PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

Coolgardie-Esperance Highway Intersection Realignment Projects

Circle Valley Rd (SLK 273.51) and Logan Rd (SLK 281.90)

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CONTENTS

1 INTRODUCTION

Main Roads Goldfields-Esperance Region is proposing to realign two sections of Coolgardie Esperance Highway (CEH) within the Shire of Esperance at the junctions of Circle Valley Rd (SLK 273.51) and Logan Rd (SLK 281.90). The works are required for safety reasons as the two intersections do not currently provide adequate stacking distances for 36.5m road trains to either enter or exit the highway. This is because a railway line running parallel to CEH intersects both local government roads in close proximity to the highway.

In accordance with Main Roads corporate environmental assessment and approvals process, a Low Impact Environmental Screening Checklist was completed for both projects (see Appendix B). Since the works involve the clearing of native vegetation outside of the road's current maintenance zone, a Preliminary Environmental Impact Assessment is required. This report intends to fulfil this requirement. This report also intends to fulfil the requirements of Main Roads State-wide Project Purpose Clearing Permit (CPS 818/4) which is proposed for use for both projects.

Importantly, this assessment will also cover a proposed borrow pit area which may be used for the sourcing of fill for both projects. All other required road building materials will be imported from local suppliers meaning no further assessments of material source areas will be required.

2 PROJECT LOCATION

A map showing the general location of the project area is provided in Appendix A as Figure 1.

3 ASSESSMENT 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 (see Appendix C), and consulting where necessary. The following sections provide a summary of the specific methodology used for each potential environmental aspect associated with the project.

3.1.1 Threatened Flora, Fauna and Communities

The Species and Communities Branch of the Department of Environment and Conservation (DEC) was contacted for a search of their databases containing known populations of threatened flora and fauna.

The presence of Threatened and Priority Ecological Communities (TECs & PECs) was determined by examining Main Roads Geographic Information System (GIS) data (TEC & PEC data is supplied to Main Roads by DEC every 6 months).

3.1.2 Environmentally Sensitive Areas (ESAs) and Conservation Reserves

DEC's Native Vegetation Map Viewer (http://www.dec.wa.gov.au/land/native-vegetation-conservation/data/native-vegetation-map-viewer.html) and/or Main Roads GIS data was used to determine the location of any ESAs.

The location of any Conservation Reserves was determined by examining Main Roads GIS data and consulting with the local DEC office where necessary.

3.1.3 Vegetation Type, Extent and Status

Vegetation types and associations were determined by examining the Shared Land Information Platform (SLIP) Natural Resource Management (NRM) database (http://spatial.agric.wa.gov.au/slip/). Vegetation extent and status data was sourced from the Main Roads file "Native Vegetation in Western Australia - Extent, Type and Status" located on the Main Roads Environment Intranet site (http://intranet/online/branches/environment/word/car_reserve_analysis_2007.xls).
Note: This data is provided to Main Roads via a license agreement with the DEC.

3.1.4 Air Quality

The need for a local air quality assessment was determined using the criteria outlined in the MRWA environmental guideline, Air Quality (http://intranet/online/branches/environment/word/guide_air_quality.doc).

3.1.5 Heritage

Where necessary, non-indigenous heritage was examined by searching the Australian Heritage Places Inventory (http://www.heritage.gov.au), Heritage Council of Western Australia database (http://register.heritage.wa.gov.au/) or the local Shire's Municipal Heritage Inventory.

3.1.6 Aboriginal Heritage

A Search of the Department of Indigenous Affairs' (DIA) database (http://www.dia.wa.gov.au/Heritage--Culture/Heritage-management/Register-of-Aboriginal-sites/) was undertaken to determine whether the project area contains any Aboriginal Heritage sites.

3.1.7 Wetlands

The location of wetlands within the project area was determined by examining the DEC's Geographic Data Atlas mapping tool (http://maps.dec.wa.gov.au/idelve/doedataext/) and/or DEC's Wetland Base (http://www.dec.wa.gov.au/management-and-protection/wetlands/wetland-base/view-wetlandbase-online.html).

3.1.8 Sensitive Water Resources

The Department of Water's (DoW) Geographic Data Atlas was examined (http://portal.water.wa.gov.au/portal/page/portal/MapsDataAtlases/GeographicDataAtlas) to determine whether the project area supported, or was adjacent to, any significant lakes, rivers, wetlands or proclaimed areas (including public drinking water source areas).

3.1.9 Contaminated Sites

The presence of contaminated sites in the project area was determined by examining DEC's contaminated sites database where necessary (http://www.dec.wa.gov.au/pollution-prevention/contaminated-sites/contaminated-sites-act/database.html), and evaluating the surrounding land use history.

3.1.10 Acid Sulphate Soils

The Western Australian Planning Commission's (WAPC) acid sulphate soils maps were examined where necessary (http://www.wapc.wa.gov.au/Publications/213.aspx) to determine the level of risk the project area is exposed to.

3.1.11 Weeds

Where relevant, consultation was undertaken with the Department of Agriculture and Food (DAFWA) to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area.

3.1.12 Dieback

Dieback was only considered a potential issue for the project if both the mean annual rainfall of the area is >400mm, and if the project area resides below the 26th parallel. Consultation with the DEC was carried out as necessary.

3.2 Statutory Referral Decisions

The decision whether to refer the project to the Commonwealth's Department of Environment, Water, Heritage and the Arts (DEWHA) was based upon whether the project would impact upon matters of national environmental significance (refer to Appendix C - DEWHA's EPBC Act Protected Matters Database search). These matters of national environmental significance are assessed for impact in Section 5.

The decision whether to refer the project to the WA Environmental Protection Authority (EPA) was based upon whether the project would be a "significant proposal" as defined by the Environmental Protection Act 1986. As a result, all potential environmental aspects relating to the project have been examined for their level of significance (see Sections 5 & 6).

3.3 Site Investigation

A site visit was carried out by Simon Weighell (GEnv) on the 27/02/09 to examine the general features of the area. Site photos were taken and are included in Appendix E.

4 EXISTING ENVIRONMENT

Information relating to the existing environment of the area has been summarised in Tables 1 & 2 below. This information has been complied through both desktop assessments and site visits to the project areas.

Table 1. Existing environment information.

Factor	**Value**							
Vegetation Associations	*486, 936*							
Vegetation Association Descriptions*	*<u>486:</u> Mosaic: Medium woodland; salmon gum & red mallee / Shrublands; mallee scrub Eucalyptus eremophila* *<u>936:</u> Medium woodland; salmon gum*							
Scale	***By Association***		***By IBRA Region*** *(Mallee)*		***By IBRA Sub-region*** *(Eastern Mallee)*		***By Shire*** *(Esperance)*	
Veg Association	*486*	*936*	*486*	*936*	*486*	*936*	*486*	*936*
Current Extent (ha)*	*256,582*	*675,636*	*171,656*	*52,278*	*108,159*	*32,093*	*117,646*	*38,049*
% Pre-European Extent Remaining*	*58.8%*	*96.7%*	*48.9%*	*74.2%*	*37.6%*	*98.7%*	*39.6%*	*98.9%*
Topography / Soil Classification	Gently undulating, ~230m elevation. Duplex soils (sand over clay) *(Anderson et al., 2002)*.							
Climate#	*Closest Meteorological Station: Salmon Gums* *Avg. Annual rainfall: 351.7mm* *Avg. Max Temp ranges: 16.0^{0}C (Jul) to 30.5^{0}C (Jan)* *Avg. Min Temp ranges: 4.6^{0}C (Jul & Aug) to 13.9^{0}C (Feb)*							
Surrounding Land Use	*Agriculture, Conservation*							
Weed prevalence	*Low - High*							

* Source: DEC (2007) – see Section 3.1.3

Source: Bureau of Meteorology (2009)

Table 2. Weed species identified in the project area.

No.	Scientific Name	Common Name
1.	*Avena fatua*	Wild Oat
2.	*Cynodon dactylon*	Couch
3.	*Eragrostis curvula*	African lovegrass
4.	*Lactuca serriola*	Prickly lettuce
5.	*Sonchus oleraceus*	Sowthistle
6.	*Pennisetum clandestinum*	Kikuyu

5 ASSESSMENT OF ASPECTS AND IMPACTS

The following table provides a summary of potential environmental aspects associated with the project(s) and their subsequent assessment for environmental impact. Environmental constraints mapping is provided in Appendix A.

Table 4: Aspects and Impacts

Aspect	Evaluation of Potential Impacts
Air quality	Not considered relevant to the proposed works.
Dust	Likely to be a minor issue during earth works. No major sensitive receivers adjacent to the project area. No significant impact expected.
Fauna	Several threatened species and/or their habitat have been identified as potentially occurring within the project area (see Appendix A & C). Records exist for both the Western Rosella (inland ssp) and the White-browed babbler (western wheatbelt) at the Red Lake Townsite Nature Reserve, but given that no works are to occur within the reserve itself, no significant impacts to either of these species are expected. Furthermore, the mobile nature of the species in question, and the relatively small amount of clearing involved, means that no individual casualties are considered likely during clearing works. Despite this, it is proposed that the site be inspected prior to clearing by an environmental specialist in order to ensure that any breeding sites or individuals are avoided as far as is practically possible.
Vegetation – clearing	• Up to 20.53ha of native vegetation may need to be cleared for the proposed works (for maximum clearing boundaries please see Figures 2d & 3d in Appendix C). Clearing can be broken down as follows: - 3.06ha for Circle Valley Rd, - 6.42ha for Logan Rd, - 11.05ha for borrow pit located off Circle Valley Rd. • The condition of the vegetation in the area ranges from completely degraded to very good (using the Keighery scale (Keighery, 1994)). • The vegetation associations residing in the project area (Associations 486 and 936) are not currently considered underrepresented at any of the four regional scales (State, IBRA region, IBRA sub-region and Shire). No significant impact to the status of these associations is therefore expected given the relatively small amount of clearing involved. • The native vegetation to be cleared does not occur within an ESA. • Additional revegetation beyond that required by CPS 818/4 is proposed for the redundant road pavement as well as a section of road reserve to the north of Circle Valley Rd. Further details of these proposed works can be found in the project specific revegetation plan, separate to this report.

