PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT

Donnybrook Kojonup Road (M013)
SLK 117.4 – 118.51
Improve lateral clearance and sight lines

September 2012

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Revision	Prepared by	Date	Reviewed by	Date
Draft	Peter Swanson	14/09/12		
Rev 1				
Rev 1.1				

CONTENTS

PART A

1. PROJECT INFORMATION

Project Title: Donnybrook Kojonup Road (M008) SLK 117.4 – 118.51 Improve lateral clearance

Project location(s): SLK 117.4 – 118.51 Shire of Boyup Brook

Area proposed to be cleared: up to 0.5 hectares

Project purpose / components: Improve lateral clearance and sight lines

Temporary clearing: none

2. PROJECT SUMMARY

- Clearing native vegetation
- not likely to be at variance to all of the Principles
- no offset proposals, management plans or revegetation plans required
- no other approvals required
- no further studies / surveys required
- no constraints to the project
- no other key aspects that the reader would find useful in a summary.

3. ASSESSMENT SCOPE

The preliminary assessment will involve a desktop analysis of environmental aspects and impacts, a site investigation and an assessment of native vegetation clearing. The study area is confined to a local area of a 10 km radius. The preliminary assessment will determine whether an Environmental Impact Assessment is necessary and if referral to State and/or Commonwealth authorities is required.

4. PROJECT DESCRIPTION

Approximately 160 semi-mature trees that are currently less than 4m from the existing edge of seal are proposed to be cleared along a 400m stretch of road to improve the lateral clearance to an acceptable 6m. Another 30 tree specimens and some shrubs will also be selectively removed at the western extent of the project area on the inside of the curve to improve sight lines.

4.1 Project Location

Donnybrook Kojonup Road (M008) SLK 117.4 – 118.51 Shire of Boyup Brook
MGA Coordinates: 116.761E -33.917S
116.772E -33.913S

Figure 1 – Project Location

Figure 2 – Project Location and Study Area aerial photo

5. METHODOLOGY

5.1 Preliminary Desktop Study

A preliminary assessment of the project area and the potential constraints of the proposal was undertaken by reviewing a number of government agency managed databases, viewing GIS shape files and consulting with relevant stakeholders where necessary.

5.1.1 Commonwealth Referral

The decision whether to refer the project to the Commonwealth DSEWPC was based upon whether the project would impact Commonwealth land, or may have a significant impact upon matters of national significance, which are protected under the EPBC Act. These are; World Heritage properties, National Heritage places, wetlands of international importance (listed under the Ramsar convention), Commonwealth Marine Areas, migratory species protected under international agreements, nuclear actions, nationally threatened species and ecological communities.

The DSEWPC protected matters search tool was used to determine if the project will impact upon any matters of national significance: (http://www.environment.gov.au/erin/ert/epbc/index.html) refer to Appendix H for the results of this search and Section 7 for a discussion on the findings.

5.1.2 State Referral

The decision whether to refer the project to the State's EPA was based on whether the project would impact on environmental factors significantly enough to require referral under section 38 of the *Environmental Protection Act 1986.*

6. ASSESSMENT OF ASPECTS AND IMPACTS

6.1 Aspects and Impacts

Table 1: Aspects and Impacts – DONNYBROOK KOJONUP ROAD (M008) SLK 117.4 – 118.51

Aspect	Evaluation of Potential Impacts
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory, Heritage Council of Western Australia and the Shire of Boyup Brook Municipal Heritage Inventory on-line databases has indicated that there are no known sites of heritage significance within the vicinity of the project area. No Matters of National Environmental Significance as protected under EPBC Act (1999) will be impacted (see Table 5).
Aboriginal heritage	A search of the DIA's database identified no known sites of Aboriginal heritage significance within the vicinity of the project area (Appendix E). No further investigations are required for all aspects of the project.
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; • residential and other sensitive receptors are not within 200 meters of the road centre.
Acid Sulfate Soils	The SLIP database indicates that the area is classified as Low Risk, as there is no dewatering or excavation below the water table planned no further investigations are required (Appendix L).
Dust	Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works.

Table 1: Aspects and Impacts – DONNYBROOK KOJONUP ROAD (M008) SLK 117.4 – 118.51

Aspect	Evaluation of Potential Impacts
Native Vegetation	See Section 8 Clearing of Native Vegetation for further information.
Vegetation – declared weeds	No declared plants were identified in the project area.
Vegetation – dieback	Vegetation in the project area does not support sufficient species diversity to interpret whether dieback is present. The area is degraded and vegetation is quite sparse.
Topsoil Management	It is not likely that topsoil will be disturbed in a significant way.
Noise and vibration	There are no major sensitive local receivers.
Visual amenity	The proposed works will result in a more open vista along the 400m section of lateral clearance.
Hazardous substances	Not relevant to the proposed works, the project requires no hazardous substances to be used.
Contamination	The works are within the road reserve and no known previous land use activities on or adjacent to the project area have had the potential to create contamination, e.g. petrol station. A search of the DEC's contaminated sites database indicates there are no identified contaminated sites within the project area.

PART B ***(PART B IS SECTION REQUIRED BY DEC FOR CLEARING PERMIT CPS818/6)***

7. METHODOLOGY

7.1 Preliminary Desktop Study

A preliminary assessment of the project area and the potential constraints of the proposal was undertaken by reviewing a number of government agency managed databases, viewing GIS shape files and consulting with relevant stakeholders where necessary.

Refer to MRWA Guide to Desktop Reference document.

8. 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 regulation (Section 5 – Prescribed Clearing), typically Main Roads WA clearing will be undertaken using a permit.

The clearing of native vegetation will be undertaken using the Statewide Purpose Permit CPS818.

8.1 Details of Vegetation Associations to be Cleared

8.1.1 Avoidance / Minimise Clearing:

The improvement of lateral clearance is justified to achieve AusRoads standards along this section of road which is currently below the acceptable lateral clearance width for the current speed limit of 110kph.

The clearing impacts have been minimised by considering site ground levels and road geometry where possible.

