

ENVIRONMENTAL IMPACT ASSESSMENT & ENVIRONMENTAL MANAGEMENT PLAN

**BOYANUP PICTON ROAD
IMPROVE AND WIDEN
10.03 – 13.38 SLK**

SHIRE OF DARDANUP



SOUTH WEST REGION



March 2011

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PRELIMINARY ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN

BOYANUP PICTON ROAD 10.03 – 13.38 SLK IMPROVE AND WIDEN

1. PROJECT SUMMARY

The proposal consists of 2 distinct projects along the Boyanup Picton Road: Section 1 (12.32 – 13.38 SLK) which is the realignment of the existing drain to the east (away from the road) in order for it to realign with the rest of the drain, widening of the seal and improving the curve. Section 2 (10.03 – 11.45 SLK) consists of widening of the seal only. This (Section 2) proposal is currently at the project development phase and could be subject to change depending on the final design.

These proposed works occur within the Shire of Dardanup.

2. BACKGROUND

These works are necessary to continue to improve the safety and standard of the Boyanup – Picton Road. There are also some planned improvements at the intersection of Ferguson Road. These improvements to the road will tie in to the improvements to the Boyanup-Picton Road as part of the Bunbury Port Access Stage 2.

As per Main Roads' Environmental Assessment and Approval process, the Low Impact Environmental Screening Checklist has been completed for the proposal, refer to Appendix A. As the project involves works that are not considered to be of low impact, the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) and Environmental Management Plan (EMP) are required. This report fulfils this requirement.

3. DESCRIPTION OF THE PROJECT

As mentioned above; the project involves the upgrading of two sections on the Boyanup-Picton Road:

Section 1 (12.32 – 13.38 SLK) and

Section 2 (10.03 – 11.45 SLK) – currently proposed to be widening on the east side, however subject to change depending on the final design.

A lateral clearance of 9m is planned to be achieved for these works. The total road formation will be the same for both sections; i.e. $12\text{m} = (3.5\text{m seal lane} \times 2) + (1.5\text{m sealed shoulder}) \times 2 + (1\text{m unsealed shoulder}) \times 2$.

Regarding horizontal alignments:

Section 1: will be improved from 430m radius near Carinya Road to a 1500m radius; and
Section 2: will be improved near Quadrio Road.

The existing irrigation drain at Section 1 will be moved approximately 10m towards north east (parallel to the road).

The works will also involve upgrading the Taunton Vale intersection (i.e. Section 1)

3.1 Project Location

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

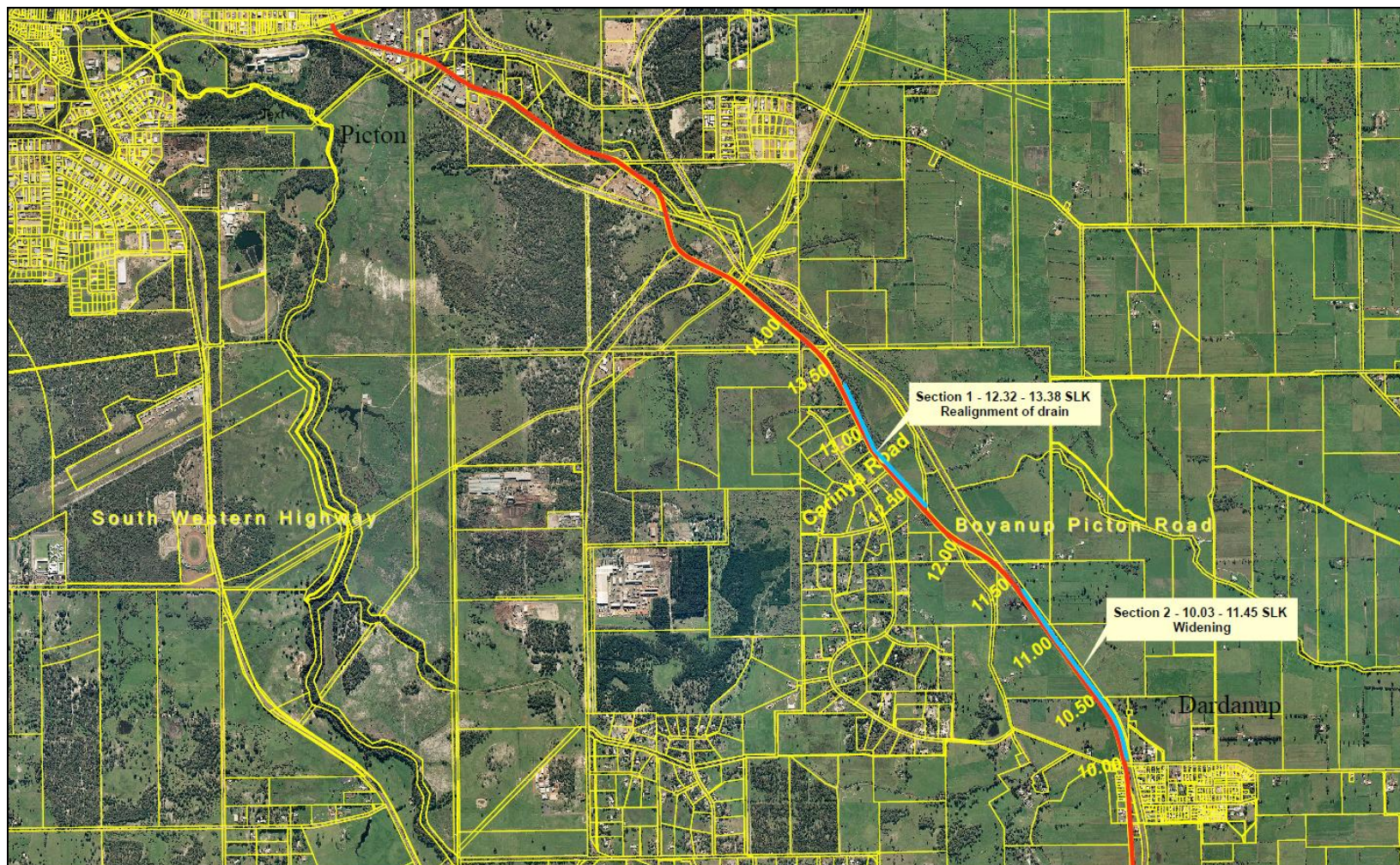


Figure 1 – Project Location and Study Area

4. METHODOLOGY

4.1 Preliminary Desktop Study

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

4.1.2 Threatened Flora, Fauna & Communities, Conservation Reserves and ESAs
The Department of Environment and Conservation (DEC) was contacted and their database was searched for known populations of threatened flora, fauna, Threatened Ecological Communities (TECs) and conservation reserves, refer to Appendix B.

4.1.3 Air Quality

The impact to air quality is negligible as the proposal only involves an upgrade of the existing road and realignment of the drain.

4.1.4 Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory (<http://www.environment.gov.au/heritage/places/wa/index.html>) and the Heritage Council of Western Australia Places Database (<http://register.heritage.wa.gov.au/>), refer to Appendix C.

4.1.5 Aboriginal Heritage

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

4.1.6 Sensitive Water Resources

Department of Water was contacted and a search of the Department of Water's (DoW's) database was undertaken (<http://www.water.wa.gov.au/idelve/dowdataext/index.jsp>) to determine whether the project area contains any sensitive water resources (including Public Drinking Water Source Areas or Water Pollution Control Areas) or was adjacent to any significant lakes, rivers, wetlands or proclaimed areas, refer to Appendix E and Appendix G.

4.1.7 Contaminated Sites

A search of the DEC's contaminated sites database was undertaken (<https://secure.dec.wa.gov.au/idelve/css/>) to determine whether the project area contains or is adjacent to any contaminated sites, refer Appendix F.

4.1.1 Wetlands

The location of any wetlands within the project area was determined using the DEC's web based Geographic Data Atlas mapping tool on <http://maps.dec.wa.gov.au/idelve/nv/index.jsp>. This site can be used to identify the presence of significant wetlands on the Swan Coastal Plain and ESAs generally, which include a range of significant environmentally valuable wetlands across the State.

As there are no ESA shapes within the project area, this means that there are no significant wetlands present. Refer Appendix G.

4.1.8 Acid Sulphate Soils

The DEC's acid sulphate soils maps were reviewed (<https://uat2.landgate.wa.gov.au/bmvf/app/waatlas/>) to determine the level of risk the project is exposed to, refer to Appendix K.

4.1.9 Weeds

Consultation was undertaken with the Department of Agriculture and Food to determine whether there are any known populations of declared plants or significant weeds in or adjacent to the project area, refer to Appendix I.

4.1.10 Dieback

As the project site receives >400 mm of annual rainfall and is located within the vulnerable areas of the south western parts of Western Australia, advice regarding the dieback status and management of the project area was sought from the DEC Phytophthora Coordinator, refer to Appendix L.

4.2 Commonwealth Referral

The decision whether to refer the project to the Commonwealth's department of SEWPC 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 (1999)*. These include; 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. Refer to the Commonwealth webpage:

(<http://www.environment.gov.au/epbc/protect/index.html>) for further information.

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.

4.3 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* (refer to Appendix E of Main Roads' Environmental Assessment and Approval Guideline).

4.4 Site Investigation

A site visit was carried out by GHD's Senior Environmental Scientist June 2010 (refer Appendix N) to examine the general features of the area. Also a site visit was undertaken by Main Roads Project Manager Bahaa Kanbour and Environment Officer Jeanette Della-Bona 20th August 2010. The broad vegetation types in the vicinity of the project area were identified as degraded Medium woodland; jarrah, marri & wandoo.

The total area of native vegetation proposed to be cleared is approximately 1.7 ha. Site photos were taken and are included in Appendix O.

The vegetation to be cleared in Section 1 is in a degraded condition with minimal understorey, mostly weeds eg Kikuyu, Watsonia, Couch, and Blackberry (for complete list refer to Appendix N). This section will result in approximately 1 ha of native vegetation to be cleared, generally *E. calophylla*, Melaleucas, *E. rudis*. Section 2 is in a Completely Degraded condition with vegetation consisting mainly of planted non-local eucalypts (with an understory of grasses and Watsonia). The clearing along the east side of the road for the proposed Section 2 widening of the seal totals approximately 0.76 Ha, almost all of this vegetation being non-local.

Adjacent land use for Section 1 is farming/agricultural and for Section 2, railway reserve.

5. EXISTING ENVIRONMENT

5.1 Description

According to the botanical survey by GHD, the vegetation in Section 1 (12.32 – 13.38 SLK) (i.e. adjacent Carinya Road) was considered to have the understorey largely dominated by weeds and no conservation significant species were found to be present (Refer Appendix N).

A detailed vegetation assessment of the area was also undertaken by DEC dieback staff when undertaking the dieback survey and is provided below. (refer Appendix L):

*Section 1 is approximately 1km in length. The small pocket of remnant vegetation in the northern part of this section reveals a vegetation structure that has been severely impacted by clearing and grazing. At present the area is grazed by horses. A healthy overstorey of Peppermint (*Agonis flexuosa*), Flooded Gum (*Eucalyptus rudis*), Paperbark (*Melaleuca raphiophylla*) and scattered Marri (*Corymbia calophylla*) trees are present with an understorey devoid of native species and dominated by *Watsonia* sp. The remainder of section one is represented by a narrow band of scattered Flooded Gum and Paperbark trees with an understorey of grasses and *Watsonia* sp. This section has been rated as Degraded (5) as the native overstorey species remains reasonably intact.*

Section 2 (site of road widening) starts at the Dardanup town site and heads north towards Picton for 1.3 km. This section has very little native vegetation remaining. On the east side of this section, situated between the old railway and Boyanup Picton Road, are rows of planted trees. This site has previously been cleared and rehabilitated with exotic tree species. Section two has been rated as Completely Degraded (6) as a result of the area being largely without native species and rehabilitation with non native tree species.

The broad vegetation types in the vicinity of the project area were identified as according to the SLIP database (Shared Land Information Platform) as Medium woodland; jarrah, marri and wandoo.

The current extent for this vegetation type, compared with pre-European extent is 33.57%

DEC have concluded that the area, due to its greatly degraded state and the general lack of native vegetation, is “excluded” from *P.c* mapping i.e. no hygiene management is required for work activities in the study area.