Table 4: Aspects and Impacts

Aspect	Evaluation of Potential Impacts
Significant Flora / Ecological Communities	According to various database searches, there are no TECs, PECs, Declared Rare Flora (DRF) or Priority Flora (PF) located within the proposed clearing areas. The database searches did reveal a declared rare species (*Eucalyptus merrickiae)* in reasonably close proximity to the Circle Valley Rd works but the accuracy of this site is questionable. This is because the site is located at the old Circle Valley town site where no vegetation currently exists. The species itself is known to mainly exist on the borders of salt lakes meaning that the presence of this species in the proposed clearing areas is considered highly unlikely. In addition to this, no specimens of *E. merrickiae* nor any other DRF, TECs, PECs, PF or Nationally (DEWHA) protected species (see Appendix C) were identified in the proposed clearing areas during the site visit. As a result, no significant impacts to any of these are expected.
Vegetation – weeds	Numerous weed species have been identified within the proposed clearing areas. As a result, standard weed hygiene measures are to be applied to limit the risk of any further weed spread. These measures include the removal and burial / disposal of weed infected material as stipulated by the project's revegetation plan, separate to this report. No declared weeds were identified in the project area during the site visit.
Vegetation – dieback	Dieback is not considered a potential issue for the project given that the project area receives less than 400mm of average annual rainfall (Nearest meteorological station is Salmon Gums with an average annual rainfall of 351.7mm).
Reserves / Conservation areas	One nature reserve (Red Lake Townsite Nature Reserve) has been identified immediately adjacent to the proposed project area at Logan Rd. No direct impacts to this site are expected however given that clearing will be limited to the existing road reserve. Any indirect impacts to the nature reserve are also considered highly unlikely as a buffer of native vegetation will remain between the road and nature reserve. Standard weed hygiene measures will also be applied to ensure that any potential for future weed spread is minimal. No significant impacts to any linkages between conservation areas are considered likely given that there are relatively significant areas of native vegetation remaining immediately adjacent to the proposed clearing areas.
Heritage (non-indigenous)	A Historic School site (Red Lake School) is located adjacent to the proposed road works at Logan Rd. This site is not listed on any protected heritage list meaning no approvals to impact the site are required. Despite this, consultation with various groups has been carried out in order to ensure that any impacts are kept to a minimum. As a precautionary measure, the school site will also be taped off during construction works. Evidence of consultation can be found in Appendix D.
Aboriginal heritage	A search of DIA's database revealed that no known sites of Aboriginal heritage significance are currently residing within the proposed project areas. One site (known as Red Lake, Site ID 1459) is located nearby both of the proposed projects but no impacts to this site are expected given the distances involved.
Surface water/drainage	The works are considered unlikely to significantly disturb or interrupt any present drainage or surface run-off patterns. Drainage in the area has already been highly altered by the existing roads.
Wetlands	There are several wetlands (none with any conservation category) located nearby the proposed work areas at Circle Valley Rd. None of these wetlands are considered close enough though for any works to significantly impact upon them. No wetlands exist nearby or within the boundaries of the proposed work areas at Logan Rd.

Table 4: Aspects and Impacts

Aspect	Evaluation of Potential Impacts
Groundwater	Given that no dewatering or significant drainage modifications are required, no significant changes to the current groundwater level or quality are expected. Any water required for construction purposes is to be sourced legally and subject to any requirements from the Department of Water.
Noise and vibration	No major sensitive local receivers. The works are not expected to significantly contribute to noise levels at the nearest receivers.
Visual amenity	No significant impacts to visual amenity are expected. Works are expected to enhance visual amenity values in the long term given the revegetation measures proposed.
Hazardous substances	Not considered 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. A search of DEC's Contaminated Sites database did not reveal any known sites in close proximity to the proposed project areas (see Appendix C).
Salinity	Not considered relevant to the proposed works.
Acid Sulphate Soils	No dewatering or excavation below the water table is planned and therefore the risk of exposing or exacerbating acid sulphate soils is considered to be low.
Environmentally Significant Landforms	There are no environmentally significant landforms within close proximity of either project area. No impacts expected.
Statutory Land Use Planning / Adjacent Land Use	Expansion of the existing road reserve is not required. No significant impacts to surrounding land uses are expected.

6 CLEARING OF NATIVE VEGETATION

Native vegetation for this project will be cleared using Main Roads State-wide Project Purpose Permit (CPS 818/4). 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.

6.1 Avoiding, Minimising and Reducing the Impact of Clearing

The following measures will be taken in an effort to avoid, minimise and reduce the impact of clearing associated with the project:

- All efforts will be made during clearing activities to avoid any unnecessary impacts to native vegetation.
- Cleared vegetation will be mulched and respread in order to help prevent weed establishment.
- Clearing for borrow pit areas will be restricted to the minimum area required for the extraction of the required quantity of materials.
- Additional revegetation areas including the redundant road pavements and a section of road reserve north of Circle Valley Rd have been proposed to help offset any impacts caused by the clearing for the project.

6.2 Assessment against the 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. This assessment is also in accordance with condition 9 of CPS 818/4. The assessment has indicated that the project is not likely to be at variance with any of the DEC's 10 clearing principles.

Principle (a)	**Native vegetation should not be cleared if it comprises a high level of biological diversity.**
Assessment	The proposed clearing area can not be considered to have a high level of biological diversity given that extensive areas of native vegetation in a good or better condition exist immediately adjacent to the project area.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (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.**
Assessment	Given the relatively small amount of clearing involved, and the mobile nature of the species in question (i.e. those identified as potentially occurring within the project area – see Appendix C), no significant impacts to native fauna or its habitat are expected.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (c)	**Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**
Assessment	No rare flora was identified within the proposed clearing areas as a result of both a desktop assessment and site visit to the area. Furthermore, the nearest occurrence of rare flora is predominantly known from borders of salt lakes of which there are none in the proposed clearing areas.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (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.**
Assessment	No TECs were identified within or immediately adjacent to the project area during a desktop assessment of the area.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (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.**
Assessment	The native vegetation within the project area can not be considered significant as a remnant as greater than 30% of the vegetation associations in the area currently remain at all four of the regional scales (refer Table 1).
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (f)	**Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**
Assessment	No environmentally significant watercourses or wetlands are located within or immediately adjacent to any of the proposed clearing areas.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (g)	**Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**
Assessment	Given the relatively small amount of clearing involved, and the rehabilitation and revegetation measures proposed, the clearing is considered highly unlikely to cause appreciable land degradation.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (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.
Assessment	No clearing will be carried out within any current conservation areas. Although the Red Lake Townsite Nature Reserve is located immediately adjacent to the proposed works at Logan Rd, no significant impacts are expected given the relatively small amount of clearing involved. In addition, the proposed clearing areas are not located in an area where connectivity between remnant vegetation in the surrounding landscape would be severely impacted.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (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.
Assessment	No significant change to the hydrology of the area is expected given the relatively minor nature of the works. Therefore, no significant deterioration in the quality of surface or underground water is expected.
Conclusion	*The proposal is not likely to be at variance to this principle.*

Principle (j)	Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.
Assessment	No significant change to the hydrology of the area is expected given the relatively minor nature of the works. The clearing is therefore highly unlikely to cause or exacerbate the incidence of flooding in the area.
Conclusion	*The proposal is not likely to be at variance to this principle.*

6.3 Project Specific Requirements Relating to CPS 818/4

Given that the project involves temporary clearing, a revegetation plan is required in accordance with Condition 13 of CPS 818/4. This plan is separate to this report and will be submitted to the CEO of DEC prior to clearing.

No offsets or management strategies are required given that no variance exists with any of the ten clearing principles.

7 STAKEHOLDER CONSULTATION

The Esperance Museum, Shire of Esperance, and Grass Patch P&C Association have all been contacted in regards to the historic school site located near Logan Rd. No objections to Main Roads proposed approach to the works have yet been received although the Grass Patch P&C Association has yet to submit their response. Any requests received will be duly considered and dealt with appropriately.

In regards to the presence of any threatened fauna within the proposed clearing areas at Logan Rd, it is proposed that DEC Esperance will be consulted prior to and during clearing activities.

For evidence of consultation please see Appendix D.

8 ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan (EMP) has been developed for the project (see Appendix F) taking into account the assessments carried out above. 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 to identify who is responsible for the implementation of any subsequent management strategies. This EMP is predominantly for the Main Roads Project Manager's reference and provides basic requirements for any Contractor produced EMP (subject to any conditions outlined in the actual Contract).

The EMP will only address site-specific issues that were identified during the PEIA. The areas that require special management will be addressed in terms of:

- the timing of 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 MONITORING

After clearing, the project area is to be inspected every 12 months for the duration of CPS 818/4 in order to ensure that excessive weed spread or establishment has not occurred. Monitoring of revegetation sites will be in accordance with the project's approved revegetation plan, separate to this report.

10 AUDITING

Audits against the EMP may be carried out depending on regional priorities and perceived risk. On-ground checking will be carried out as a minimum by the Main Roads Goldfields-Esperance Region Environment Officer.

11 DECISION TO REFER

Given the small 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 EPA.

Furthermore the project does not require referral to the DEWHA as no items of national environmental significance are likely to be impacted by the proposed works.

12 REFERENCES

Anderson, L., Barrett, S., Comer, S., Gilfillan, S., Grant, M., & Tiedemann, K., (2002) "Mallee 1 (MAL1 – Eastern Mallee subregion)", *A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002,* Department of Conservation and Land Management, Western Australia (accessed online at http://www.dec.wa.gov.au/pdf/science/bio_audit/mallee01_p423-434.pdf on 16/02/09).

Bureau of Meteorology (BoM), (2009) "Climate Data Online", Commonwealth of Australia (accessed online at http://www.bom.gov.au/climate/averages/ on 16/02/09).