8.1.2 Existing environment and information

See Appendix B: Site Inspection Report

Table 2: Existing Environment

Project Vegetation Complex	**Project Clearing Description**	**Project Vegetation Condition**	**Comments**
Beard Vegetation Association 4.2 described as a Medium woodland; marri & wandoo (Shepherd, 2009)	Clearing of up to 0.5 ha for lateral clearance improvements	Degraded to Good (Keighery, 1994)	Vegetation description and condition determined from MRWA site visit on 29 August 2012 and aerial imagery.

8.1.3 Vegetation complexes and representation

Table 3: Existing Environment from 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report)

Vegetation Association 4.2	**Pre–European (ha)**	**Current Extent (ha)**	**% Remaining**	**% Remaining in DEC reserves**
IBRA Region Jarrah Forest (Report 2a)	1 022 712.69	293 207.75	28.67	22.24
Shire of Boyup Brook (Report 4a)	49,869.07	14,539.66	29.16	8.40
Total Vegetation	**Pre–European (ha)**	**Current Extent (ha)**	**% Remaining**	**% Remaining in DEC reserves**
IBRA region (Report 2a)	4,506,656.97	2,473,559.80	54.89	67.94
Shire of Boyup Brook (Report 4a)	282,643.44	126,073.56	44.61	46.95

Table 4: Dominant Species Information from Department of Agriculture and Food NRM SLIP web site (Vegetation Association 4.2)

Vegetation Map Unit - Dominant Species Information

Map Unit Number: **80100436**
Vegetation Type No: **1040**

Species List

Stratum	Minimum % Crown Cover	Maximum % Crown Cover	Maximum Height (m)	Species	Dominance	Growth Form
Upper 1	**10**	**30**	**30**	**Corymbia calophylla**	**co-dominant**	**Tree**
Upper 1	**10**	**30**	**30**	**Eucalyptus wandoo**	**co-dominant**	**Tree**
Upper 1	**10**	**30**	**30**	**Eucalyptus rudis**	**sub-dominant**	**Tree**
Upper 2	**0**	**10**	**5**	**Eucalyptus incrassata**	**sub-dominant**	**Mallee**
Upper 2	**0**	**10**	**5**	**Eucalyptus foecunda**	**sub-dominant**	**Mallee**
Mid 1	**10**	**30**	**2**	**Beaufortia bracteosa**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Calothamnus planifolius**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Dryandra armata**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Gastrolobium spinosum**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Hakea lissocarpha**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Hypocalymma angustifolium**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Isopogon teretifolius**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Leptospermum erubescens**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Petrophile squamata**	**sub-dominant**	**Shrub**
Mid 1	**10**	**30**	**2**	**Hakea lehmanniana**	**sub-dominant**	**Shrub**

8.2 Assessment Against the 10 Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project was assessed against the ten clearing principles (*EP Act 1986* Schedule 5).

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

Clearing area	Vegetation Association	Vegetation Condition	Method of Clearing	Comments
Up to 0.5 ha	Beard Vegetation Association 4.2 described as a Medium woodland; marri & wandoo (Shepherd, 2009)	Degraded to Good	Mechanical using an excavator with a grab pincher	

(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 of native vegetation to be cleared is in Degraded to Good condition (Keighery 1994). There are virtually no middle or lower storey native plants. The Vegetation Association of the project area has been identified as Beard 4.2 Medium Woodland; Marri & Wandoo (Shepherd, 2009). However, the majority of the dominant species for that Association, as listed in Table 4, are not represented on site. The vegetation in the project area is primarily Marri and Wandoo tree specimens. No indication of fauna using the area was observed during the site inspection and it is considered that the degraded nature of the lower vegetation level would not support any threatened flora. There are no Threatened Ecological Communities in the vicinity.
Methodology	MRWA Site Inspection (2012) DEC shapefiles MRWA GIS Shapefiles Keighery (1994) Government of WA (2011)

(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
	Tree specimens to be cleared are estimated to be less than thirty years old. None have a DBH > 50cm. No hollows of any size were observed during the site inspection. No indication of fauna using the area was observed during the site inspection and it is considered that the degraded nature of the lower vegetation level and the narrow location between cleared pasture land and the highway would not be favourable habitat for most terrestrial fauna. Although the vegetation proposed to be cleared may provide habitat for some bird species, due to the lack of understorey plant species and the fact that there are areas of vegetation in better condition adjacent to and nearby the proposed clearing area, it is unlikely that this area would be considered to be significant habitat for fauna.
Methodology	MRWA Site Inspection (2012)

(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
	The degraded nature of the understorey and the dense cover of dead plant material have evidently made the existence of ground covers and shrubs highly unfavourable. There are three records of threatened flora within the 10 km study area as recorded by WA Herbarium in 2000. The closest is over 4km from the project location and there is no vegetated link to

	the project area. Two of these recordings have a conservation code of 0 and the other 3. It is highly unlikely that the project area supports threatened flora.
Methodology	MRWA Site Inspection (2012) DEC & WA Herbarium threatened flora shape files

(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 at **variance to this Principle**
	There are no TECs recorded within the study area.
Methodology	DEC Threatened Ecological Communities shape file

(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 project area is located in the Jarrah Forest Bioregion at the eastern extent of the Shire of Boyup Brook. The remaining extent of native vegetation in these areas is 54.89% and 44.61% respectively. The study area (10km radius) has a vegetation cover less than 20% with the majority of remaining vegetation existing in a few large remnants. The vegetation association at this location (Beard 4.2) has a current representation of about 29% in both the IBRA region and the LGA; which is slightly below the 30% threshold target level identified by the EPA. However the vegetation proposed to be cleared could not be considered as representative of the identified vegetation association (4.2) as it is mostly degraded and lacks species diversity. The vegetation along the road corridor is in a sense forming a connective link that will be impacted by the clearing. However, as the vegetation is mostly in a degraded condition, has little to no understorey and does not link major patches of vegetation; it is unlikely to provide a significant movement corridor or habitat for terrestrial fauna. It is concluded therefore that the proposed clearing of up to 0.5 hectares of native vegetation is not likely to be considered significant as a remnant of native vegetation within an extensively cleared area.
Methodology	MRWA Site Inspection (2012) Department of Agriculture and Food NRM SLIP web site http://spatial.agric.wa.gov.au/slip/framesetup.asp Government of Western Australia. (2011). 2011 State-wide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Accessed September 2012. https://www2.landgate.wa.gov.au/web/guest/downloader