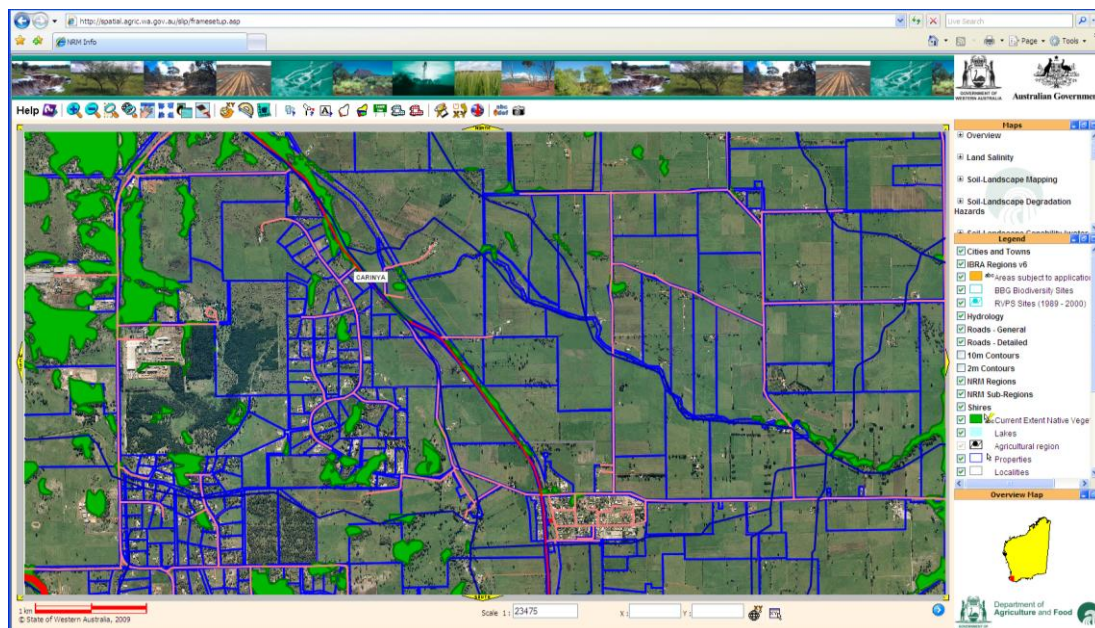
5.2 Site Investigation

Site identification details are summarised in the table below:

Table 1: Site Investigation and Description

Site Investigation	Description/Comments
Total area (ha) of <u>native vegetation</u> to be cleared	1.7 ha
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	1.76 ha
Condition of vegetation	Section 1 (12.32 – 13.38 SLK) – Degraded (5); Section 2 (10.03 – 11.45 SLK) – Degraded to Completely Degraded
Weeds present	Understorey is almost entirely dominated by weeds: grasses, couch, <i>Watsonia</i> , blackberry

	etc. Refer Appendix N.
Drainage areas or wetlands present	The project area is encompassed by a palusplain wetland (Refer Appendix G); however it is completely degraded as most of the area is cleared for farming/grazing. The Ferguson River crosses into Section 1 i.e. the existing drain flows into the River. The drainage will not be altered as a result of the works.
Adjacent/sensitive land uses	Section 1 – farming; Section 2 – Railway reserve



Vegetation Map Unit					
Map Unit Number: 80101301					
Spatial Mix: pure					
Number of Vegetation Types: 1					
Vegetation Types					
Type	Type Description Number	Description	Environmental Descriptor	NVIS Lv2 Structural Formation	NVIS Lv3 - Broad Floristic Formation
2158	1	Medium woodland; jarrah, marri & wandoo	Darling Scarp	Woodland	Eucalyptus woodland

Vegetation Association	Pre-European Extent	Current Extent	% Remaining
968	296,877.84	99,673.45	33.57

Figure 2 SLIP NRM database & Main Roads file “Native Vegetation in Western Australia - Extent, Type and Status” (car_reserve_analysis_2007.xls) extracts.

6. CLEARING OF NATIVE VEGETATION

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

Apart from activities that are exempt under the clearing regulations, such as clearing vegetation that is less than 10 years old for maintenance, typically all Main Roads clearing will be undertaken using a permit.

Therefore clearing of native vegetation for this project will be undertaken using the CPS818/5.

6.1 Assessment against Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the ten clearing principles, refer to Appendix M.

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

The following table summarizes what further assessment and management is required in accordance with Main Roads State-wide vegetation Clearing Permit (CPS 818/5).

Table 2: Summary of Additional Management Actions

Trigger for Action/Criteria for further action?	Yes/No or NA	Further Action Required
<i>Does the assessment indicate that the clearing may be at variance with one or more of the 10 clearing principles?</i>	No	No further action required
<i>Will the project involve clearing a temporary area?</i>	No	No further action required.

7. ASSESSMENT OF ASPECTS AND IMPACTS

Table 3: Aspects and Impacts – BOYANUP PICTON ROAD 10.03 – 13.38 SLK IMPROVE AND WIDEN

Aspect	Evaluation of Potential Impacts
Fauna	<p>With the very degraded and exposed nature of the works areas (refer Vegetation – clearing section), no significant impacts would be expected on native fauna as a result of the proposed works.</p> <p>No Matters of National Environmental Significance as protected under the <i>EPBC Act (1999)</i> will be significantly impacted. There are a number of fauna species listed on the department of Sustainability, Environment, Water, Population and Communities (SEWPAC) website (refer Appendix H) that are threatened species; however given the degraded and minor nature of the clearing involved, and the location of the project area – along the Boyanup Picton Road in a mostly cleared agricultural area, the area is considered to be unsuitable habitat for these species, and therefore the proposal not considered to be at variance to this principle.</p> <p>As the vegetation is mainly regrowth, and not part of a woodland stand, this clearing is not considered to significantly impact black cockatoos.</p>
Vegetation – clearing	<p>1.7 Ha of native vegetation is proposed to be cleared.</p> <p>The Vegetation Association within the project area is Medium woodland: jarrah, marri and wandoo of which 33 % of the pre-clearing extent of the vegetation is remaining.</p> <p>Section 1 of the project area has a vegetation condition rating scale of Degraded (5) (Keighery, 1994.)</p> <p>Section 2 of the project area has a vegetation condition rating scale of Degraded (6) (Keighery, 1994.)</p> <p>The native vegetation proposed to be cleared is represented regionally as it possesses more than 30% of its pre-European extent.</p> <p>The vegetation clearing will assist to improve the clear zone.</p>
Vegetation – TECs/DRF	<p>There are no TEC's, DRF species present within the project area. As no significant vegetation types or threatened flora have been recorded within in road reserve (GHD's Senior Environmental Scientist checked Section 1, June 2010, Appendix N) and Section 2 does not have any understorey, just non-local eucalypts planted on the east side of the road, no <i>Carex fascicularis</i> (P1 flora) will be impacted by the proposed works. (Appendix B).</p> <p>No Matters of National Environmental Significance as protected under <i>EPBC Act (1999)</i> will be impacted (see Appendix H).</p>
Vegetation – weeds	<p>Consultation with the Department of Agriculture and Food confirms that there is no significant declared weed infestation in the area, apart from some minor Patterson's Curse plants detected on the road verge occasionally, but no specific precaution required. (Refer Appendix I)</p> <p>There are numerous common weed species occur throughout the proposed works areas. These species are likely to be widespread within the reserve and general area. The risk of spreading these weeds species as part of the proposed work should be minimised. (Refer Appendix N).</p>
Vegetation – dieback	<p>Advice from DEC/Dieback survey indicates that the area should be treated as dieback "excluded" (Refer Appendix L). DEC recommend that no hygiene management is required for work activities in the project area.</p>
Reserves / Conservation areas	<p>There are no conservation areas or reserves adjacent to the project area (include Bush Forever sites if the project is within the Metropolitan Regional Scheme).</p>

Table 3: Aspects and Impacts – BOYANUP PICTON ROAD 10.03 – 13.38 SLK IMPROVE AND WIDEN

Aspect	Evaluation of Potential Impacts
Heritage (non-indigenous)	<p>A search of the Australian Heritage Places Inventory and Heritage Council of Western Australia indicated that there are no known sites of heritage significance within the vicinity of the project area. (refer Appendix C).</p> <p>No Matters of National Environmental Significance as protected under <i>EPBC Act (1999)</i> will be impacted (see Appendix H).</p>
Aboriginal heritage	<p>A search of DIA's database identified no known sites of Aboriginal heritage significance within the project area. The Ferguson River a registered Aboriginal Heritage site (Site ID 16713, Ferguson River: a component of Collie River Waugal, mythological site) occurs adjacent to the project area at Section 1; however the site will not be impacted by these works.</p> <p>Main Roads South West Region has completed Aboriginal Heritage Surveys for the Boyanup – Picton Road, "Ethnographic Survey of the Boyanup – Picton Road (M52) and the Boyanup – Capel Road (M61), South West Western Australia", November 2002, Brad Goode Consulting Anthropologist and "Report of the Archaeological Survey of the Boyanup-Picton Road (M52) and Boyanup – Capel Road (M61), South West Australia," September 2002, prepared by Paul Greenfields and Wayne Webb.</p> <p>The ethnographic survey noted the registered Aboriginal Heritage site, the Ferguson River (Site ID 16713) which occurs adjacent to the project area, and recommended that a Section 18 under the <i>Aboriginal Heritage Act (1972)</i> be required should Main Roads disrupt the river, particularly the flow of water. As the project area does not impact this site, (although adjacent to) and there will be no direct impact to the Ferguson river, this will not be necessary.</p> <p>No archaeological material was found in the project area.</p>
Groundwater	<p>No dewatering for this project is required. The existing drainage will be moved by approximately 15m to be realigned with the rest of the drain, this will not change groundwater level or quality.</p>
Surface water/drainage	<p>The project area does not occur within a Public Drinking Water Supply Area (refer Appendix G). The local Department of Water office has been consulted and supplied with detailed information regarding the proposal from Main Roads SW Region 11/02/11 (from their original request – Refer Appendix E) that:</p> <p><i>"The drain will be realigned parallel to the road, east by 15 m (in line with the rest of the drain) and then be going back to the original alignment as it connects to the Ferguson River. So there will essentially be no change to the function and operation of the drain. Water Corporation has been contacted and they have no issues with the realignment - as it ties in with the previous realignment of the drain that was done, which this ties in to."</i></p> <p>There has been no further response from the Department of Water.</p>
Wetlands	<p>The project area occurs within a palusplain wetland, however it is essentially degraded (ie cleared and used as farm land) Refer Appendix G.</p> <p>No Matters of National Environmental Significance as protected under <i>EPBC Act (1999)</i> will be impacted (see Appendix H).</p>
Air quality	<p>Not relevant to the proposed works, i.e. as the proposal is for the widening of the existing road and realignment of the drain.</p>
Dust	<p>Likely to be a minor issue during earthworks. No major sensitive receivers adjacent to the proposed works, but excessive dust could impact vegetation. This is likely to be easily managed by standard construction dust management techniques.</p>
Noise and vibration	<p>No major sensitive local receivers. Construction works is not expected to significantly contribute to noise levels at the nearest sensitive receivers, provided works are limited to normal working hours. The requirements of Shire of Dardanup must be met in respect of noise management and construction working hours.</p>

Table 3: Aspects and Impacts – BOYANUP PICTON ROAD 10.03 – 13.38 SLK IMPROVE AND WIDEN

Aspect	Evaluation of Potential Impacts
Visual amenity	<p>The proposed works will result in minor visual impact during and after construction.</p> <p><i>Shire of Dardanup suggest consulting with the Dardanup Community with respect to the removal of the non-local eucalypts (planted by the Lions club) at Section 2 with a view to undertaking some off-set planting/landscaping in place of the removal of this line of trees. (Refer Appendix J)</i></p>
Public safety and risk	<p>Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety. The proposed works will serve to enhance public safety by improving local road and pedestrian conditions.</p>
Hazardous substances	<p>Not relevant to the proposed works, the project requires no hazardous substances to be used.</p>
Contamination	<p>There is no known previous land use activity on or adjacent the project area that has had the potential to create contamination, e.g. petrol station (refer Appendix F).</p>
Salinity	<p>There were no visual signs of salinity observed in the project area.</p> <p>Given the nature and scale of the project the impact is considered not relevant.</p>
Acid Sulphate Soils	<p>No further investigations are necessary as there is no dewatering (Dr Steve Appleyard, DEC, 24/03/2011 – refer Section 9).</p> <p>Also the project area is within a Class 2 - low to moderate risk area, and excavation (approximately 874m³) will be less than 3 m below the surface.</p>
Statutory Land Use Planning	<p>As the proposed works require some land excision (Lot 186) and the area is subject to the Greater Bunbury Region Scheme, an amendment to the Scheme is required.</p>

Table 2: Commonwealth Aspects and Impacts – BOYANUP PICTON ROAD 10.03 – 13.38 SLK IMPROVE AND WIDEN

Aspect	Evaluation of Potential Impacts
World Heritage properties	<p>The project will not impact any World Heritage properties i.e. Shark Bay</p>
National Heritage places	<p>A search of the Australian Heritage Places Inventory Database located no site within the vicinity of the project.</p>
Wetlands of international importance (Ramsar)	<p>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.</p>
Nationally threatened species or ecological communities	<p>A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located 13 threatened species. The project activities are unlikely to have a significant impact on the white tailed black cockatoo species, as the trees are regrowth and not old enough to have established hollows. The overall linear clearing of 1.7 Ha of jarrah, marri, wandoo vegetation association does not form part of a woodland stand and therefore this clearing is not considered to be a significant impact to the white tailed black cockatoo species.</p> <p>Given the much degraded nature of the sites (ie between Degraded and Completely Degraded vegetation condition surrounded by cleared farms), the project is not considered to be a significant impact to chuditch, western ringtail possum, or quokka.</p> <p>The marine species are listed as “over fly” with the vegetation present unlikely to be habitat for these species.</p>
Migratory species protected under international agreements	<p>A search of the Department of Sustainability, Environment, Water, Population and Communities Protected Matters Search Tool located 7 migratory species within the vicinity of the project. The project activities are unlikely to have a significant impact on these species with the degraded, narrow, vegetation present unlikely to be suitable habitat.</p>
Commonwealth marine areas	<p>The project will not impact any Commonwealth marine area or marine protected area i.e. Ningaloo Marine Park</p>
Nuclear Actions	<p>Not relevant to the proposed works.</p>

8. DECISION TO REFER

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

As the project will not impact on matters of National Environmental Significance or impact Commonwealth land, the project does not require referral to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities.