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

Appendix A

Mapping

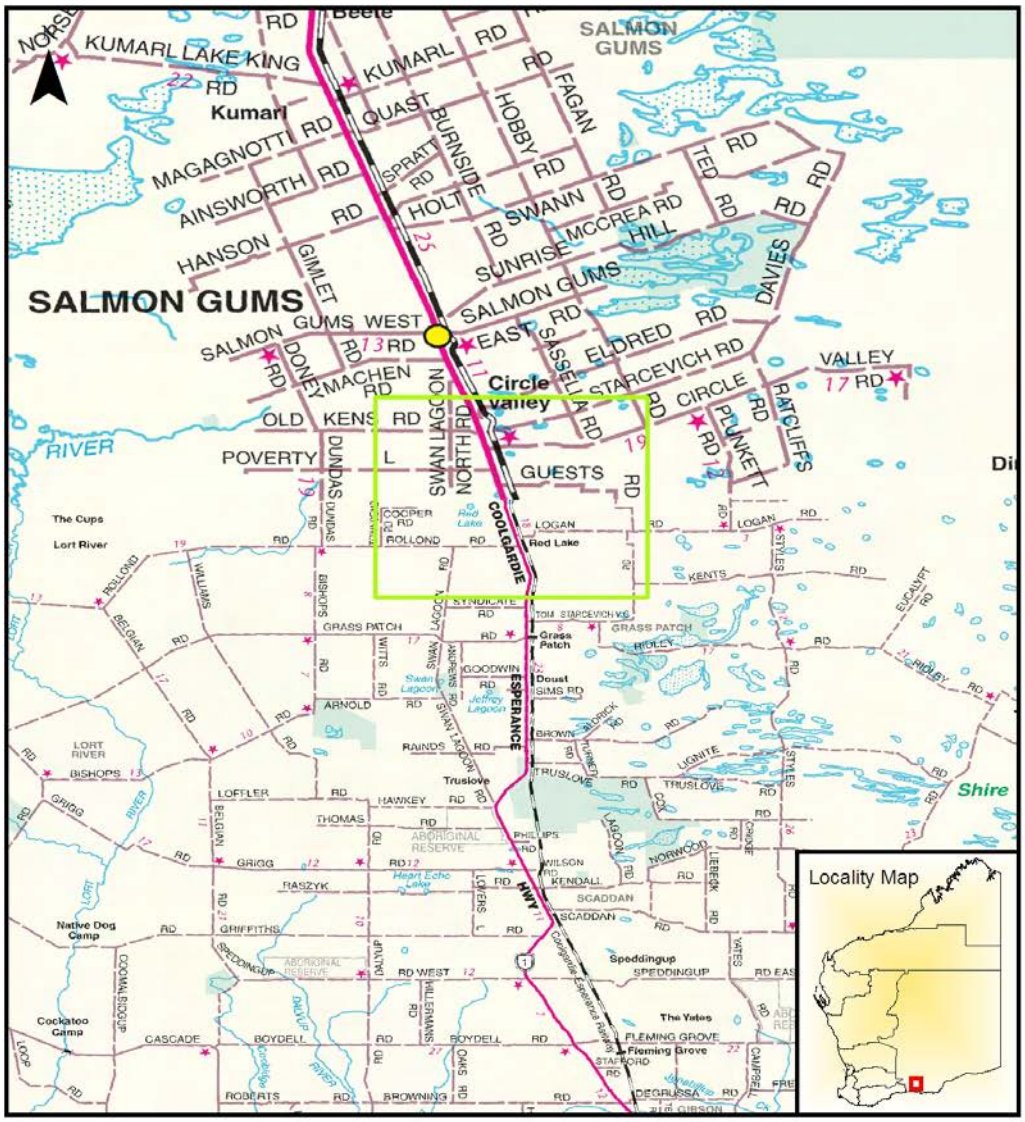


Figure 1 - Circle Valley & Logan Project Location

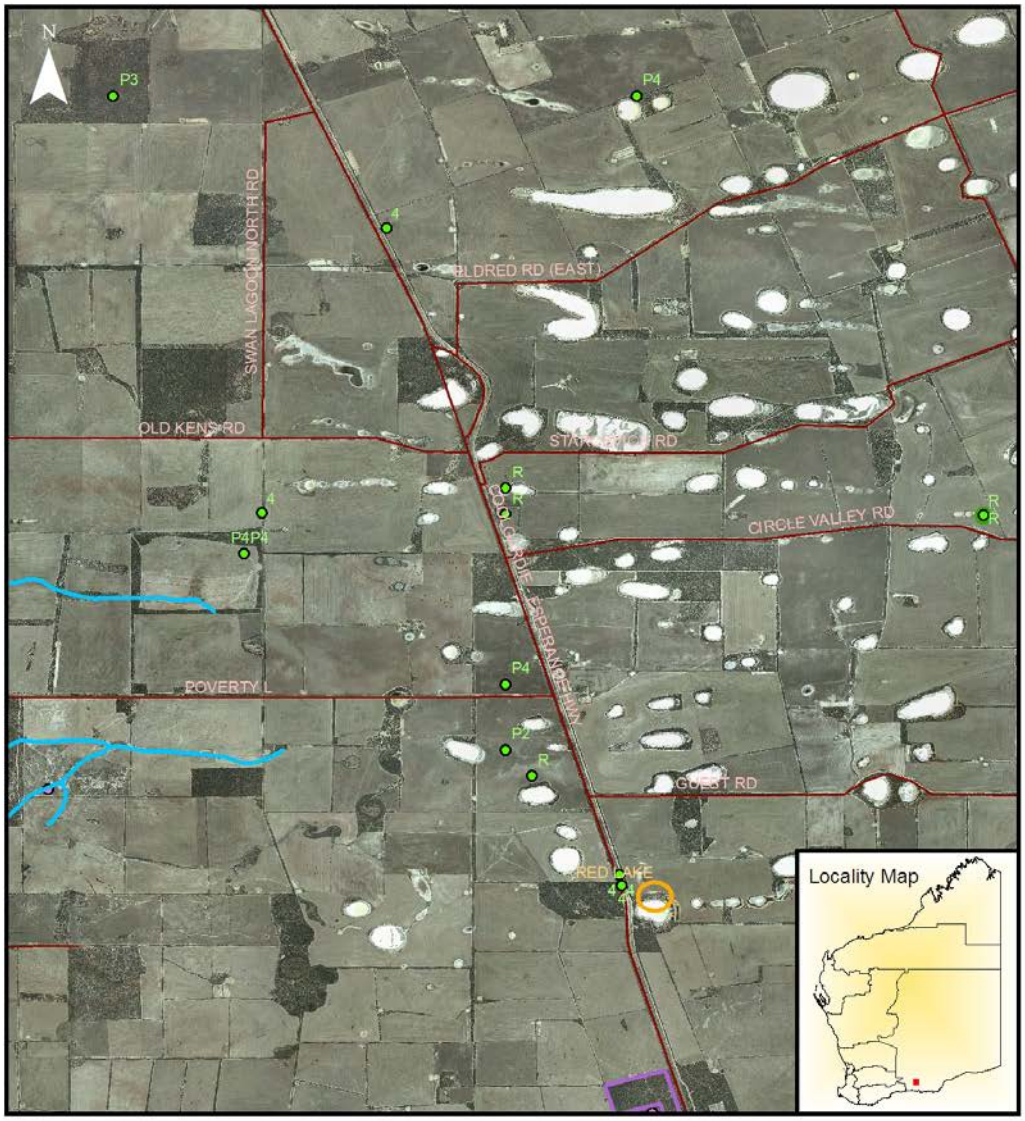


Figure 2a - Circle Valley Environmental Constraints Map A

Figure 2b - Circle Valley & Proposed Borrow Pit Env Constraints Map B

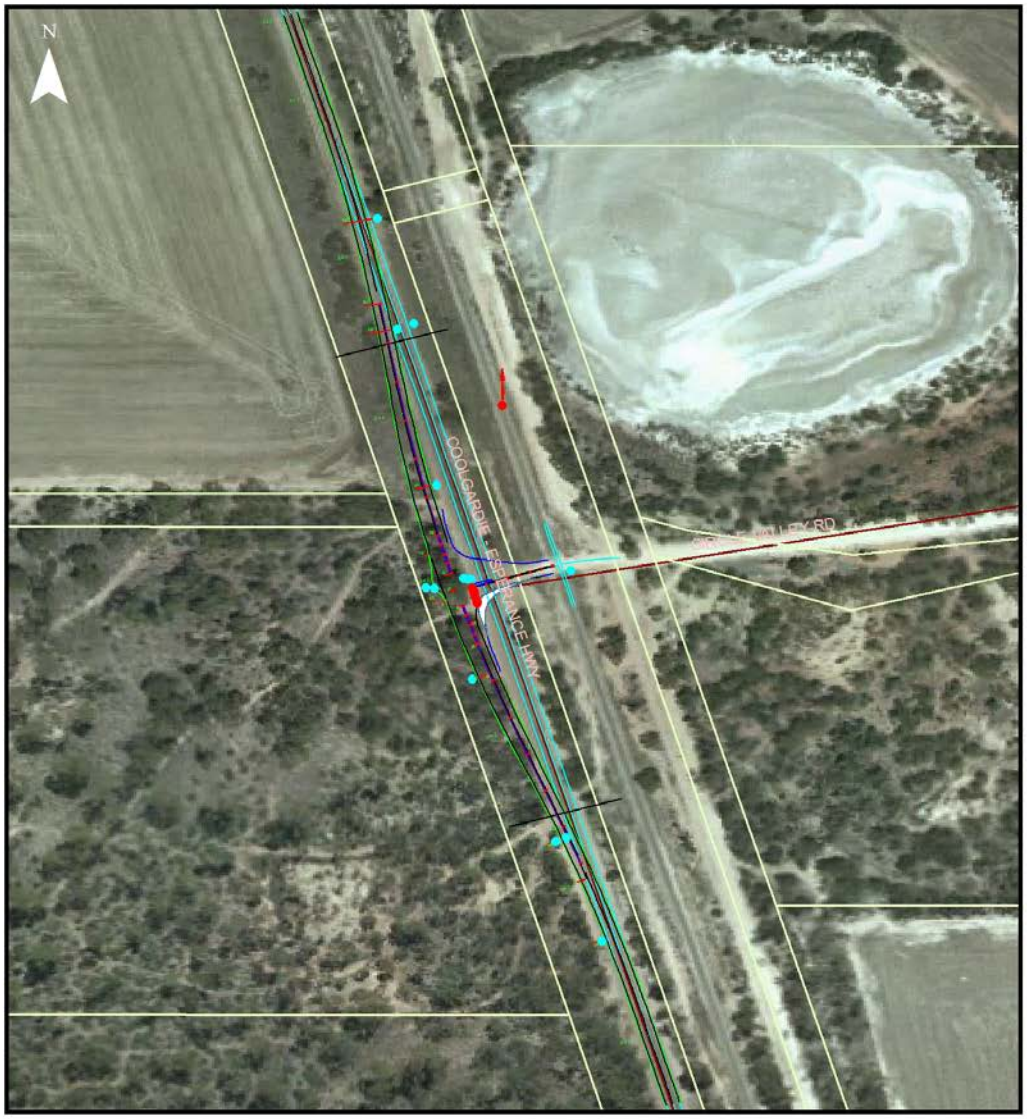


Figure 2c - Circle Valley Proposed Realignment

Figure 2d - Clearing Boundaries for Circle Valley & Proposed Borrow Pit

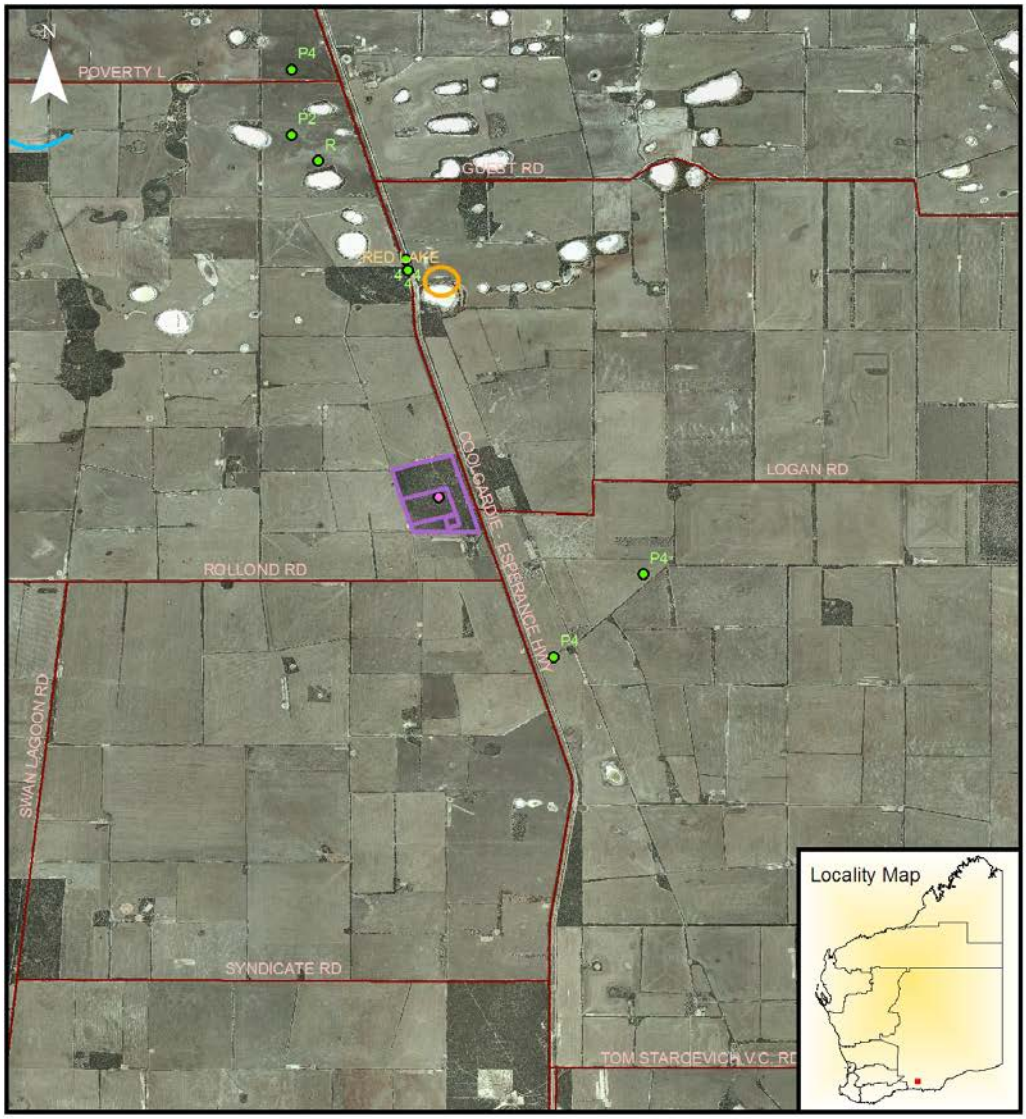


Figure 3a - Logan Environmental Constraints Map A

Figure 3b - Logan Environmental Constraints Map B Showing Historic School Site