(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 at **variance to this Principle**
	There are no watercourses or wetlands in the vicinity of the project area.
Methodology	MRWA Site Inspection (2012) Investigation of aerial photography

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

Comments	**Proposal is** not at **variance to this Principle**
Methodology	The minor nature of the proposed works will not cause land degradation in any form.
Methodology	Consultation with the Project Manager

(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 at variance to this Principle**
	There are no conservation areas in the vicinity of the project area.
Methodology	MRWA Site Inspection (2012) Investigation of aerial photography and relevant shape files DEC Native Vegetation Map Viewer

(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 at variance to this Principle**
	There is no ground disturbance or drainage works proposed.
Methodology	Consultation with the Project Manager

(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 at variance to this Principle**
	The minor nature of the proposed works will not influence flooding.
Methodology	Consultation with the Project Manager

9. ADDITIONAL ACTION REQUIRED

The following table summarizes what further assessment and management is required in accordance with MRWA State-wide vegetation Clearing Permit (CPS 818).

Table 4: Summary of Additional Management Actions

Impact of Clearing	Yes/No or NA	Further Action Required
1. Does the assessment indicate that the clearing is may be at variance, is at variance or is seriously at variance with one or more of the principles for clearing?	**NO**	No further action required.
2. Does the assessment indicate that the clearing is at variance with one or more of the principles for clearing?	**NO**	No further action required.
3. Does the assessment indicate that the clearing is at variance with clearing principle (g) land degradation, (i) surface or underground water quality or (j) the incidence of flooding?	**NO**	No further action required.
4. Will the project involve clearing for purposes considered temporary in nature under Condition 13 of CPS818?	**NO**	No further action required.

10. ENVIRONMENTAL MANAGEMENT

Main Roads WA attempts to avoid clearing vegetation if possible, where clearing cannot be avoided then this clearing is kept to a minimum. An Environmental Management Plan (EMP) has been developed to manage and minimise vegetation clearing for the Donnybrook Kojonup Road project; (see M)

PART C

11. COMMONWEALTH ASPECTS AND IMPACTS

Table 5: Commonwealth Aspects and Impacts – Donnybrook Kojonup Road project

Aspect	Evaluation of Potential Impacts
World Heritage properties	The project will not impact any World Heritage properties i.e. Shark Bay
National Heritage places	A search of the Australian Heritage Places Inventory Database located **no** site(**s**) within the vicinity of the project.
Wetlands of international importance (Ramsar)	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located **no** Ramsar Wetland(**s**) within the vicinity of the project.
Nationally threatened species or ecological communities	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located **no** threatened ecological communities, 13 threatened species and 5 listed marine species within the vicinity of the project. The project activities are unlikely to have a significant impact on **these** species and the marine species are listed as "fly over" with the vegetation present unlikely to be habitat for **these** species.
Migratory species protected under international agreements	A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located 8 migratory species within the vicinity of the project. The project activities are unlikely to have a significant impact on **these** species as the vegetation present is unlikely to be habitat for **these** species.
Commonwealth marine areas	The project will not impact any Commonwealth marine area or marine protected area i.e. Ningaloo Marine Park
Commonwealth lands	The project is not located on and will not impact any Commonwealth lands.
Nuclear Actions	Not relevant to the proposed works.

12. DECISION TO REFER

12.1 Referral to the Department of Sustainability, Environment, Water, Population and Communities

The preliminary impact assessment determined the project is not likely to have a significant impact on Matters of National Environmental Significance or impact Commonwealth land as outlined in Table 5 of the report. For this reason the project does not require referral to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities.

12.2 Referral to the Environmental Protection Authority

Due to the small scale of the project, the low significance of its impacts to the surrounding environment and that it is unlikely the project will generate significant public interest, the project does not require referral to the WA Environmental Protection Authority.

13. STAKEHOLDER CONSULTATION

Table 5: Project Consultation

Name	Agency	Date	Comments

14. OTHER APPROVALS/PERMITS/LICENCES

No further approvals, permits or licences are required.

15. REFERENCES

Beeston, G.R., Hopkins, A.J.M. and Shepherd, D.P. (2002). Land-use and vegetation in Western Australia. Department of Agriculture, Western Australia, Resource Management Technical Report 250.

Department of Agriculture and Food NRM SLIP web site
http://spatial.agric.wa.gov.au/slip/framesetup.asp

Keighery, B. J. 1994. Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Government of Western Australia. (2011). 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Accessed September 2012.
https://www2.landgate.wa.gov.au/web/guest/downloader

Natural Resource Management in WA, SLIP portal, Soils Systems – Accessed 3 July 2012.
http://spatial.agric.wa.gov.au/slip/products_view.asp

OFFICER PREPARING REPORT

Position: Title: Environment Management Officer
South West Regional Office
MRWA
Phone: 08 9724 5692
Email: peter.swanson@mainroads.wa.gov.au

Date: September 2012

Appendix A

Low Impact Environmental Screening Checklist

PEIA checklist for Project Managers (To be filled out if any of the items in the Low Impact Screening Checklist are ticked 'YES'.

Checklist - Low Impact Screening Checklist

The Low Impact Screening Checklist is part of the environmental assessment and approval process. All projects are to be screened to identify those that are Low Impact.

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.

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 / SLK

Project Description:

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.		x
2	Works require clearing of native vegetation outside the maintenance zone.	x	
3	Works require clearing of native vegetation that is older than 10 years old within the maintenance zone.	x	
4	Works to occur outside normal working hours.		x
5	Passes over, adjoins or drains directly into a wetland or sensitive watercourse.		x
6	Local natural drainage regime / hydrology will be changed.		x
7	Dewatering, or a new water bore required.		x
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)		x
9	Buildings will require demolition.		x

Completed By: *Signature* [signature] *Date* 6 August 2012
Name Peter Bromley *Title* Asset Manager South West

To be reviewed by a Main Roads Environment Officer: *Signature* [signature] *Date* 20/08/12
Name Peter Swanson *Title* EO.

