation Association	Clearing Description	Vegetation Condition	Comment
No. 589 & No. 647	Mechanical	Good	

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 area under application generally consists of scattered grasslands and shrubs. The condition of the vegetation is somewhat degraded and is well represented with 100% pre-European extent still remaining and does not represent a high level of biodiversity. This proposal is therefore not likely to be at variance to this Clearing Principle.

Methodology Site visit 29/01/2010

(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**

Liaison occurred with DEC and a fauna database search was conducted. This did not identify any threatened fauna species that would be likely to be impacted on by the proposed works. The potentially occurring species that were identified are not likely to be impacted due to a) their mobile nature, b) unsuitable vegetation type within the project area. An ArcGis threatened fauna search was also conducted on the project area and did not identify any species that have the potential to be impacted on.

Methodology Site visit 29/01/2010

ArcGis Database Search, DEWHA Database Search, DEC advice 16/02/2010

(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**

DEC Threatened Flora Database search was conducted and no rare flora species were known to exist within the proposed project area. The project is therefore not considered at variance to this Clearing Principle.

Methodology ArcGis Database search – TEC's and DRF

DEC advice – 11/02/2010

(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 known Threatened Ecological Communities within the vicinity of the project area. This proposal is therefore not likely to be at variance with this Clearing Principle.

Methodology ArcGis database search – Threatened Ecological Communities

(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 at variance to this Principle**

The vegetation within the project area is representative of Vegetation Associations No. 589 and No. 647 which both have 100% of pre-European extent remaining. This proposal is therefore not at variance with this Clearing Principle.

Methodology ArcGis – NRM Slip database; Native Vegetation Association

(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 proposed project area does not consist of a wetland or watercourse. This proposal is therefore not at variance to this Clearing Principle.

Methodology Site visit 29/01/2010

(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 proposed project will involve temporary clearing and revegetation of disturbed areas will occur in accordance with MRWA Revegetation Plan for Pastoral Areas that has been approved by the DEC. As revegetation of cleared areas will occur as soon as practical, land degradation will be limited. This proposal is therefore not likely to be at variance with this principle.

Methodology Site visit 29/01/2010

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

Methodology Site visit 29/01/2010

(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 to be at variance to this Principle.

Methodology Site visit 29/01/2010

(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 soil consists of gravelly / clay sand. In addition, the area under application receives less than 400mm of annual rainfall. Due to the nature of the soils and the relatively low rate 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 29/01/2010

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: As the proposed project will involve temporary clearing, a revegetation management plan is required. An Environmental Management Plan has been included in thePEIA.

References

OFFICER PREPARING REPORT

Fiona van Rijnswoud (Graduate Environment Officer)
MRWA Pilbara Region
Phone 9172 8820

Date: 15/02/2010