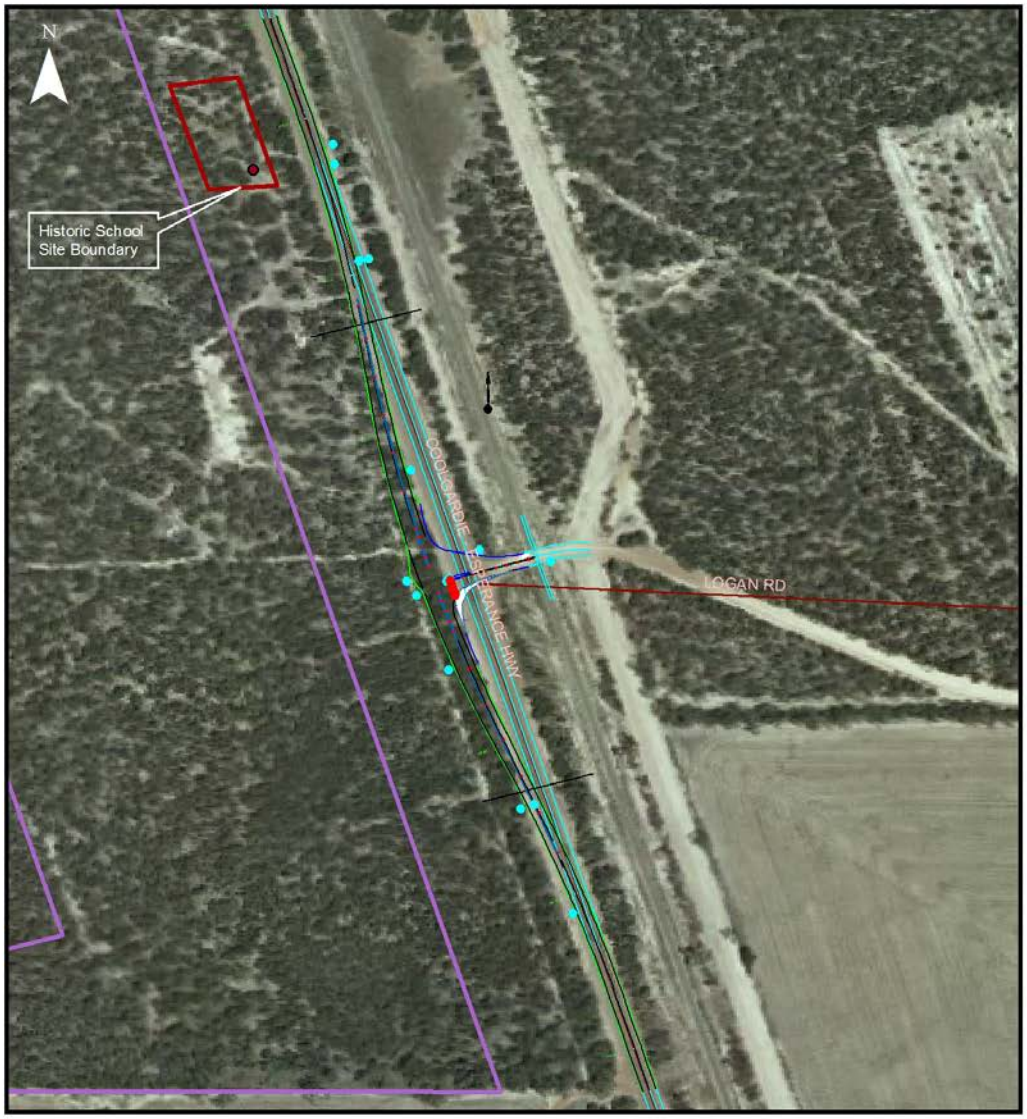


Figure 3c - Logan Proposed Realignment & Limits of Historic School Site

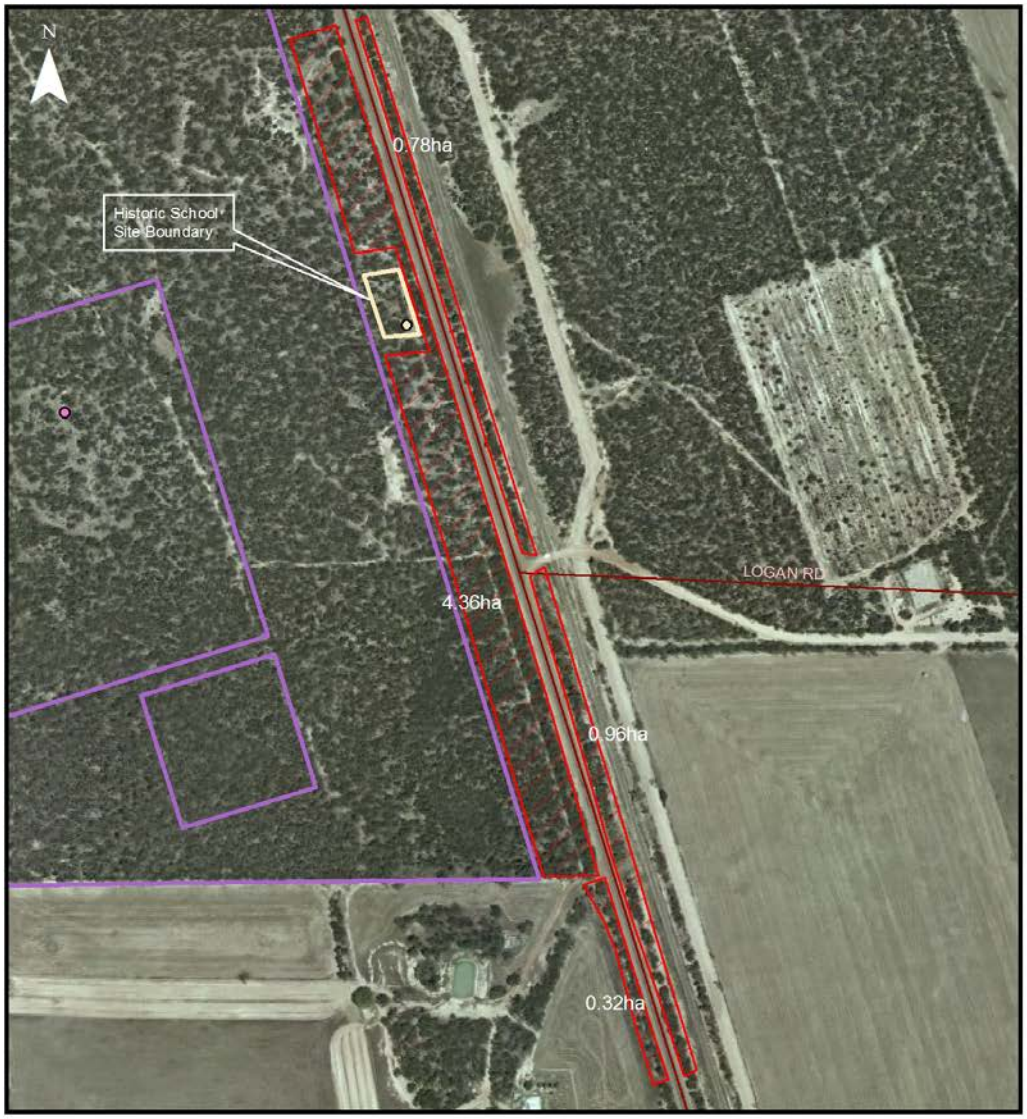


Figure 3d - Logan Clearing Boundaries

Appendix B

Low Impact Screening Checklists

07/4510 2

Form No. 6707/001/01 0084135 663

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 COOLGARDIE - ESPERANCE Hwy H010 Circle Valley Intersection Improvements 273.51 SLK

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* 21/7/08
Name LEE HUNT *Title* PROJECT MANAGER

To be reviewed by a Main Roads Environment Officer: *Signature* S. Weighell *Date* 24/2/09
Name SIMON WEIGHELL *Title* A/ENV