Comments: PEIA to be prepared + EMP.

MAIN ROADS Western Australia
Checklist - Low Impact Screening Checklist For Donnybrook - Kojonup Road Clearing 118.12 - 118.51 Slk 6082012

Appendix B

Site Inspection Report

Site Investigation Report
Donnybrook Kojonup Road SLK 117.4 – 118.51
29 August 2012

ATTENDEES
Peter Swanson (MRWA)
Alan Grist (MRWA)

ACTIONS UNDERTAKEN

- *Traversed project area on foot.*
- *Took representative site photos.*
- *Identified the number of trees within the proposed clear zone*

EXISTING ENVIRONMENT & INFORMATION

The road reserve through the project area is 40m wide and runs adjacent to open paddocks. The road has a 7m seal with a 1m unsealed shoulder. Currently the clear zone would average 3-4m from the edge of seal. The speed limit through this section is 110kph. The northern side of the road has a table drain that runs 3-4m from the edge of seal. There are some regrowth trees in the drain maintenance zone.

The vegetation condition is mostly Degraded with some small sections in a Good condition (Keighery, 1994).

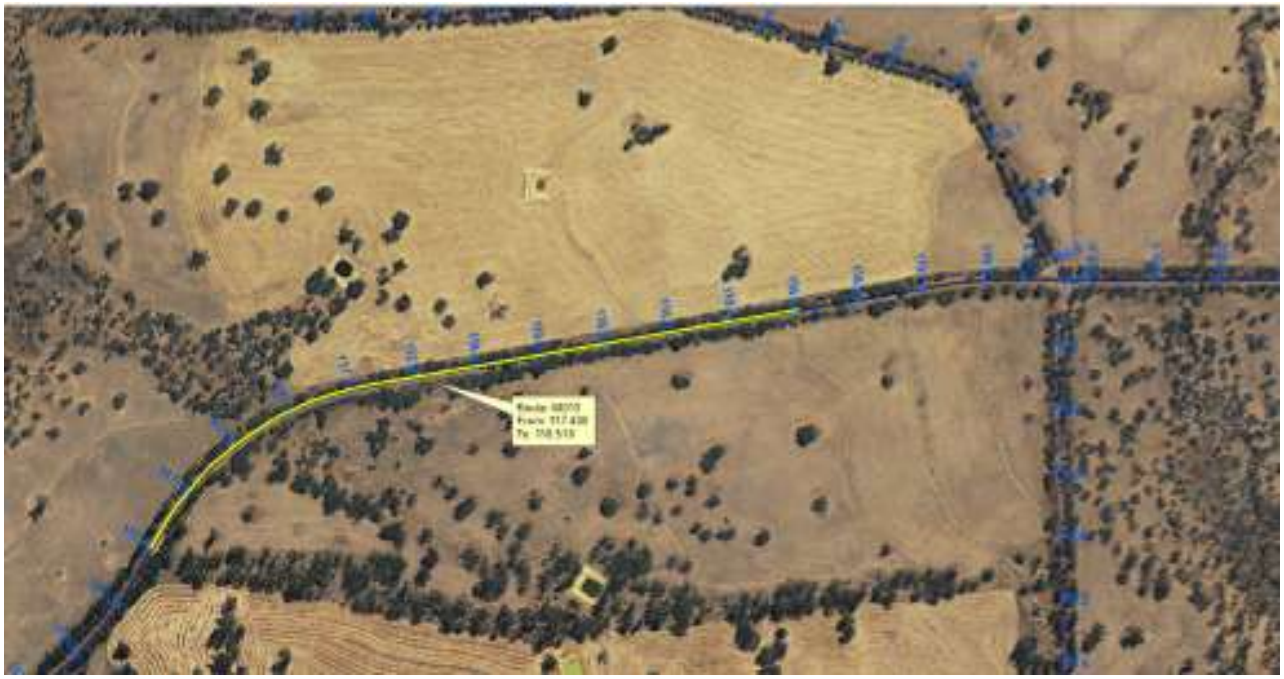
The upper level is primarily Wandoo and Marri trees up to 30 years old forming a moderately dense 'cathedral-like' canopy in the middle section of the project area. The tree canopy at the eastern and western extents is sparser with the trees being more spread out.

The mid-level consists of Rottnest Island pines and weed species such as Albizia, Norfolk Island Hibiscus and black wattle.

The lower level is dominated by Gastrolobium (formerly Brachysema) praemorsa and a range of grasses with large areas of thick fallen dead plant material. There are virtually no other native ground cover plants or shrubs and it is highly degraded, so it is highly unlikely for there to be any threatened flora species. There are several clumps of Bridal Creeper and general roadside weeds. No Declared (weed) Plants were identified.

It is highly unlikely that the semi-mature tree specimens proposed to be cleared would be suitable for cockatoo nesting hollows. No hollows of any size were observed during the site visit.

No sign of fauna other than general bird species was observed during the site visit