8.2 Referral to the Environmental Protection Authority

Due to the scale of the project, the low significance of its impacts to the surrounding environment and the environmental management measures proposed, the project does not require referral to the WA Environmental Protection Authority.

9. STAKEHOLDER CONSULTATION

Name	Agency	Date	Comments
Andrew Webb	Dept of Environment & Conservation	14/12/2010	<i>Carex tereticaulis</i> (P1) occurs in close vicinity to the project area.
Carol Anderson	Dept of Water	11/01/2011	Refer Appendix E
Brett Vukelic	Dept of Agriculture & Food	25/01/2011	No significant declared weed infestations to address.
Luke Botica	Shire of Dardanup	28/01/2011	Refer Appendix J
Julie Cox	Dept of Environment & Conservation – dieback	18/01/2011	Refer Appendix L
Dr Steve Appleyard	Dept of Environment & Conservation – Contaminated sites branch	24/03/2011	<i>“As long as you are not dewatering, and all the material you are digging is above the permanent water table, there should be no issue.”</i>

10. 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.

Keighery Vegetation Condition Scale - Bush Forever, Volume 2, Keighery (1994)

Ethnographic Survey of the Boyanup – Picton Road (M52) and the Boyanup – Capel Road (M61), South West Western Australia, November 2002, Brad Goode Consulting Anthropologist

Report of the Archaeological Survey of the Boyanup-Picton Road (M52) and Boyanup – Capel Road (M61), South West Australia,” September 2002, prepared by Paul Greenfields and Wayne Webb

Appendix A

Low Impact Environmental Screening Checklist

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: Up-grade of Boyanup – Picton Road, shire of Dardanup

Project Description: **Section 1: Widening seal: 10.03 – 11.45 SLK &**
Section 2: Widening seal, improving curve & drain relocating
12.32 – 13.38 SLK

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

Completed By: *Signature*  *Date* 20/08/2010
Name Bahaa Kanbour *Title* Project/Contract Manager

To be reviewed by *Signature*  *Date* 13/12/2010
a Main Roads *Name* Jeanette Della-Bona *Title* Environment Officer
Environment Officer

Comments: As this proposal involves clearing, a PEIA will need to be prepared.

MAIN ROADS Western Australia

Appendix B

DEC's Threatened Flora and Fauna Database Searches

You replied on 14/12/2010 10:53 AM.

From: Webb, Andrew [Andrew.Webb@dec.wa.gov.au]
To: DELLA BONA Jeanette (EO)
Cc:
Subject: RE: Boyanup - Picton Road upgrade

Sent: Tue 14/12/2010 10:51 AM

No worries that's okay, I can do that ... I wasn't too sure exactly when you were after. I only have access to the flora information mind you and within close vicinity to those areas you are looking there are records of *Carex tereticaulis* which is Priority 1 listed.

Thanks

From: DELLA BONA Jeanette (EO) [<mailto:jeanette.dellabona@mainroads.wa.gov.au>]
Sent: Tuesday, 14 December 2010 10:15 AM
To: Webb, Andrew
Subject: RE: Boyanup - Picton Road upgrade

Hi Andrew

All I was asking to confirm that there is nothing in your database that will be of concern to us (ie re rare flora and fauna). We always use our Clearing Permit on all projects we have that involve the clearing of native vegetation. As a step in our clearing permit process we need to consult with you guys concerning flora and fauna issues. It does not mean you need to do a survey as such, but just check your exiting databases (and if possible, recommend to us if there is a need to undertake a flora /fauna survey).

Thanks again,

Kind regards

Jeanette

From: Webb, Andrew [<mailto:Andrew.Webb@dec.wa.gov.au>]
Sent: Tuesday, 14 December 2010 8:36 AM
To: DELLA BONA Jeanette (EO)
Subject: RE: Boyanup - Picton Road upgrade

Hi Jeanette,

Unfortunately i cannot answer this, I imagine this is something that MRD will have to assess themselves under what-ever clearing permits/exceptions they have or may need to apply for. I don't know the particular area you are looking at that well.

Thanks

Andrew Webb

From: DELLA BONA Jeanette (EO) [<mailto:jeanette.dellabona@mainroads.wa.gov.au>]
Sent: Monday, 13 December 2010 4:51 PM
To: Webb, Andrew
Subject: Boyanup - Picton Road upgrade

Hi Andrew

How are you?

Will there be any flora/fauna issues with this one? We are planning to upgrade the Boyanup Picton Road at 2 sections :

- 1) Section 1: Realigning the drain (on the east side of the Boyanup Picton Road) so it lines up with the rest of the drain. It will move eastwards.
- 2) Section 2: The Boyanup Picton Road will be widened – have not decided conclusively which side of the road to do this as yet (the west side contains a thin row of native vegetation, the east side where the railway is contains a row of plantings, not native, but I think act as some kind of entry statement into Dardanup, probably planted by the rotary club...)

Your comments are much appreciated,

Kind regards

FloraBase
the Western Australian Flora

Home Themes Find Tools Help

Plants → Cyperaceae → *Carex*

***Carex tereticaulis* F. Muell.**
Fragn. 8:256 (1974)

Conservation Status: **Priority One**
Name Status: **Current**

Brief Description
Grazyna Paczkowska, Sunday 31 October 1993

Monococious, rhizomatous, tufted perennial, grass-like or herb (sedge), 0.7 m high. Fl. brown, Sep-Oct. Black peaty sand. Distribution: SW, JF, SWA.

— Take me back to my last search

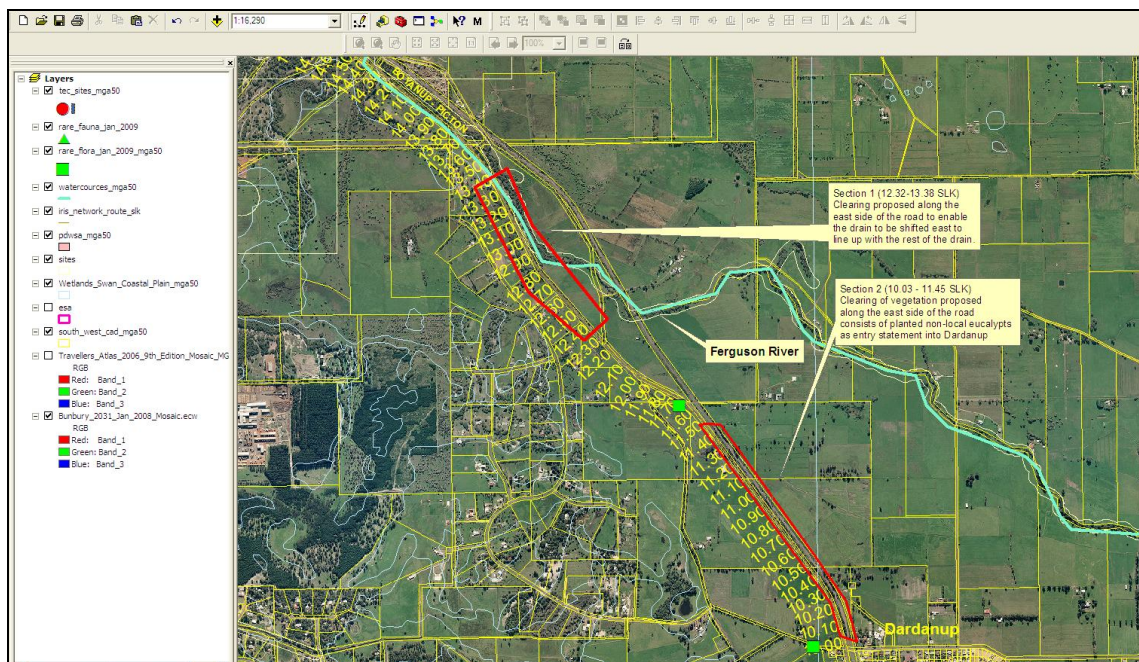
Carex tereticaulis

- ✓ BBA 5:1 bioregions
- Specimen record
- Locality checked
- Locality under review
- × Locality unavailable

Map by Paul Gioia, WA Herbarium, Current at June 01, 2010



Carex tereticaulis (*Carex fascicularis* on the right)
Planted at [Capel Wetlands Centre](#)
Photo: Richard Clark, 3rd October 2007



Appendix C

Australian Heritage Places Inventory, Heritage Council of Western Australia Database Searches



Heritage Council of WA Home

Quick Search

Advanced Search


Results List

Location Report


Save Data

What Is The State Register?

Other Heritage Lists



Site Map | Contact Us | Accessibility

Search here... 

Search WA Government

Home » Places Database » Search Results

Places Database

Displaying results: [1-2] of 2

hide selected hide unselected

<input type="checkbox"/>	Butcher Shop (158)	4 Boyanup-Picton Rd, Dardanup
<input type="checkbox"/>	Taunton Vale Homestead (3017)	Boyanup-Picton Rd, Paradise

hide selected hide unselected

Perform a new: [QUICK PLACES DATABASE SEARCH](#) | [ADVANCED PLACES DATABASE](#)

wa.gov.au

Home | Site Map | Privacy | Disclaimer | Copyright | FAQs | Links | Contact Us | Places Database

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Last updated: 19/01/2010

AUSTRALIAN HERITAGE PLACES INVENTORY

[\[New Search \]](#)

No records matched your query.

Report produced : 16/12/2010

AHPI URL : <http://www.environment.gov.au/heritage/ahpi/index.html>

Appendix D

Department of Indigenous Affairs Database Search

What do you want to do?

Search for Sites in... : Local Government Area Dardanup go!

[Search](#) | [Metadata](#) | [Feedback](#) | [DIA Home](#) | [Getting Started](#)

show legend



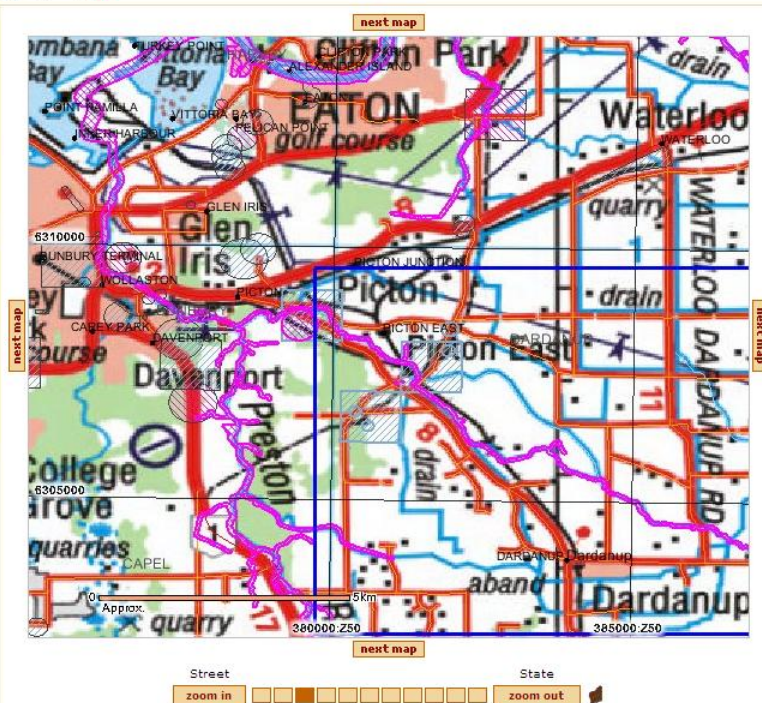
Show on map

☒ Aboriginal Sites
☐ Heritage Surveys

refresh more

Map size

☐ Small
☒ Medium
☐ Large



Geographic (non projected) map. Datum: GDA94. Scalebar is indicative only.

Latitude: _____ Longitude: _____
Northing: _____ Easting: _____ Zone: _____
Map Sheet: _____

• Topographic image data copyright © Commonwealth of Australia, Geoscience Australia (2010).
• Cadastre, Local Government Authority, Native Title boundary data
copyright © Western Australian Land Information Authority trading as Landgate (2010).

Sites in a search box

19 results

[Clear Results](#)
[Printable - All results \(with map\)](#)
[Related Survey Reports](#)

5 Registered Aboriginal Sites ☒ Show on Map

1

ID	Name	Status	Type
4869	Bunbury 13	R O N	Artefacts / Scatter
4875	Bunbury 14	R O N	Artefacts / Scatter
4880	Bunbury 20	R O N	Artefacts / Scatter
16713	Collie River Waugal	R O N	Mythological
19795	Preston River	R O N	Mythological

14 Other Heritage Places ☒ Show

1 2

ID	Name	Status	Type
4870	Bunbury 19	I O N	Artefacts / Scatter
4876	Bunbury 15	I O N	Artefacts / Scatter
4877	Bunbury 16	I O N	Artefacts / Scatter
4878	Bunbury 17	I O N	Artefacts / Scatter
4879	Bunbury 18	I O N	Artefacts / Scatter
5168	Natgas 262	S O N	Artefacts / Scatter
5169	Natgas 263	S O N	Artefacts / Scatter
5816	Bunbury/no. 1 Highway	I O N	Artefacts / Scatter
18885	Bunbury Bypass Archaeological Site 2	I A O N	Artefacts / Scatter
18886	Bunbury Bypass Archaeological Site 3	I A O N	Artefacts / Scatter

Appendix E

Department of Water's Geographic Data Atlas Database Search

You forwarded this message on 9/02/2011 4:25 PM.

From: ANDERSON Carol [Carol.ANDERSON@water.wa.gov.au]
To: DELLA BONA Jeanette (EO)
Cc:
Subject: RE: Boyanup - Picton Road upgrade

Sent: Tue 11/01/2011 1:17 PM

Hi Jeanette

The Department requires details on the proposed drain realignment. Such as, location, interface with the waterway, drainage infrastructure and water sensitive features proposed outside of, or within the foreshore protection area (30m).

Will the catchment of the drain be increased which will in turn increase the volume and/or velocity to the River.

What water quality treatment features are proposed.

It is a Water Corp drain that enters the Ferguson River. It is the DoW's role and responsibility to protect the State's water resources plus this River is also a proclaimed waterway und the *Rights in Water and Irrigation Act 1915*, supporting licensed users. Surrounding rural land uses produce high levels of nutrients which requires treatment prior to entering the River. The Ferguson River is also an Aboriginal Site of Significance.

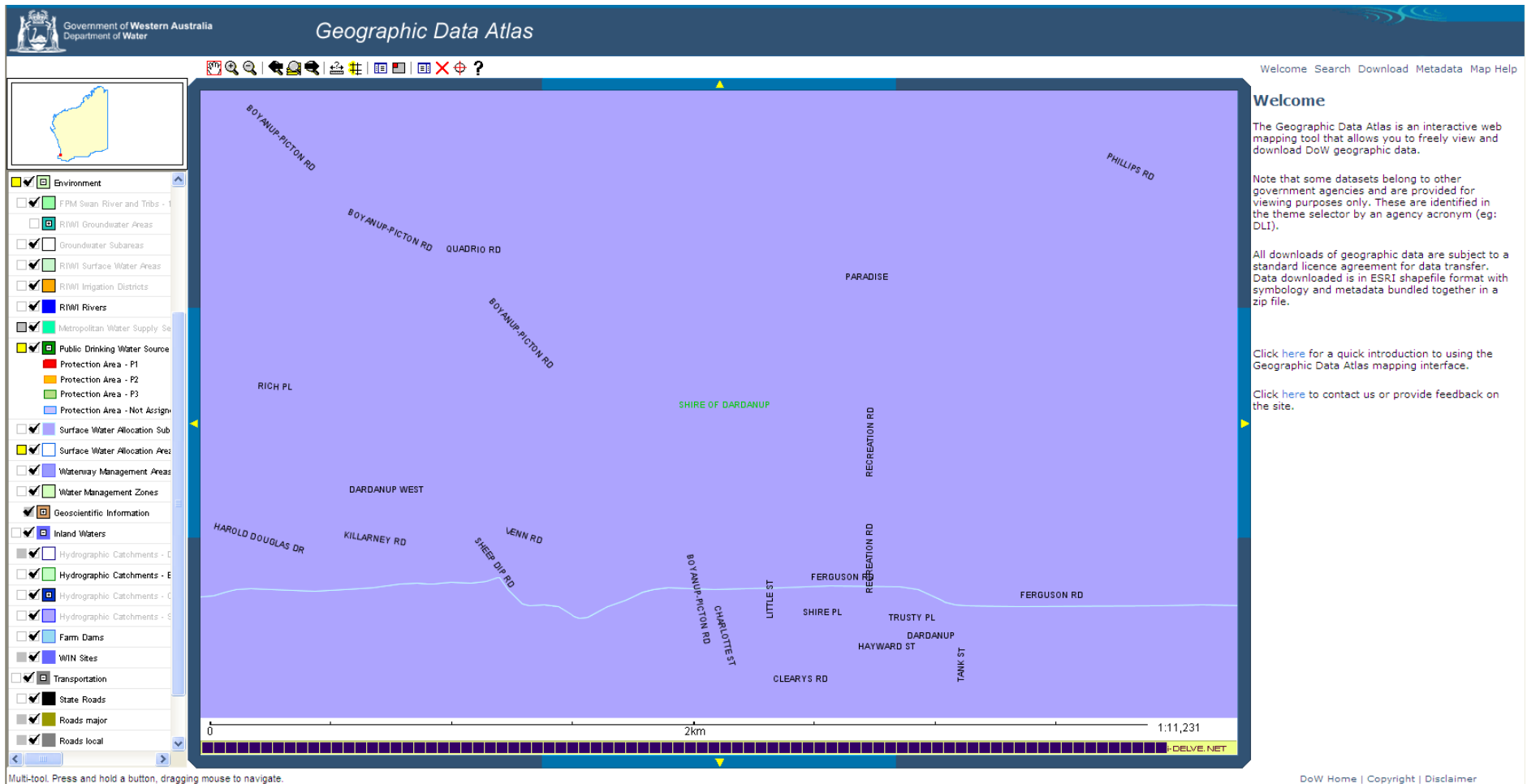
The design should include controlled release and disbursement of stormwater into the vegetated foreshore protection area to enable treatment prior to entering the River.

Has WC approved the realignment?

Thank you.

Regards

Carol Anderson
S W Region
Dept of Water



Appendix F

DEC's Contaminated Sites Database Search

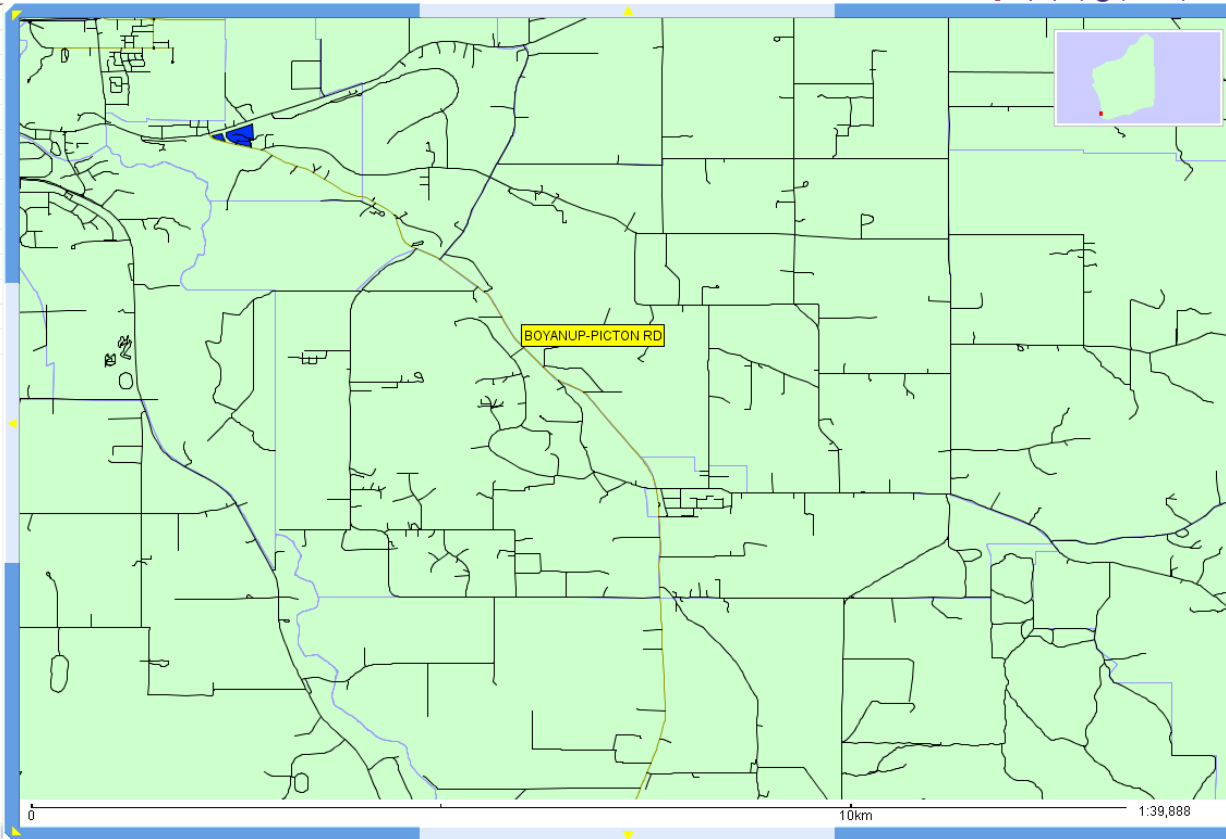


Contaminated Sites Database



[New Search](#) [Find Suburb/Town](#) [Metadata](#) [Map Help](#)

- ☒ Coastline
- ☒ W/A
- ☒ W/A Detailed
- ☒ Boundaries
- ☒ LGA
- ☒ Suburbs
- ☒ Contaminated Sites
- ☒ Transportation
- ☒ State Roads
- ☒ Roads major
- ☒ Roads local
- ☒ Society
- ☒ Major Towns
- ☒ Minor Towns



Search for Known Contaminated Sites

Search results

[New Search](#)

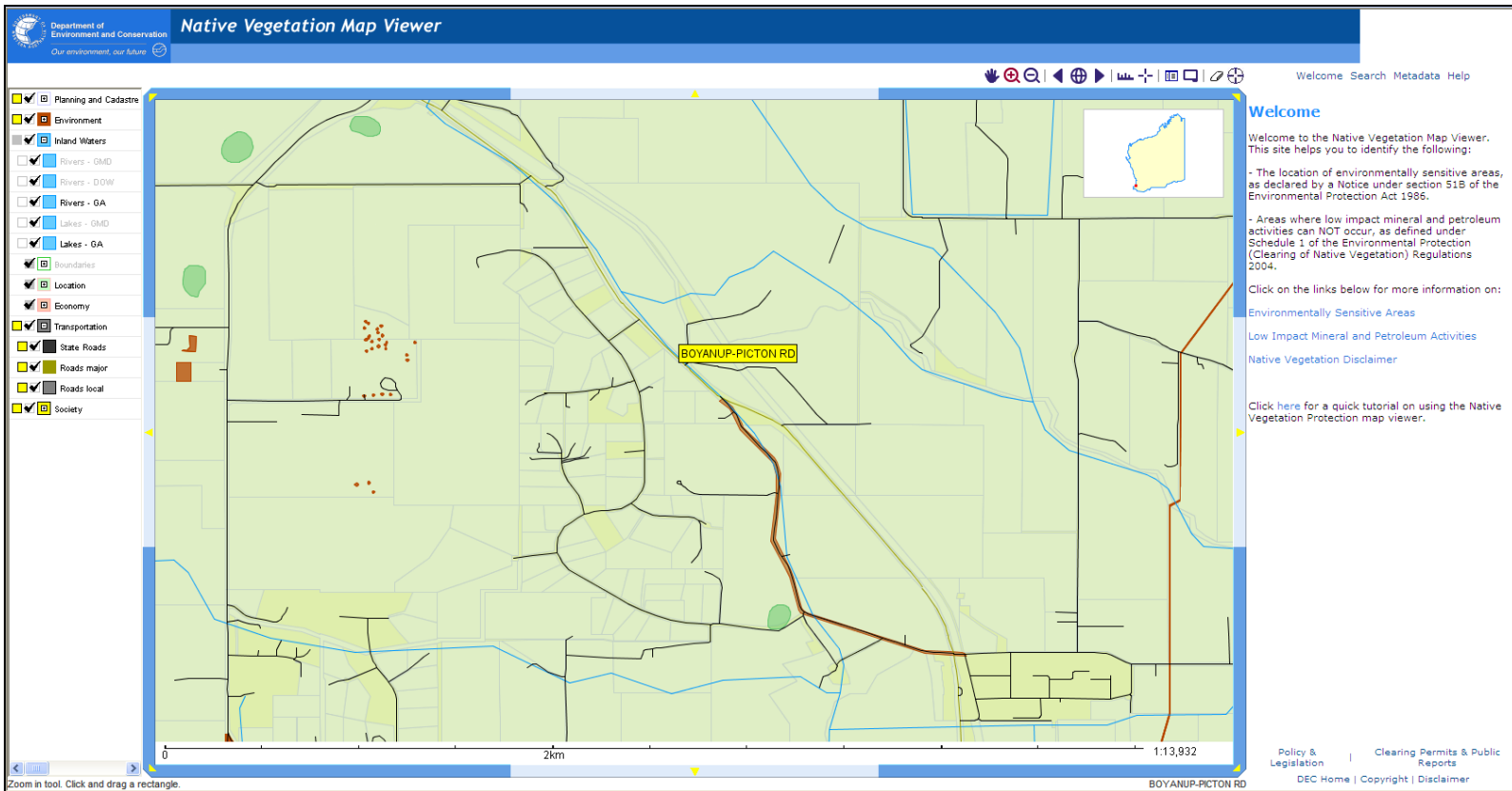
Location	Classification	Map	Site Information
----------	----------------	-----	------------------

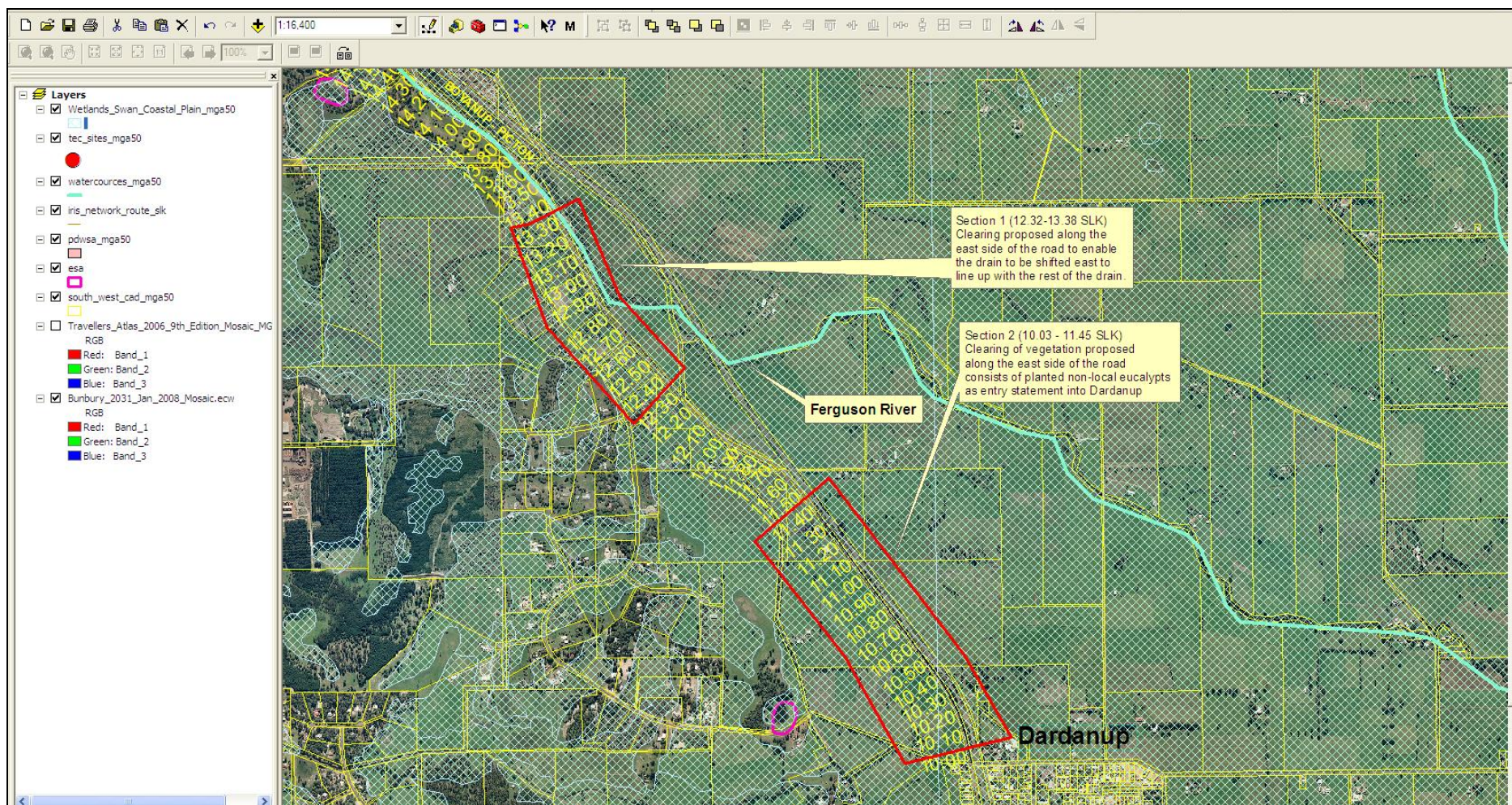
No matches were found

If a site does not appear in your search of the Contaminated Sites Database, it may be listed on the Reported Sites Register. Click [here](#) for more information.

Appendix G

DEC & Main Roads ArcGIS Wetland & ESA Search





Appendix H

Department of Sustainability, Environment, Water, Population and Communities Database Search

EPBC Act Protected Matters Report:

Coordinates

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. 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>

This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

Buffer: 5Km

Report created: 15/12/10 19:21:07

[Summary](#)

[Details](#)

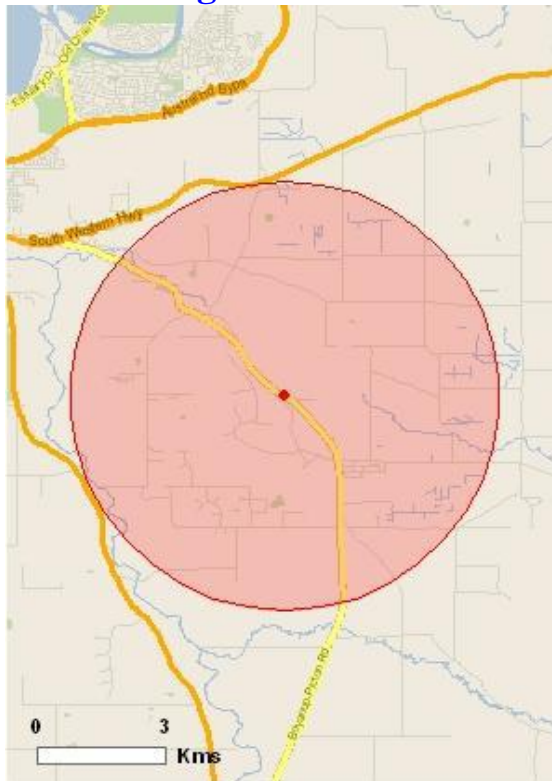
[Matters of NES](#)

[Other matters protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



Protected Matters Search Tool

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](#)

[Wetlands\):](#)

None

[Great Barrier Reef Marine](#)

[Park:](#)

None

[Commonwealth Marine Areas:](#)None

[Threatened Ecological](#)

[Communitites:](#)

None

[Threatened Species:](#) 13

[Migratory Species:](#) 7

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

Listed Marine Species: 5

Whales and Other Cetaceans: None

Critical Habitats: None

Commonwealth Reserves: None

Report Summary for Extra Information

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

Place on the RNE: 2

State and Territory Reserves: 1

Regional Forest Agreements: 1

Invasive Species: 16

Nationally Important

Wetlands:

None

Details

Matters of National Environmental Significance

Threatened Species [Resource Information]

Name Status Type of Presence

BIRDS

[Calyptorhynchus banksii naso](#)

Forest Red-tailed

Black-Cockatoo [67034]

Vulnerable Species or species habitat may occur within area

[Calyptorhynchus baudinii](#)

Baudin's Black-Cockatoo,

Long-billed Black-Cockatoo

[769]

Vulnerable Breeding known to occur within area

[Calyptorhynchus latirostris](#)

Carnaby's Black-Cockatoo,

Short-billed Black-Cockatoo

[59523]

Endangered Breeding likely to occur within area

MAMMALS

[Dasyurus geoffroii](#)

Chuditch, Western Quoll [330] Vulnerable Species or species habitat likely to occur within area

[Pseudocheirus occidentalis](#)

Western Ringtail Possum

[25911]

Vulnerable Species or species habitat likely to occur within area

[Setonix brachyurus](#)

Quokka [229] Vulnerable Species or species habitat may occur within area

PLANTS

[Andersonia gracilis](#)

Slender Andersonia [14470] Endangered Species or species habitat may occur within area

[Brachyscias verecundus](#)

Ironstone Brachyscias [81321] Critically

Endangered

Species or species habitat may occur within area

[Centrolepis caespitosa](#)

[6393] Endangered Species or species habitat likely to occur within area

[Darwinia foetida](#)

Muchea Bell [83190] Critically

Endangered

Species or species habitat likely to occur within area

[Drakaea micrantha](#)

Dwarf Hammer-orchid [56755] Vulnerable Species or species habitat likely to occur within area

[Synaphea stenoloba](#)

Dwellingup Synaphea [66311] Endangered Species or species habitat may occur within area

[Verticordia fimbrialepis subsp. fimbrialepis](#)

Shy Featherflower [24631] Endangered Species or species habitat may occur within area

Migratory Species [Resource Information]

Name Status Type of Presence

Migratory Marine Birds

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat may occur within area

[Ardea alba](#)

Great Egret, White Egret

[59541]

Species or species habitat may occur within area

[Ardea ibis](#)

Cattle Egret [59542] Species or species habitat may occur within area

Migratory Terrestrial Species

[Haliaeetus leucogaster](#)

White-bellied Sea-Eagle [943] Species or species habitat likely to occur within area

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area

Migratory Wetlands Species

[Ardea alba](#)

Great Egret, White Egret

[59541]

Species or species habitat may occur within area

Cattle Egret [59542] Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity.

Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a

Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land -

Listed Marine Species [Resource Information]

Name Status Type of Presence

Birds

[Apus pacificus](#)

Fork-tailed Swift [678] Species or species habitat may occur within area

[Ardea alba](#)

Great Egret, White Egret
[59541]

Species or species habitat may occur within area

[Ardea ibis](#)

Cattle Egret [59542] Species or species habitat may occur within area

[Haliaeetus leucogaster](#)

White-bellied Sea-Eagle [943] Species or species habitat likely to occur within area

[Merops ornatus](#)

Rainbow Bee-eater [670] Species or species habitat may occur within area

Extra Information

Places on the RNE [Resource Information]

Note that not all Indigenous sites may be listed.

Name Status

Natural

[South West Irrigation Area WA](#) Indicative Place

Historic

[Dardanup Park Homestead WA](#) Indicative Place

State and Territory Reserves [Resource Information]

Unnamed WA40552, WA

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

[South West WA RFA, Western Australia](#)

Invasive Species [Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced

plants that are considered by the States and Territories to pose a particularly significant threat to

biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo

and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name Status Type of Presence

Mammals

[Felis catus](#)

Cat, House Cat, Domestic Cat

[19]

Species or species habitat likely to occur within area

[Oryctolagus cuniculus](#)

Rabbit, European Rabbit [128] Species or species habitat likely to occur within area

[Sus scrofa](#)

Pig [6] Species or species habitat may occur within area

[Vulpes vulpes](#)

Red Fox, Fox [18] Species or species habitat likely to occur within area

Plants

[Asparagus asparagoides](#)

Bridal Creeper, Bridal Veil

Creeper, Smilax, Florist's

Smilax, Smilax Asparagus

[22473]

Species or species habitat likely to occur within area

[Brachiaria mutica](#)

Para Grass [5879] Species or species habitat may occur within area

[Cenchrus ciliaris](#)

Buffel-grass, Black Buffel-grass

[20213]

Species or species habitat may occur within area

[Chrysanthemoides monilifera](#)

Bitou Bush, Boneseed [18983] Species or species habitat may occur within area

[Genista sp. X Genista monspessulana](#)

Broom [67538] Species or species habitat may occur within area

[Lantana camara](#)

Lantana, Common Lantana,

Kamara Lantana, Large-leaf

Lantana, Pink Flowered

Lantana, Red Flowered Lantana,

Red-Flowered Sage, White

Sage, Wild Sage [10892]

Species or species habitat may occur within area

[Lycium ferocissimum](#)

African Boxthorn, Boxthorn

[19235]

Species or species habitat may occur within area

[Olea europaea](#)

Olive, Common Olive [9160] Species or species habitat may occur within area

[Pinus radiata](#)

Radiata Pine Monterey Pine,

Insignis Pine, Wilding Pine

[20780]

Species or species habitat may occur within area

[Rubus fruticosus aggregate](#)

Blackberry, European

Blackberry [68406]

Species or species habitat may occur within area

[Salix spp. except S.babylonica, S.x calodendron & S.x reichardtiji](#)

Willows except Weeping
Willow, Pussy Willow and
Sterile Pussy Willow [68497]
Species or species habitat may occur within area
[Salvinia molesta](#)
Salvinia, Giant Salvinia,
Aquarium Watermoss, Kariba
Weed [13665]
Species or species habitat may occur within area

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 following provisions of the EPBC Act have been mapped:

- migratory and
- marine

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.

Coordinates

115.74194 -33.38444

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the

following custodians who have contributed valuable data and advice:

- Department of Environment, Climate Change and Water, New South Wales
- Department of Sustainability and Environment, Victoria
- Department of Primary Industries, Parks, Water and Environment, Tasmania
- Department of Environment and Natural Resources, South Australia
- Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts
- Environmental and Resource Management, Queensland
- Department of Environment and Conservation, Western Australia
- Department of the Environment, Climate Change, Energy and Water
- Birds Australia
- Australian Bird and Bat Banding Scheme
- Australian National Wildlife Collection
- Natural history museums of Australia
- Museum Victoria
- Australian Museum
- SA Museum
- Queensland Museum
- Online Zoological Collections of Australian Museums
- 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
- Ocean Biogeographic Information System
- Australian Government, Department of Defence
- State Forests of NSW
- Other groups and individuals

Environment Australia is extremely grateful to the many organisations and individuals who provided

expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

[Accessibility](#) | [Disclaimer](#) | [Privacy](#) | [© Commonwealth of Australia](#) | [Help](#)

Last updated: Thursday, 16-Sep-2010 09:13:25 EST

[Department of Sustainability, Environment, Water, Population and Communities](#)

GPO Box 787

Canberra ACT 2601 Australia

+61 2 6274 1111 [ABN](#)



Layers

- ☒ Protected Areas
- ☒ Ramsar Wetlands
- ☒ Nationally Important Wetlands
- ☒ Commonwealth Heritage Places
- ☒ World Heritage Properties
- ☒ National Heritage Places
- ☐ Regional Forest Agreements
- ☐ Property Boundaries
- ☒ Local Government Areas
- ☒ Natural Resource Management Regions
- ☐ Great Barrier Reef Marine Park
- ☐ Commonwealth Marine Reserves
- ☐ Commonwealth Marine Area

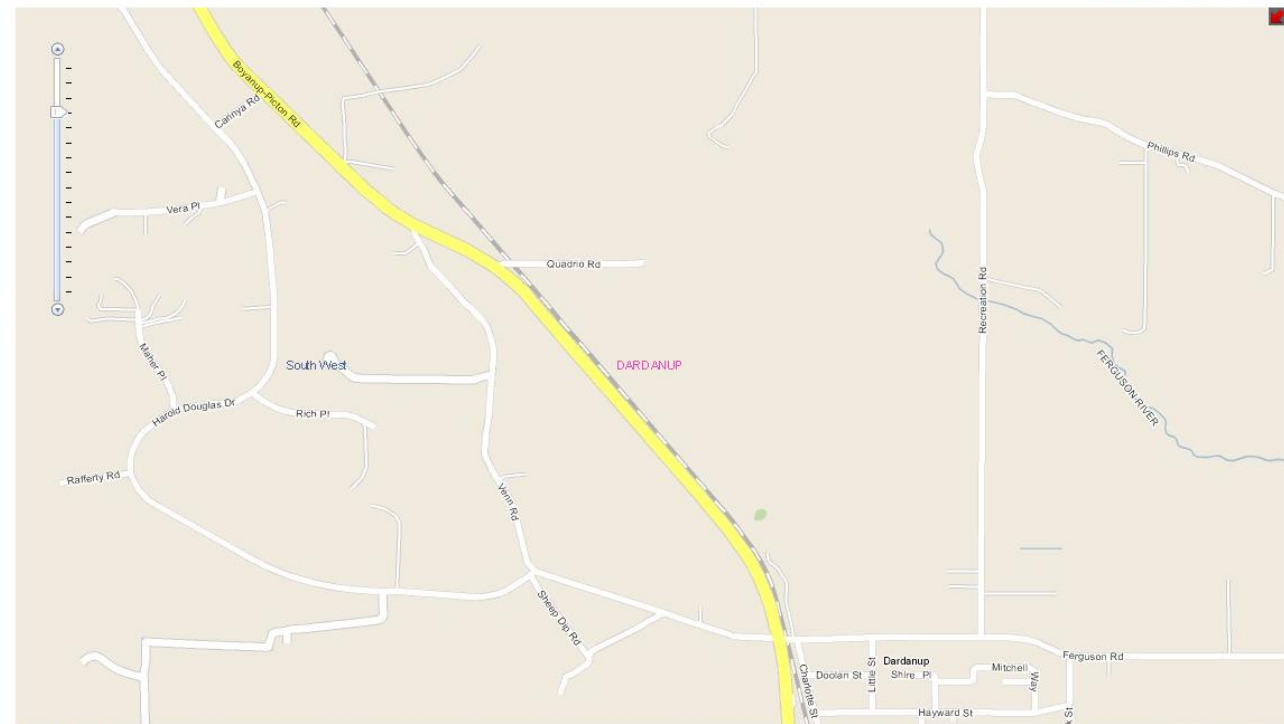
Search Options

Address Search

Geographic Search

Street Line	<input type="text" value="boyanup picton road"/>
Suburb/Town	<input type="text" value="dardanup"/>
State	<input type="text" value="WA"/>
Postcode	<input type="text" value="6236"/>
<input type="button" value="Search"/>	

PMST Map



Scale - 1:16,000

-33.40043, 115.76682

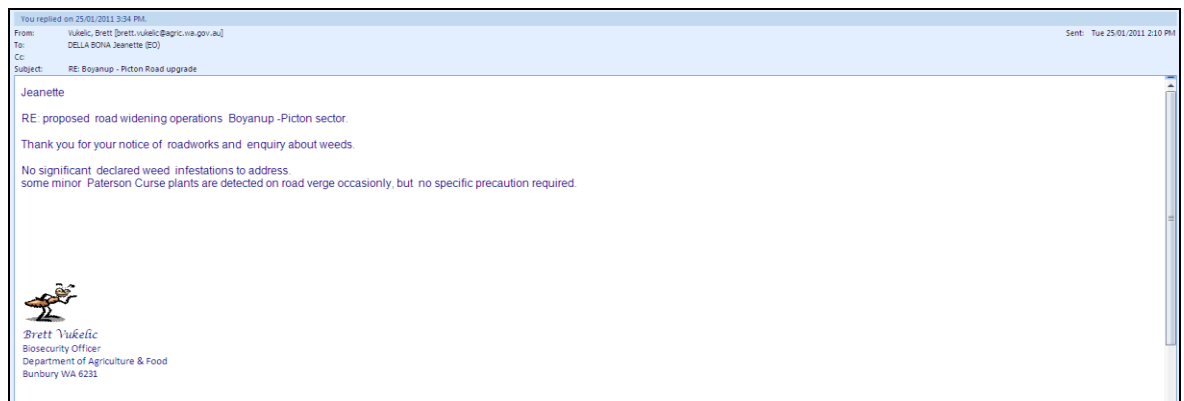
Please feel free to provide feedback via the [Contact Us](#) page.

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Last updated: Thursday, 16-Sep-2010 09:13:25 EST

Appendix I

Department of Agriculture and Food Advice on Declared Weeds



Appendix J

Comment from the Shire of Dardanup

RE: Boyanup - Picton Road upgrade - Message (HTML)

Message

Add-Ins

Reply

Reply to All

Forward

Respond

Delete

Move to Folder

Create Rule

Other Actions

Block Sender

Not Junk

Junk E-mail

Safe Lists

Categorize

Follow Up

Mark as Unread

Options

Find

Related

Select

Find

You replied on 28/01/2011 4:26 PM.

From: Luke Botica [lukeb@dardanup.wa.gov.au]

To: DELLA BONA Jeanette (EO)

Cc:

Subject: RE: Boyanup - Picton Road upgrade

Sent: Fri 28/01/2011 4:24 PM

Hi Jeanette

I refer to your email below regarding the proposed improvements on [Boyanup-Picton Road](#).

Comments as follows:

Section 1 – No comments

Section 2 – I have looked into the origin of the trees along the railway. My understanding is that the trees were planted some time ago (around 1985) by the Lions Club to shield the rail line and headlights. It was a Lions Project that was approved by the Shire, Railways and MRWA.

Due to the history involved with the planting of the trees and the general objection usually received from the public when removing trees, it would be prudent to consult the Dardanup community on the proposal.

Further to this, the Shire's Roadwise Committee has previously highlighted the need to upgrade the road and the risk associated with the close proximity of some of the trees. Taking into consideration the accident history on the road, the public may possibly be accepting of removing the trees if there could be a demonstrated safety benefit and perhaps some offset planting/landscaping for the community.


Please do not hesitate to contact me should you wish to discuss this further.

Regards

Luke

LUKE BOTICA BE Civil Eng MIEAust
Manager Technical Services

Tel: 08 9724 0055 Fax: 08 9724 0091 Mob: 0427 447 050 Email: lukeb@dardanup.wa.gov.au



Shire of Dardanup

Administration Centre Eaton
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EATON WA 6232
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Appendix K

WAPC's Acid Sulphate Soils Mapping

WA Atlas

Shared Land Information Platform

Home

Search

Layer Selector

Layer

Coastline

Metro Central 2006 Mosaic

Metro North 2006 Mosaic

Metro South 2006 Mosaic

Overview Roads (LGATE-052)

Overview Rivers (LGATE-053)

Overview Towns (LGATE-054)

Hydro (Polygon) (LGATE-016) (29-10-2008 15:33:59)

Cadastral (Address) (LGATE-002)

Roads (LGATE-012)

Railway Lines (LGATE-036) (06-10-2010 15:48:10)

Local Government Authority (LGA) Boundaries (LGATE-006)

Localities (LGATE-008)

Points of Interest (LGATE-028)

Acid Sulphate Soil Risk Map, Swan Coastal Plain (DEC-001) (25-01-2010 15:16:09)

<https://www2.landgate.wa.gov.au/?corporateWebsiteUrl=http://www.idelvex.net&idelveUrl=https://w> - Microsoft Internet Explorer p

WA Atlas

WMS Legend

Layer Name:

Acid Sulphate Soil Risk Map, Swan Coastal Plain (DEC-001) (25-01-2010 15:16:09)



Class 1 - High to moderate risk of ASS occurring within 3m of natural soil surface

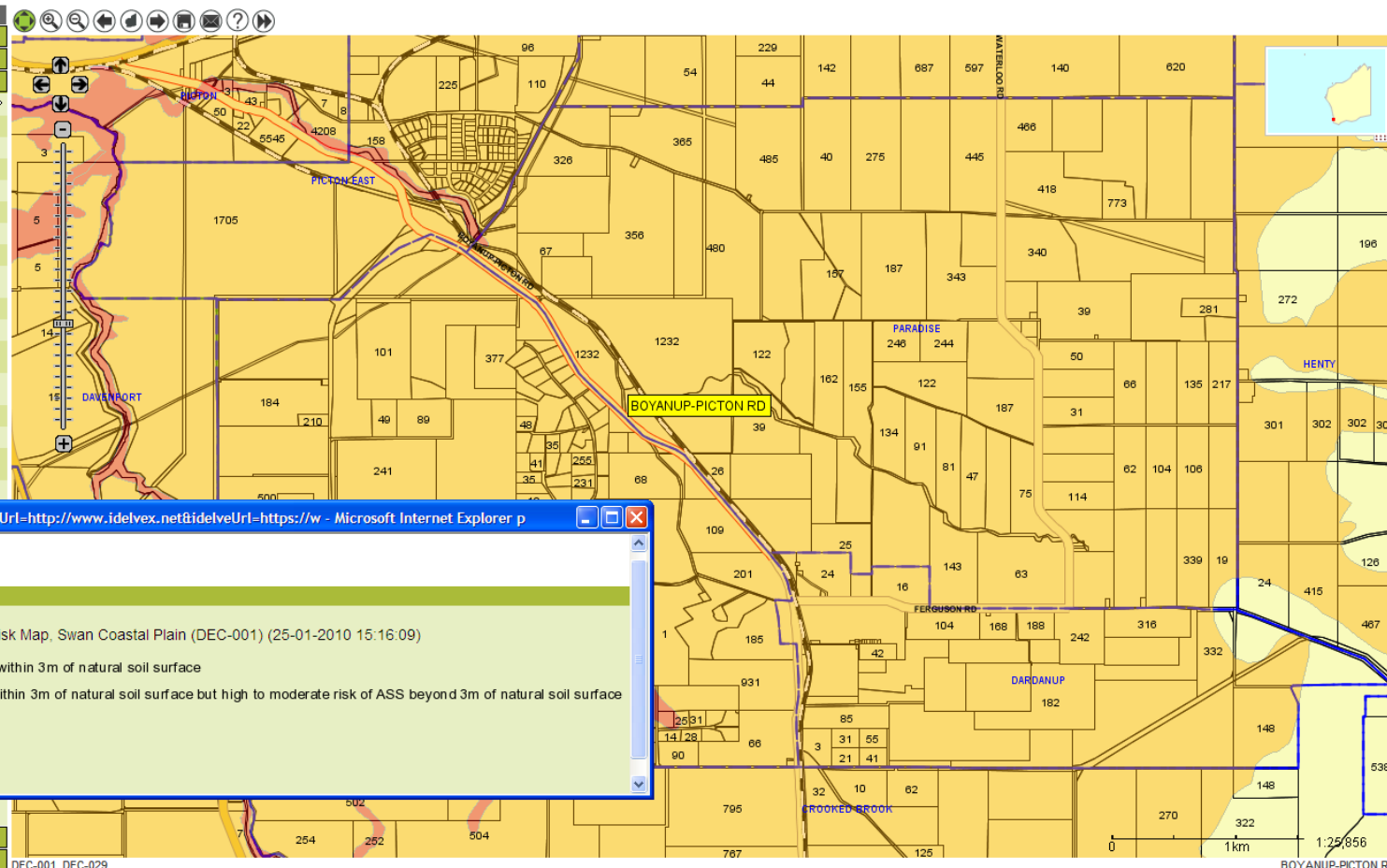


Class 2 - Moderate to low risk of ASS occurring within 3m of natural soil surface but high to moderate risk of ASS beyond 3m of natural soil surface

Add Layers

Information

DEC-001, DEC-029



Appendix L

DEC Advice on Dieback



Janette Della-bona
Main Roads WA
Environmental Officer
Southwest

Dear Janette,

Subject: *Phytophthora cinnamomi* occurrence assessment for the Boyanup Picton Road upgrade

A *Phytophthora cinnamomi* (*P.c.*) occurrence assessment of land associated with the proposed upgrade along the Boyanup Picton Road was recently conducted by the Department of Environment and Conservation. The assessment included two sections of the road between Dardanup and Picton. Initial inspection of these areas by enlarged, digital photographs revealed both sites to be largely degraded and disturbed. A field check was required to determine *P.c.* interpretability and extent of disturbance.

The assessment was completed on 17 January 2011 by Disease Hygiene Officer Julie Cox. Assessment methods were as described in Department of Environment and Conservation manual "*Phytophthora cinnamomi* and disease caused by it, volume 2, detection, diagnosis and mapping."

The assessed areas have been rated as being Degraded (5) and Completely Degraded (6) on the Vegetation Condition Scale (Bush Forever, Vol. 2, Keighery 1994). The high level of disturbance has removed all reliable indicator species and as a result no *P.c.* infested areas could be identified. The entire study area is "excluded" from *P.c.* occurrence mapping.

Section one (site of drain realignment) is approximately one kilometre in length. The small pocket of remnant vegetation in the northern part of this section reveals a vegetation structure that has been severely impacted by clearing and grazing. At present the area is grazed by horses. A healthy overstorey of Peppermint (*Agonis flexuosa*), Flooded Gum (*Eucalyptus rudis*), Paperbark (*Melaleuca raphiophylla*) and scattered Marri (*Corymbia calophylla*) trees are present with an understorey devoid of native species and dominated by *Watsonia* sp. The remainder of section one is represented by a narrow band of scattered Flooded Gum and Paperbark trees with an understorey of grasses and *Watsonia* sp. This section has been rated as Degraded (5) as the native overstorey species remains reasonably intact.

Section two (site of road widening) starts at the Dardanup townsite and heads north towards Picton for 1.3 kilometres. This section has very little native vegetation remaining. On the east side of this section, situated between the old railway and Boyanup Picton Road, are rows of planted trees. This site has previously been cleared and rehabilitated with exotic tree species. Section two has been rated as Completely Degraded (6) as a result of the area being largely without native species and rehabilitated with non native tree species.

No *P.c.* hygiene management is required for work activities within the study area. As the area is already greatly degraded and lacking in native vegetation the introduction and/or spread of the pathogen would have little impact. A *P.c.* occurrence map has not been produced as no *P.c.* occurrence categories were identified during assessment.

Forest Management Branch
South Western Highway, Bunbury
Phone: (08) 9725 4300 Fax: (08) 9725 4134
PO Box 1693, Bunbury WA 6231
www.dec.wa.gov.au

Thank you for your interest in Phytophthora management.

Julie Cox
Disease Hygiene Officer
Forest Management Branch
Department of Environment and Conservation

18 January 2011

Appendix M

Vegetation Clearing Assessment Report

MRWA Vegetation Clearing Assessment Report

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

For guidance on how to complete the form, refer to DEC completed reports (active permits) at https://secure.dec.wa.gov.au/cps_reports/.

1. AREA UNDER ASSESSMENT DETAILS

Proponent (Main Roads) details

Contacts: Project Manager: Bahaa Kanbour
Phone: 9725 5650
Environment Officer: Jeanette Della-Bona
Phone: 9725 5661

Property details

Property/Road:
Colloquial name: Boyanup – Picton Road, Shire of Dardanup

Area under assessment

Clearing Area (ha) 1.76 ha
Method of Clearing: mechanical
For the purpose of: improvement and widening
Site Plan Attached
☐ Yes ☒ No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

Clearing will take place on the east side of the road to minimise impact to native vegetation on the west side (ie for Section 2: clearing of non-local eucalypts instead of native vegetation on the western side of the road)

2. BACKGROUND

Existing environment and information

Description of the native vegetation under application

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

Site Visit Undertaken	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Fauna / Flora Survey Undertaken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Fauna / Flora Survey Report Attached	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Site Photos Attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Other Relevant References Attached	<input type="checkbox"/> Yes <input type="checkbox"/> No

Vegetation Complex(s)	Clearing Description	Vegetation Condition(s)	Comment
-----------------------	----------------------	-------------------------	---------

3. ASSESSMENT OF APPLICATION AGAINST CLEARING PRINCIPLES

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal is not at variance to this Principle.**

Approximately 1.7 ha of native vegetation is proposed to be cleared. The vegetation under application does not comprise a high level of biodiversity as it is classified as mostly Degraded (Section 1) and Completely Degraded (Section 2) (Keighery, 1994). All of the vegetation contains an understorey that is comprised almost entirely of weed species.

Methodology Site inspection (Section 1) June 2010, GHD Senior Environmental Scientist (Appendix N)
Site inspection Main Roads Environment Officer, August 2010.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments **Proposal is not at variance to this Principle**

As the vegetation is mainly regrowth, the trees are not old enough to provide suitable habitat for nesting fauna. Also the vegetation is also not part of a woodland stand.

There are a number of fauna species listed on the department of Sustainability, Environment, Water, Population and Communities website (refer Appendix H) that are threatened species; however given the degraded and minor nature of the clearing involved, and the location of the project area – along the Boyanup Picton Road in a mostly cleared agricultural area, the area is considered to be unsuitable habitat for these species, and therefore the proposal not considered to be at variance to this principle.

Methodology Site inspection Environmental Officer, 20/08/2010.
Black Cockatoo advice from ecologist Greg Harewood, March, 2011.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal is not variance to this Principle**
There were no DRF species found present within the project area. As no significant vegetation types or threatened flora have been recorded within in road reserve (Section 1) and Section 2 does not have any understorey, mainly non-local eucalypts planted (on the east side of the road), *Carex fascicularis* (P1 flora) will not be impacted by the proposed works.

Methodology Site inspection (Section 1) June 2010, GHD Senior Environmental Scientist (Appendix N)
Site inspection Main Roads Environment Officer, August 2010.
Main Roads ArcGIS database search.(Appendix B)

(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 TEC's in the project area.

Methodology Main Roads ArcGIS database search (Appendix B)

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not at variance to this Principle**
The broad vegetation type is Medium woodland; jarrah, marri and wandoo, of which there is 33.57% remaining which is above the EPA's 30% threshold level.

Methodology SLIP NRM database & Main Roads file “Native Vegetation in Western Australia - Extent, Type and Status” (*car_reserve_analysis_2007.xls*)

(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 variance to this Principle**
The project occurs within an extensive Palusplain wetland of Multiple Use Category (ie Wetlands with few important ecological attributes and functions remaining.) The surrounding area is almost entirely cleared due to agriculture and the project area is Degraded to Completely Degraded. Based on previous advice from the DEC for a similar project, the project area now no longer represents a wetland and therefore the removal of these trees is deemed not to be a trigger to this clearing principle.

Methodology DEC's and Main Roads ArcGIS search: wetlands and ESAs (Appendix G)
(DEC Native Vegetation Clearin advice on Principle (f) Wimbridge Rd Picton PEIA, B06#9395, Belinda Walker, 25/07/06)

(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**
The limited extent of proposed clearing will not cause land degradation.

Methodology Site inspection, Environment Officer, August 2010

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments Proposal is not at variance to this Principle

The nearest conservation areas are approximately 5 km from the project area: Waterloo Nature Reserve to the north east and the Dardanup Conservation Park to the south east.

Methodology Main Roads ArcGIS database search (CALM areas mgs 50)

(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

The limited extent of proposed clearing will not cause deterioration of surface or groundwater.

Methodology Site inspection, Environment Officer, August 2010

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not at variance to this Principle

The landform and soil type of the area is: Guildford: Gf Flat plain with medium textured deposits, yellow duplex soils) and has been found to be imperfect to poorly drained (ie 40% of the land management unit is poorly drained). However given the minor extent of proposed (linear) clearing (i.e. 1.76 Ha linear clearing) the proposal is not at variance to this principle.

Methodology Site inspection, Environment Officer, August 2010
Atlas of Natural Resources Darling System of Western Australia, CALM-WA, 1980
SLIP NRM database – Soil landscape degradation hazards

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

Comments Not applicable

Methodology

4. SUBMISSIONS

If required have submissions been requested and addressed

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

5. ASSESSOR'S RECOMMENDATIONS

List of Principles seriously at variance, at variance or maybe at variance

Recommendation

The proposal is not at variance to the Clearing Principles; therefore the clearing can be undertaken using the Purpose Permit CPS 818/5.

6. REFERENCES

OFFICER PREPARING REPORT

Jeanette Della-Bona
Environment Officer – South West Region
25/03/2011
Ph (08) 9724 5661

Appendix N

Section 1 Raw flora data & comment from GHD botanist

Family	Genus	Species	Common Name	Status
Alliaceae	<i>Allium</i>	<i>triquetrum</i>	three corned garlic	*
Araceae	<i>Zantedeschia</i>	<i>aethiopica</i>	arum lily	*
Asclepiadaceae	<i>Gomphocarpus</i>	<i>fruticosus</i>	narrowleaf cotton bush	*
Asparagaceae	<i>Asparagus</i>	<i>asparagoides</i>	bridal creeper	*
Asteraceae	<i>Conyza</i>	<i>bonariensis</i>	flaxleaf fleabane	*
Asteraceae	<i>Cotula</i>	<i>turbinata</i>	funnel weed	*
Asteraceae	<i>Hypochaeris</i>	<i>radicata</i>	flatweed	*
Asteraceae	<i>Sonchus</i>	<i>oleraceus</i>	sowthistle	*
Asteraceae	<i>Ursinia</i>	<i>anthemoides</i>	ursinia	*
Brassicaceae	<i>Rapistrum</i>	<i>rugosum</i>	turnip weed	*
Cyperaceae	<i>Cyperus</i>	<i>congregatus</i>	dense flat-sedge	*
Fabaceae	<i>Acacia</i>	<i>floribunda</i>		*
Fabaceae	<i>Acacia</i>	<i>pulchella</i>		
Fabaceae	<i>Dipogon</i>	<i>lignosus</i>	Dolichos pea	*
Fabaceae	<i>Lathyrus</i>	<i>tingitanus</i>	tangier pea	*
Fabaceae	<i>Lupinus</i>	<i>luteus</i>	yellow lupin	*
Fabaceae	<i>Trifolium</i>	<i>angustifolium</i>	narrowleaf clover	*
Fumariaceae	<i>Fumaria</i>	<i>muralis</i>	wall fumitory	*
Geraniaceae	<i>Erodium</i>	<i>moschatum</i>	musky crowfoot	*
Iridaceae	<i>Watsonia</i>	<i>species</i>		*
Juncaceae	<i>Juncus</i>	<i>kraussii ssp australiensis</i>	sea rush	
Myrtaceae	<i>Agonis</i>	<i>flexuosa</i>	peppermint	
Myrtaceae	<i>Corymbia</i>	<i>calophylla</i>	marri	
Myrtaceae	<i>Eucalyptus</i>	<i>leucoxylon ssp. Leucoxylon</i>	yellow gum	* planted
Myrtaceae	<i>Eucalyptus</i>	<i>rudis</i>	flooded gum	
Myrtaceae	<i>Melaleuca</i>	<i>lanceolata</i>	Rottneest teatree	planted
Myrtaceae	<i>Melaleuca</i>	<i>?lateritia</i>		planted
Myrtaceae	<i>Melaleuca</i>	<i>nesophila</i>	showy honey-myrtle	planted
Myrtaceae	<i>Melaleuca</i>	<i>rhopiophylla</i>	swamp paperbark	
Oxalidaceae	<i>Oxalis</i>	<i>glabra</i>	finger leaf oxalis	*
Oxalidaceae	<i>Oxalis</i>	<i>pes-caprae</i>	soursob	*
Poaceae	<i>Briza</i>	<i>maxima</i>	blowfly grass	*
Poaceae	<i>Bromus</i>	<i>diandrus</i>	Brome grass	*
Poaceae	<i>Bromus</i>	<i>rubens</i>	red brome	*
Poaceae	<i>Cenchrus</i>	<i>longispinus</i>	spiny burrgrass	*
Poaceae	<i>Cynodon</i>	<i>dactylon</i>	couch	*
Poaceae	<i>Eragrostis</i>	<i>?elongata</i>	clustered lovegrass	
Poaceae	<i>Eragrostis</i>	<i>curvula</i>	African lovegrass	*
Poaceae	<i>Paspalum</i>	<i>dilatatum</i>		*
Poaceae	<i>Pennisetum</i>	<i>clandestinum</i>	kikuyu	*
Poaceae	<i>Poa</i>	<i>annua</i>	winter grass	*
Proteaceae	<i>Adenanthos</i>	<i>meisneri</i>		
Solanaceae	<i>Solanum</i>	<i>nigrum</i>	black berry nightshade	*

Comment from GHD Senior Environmental Scientist on flora in project area (Section 1 - Carinya Road section)

From: Meranda Toner/Perth/GHD/AU on 28/06/2010 01:14:35 PM

Repository: 6125688 Boyanup Picton Rd (12.3-13.4) PEIA

To: Christopher M Lane/Bunbury/GHD/AU

cc: Neil McCarthy/Bunbury/GHD/AU

Subject: Re: Fw: Boyanup Picton Rd, SLK 12.32 - 13.38

Hi Chris and Neil,

documents relating to the Boyanup - Picton Rd are saved at:
N:\AU\Bunbury\Projects\61\25572\Boyanup_Picton_Rd

At this stage I have created a species list. The understorey was largely dominated by weeds. No conservation significant species were present.

Photos and desktop search of naturebase are also provided in the folder.

Regards

Meranda Toner
Senior Environmental Scientist/Ecologist

GHD Accomplish **More** Together

T: 08 6222 8461 | M: 0404 486 747 | meranda.toner@ghd.com

GHD House 239 Adelaide Terrace Perth Western Australia 6004 Australia | <http://www.ghd.com/>

Appendix O

Site Photos



Photograph 1: Section 1 RHS verge looking north along the Boyanup-Picton Road drain to be realigned



Photograph 2: Section 1 drain to be realigned to the east approx. 15m



Photograph 3: Section 1 RHS verge looking north along the Boyanup-Picton Road drain proposed for realignment to the east.



Photograph 4: Section 1 looking south along Boyanup Picton Road RHS (east verge),

these marries next to the edge of the road will be removed.



Photograph 5: Section 1 looking north along Boyanup Picton Road RHS (east verge), towards Carinya Road, note degraded nature of verge vegetation.



Photograph 6: Section 1 looking south along Boyanup Picton Road RHS (east verge), drain to be realigned approximately 15m east.



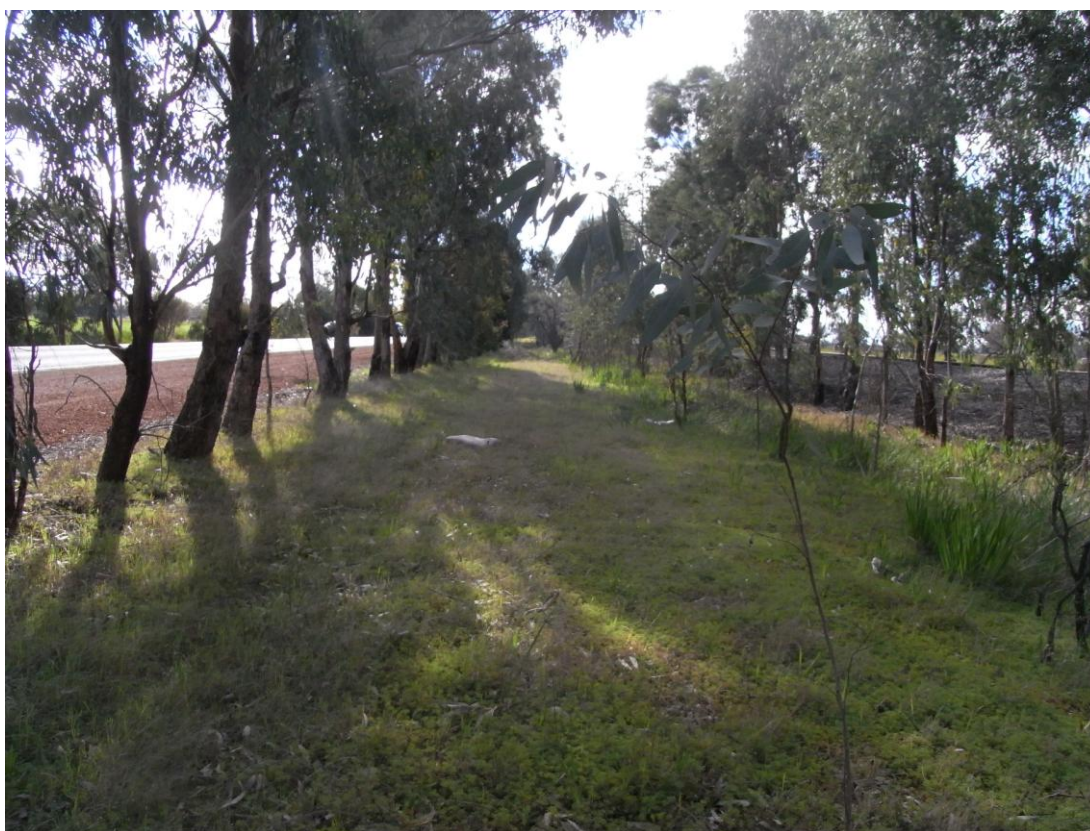
Photograph 7: Section 2 looking south along Boyanup-Picton Road towards Dardanup, RHS verge (east side), proposed for clearing (planted entry statement of non-local eucalypts into Dardanup).



Photograph 8: Section 2 looking north along Boyanup-Picton Road towards Picton, RHS verge (east side), (planted entry statement into Dardanup of non local eucalypts)



Photograph 9: Section 2 Boyanup-Picton Road RHS verge (east side) non-local eucalypts with railway line in the background.



Photograph 10: Section 2 Boyanup-Picton Road LHS verge (east side) looking north, shows row of planted non-local eucalypts and railway line to the right.

Appendix P

Environmental Management Plan

Environmental Management Plan
BOYANUP PICTON ROAD 10.03 – 13.38 SLK
IMPROVE AND WIDEN

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.

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
Toolbox Meetings	Weekly	Project Personnel	Contractor Safety Plan	Minutes of 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.

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: <ul style="list-style-type: none"> a copy of the PEIA & EMP (Minor projects) for small projects; a map showing the location where the clearing occurred, recorded in an ESRI Shapefile the size of the area cleared (in hectares); and the dates on which the clearing was done. 	Project Manager	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	Revegetation and Landscape planning	To revegetate site.	Prepare a Project Revegetation Plan in consultation with the Dardanup Community with respect to the removal of the non-local eucalypts (planted by the Lions club) at Section 2 with a view to undertaking some off-set planting/landscaping in place of the removal of this line of trees. (Refer Appendix J)	Project Manager	Main Roads
Pre-Construction	Vegetation Clearing	Ensure that the overall objectives of the alignment and construction works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation; and Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible.	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
			Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either mulched or respread according to the TDP/Revegetation Plan.	Contractor	Main Roads
Pre-Construction	Surface Drainage	Maintain the hydrological regime that exists prior to the construction of the proposal.	Stormwater drainage shall be treated and disposed of in accordance with DEC requirements.	Project Manager	DEC
Construction	Noise, Vibration and Dust	Ensure that the construction of the proposal does not become a nuisance to the public.	Access to private property and appropriate traffic management measures should be planned and implemented prior to the construction of works.	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
			Pedestrian public access should be should be planned and implemented prior to the construction of works.	Contractor	Main Roads
			Any complaints regarding dust will be attended to as soon as possible.	Contractor/Project Manager	Main Roads
			Where it is found that trucks leaving the site are carrying excessive material onto sealed surfaces, these areas will be swept to reduce dust generation and maintain traffic safety.	Contractor	Main Roads
			Watering, the use of hydromulch or other forms of mulching to protect loose surfaces shall be used as mitigation measures.	Contractor	Main Roads
Construction	Pollution and Litter	Ensure that the construction of the proposal is managed to a standard that minimises any adverse impacts on the environment.	The designated servicing area will be bunded to contain any spills or leaks and shall not be located in an area adjacent to any drainage areas or watercourses or will drain into a temporary sump.	Contractor	Main Roads
			Temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands. Precoating of aggregate will only occur in approved areas.	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 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
			Machinery will be fitted with approved spark arresting mufflers.	Contractor	Main Roads
			A water tanker/fire fighter unit 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.	Contractor	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
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
Construction	Landscaping	Meet project commitments for revegetating and landscaping.	Implement the Project Revegetation Plan.(ie to be developed in consultation with the Dardanup Community)	Contractor	Main Roads
Post - Construction	Monitoring	Meet project revegetation commitments.	Monitor effectiveness of revegetation works.	Contractor/ Project Manager	Main Roads

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.