Comments: PEIA Required

MAIN ROADS Western Australia
Form 67070101 Screening Checklist Rev 3.doc 30/05/07

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 Coolgardie-Esperance Hwy H010 Logan Rd Intersection Improvements 281·90 SLK

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* 21/7/08
Name LEE HUNT *Title* PROJECT MANAGER

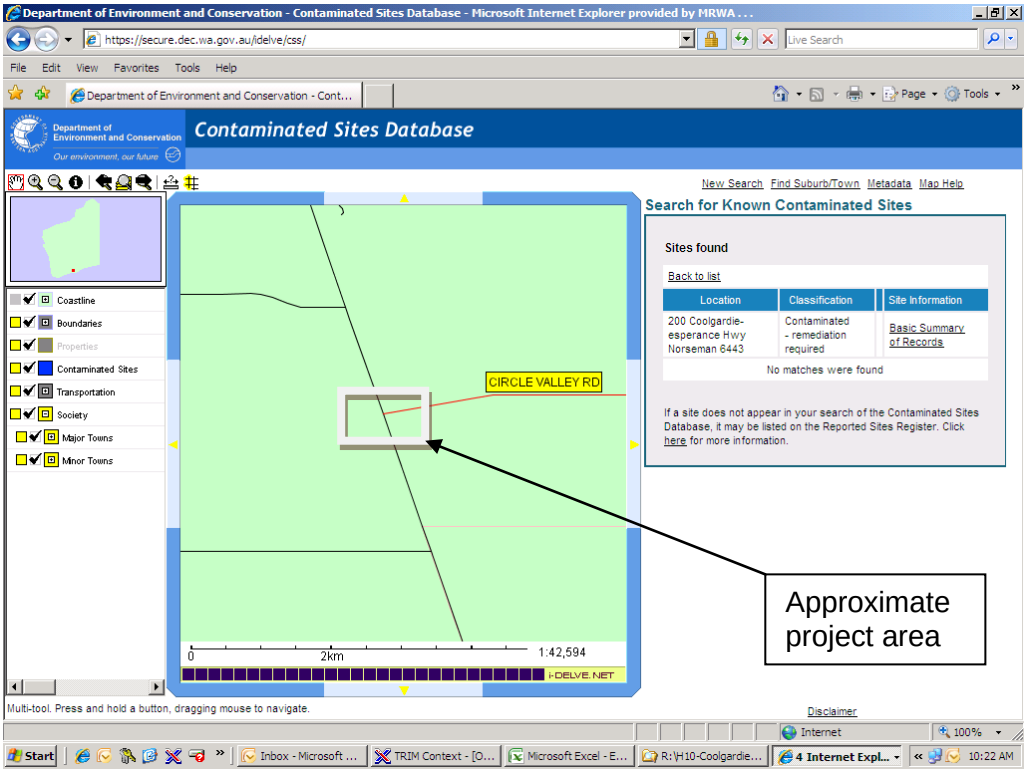
To be reviewed by a Main Roads Environment Officer: *Signature* S. Weightell *Date* 24/2/09
Name SIMON WEIGHTELL *Title* QEnv

Comments: PEIA Required

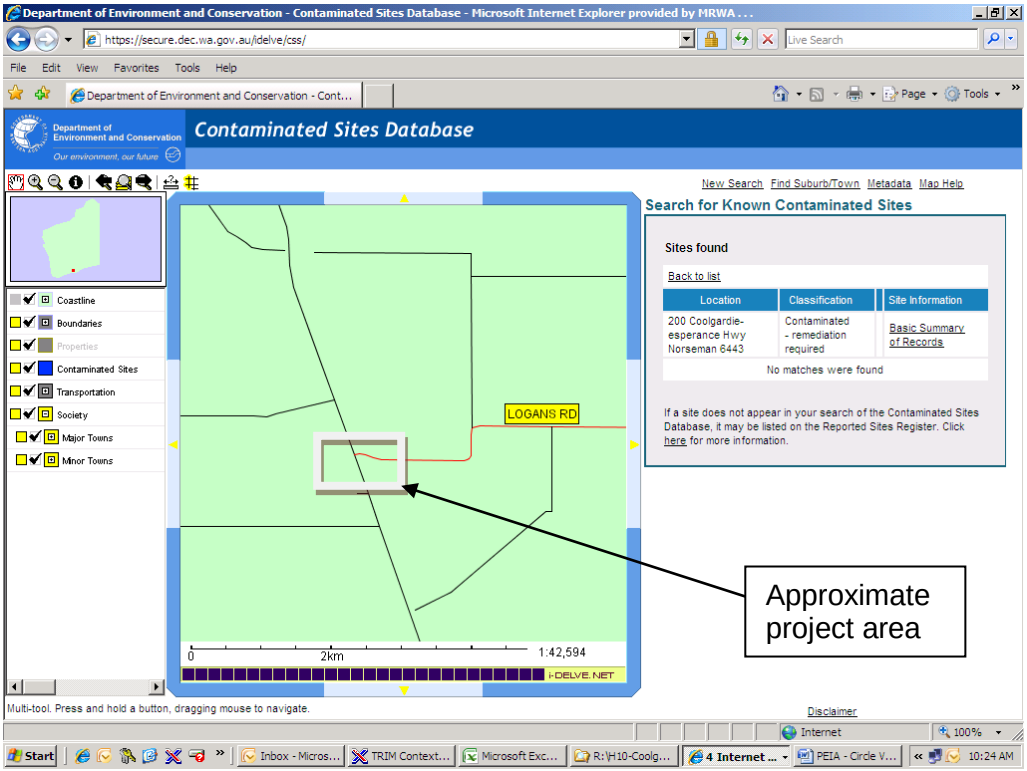
MAIN ROADS Western Australia
Form 670700101 Screening Checklist Rev 3.doc 30/05/07