Length of project in relation to immediately adjacent land

Project area in relation to surrounding land use

Site Photos

Photo 1: View west from SLK 118.48

Photo 2: View west from SLK 118.4

Photo 3: View south west at SLK 118.38

Photo 4: View west from 118.3

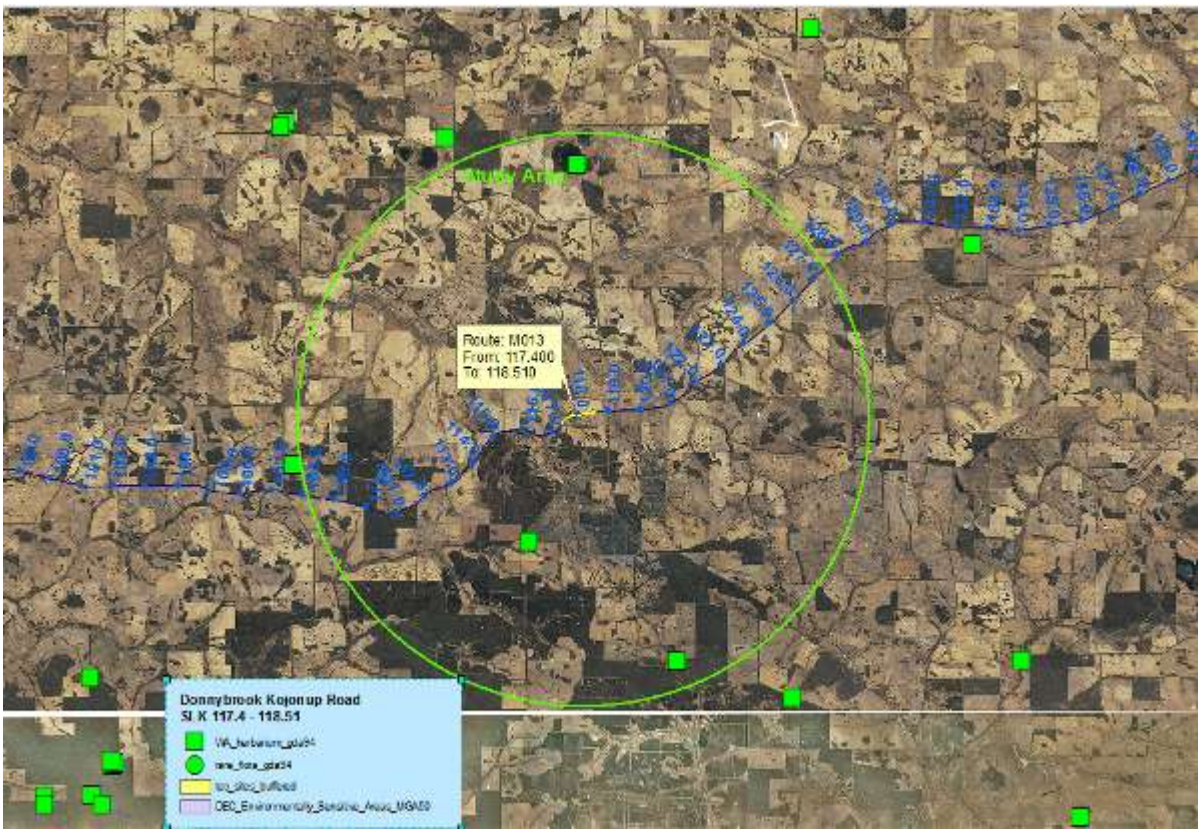
Photo 5: View west from SLK 118.25 showing trees in the table drain

Photo 6: View east from SLK 118.2

Photo 7: View east from SLK 118.12

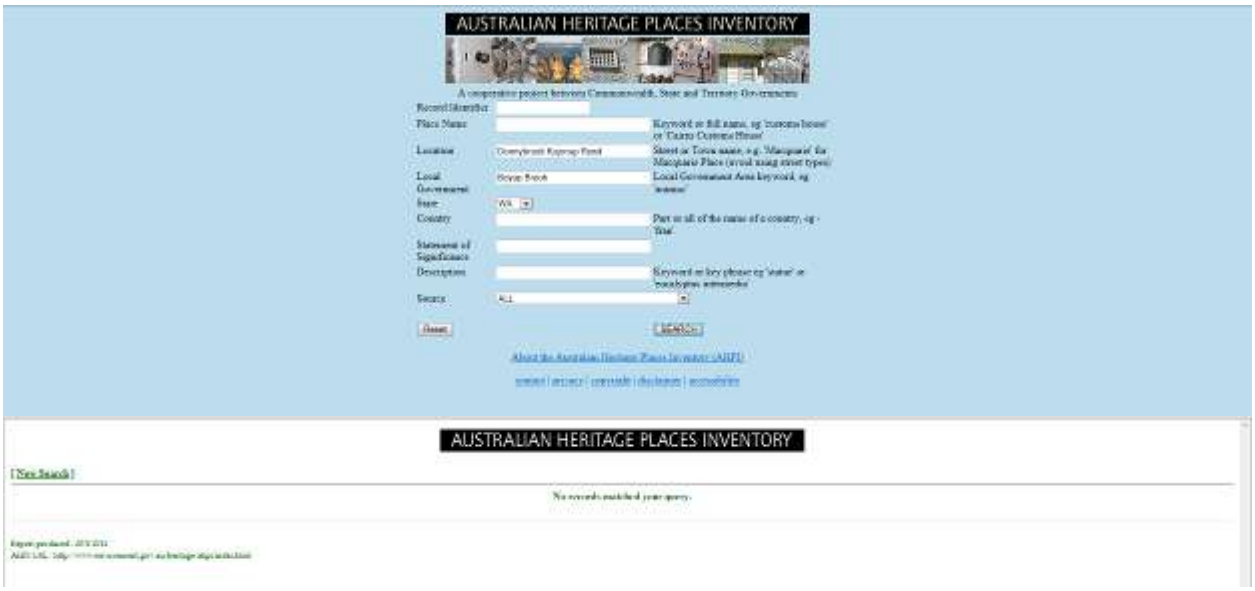
Appendix C

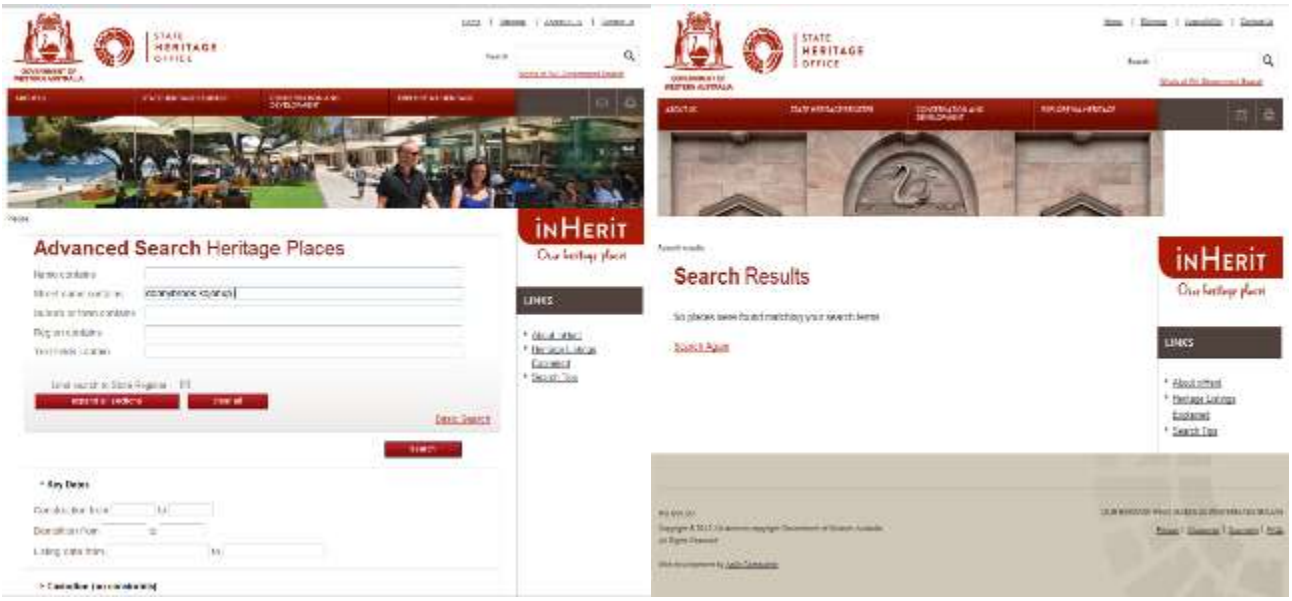
Threatened Flora and Ecological Communities and Environmentally Sensitive Areas GIS Search



Appendix D

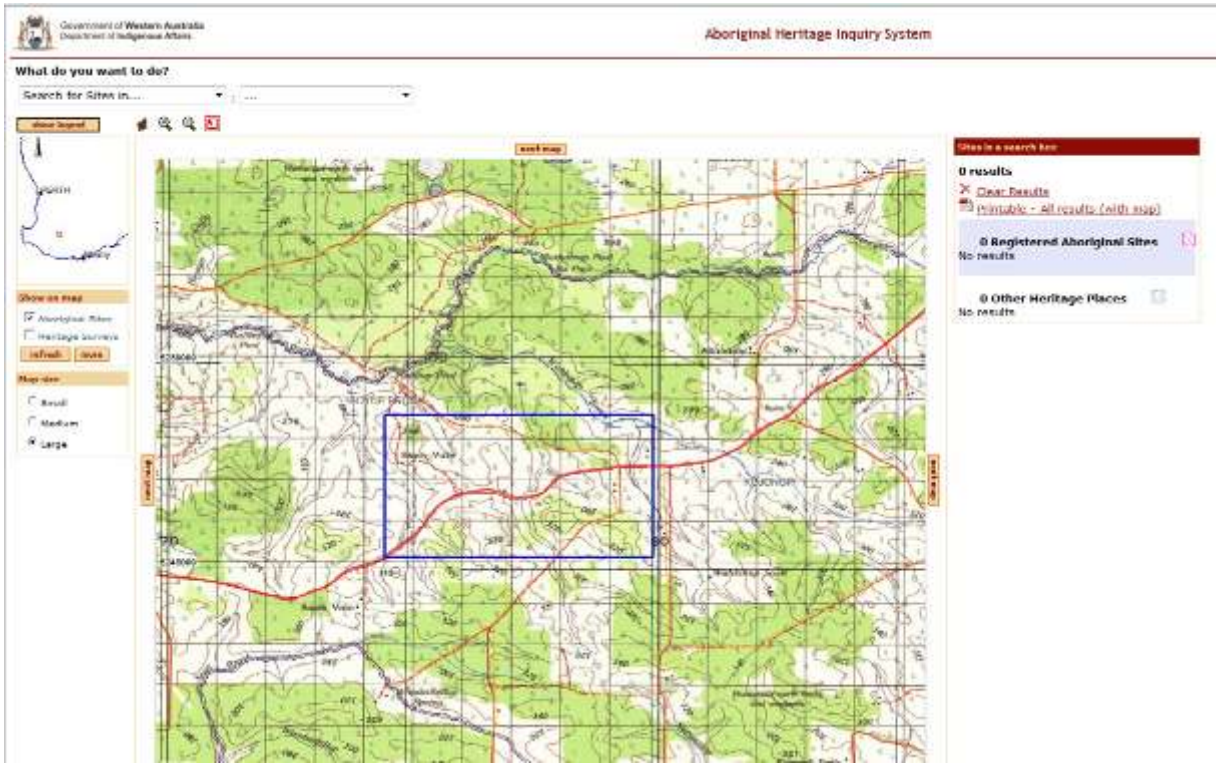
Australian Heritage Places Inventory, Heritage Council of Western Australia and the Municipal Heritage Inventory Database Searches