Appendix C

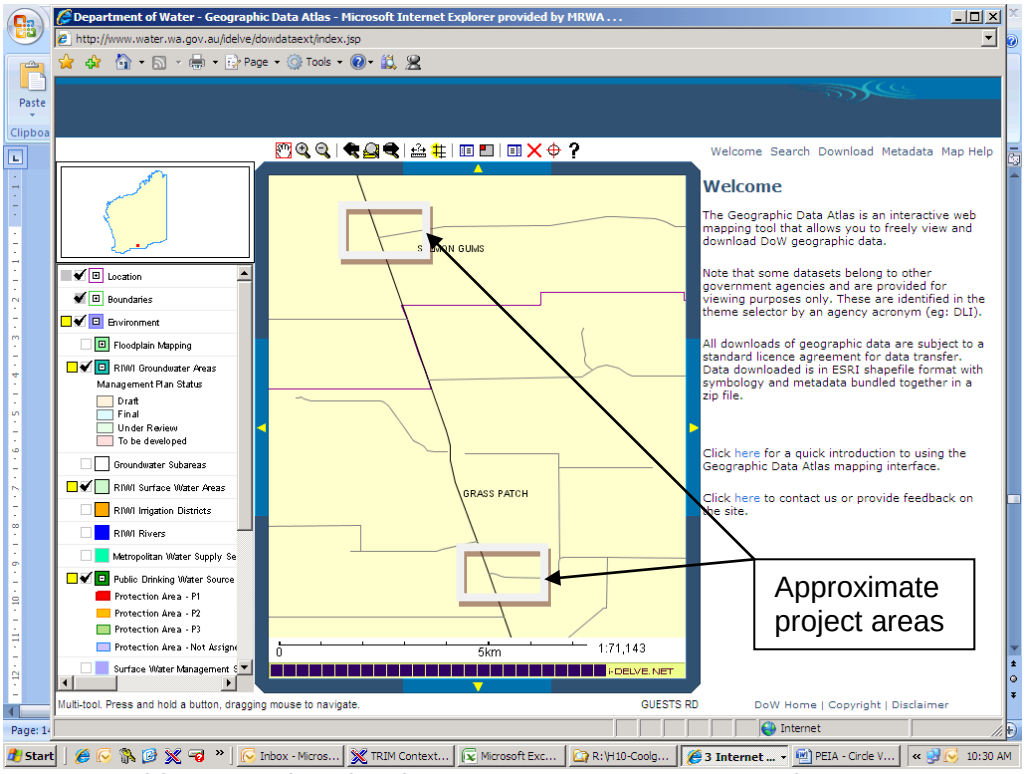
Government Agency Database Searches



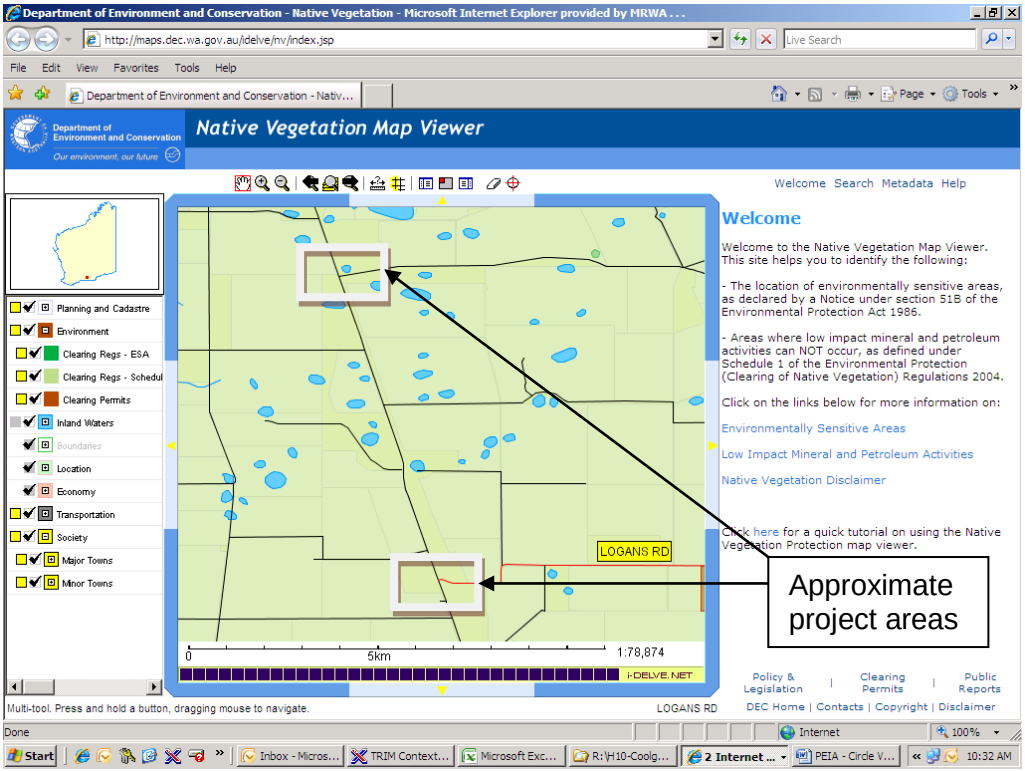
DEC's Contaminated Sites Database showing no known contaminated sites within the immediate vicinity of the Circle Valley Rd project area.



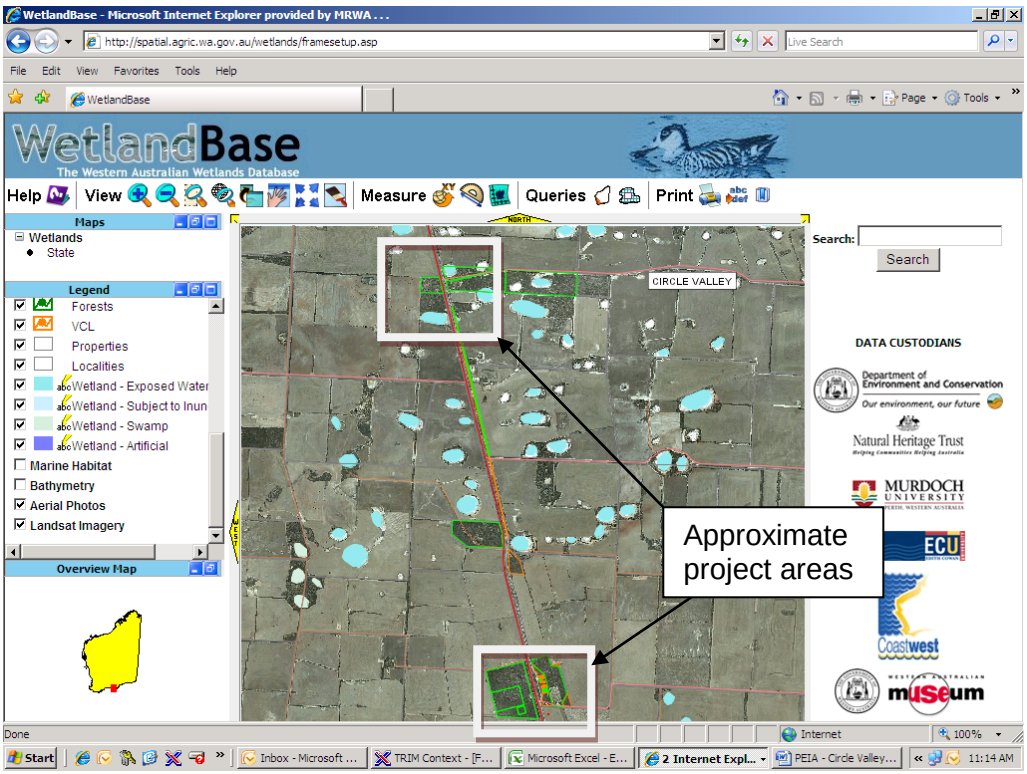
DEC's Contaminated Sites Database showing no known contaminated sites within the immediate vicinity of the Logan Rd project area.



DoW's Geographic Data Atlas showing no PDWSAs, RIWI Groundwater or RIWI Surface Water Areas within the immediate vicinity of the project areas.



DEC's Native Vegetation Map Viewer showing no ESAs within the proposed project areas.



DEC's Wetland Base showing no wetlands within the immediate vicinity of the Logan Rd project area, and several wetlands within the immediate vicinity of the Circle Valley Rd project area.

DEC's Threatened Fauna database search results:

Threatened and Priority Fauna Database

32.965 °S 121.545 °E / 33.193 °S 121.868 °E Coolgardie-Esperance Hwy

* Date	Certainty	Seen	Location Name	Method
Schedule 1 - Fauna that is rare or is likely to become extinct				
Dasyurus geoffroii **Chuditch**				*2 records*
This carnivorous marsupial occupies large home ranges, is highly mobile and appears able to utilise bush remnants and corridors.				
1998	1	1	Salmon Gums	Caught or trapped
2008	1	1	Salmon Gums	Dead
Platycercus icterotis xanthogenys **Western Rosella (inland ssp)**				*2 records*
This subspecies of the Western Rosella occurs in eucalypt and casuarina woodlands and scrubs, especially of Salmon Gum and tall mallees.				
1991	1	2	Red Lake Townsite Nature Reserve	Day sighting
1991	1	1	Red Lake Townsite Nature Reserve	Day sighting
Priority Four: Taxa in need of monitoring				
Pomatostomus superciliosus ashbyi **White-browed Babbler (western wheatbe**				*1 records*
This species of bird lives in eucalypt forests and woodlands, and forages on or near the ground for insects and seeds.				
1991	2	0	Red Lake Townsite Nature Reserve	Definite signs

* Information relating to any records provided for listed species:-
Date: date of recorded observation
Certainty (of correct species identification): 1=Very certain; 2=Moderately certain; and 3=Not sure.
Seen: Number of individuals observed.
Location Name: Name of reserve or nearest locality where observation was made
Method: Method or type of observation

Thursday, 19 February 2009

Department of Environment and Conservation

Aboriginal Heritage Inquiry System results for the project area:

Government of Western Australia
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

Search Criteria

1 sites in a search box. The box is formed by these diagonally opposed corner points:

MGA Zone 51	
Northing	Easting
6323260	371573
6348534	384109

Disclaimer

Aboriginal sites exist that are not recorded on the Register of Aboriginal Sites, and some registered sites may no longer exist. Consultation with Aboriginal communities is on-going to identify additional sites. The AHA protects all Aboriginal sites in Western Australia whether or not they are registered.

Copyright

Copyright in the information contained herein is and shall remain the property of the State of Western Australia. All rights reserved. This includes, but is not limited to, information from the Register of Aboriginal Sites established and maintained under the Aboriginal Heritage Act 1972 (AHA).

Legend

Restriction

N	No restriction
M	Male access only
F	Female access

Access

C	Closed
O	Open
V	Vulnerable

Coordinate Accuracy

Accuracy is shown as a code in brackets following the site coordinates.

[Reliable]	The spatial information recorded in the site file is deemed to be reliable, due to methods of capture.
[Unreliable	The spatial information recorded in the site file is deemed to be unreliable due to errors of spatial data capture and/or quality of spatial information reported.

Status

L	Lodged
I	Insufficient information
P	Permanent register
S	Stored data

IR	Insufficient information (as assessed by Site Assessment Group)
PR	Permanent register (as assessed by Site Assessment Group)
SR	Stored data (as assessed by Site Assessment Group)

Site Assessment Group (SAG)

Sites lodged with the Department are assessed under the direction of the Registrar of Aboriginal Sites. These are not to be considered the final assessment.

Final assessment will be determined by the Aboriginal Cultural Material Committee (ACMC).

Spatial Accuracy

Index coordinates are indicative locations and may not necessarily represent the centre of sites, especially for sites with an access code "closed" or "vulnerable". Map coordinates (Lat/Long) and (Easting/Northing) are based on the GDA 94 datum. The Easting / Northing map grid can be across one or more zones. The zone is indicated for each Easting on the map, i.e. '5000000:Z50' means Easting=5000000, Zone=50.

Report created 16 Feb 2009 10:42:02. Identifier: 547834.

Page 1

Government of Western Australia
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites

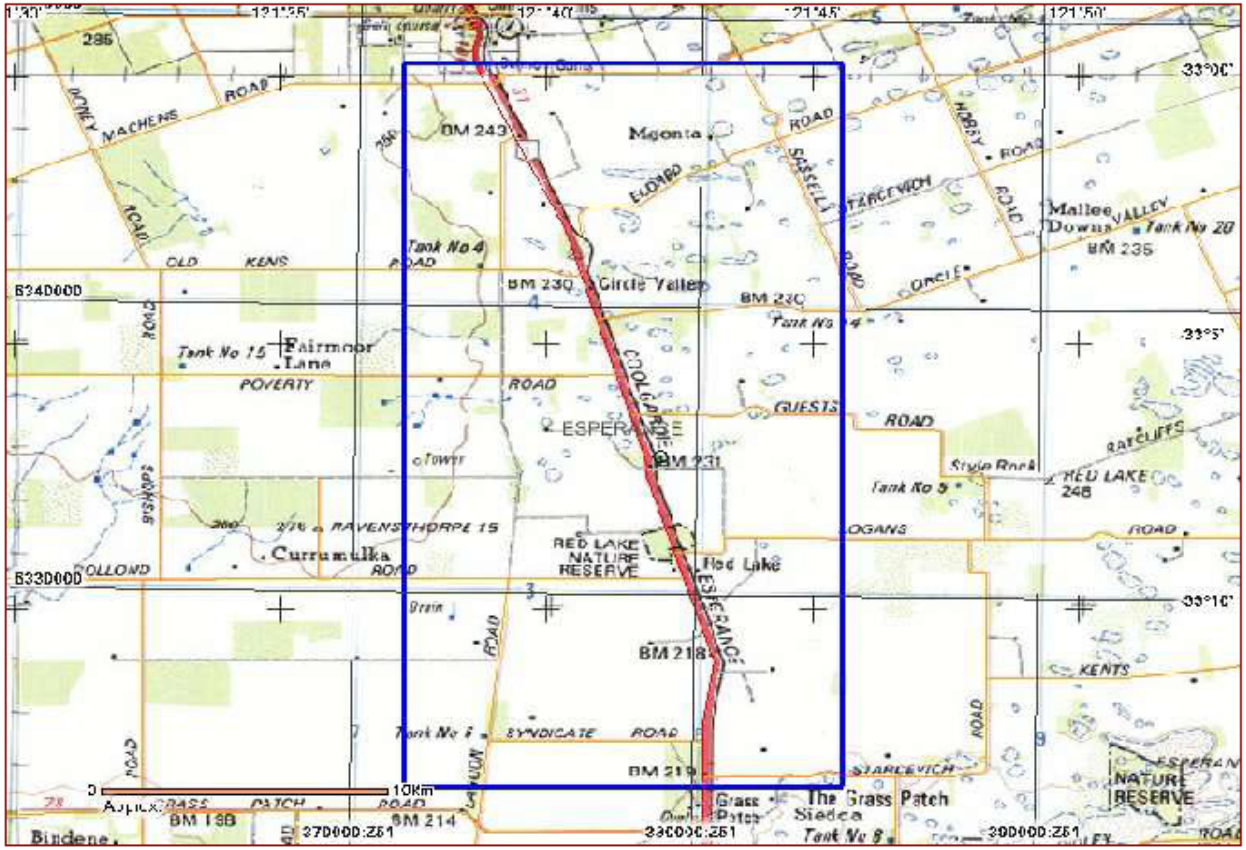
Site ID	Status	Access	Restriction	Site Name	Site Type	Additional Info	Informants	Coordinates	Site No.
1459	P	O	N	Red Lake	Artefacts / Scatter			378937mE 6334806mN Zone 51 [Reliable]	W01742

Report created 16 Feb 2009 10:42:02. Identifier: 547834.

Government of Western Australia
Department of Indigenous Affairs

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites



Legend

- Highlighted Area
- Town
- Map Area
- Search Area

DEWHA's EPBC Act Protected Matters Report for the project areas:

EPBC Act Protected Matters Report 16 February 2009 12:41

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

You may wish to print this report for reference before moving to other pages or websites.

The Australian Natural Resources Atlas at http://www.environment.gov.au/atlas may provide further environmental information relevant to your selected area. Information about the EPBC Act including significance guidelines, forms and application process details can be found at http://www.environment.gov.au/epbc/assessmentsapprovals/index.html

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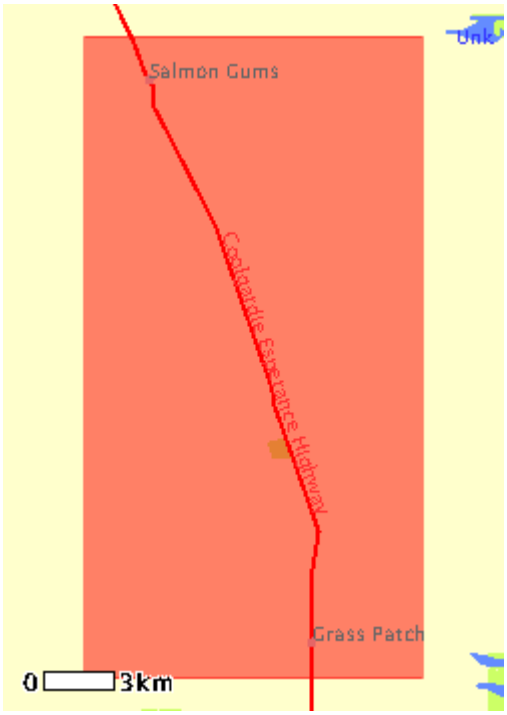

Search Type: Area

Buffer: 0 km

Coordinates: -32.9609,121.6144, -33.2489,121.6144, -33.2489,121.7657, -32.9609,121.7657

Report Contents:

Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance - see http://www.environment.gov.au/epbc/assessmentsapprovals/guidelines/index.html.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Significance: (Ramsar Sites)	2
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Threatened Species:	4
Migratory Species:	8

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage/index.html.

Please note that the current dataset on Commonwealth land is not complete. Further information on Commonwealth land would need to be obtained from relevant sources including Commonwealth agencies, local agencies, and land tenure maps.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species. Information on EPBC Act permit requirements and application forms can be found at

http://www.environment.gov.au/epbc/permits/index.html.

Commonwealth Lands:	1
Commonwealth Heritage Places:	None
Places on the RNE:	None
Listed Marine Species:	6
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	1
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

Details

Matters of National Environmental Significance

Wetlands of International Significance [Dataset Information] (Ramsar Sites)	
LAKE GORE	Within same catchment as Ramsar site
LAKE WARDEN SYSTEM	Within same catchment as Ramsar site

Threatened Species [Dataset Information]	Status	Type of Presence
Birds		
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose	Vulnerable	Species or species habitat likely to occur within area
Leipoa ocellata Malleefowl	Vulnerable	Species or species habitat likely to occur within area
Plants		
Eucalyptus merrickiae Goblet Mallee	Vulnerable	Species or species habitat likely to occur within area
Ricinocarpos trichophorus Barrens Wedding Bush	Endangered	Species or species habitat likely to occur within area

Migratory Species [Dataset Information]	Status	Type of Presence
Migratory Terrestrial Species		
Birds		
Haliaeetus leucogaster White-bellied Sea-Eagle	Migratory	Species or species habitat likely to occur within area

Leipoa ocellata Malleefowl	Migratory	Species or species habitat likely to 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

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

Other Matters Protected by the EPBC Act

Listed Marine Species [Dataset Information]	Status	Type of Presence
Birds		
Apus pacificus Fork-tailed Swift	Listed - overfly marine area	Species or species habitat may occur within 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
Cereopsis novaehollandiae grisea Cape Barren Goose (south-western), Recherche Cape Barren Goose	Listed - overfly marine area	Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle	Listed	Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater	Listed - overfly marine area	Species or species habitat may occur within area
Commonwealth Lands [Dataset Information]		
Unknown		

Extra Information

State and Territory Reserves [Dataset Information]

Red Lake Townsite Nature Reserve, WA

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the *Environment Protection and Biodiversity Conservation Act 1999*. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under "type of presence". For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the migratory and marine provisions of the Act have been mapped.

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites;
- seals which have only been mapped for breeding sites near the Australian continent.

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgments

This database has been compiled from a range of data sources. The Department acknowledges the following custodians who have contributed valuable data and advice:

- New South Wales National Parks and Wildlife Service
- Department of Sustainability and Environment, Victoria
- Department of Primary Industries, Water and Environment, Tasmania
- Department of Environment and Heritage, South Australia Planning SA
- Parks and Wildlife Commission of the Northern Territory
- Environmental Protection Agency, Queensland
- Birds Australia
- Australian Bird and Bat Banding Scheme
- Australian National Wildlife Collection
- Natural history museums of Australia
- Queensland Herbarium
- National Herbarium of NSW
- Royal Botanic Gardens and National Herbarium of Victoria
- Tasmanian Herbarium
- State Herbarium of South Australia
- Northern Territory Herbarium
- Western Australian Herbarium
- Australian National Herbarium, Atherton and Canberra
- University of New England
- Other groups and individuals

ANUCliM Version 1.8, Centre for Resource and Environmental Studies, Australian National University was used extensively for the production of draft maps of species distribution. Environment Australia is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Last updated: Thursday, 20-Nov-2008 14:17:56 EST

Department of the Environment, Water, Heritage and the Arts
GPO Box 787 Canberra ACT 2601 Australia
Telephone: +61 (0)2 6274 1111

Appendix D

Consultation

Shire of Esperance:

From: Scott McKenzie [mailto:scott.mckenzie@esperance.wa.gov.au]
Sent: Tuesday, 7 April 2009 9:43 AM
To: WEIGHELL Simon (GEnv)
Subject: RE: Red Lake Historic School Site - Logan Rd

Simon,

Thanks for your email notification below.

I am able to report that the historic school site does not appear on the Shire of Esperance Heritage Inventory.

With regard to item b below, the Shire of Esperance is of the opinion that as long as the school site is not amended by earthworks in any way, there should be no concerns. However, as the plaque was erected by the Grass Patch P&C, it would be prudent of MRWA to source comment directly from them as well.

Scott McKenzie B.Bus JP
Manager Engineering Administration

Shire of Esperance
Mob: 0427 710 634

From: WEIGHELL Simon (GEnv) [mailto:simon.weighell@mainroads.wa.gov.au]
Sent: Tuesday, 17 March 2009 11:12 AM
To: Shire of Esperance
Subject: Red Lake Historic School Site - Logan Rd

Hi

Main Roads Goldfields-Esperance Region is proposing to construct a minor realignment of Coolgardie-Esperance Highway at the intersection of Logan Rd near Salmon Gums for safety reasons. During preliminary investigations for this project, it was discovered that there is a historic school site located adjacent to the proposed project area. Given current design drawings for the project (see attached figures with drawings overlayed on aerial photos), it is possible that the clearing and earthworks for the project will need to be carried out up to the eastern and southern boundaries of the site.

As a result, I was wondering whether:
a) This historic school site is registered on any recognised heritage inventory, and
b) Whether you have any comments on the proposed works, or if you know of anyone else who would like to be consulted regarding this project.

I have attached some photos of the school site itself as well as a general project location map for your reference.

If you would like any further information please don't hesitate to contact me.

Regards

Simon

Simon Weighell
Graduate Environment
mainroads WESTERN AUSTRALIA
Goldfields-Esperance Region
Telephone: (08) 9080 1457 Fax: (08) 9080 1452
Mobile: 0429 089 860
Email: simon.weighell@mainroads.wa.gov.au

Esperance Museum:

From: Esperance Museum [mailto:esmuseum@bigpond.net.au]
Sent: Wednesday, 18 March 2009 12:16 PM
To: WEIGHELL Simon (GEnv)
Subject: RE: Red Lake Historic School Site - Logan Rd

Dear Simon
Thank you for the information regarding the proposed road works.

With regard to your queries:

Although the historical school site is not recognised on any recognised heritage inventory, the grants to fund the various signs were obtained from the Australian Bicentennial Project and at a later stage the Heritage Council of WA.
As a result, and because of its historical aspect, the site has been placed on a proposed heritage site register for review for the Esperance Shire Municipal Inventory.

The site comes under the umbrella of the Esperance Bay Historical Society and our only concern is that the actual site and position of the signs on the site are not disturbed. However we understand that the sign on the road verge may have to be moved due to position of road reconstruction and as such would appreciate if it could be replaced in a similar or like position when work is complete.

Thank you for taking the time to contact and inform us of future plans and for considering our historical sites.

Regards
Maryann Lankester

Secretary
Esperance Bay Historical Society
Deputy Curator
Esperance Museum

From: WEIGHELL Simon (GEnv) [mailto:simon.weighell@mainroads.wa.gov.au]
Sent: Tuesday, 17 March 2009 10:56 AM
To: esmuseum@bigpond.net.au; shire@esperance.wa.gov.au
Subject: Red Lake Historic School Site - Logan Rd

Hi

Main Roads Goldfields-Esperance Region is proposing to construct a minor realignment of Coolgardie-Esperance Highway at the intersection of Logan Rd near Salmon Gums for safety reasons. During preliminary investigations for this project, it was discovered that there is a historic school site located adjacent to the proposed project area. Given current design

drawings for the project (see attached figures with drawings overlayed on aerial photos), it is possible that the clearing and earthworks for the project will need to be carried out up to the eastern and southern boundaries of the site.

As a result, I was wondering whether:
a) This historic school site is registered on any recognised heritage inventory, and
b) Whether you have any comments on the proposed works, or if you know of anyone else who would like to be consulted regarding this project.

I have attached some photos of the school site itself as well as a general project location map for your reference.

If you would like any further information please don't hesitate to contact me.

Regards
Simon

Simon Weighell
Graduate Environment
mainroads WESTERN AUSTRALIA
Goldfields-Esperance Region
Telephone: (08) 9080 1457 Fax: (08) 9080 1452
Mobile: 0429 089 860
Email: simon.weighell@mainroads.wa.gov.au

Grass Patch P & C Association:

From: WEIGHELL Simon (GEnv)
Sent: Friday, 19 June 2009 3:00 PM
To: 'mharris@bordernet.com.au'
Subject: TRIM: Red Lake Historic School Site - Logan Rd

Dear Mrs Harris

As discussed on the phone, Main Roads Goldfields-Esperance Region is proposing to construct a minor realignment of the Coolgardie-Esperance Highway at its intersection with Logan Rd (approximately 8.5km North of Grass Patch) for safety reasons. The works have been deemed necessary as the intersection does not currently provide adequate stacking distances for 36.5m road trains (predominantly grain trucks) to enter or exit the highway without causing the potential for conflict with other road and/or rail traffic. This is because the railway line running parallel to Coolgardie-Esperance Highway intersects Logan Rd too close to its junction with the highway.

During preliminary investigations for the project, it was discovered that there is a historic school site (Red Lake School) located adjacent to the proposed project area. Signage erected at the site suggests that it has some level of affiliation with the Grass Patch P & C Association (see attached photos), hence my reasoning for contacting you.

Given current design drawings for the project (see attached map with design drawing overlayed on aerial photos), it is possible that the clearing and earthworks for the project will need to be carried out up to the boundaries of the old school site (although I am unsure as to exactly where the boundaries of the site are – I have estimated these on the map). As a result, I would appreciate any comments on behalf of the Grass Patch P & C Association in regards to the proposed works so that if there are any issues with the project, we can look into getting them resolved. Works are not scheduled to begin until the 22nd of August this

year, so it would be appreciated if any comments could be provided by at least a month before this date.

If you or any members of the P&C would like any further information or have any questions at all, please don't hesitate to contact me (my contact details can be found at the bottom of this email). Furthermore, if anyone would like to have an on-site meeting with representatives from Main Roads to walk through the proposed works, that could most certainly be arranged. I would also appreciate any contact details of any other people you may be aware of who may be interested in the project but not necessarily represented by the Grass Patch P&C Association.

Thanks for your help.

Regards
Simon

Simon Weighell
Graduate Environment
mainroads WESTERN AUSTRALIA
Goldfields-Esperance Region
Telephone: (08) 9080 1457 Fax: (08) 9080 1452
Mobile: 0429 089 860
Email: simon.weighell@mainroads.wa.gov.au
Address: 83 Piesse Street, Boulder, WA 6432.

Appendix E

Site Photos

Circle Valley Rd (photos taken 27/02/09):

Circle Valley Rd intersection looking north from western side of CEH.

Circle Valley Rd intersection looking south from western side of CEH.

Circle Valley Rd intersection looking north from eastern side of CEH.

Circle Valley Rd intersection looking south from eastern side of CEH.

Southern approach to Circle Valley Rd intersection.

Northern approach to Circle Valley Rd intersection.

Circle Valley Rd intersection looking west.

Circle Valley Rd intersection looking east.


Native vegetation on western side of Circle Valley Rd intersection.

Salt lake north east of Circle Valley Rd intersection.

Logan Rd (photos taken 27/02/09):

Logan Rd intersection looking west.

Logan Rd intersection looking east.


Logan Rd intersection looking south from eastern side of CEH.

Logan Rd intersection looking north from eastern side of CEH.


Logan Rd intersection looking north from western side of CEH.

Logan Rd intersection looking south from western side of CEH.

Southern approach to Logan Rd intersection.

Northern approach to Logan Rd intersection showing historic school site sign.

Historic school site.

Historic school site sign.

Historic school site.

Historic school site plaque.


Historic school site (left of track).

Red Lake Nature Reserve sign south.


Red Lake Nature Reserve sign north.

Appendix F

Environmental Management Plan

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 CPS 818/4.	Record: - a copy of the PEIA & EMP (Minor projects), - a copy of the project specific revegetation plan, - a map showing the location where the clearing occurred, recorded in an ESRI Shapefile, - the size of the area cleared (in hectares), - the dates on which the clearing was done, - the dates on which the revegetation was done.	Project Manager	DEC
All phases of construction	Induction / Start-up meeting / Progress meetings	Create awareness in all construction personnel of the environmental aspects associated with the project.	All construction staff to be informed of the environmental aspects associated with the project prior to works being undertaken.	Contractor / Project Manager	Main Roads
All phases of construction	Vegetation & Non-indigenous heritage - Clearing	Ensure that the overall objectives of the works are compatible with maintaining the biological integrity of the surrounding environment, and minimising the loss of vegetation and the level of degradation. Ensure that non-indigenous heritage values are maintained.	Clearly mark no go areas (e.g. Red Lake Historic School Site) and any trees or shrubs to be kept. Cleared vegetation that is not infested with dieback or weeds is to be mulched and returned to the soil profile where possible. Cleared vegetation is not to be burnt and any dieback or weed infested material is to be disposed of at an approved site.	Contractor / Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
All phases of construction	Revegetation	Ensure that temporarily cleared areas and any other identified sites are revegetated to an acceptable standard.	Carry out revegetation works in accordance with the project's approved revegetation plan.	Contractor / Project Manager	Main Roads / DEC
Construction	Weed Management	Ensure that the risk of weed spread or establishment is minimised as far as is practically possible.	Contractor is to ensure that all equipment brought on to site is free of soil and vegetative material. Weed infested material is to be cleaned from equipment prior to traversing areas of good quality native vegetation.	Contractor	Main Roads / DEC
Construction	Pollution and Litter	Ensure that the works are managed to a standard that minimises pollution or the risk of pollution occurring.	The designated servicing area will be bunded to contain any spills or leaks or it will drain into a temporary sump. It will not be located in an area adjacent to drainage areas or watercourses.	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. The contractor shall ensure appropriate equipment is available at all times and shall notify the Project Manager of a spill.	Contractor	Main Roads
			All waste oil will be collected for disposal/recycling and any empty fuel/oil containers, used filters and waste hydraulic parts are to be collected and stored in an allocated area before being 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	Noise, Vibration and Dust	Ensure that the construction of the proposal does not become a nuisance to the public.	Any complaints regarding dust, noise or vibration will be attended to as soon as possible.	Contractor / Project Manager	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 and standard fire prevention methods (e.g. spark arresting mufflers) are to be employed by the contractor.	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	**Topic**	**Objective**	**Action**	**Responsible Party**	**Advice**
Construction	Environmental Incidents	Ensure that any environmental incidents that occur during works do not have a significant or long term impact on the environment.	Implement corrective and preventive actions in liaison with an environmental specialist and Main Roads Manager Environment where necessary.	Contractor / Project Manager	Main Roads
		Record the details of any environmental incidents to fulfil corporate requirements.	Complete and submit environmental incident report forms in accordance with the Main Roads corporate procedure *6707/042 Environmental Incident Reporting and Investigation*.	Contractor / Project Manager	Main Roads
Post-Construction	Rehabilitation	Leave the project area free from debris.	All waste materials from the development are to be completely removed from the site upon completion of works. Final clean-up shall be to the satisfaction of the Project Manager.	Contractor / Project Manager	Main Roads