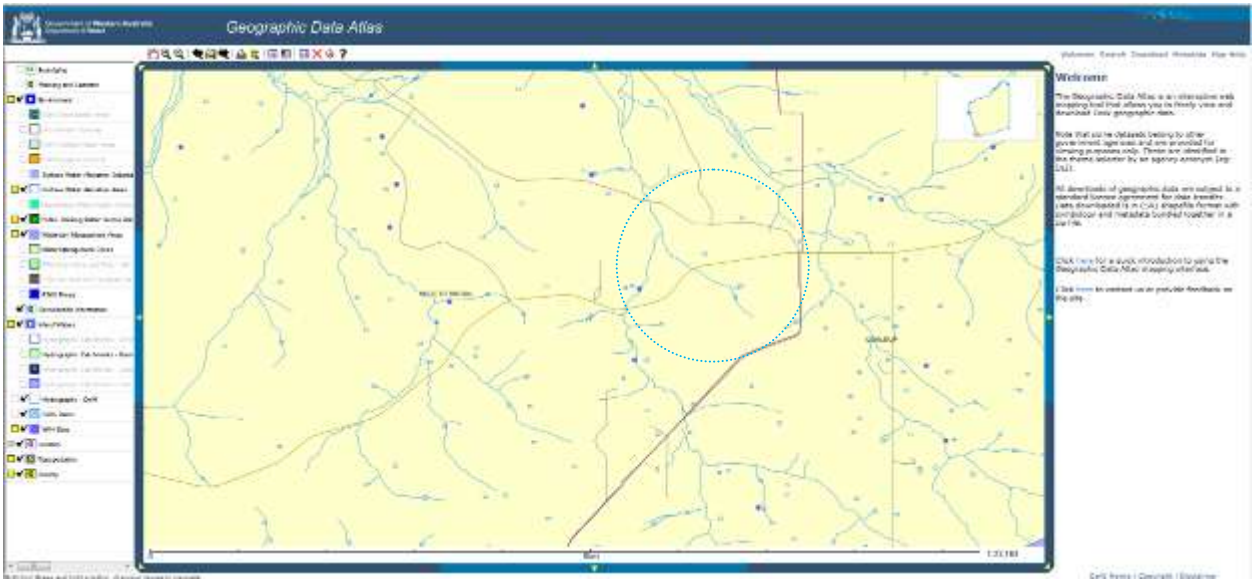
Appendix E

Department of Indigenous Affairs Database Search



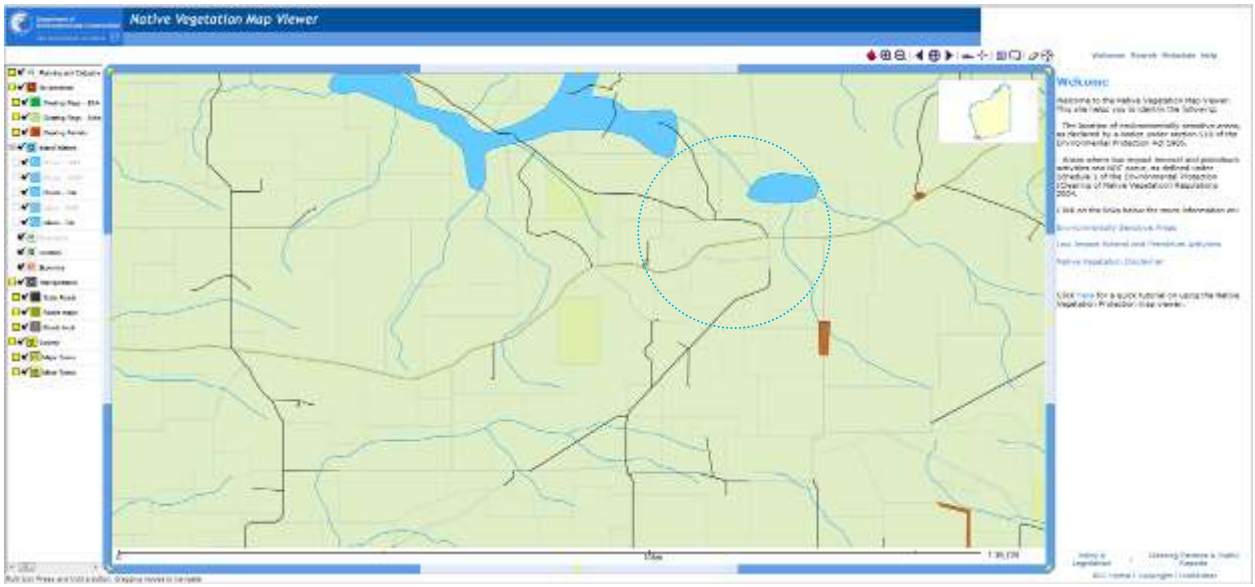
Appendix F

DoW Geographic Data Atlas Database Search



Appendix G

DEC Native Vegetation Map Viewer Database Search



Appendix H

DSEWPC Database Search

PMST_VE7VNZ.pdf

Appendix I

Department of Agriculture & Food Advice on Declared Weeds

Based on the site inspection the occurrence of Declared Weeds would be a low risk.

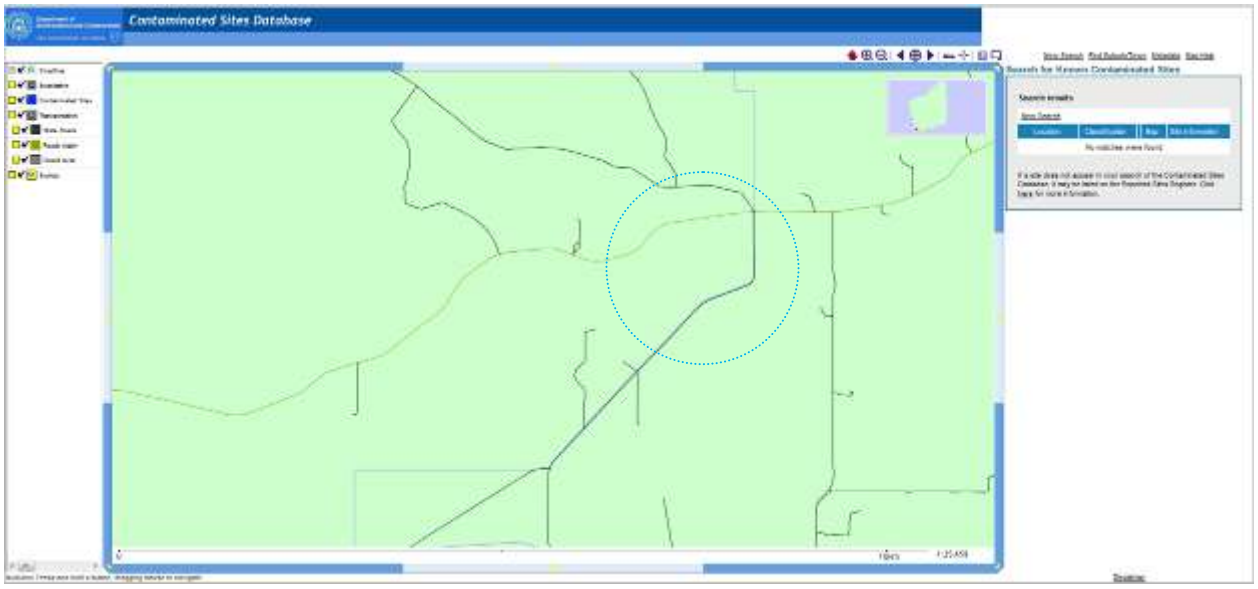
Appendix J

Dieback Consultant / DEC Advice on Dieback

Based on the site inspection the occurrence of Dieback would not be able to be identified due to the lack of susceptible species so would be considered a low risk impact.

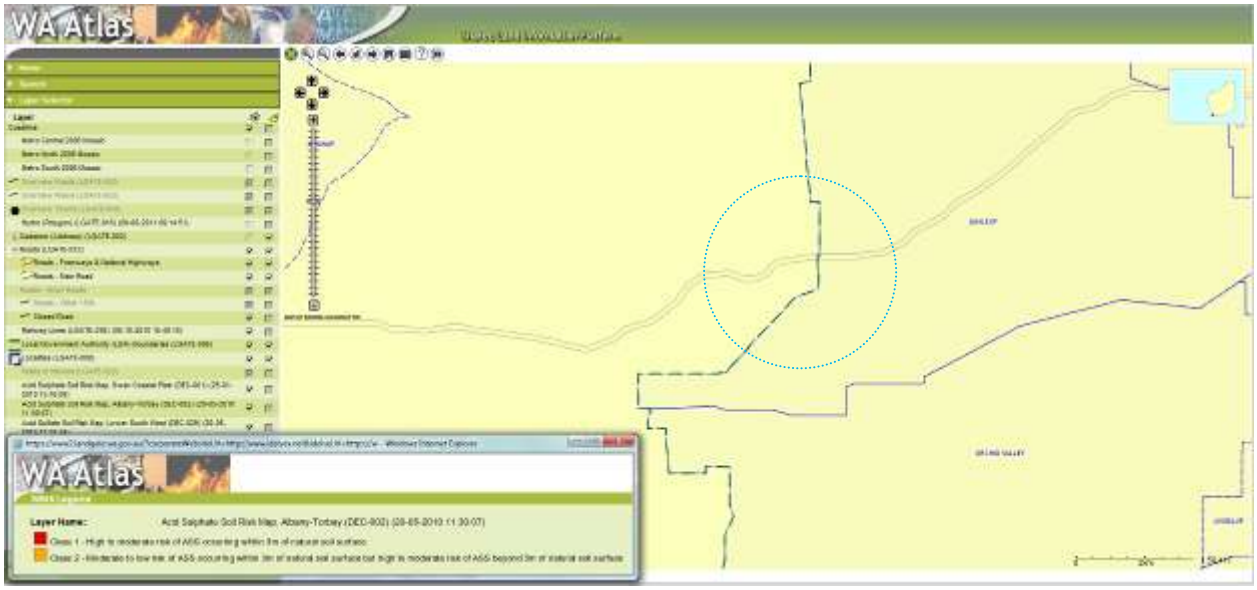
Appendix K

DEC Contaminated Sites Database Search



Appendix L

Acid Sulfate Soils Mapping



Appendix M

Environmental Management Plan

Donnybrook Kojonup Road SLK 117.4-118.51

Introduction

This Environmental Management Plan (EMP) has been developed for the project area following the completion of the Preliminary Environmental Impact Assessment (PEIA) report. The aim of this EMP is to minimise the environmental impacts associated with the proposed works as well as to identify areas of responsibilities required for the implementation of management strategies.

This EMP addresses specific issues that were identified during the PEIA. The project management measures identified within this EMP are in addition to the standard environmental management contract specifications used for Category 2 projects. Main Roads' standard environmental contract specifications (Specifications 203, 204, 301, 302 and 304) are to be adhered to where appropriate.

It is critical that all clearing works are carried out in accordance with the management measures prescribed in Specifications 301 (Clearing) and 302 (Earthworks).

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.

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

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.

Monitoring

After project completion and project handover, the Asset manager should develop a monitoring program to monitor for those aspects that have been identified as requiring monitoring.

Contingency Measures

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

Auditing

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

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 *(if below 0.5 ha, a single coordinate is sufficient);* • the size of the area cleared (in hectares); and • the dates on which the clearing was done.	Project Manager	DEC
			Control of weeds, dieback and other pathogens:	Project Manager	Main Roads
Pre - Construction	Visual Amenity	Ensure that road blends into environment.	Develop design documentation to meet project requirements as identified in the visual impact assessment.	Project Manager	Main Roads
Pre-Construction	Vegetation Clearing	Ensure that the overall objectives of the works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation; and the retention of as many habitat trees, shrubs and vegetated corridors for fauna.	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads
			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 (**Bridal Creeper**) 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 mulched and spread on site or used during any nearby rehabilitation works.	Contractor	Main Roads
Pre - Construction	Vegetation Clearing - CPS 818/4 management requirements	Compliance with management conditions of purpose permit.	If clearing is pursuant to Main Purpose Permit (CPS818) ensure compliance with Section 14 of the permit relating to Dieback, other pathogen and weed control.	Contractor/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
			Pedestrian public access 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

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
			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
Construction	Pollution and Litter	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	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. The contractor shall ensure appropriate equipment is available at all times and shall notify the Superintendent's Representative of a spill.	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
			The project areas, including hardstand areas, will be kept in a tidy manner at all times.	Contractor	Main Roads
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
			A fire fighting equipment will be on site at all times.	Contractor	Main Roads
Construction	Fauna	Avoid unnecessary impacts to fauna and damage to fauna habitat.	Fauna are not to be fed or intentionally harmed.	Contractor	Main Roads
			No pets or firearms permitted on site.	Contractor	Main Roads
			The WILDCARE Helpline is to be contacted, 9474 9055, in the event of sick, injured or orphaned native wildlife on the site.	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
Construction	Rehabilitation	Rehabilitate the project area to meet project commitments.	Implement the contract specifications for rehabilitation of the site.	Contractor	Main Roads
			All waste materials from the development are to be completely removed from the site upon completion of the project. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads