

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

**Intersection Improvement
Tonkin Highway / Morley Drive**

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1 PROJECT DESCRIPTION

Several intersection modifications are proposed to improve sightlines, layover distance, lighting and pedestrian access for the intersection between Tonkin Highway and Morley Drive. The works will occur in the City of Bayswater.

2 BACKGROUND

The Project Development Branch of Road Network Services developed the concept for the proposed intersection improvements around 2009, with Environment Branch endorsement received for non-referral of the project. Since becoming a Metropolitan Region responsibility for delivery, the scope has since been extended with associated changes in the environmental impacts.

As per Main Roads' Environmental Assessment and Approval process, the proposal has been deemed not to be Low Impact on the grounds that the proposed works "require clearing of native vegetation outside the maintenance zone", refer to Appendix A. Therefore, the preparation of a project specific Preliminary Environmental Impact Assessment (PEIA) is required. This report fulfils this requirement.

3 DESCRIPTION OF THE PROJECT

3.1 Project Elements

- Installation of pedestrian path and tactile surfaces – NW and NE quadrants
- Re-align end of path at intersection and install tactile surfaces – SW and SE quadrants
- Re-configuring turning lanes to increase storage and improve sightline angles
 - Median and island reconstruction
 - Road widening
- Street light relocations
- Drainage grate/pit relocations and/or upgrades

3.2 Project Location

The location of the study area is shown on Figure1.

Figure 2 shows an aerial photograph of the project area, marked up to indicate specific clearing requirements.

Current design drawings are shown in Figures 3a, 3b and 3c.

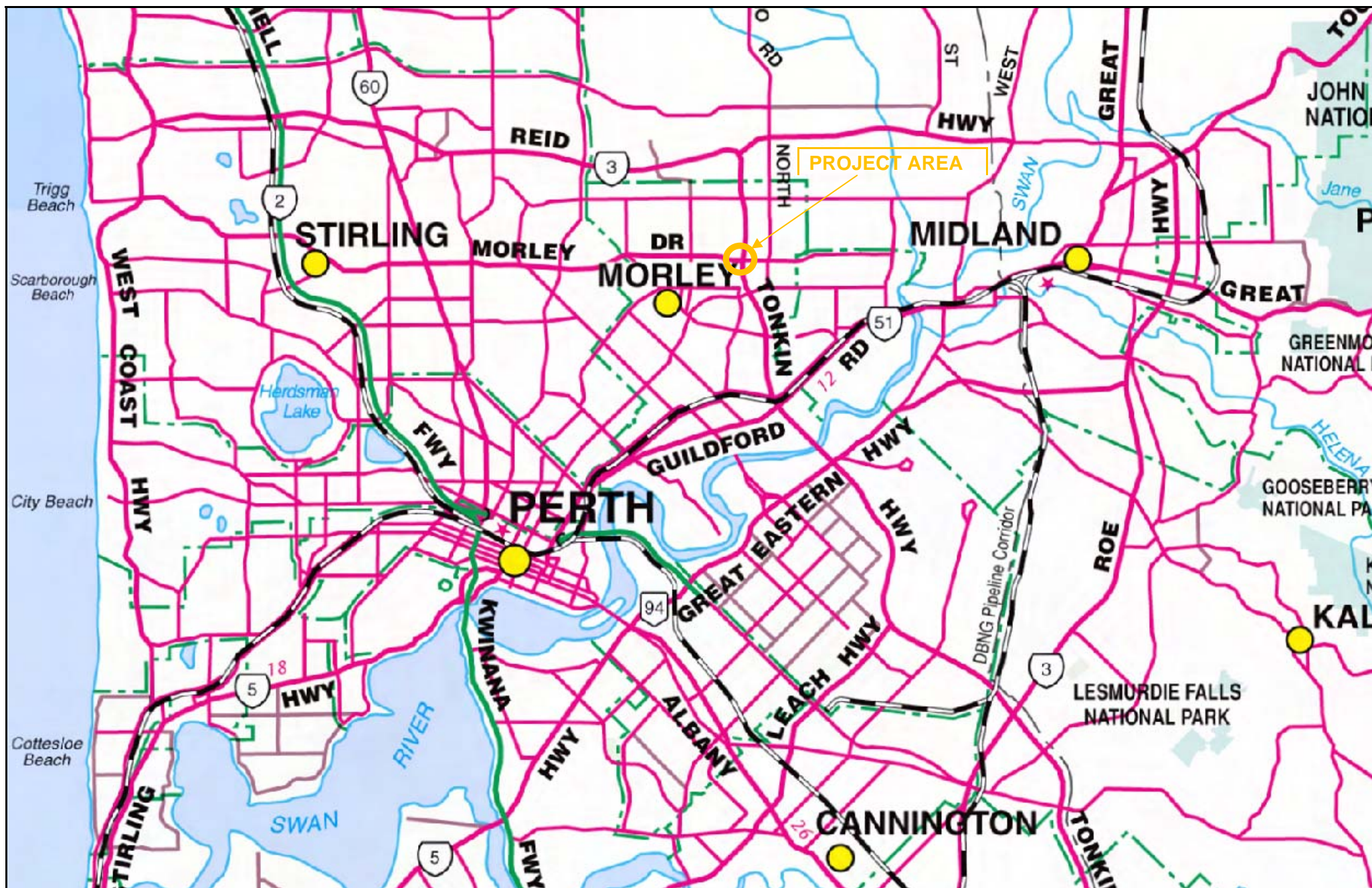


Figure 1 Locality Map

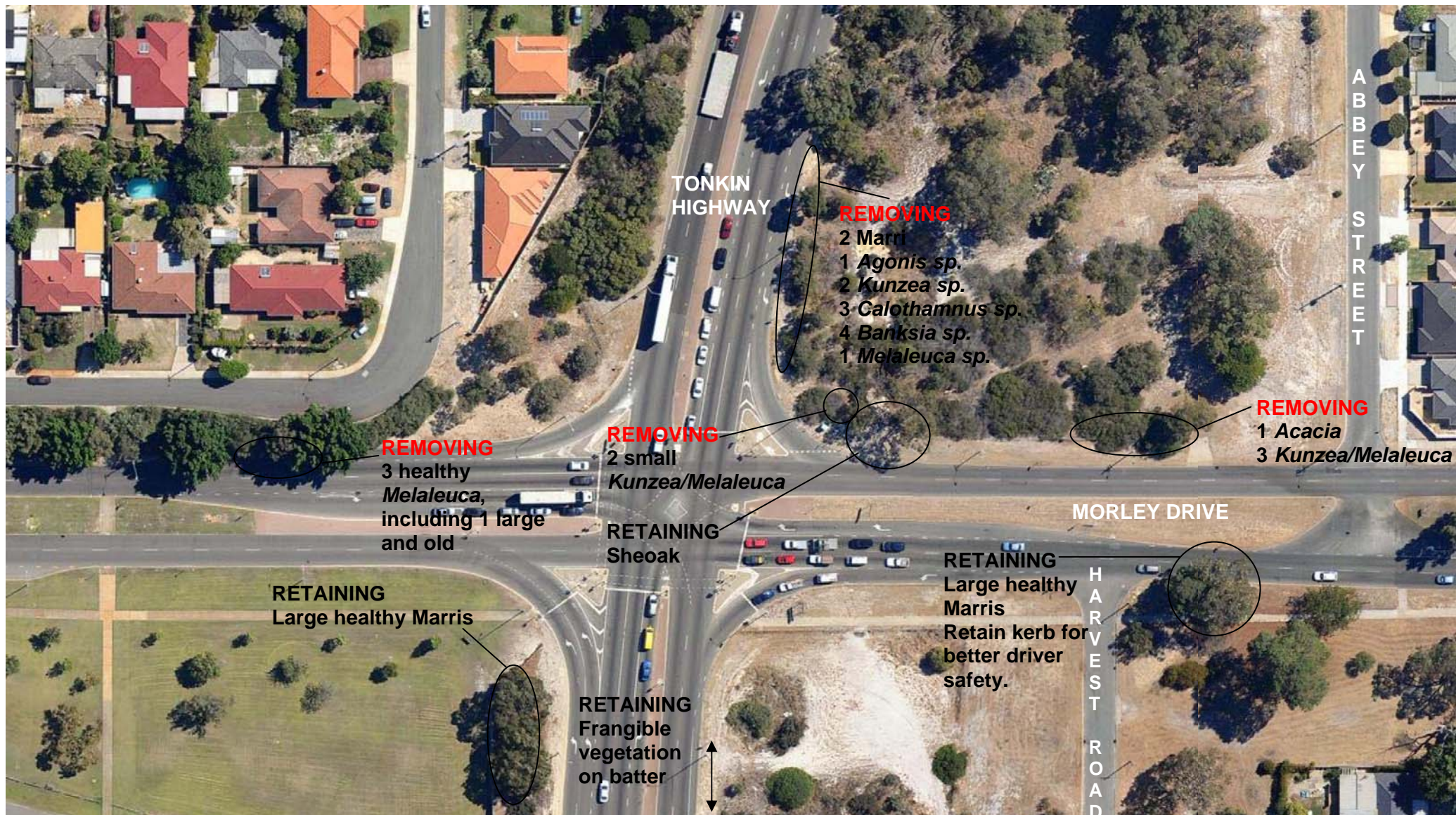


Figure 2 Aerial photograph of project area

Figure 3b Design Drawings

Figure 3c Design Drawings

4 METHODOLOGY

4.1 Preliminary Desktop Study

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

4.1.1 Wetlands

The locations of wetlands within the project area was determined using the Commonwealth Department of the Environmental and Heritage (DEH) mapping tool and the Department of Water's Geographic Data Atlas mapping tool.

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

4.1.3 Air Quality

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

4.1.4 Heritage

Non-indigenous heritage was examined utilising the Australian Heritage Places Inventory and the Heritage Council of Western Australia register, refer to Appendix C.

4.1.5 Aboriginal Heritage

A Search of the Department of Indigenous Affairs' (DIA's) 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

The Department of Water's Geographic Data Atlas was consulted on sensitive water resources (including Public Drinking Water Source Areas) to determine whether the project area supported, or was adjacent to, any significant lakes, rivers or wetlands or proclaimed areas, refer to Appendix E.

4.1.7 Contaminated Sites

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

4.1.8 Acid Sulfate Soils

The Western Australian Planning Commission's (WAPC's) acid sulfate soils maps were reviewed and the self assessment done to determine what level of risk the project area is exposed to, refer to Appendix F.

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.

4.1.10 Dieback

Dieback survey data from 2005 and visual inspection were used to assess dieback condition and risk.

4.2 Commonwealth Referral

The decision whether to refer the project to the Commonwealth's DEH was based upon whether the project would impact upon matters of national significance, e.g. World Heritage properties, protected wetlands and migratory species, Commonwealth marine areas, threatened species or communities or nuclear actions, refer to Appendix G.

4.3 Site Investigation

Site visits have been carried out by PDO Johnston and EO Collins in March 2009, January 2011 and April 2011 to examine the general features of the area. The broad vegetation types in the vicinity of the project area were identified. Other issues that were considered included topography, the impacts on creek lines, property access and the potential for noise and vibration impacts (dilapidation).

Site photos were taken and are included in Appendix H.

5 EXISTING ENVIRONMENT

5.1 Description

The vegetation present is Degraded (Keighery rating of 5), and occurs within Beards' Vegetation Association 1001, Medium very sparse woodland; jarrah, with low woodland; banksia & casuarina. Typical species include *Eucalyptus marginata*, *Eucalyptus tottiana*, *Allocasuarina fraseriana*, *Banksia attenuata*, *Banksia ilicifolia* and *Banksia menziesii*.

The current extent of this vegetation association in WA, all found within the Swan Coastal Plan IBRA Bioregion, is 14545 ha of pre-European extent of 57410 ha, or 25.3 % pre-European extent. A vegetation association with this extent is considered by the EPA to be vulnerable.

Aspect	Description/Comment
Total area (ha) of <u>native vegetation</u> to be cleared	0.07 ha 3 small to <i>Melaleuca</i> sp. on NW quadrant, ~19 shrubs and medium trees on NE quadrant – refer to Figure 2 for more details.
Total area (ha) of other vegetation, including regrowth, landscape areas, to be cleared	None
Weeds present	Common grasses only
Drainage areas or wetlands present	None nearby
Adjacent land uses	Residential, drainage sump

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 its Statewide Project Purpose Permit.

6.1 Assessment against Clearing Principles

In assessing whether the project is likely to have a significant impact on the environment, the project has been assessed against the DEC's 10 principles of clearing, refer to Appendix I.

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

7 ENVIRONMENTALLY SENSITIVE AREAS

The project area does not occur in and will not affect any environmentally sensitive areas.

8 ASSESSMENT OF ASPECTS AND IMPACTS

Table 1: Aspects and Impacts – Tonkin Highway-Morley Drive Intersection

Aspect	Evaluation of Potential Impacts
Air quality	Not relevant to the proposed works – no effect on traffic will result.
Dust	Likely to be a minor issue during pruning and plant removal. Will need to be managed by standard construction dust management techniques.
Fauna	Carnaby's Black Cockatoo, Baudin's Black Cockatoo, Chuditch and several migratory birds (Appendix G) are identified as likely to occur near the project area. The Cockatoos are unlikely to be significantly impacted given relatively few trees are proposed for clearing, no hollows are present in the trees to be cleared, and <i>Banksia</i> and Marri trees occur in adjacent vegetation.
Vegetation – clearing	~ 17 native plants including <i>Melaleuca</i> , <i>Agonis</i> , <i>Kunzea</i> , Marri and <i>Banksia</i> to be cleared using Main Roads Purpose Permit CPS 818/5. The vegetation association present occurs at 25.3 % pre-European extent, vulnerable but not significantly affected by the 0.07 ha of proposed clearing.
Vegetation – TECs/DRF	No significant vegetation types or threatened flora have been recorded within or near the proposed works area. Areas outside the project area must not be disturbed by the proposed works. Beaked <i>Lepidosperma</i> has been identified as a Matter of National Environmental Significance as protected under EPBC Act (1999) that may potentially occur in the project area. The degraded nature of the areas to be disturbed, the minimal impact to native vegetation and the lack of specimens observed in the field indicate low risk of impact to any plants of this species.
Vegetation – weeds	Only common weed species or cultivated exotics occur in the proposed works areas. The risk of spreading these weeds as part of the proposed work should be minimised. Standard weed hygiene measures should be applied for all earthworks in the area, including ensuring that plant and equipment brought on to the site are clean of soil.
Vegetation – dieback	Not identified as an issue given 2005 survey data and the small scale and containment of the proposed works.
Reserves / Conservation areas	There are no reserves or conservation areas in or affected by the proposed work area.
Heritage (non-indigenous)	A search of the Australian Heritage Places Inventory and Heritage Council of Western Australia database has indicated that there are no heritage significance listed sites present in the currently proposed works areas.
Aboriginal heritage	A search of DIA database identified no known sites of Aboriginal heritage significance within the vicinity of the project area.
Surface water/drainage	Department of Water's Geographic Data Atlas shows no Public Drinking Water Source Area or salinity-risk areas in the vicinity of the project area.
Wetlands	There are no wetlands within or adjacent to the proposed works.
Groundwater	No dewatering nor drainage modifications are required, hence no change to groundwater level or quality.
Noise and vibration	The proposed works are not expected to significantly contribute to noise levels to sensitive receivers.

Table 1: Aspects and Impacts – Tonkin Highway-Morley Drive Intersection

Aspect	Evaluation of Potential Impacts
Visual amenity	The proposed works will result in significant long-term effects from the tree removal. Revegetation of local species is required.
Public safety and risk	Provided traffic management and signage to Main Roads standards is employed, none of the proposed works present any significant hazards to public safety.
Hazardous substances, Contamination	Not applicable.
Salinity	Not relevant given no clearing or drainage modifications are proposed.
Acid Sulfate Soils	The WAPC's self-assessment (Planning Bulletin 64) indicates that no further soil investigation is required for the project.
Statutory Land Use Planning	As the proposed works are entirely within the existing road reserve, no further amendments would be required to the Local Government Planning Scheme or Region Scheme.

9 DECISION TO REFER

Given the scale of the project, the low significance of its impacts to the surrounding environment and the environmental management measures proposed, the project does not require referral to the WA Environmental Protection Authority or the Commonwealth Department of the Environment and Heritage.

10 ENVIRONMENTAL MANAGEMENT

The environmental management measures/conditions in Main Road's Specifications 203, 204, 301, 302 and 304 are to be followed where applicable. All revegetation works should be carried out in accordance with the Main Roads Environmental Guideline Revegetation Planning and Techniques.

10.1 Communication Plan

Environmental issues specific to the project will be communicated as:

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
Authority Consultation				
Department of Environment and Conservation	As required	Main Roads' Project Manager and Contractor Project Manager	-	Minutes of meeting

10.1.1 External Communication and Complaints

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

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
All phases of Construction	Vegetation Clearing - Record-keeping	All projects should maintain the required records relating to clearing native vegetation under the purpose permit.	Clearing: <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	DEC
			Revegetation and rehabilitation of areas: <ul style="list-style-type: none"> a copy of each Revegetation Plan; a map showing the location of any area revegetated and rehabilitated recorded in an ESRI Shapefile; a description of the revegetation and rehabilitation activities undertaken; and the size of the area revegetated and rehabilitated (in hectares). 	Project Manager	DEC
			Control of weeds, dieback and other pathogens: <ul style="list-style-type: none"> a copy of any management plan prepared; and for any pathogen other than dieback, the appropriate steps taken. 	Project Manager	Main Roads
Pre-Construction	Vegetation - Clearing	Ensure that the overall objectives of the alignment and construction works are compatible with maintaining and, where possible, enhancing the biological integrity of the surrounding environment and minimising vegetation loss and degradation; and Ensure the retention of as many habitat trees, shrubs and vegetated corridors for fauna as possible, particularly where associated with riparian zones.	Selection of designs/locations that minimise adverse impacts on the biological environment.	Project Manager	Main Roads
			Construction works not to be undertaken in winter to reduce the potential for soil erosion and drainage line siltation due to vegetation removal and heavy rains.	Project Manager	Main Roads
			Control/spray weeds species within the project area prior to construction to limit the amount of propagative material that may be spread during disturbance.	Contractor	Main Roads
			Any stockpiled vegetation from clearing works shall not be burnt. This vegetation shall be used during any rehabilitation works and either chipped or replaced according to the EMP.	Contractor	Main Roads
Pre-Construction	Surface Drainage	Maintain the hydrological regime that exists prior to the construction of the proposal.	Stormwater drainage shall be treated and disposed of in accordance with DEC requirements.	Project Manager	DEC
Pre-Construction	Visual Amenity	Ensure that the road blends in with the surrounding environment.	Ensure that soil is graded to blend in with the surrounding environment. Revegetate verges disturbed by the works. To be done to Main Roads' Environmental Guidelines and the standards of Specification 304.	Project Manager	Main Roads
Construction	Vegetation	Avoid damage to remnant native vegetation.	Ensure that no disturbance of vegetation occurs outside the immediate work area. Plant movement will only occur on pre-existing, designated tracks and roads. Retain kerbing on SE quadrant to protect traffic and trees from each other.	Contractor/Project Manager	Main Roads

ENVIRONMENTAL MANAGEMENT PLAN					
Timing	Topic	Objective	Action	Responsible Party	Advice
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
			Works associated with the construction of the development should not prevent public access along the adjacent reserve. Public access should be maintained along the reserve at all times.	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
			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
			Dumping or temporary storage of bitumen, asphalt, concrete or aggregate should only occur at designated depots or controlled hardstands.	Contractor	Main Roads
			The project areas, including hardstand areas, will be kept in a tidy manner at all times.	Contractor	Main Roads
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
Construction	Site Management	Ensure that the site is managed to ensure that construction of the proposal will have minimal impact upon the surrounding environment.	Materials storage areas and access tracks will be located on previously disturbed/ designated area.	Contractor	Main Roads
Post-Construction	Rehabilitation	Leave the project area free from debris; and Rehabilitate the project area so that the revegetated area provides a net increase in area of native vegetation at the site.	Replace the cleared vegetation with locally occurring natives.	Contractor	Main Roads
			All waste materials from the development are to be completely removed from the site upon completion of the development. Final clean-up shall be to the satisfaction of the Project Manager and the Site Superintendent.	Contractor	Main Roads

11 MONITORING AND AUDITING

Not required as works are unlikely to affect weed or dieback spread and do not involve revegetation. Given the scale and nature of the project, there is no requirement for auditing the implementation of the EMP as the environmental risks are small.

12 CONTINGENCY MEASURES

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

13 REFERENCES

1. Australian Heritage Places Inventory:
<http://www.heritage.gov.au>
2. Commonwealth Department of Sustainability, Environment, Water, Population and Community (DSEWPAC) Assessments and Approvals Guidelines:
<http://www.environment.gov.au/approvals/index.html>
3. Commonwealth Department of Sustainability, Environment, Water, Population and Community (DSEWPAC) Directory of Important Wetlands in Australia:
<http://www.environment.gov.au/water/publications/environmental/wetlands/database>
4. Commonwealth Department of Sustainability, Environment, Water, Population and Community (DSEWPAC) Protected Matter Search Tool:
<http://www.environment.gov.au/apps/boobook/mapservlet?app=pmst>
5. Department of Agriculture and Food's List of Declared Plants:
http://www.agric.wa.gov.au/content/pw/weed/decp/declaredplants_index.htm
6. Department of Agriculture and Food's Shared Land Information Platform:
<http://spatial.agric.wa.gov.au/slip>
7. Department of Environment and Conservation's Native Vegetation Map Viewer:
<http://www.dec.wa.gov.au/land/native-vegetation-conservation/data/native-vegetation-map-viewer.html>
8. Department of Indigenous Affairs' (DIA's) database:
<http://www.dia.wa.gov.au/AHIS>
9. Department of Water's Geographic Data Atlas:
<http://portal.water.wa.gov.au/portal/page/portal/MapsDataAtlases>
10. Heritage Council of Western Australia:
<http://register.heritage.wa.gov.au>
11. Western Australian Land Information System – Western Australian Atlas:
<http://atlas.walis.wa.gov.au/atlaswa/frameset.cfm?CFID=48234&CFTOKEN=41452150>
12. Western Australian Planning Commission – Acid Sulphate Soils:
<http://www.wapc.wa.gov.au/Publications/213.aspx>

Appendix A – MRWA Low Impact Screening Checklist

Form No. 6707/001/01

Checklist - Low Impact Screening Checklist

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

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

Projects that have "No" to **all** items are classed as Low Impact and should be implemented using standard contract clauses in the Tender Document Process.

Projects that have "Yes" to **any** item will require further environmental assessment and will be implemented using an Environmental Management Plan.

Tick "Yes" or "No" for every item.

Project Name Tonkin Hwy - Karingup Morley Hwy Int.

ITEM NO.	ITEM	Y	N
1	New road or road reserve to be created or expansion of existing road reserve.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	Works require clearing of native vegetation outside the maintenance zone.	<input checked="" type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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

Name

Date

Title

To be reviewed by
a Main Roads
Environment Officer

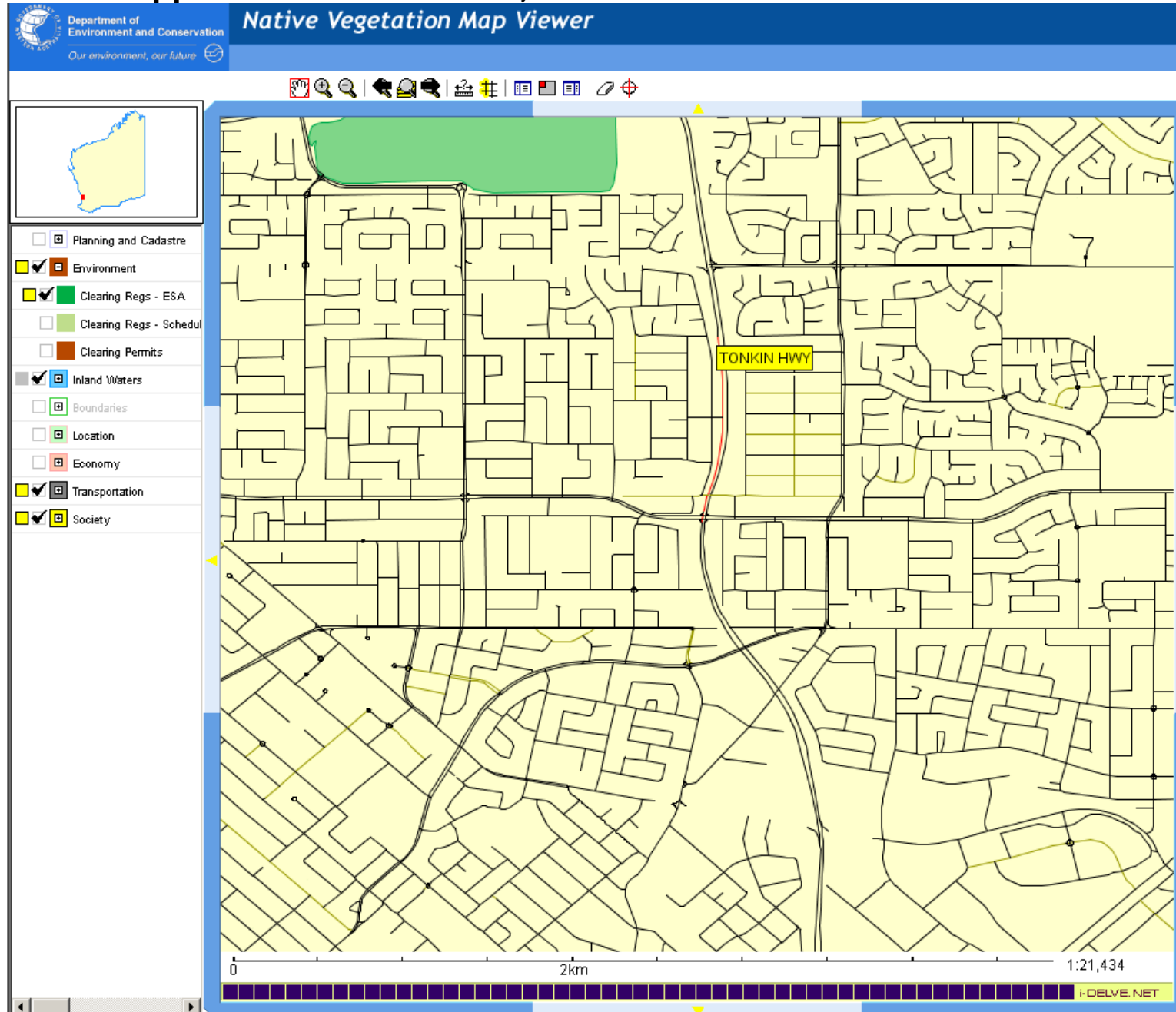
Signature

Name

Date

Title

Appendix B – DEC's ESA, TEC and Flora Database Searches



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

Only one site occurs near Tonkin Highway, ~3 km from the project area.

HERITAGE COUNCIL OF WESTERN AUSTRALIA

HERITAGE COUNCIL | PLACES DATABASE | HERITAGE TRAILS

HELP | MEDIA | LINKS | FAQs | CONTACT US | SEARCH

ABOUT | REGISTRATION | DEVELOPMENT | LOCAL GOVT | ASSISTANCE | PUBLICATIONS | CASE STUDIES | EDUCATION | COMMUNITY | HERITAGE TOURISM

PLACES DATABASE ACTIONS:

QUICK SEARCH
ADVANCED SEARCH
RESULTS LIST
COMPREHENSIVE REPORT

OTHER REGISTER INFORMATION:

WHAT IS THE STATE REGISTER?
OTHER HERITAGE LISTS

Place No: 11840 Name: Historic Site

location	titles	description	register listings	other listings	associations	library entries	images
Creation Date: 24/05/2000	Last Update: 05/03/2009	Result 1 of 2 << First < Prev Next > Last >>					
Location between Slade St & Tonkin Hwy Bayswater LGA: Bayswater Region: Metropolitan Place Coordinates: Zone: 0 Northing: 0 Easting: 0 Latitude: 0° 0' 0" Longitude: 0° 0' 0"							

Only two sites occur along Morley Drive, the nearest ~ 700 m from the project area.

HERITAGE COUNCIL OF WESTERN AUSTRALIA

HERITAGE COUNCIL | PLACES DATABASE | HERITAGE TRAILS

HELP | MEDIA | LINKS | FAQs | CONTACT US | SEARCH

ABOUT | REGISTRATION | DEVELOPMENT | LOCAL GOVT | ASSISTANCE | PUBLICATIONS | CASE STUDIES | EDUCATION | COMMUNITY | HERITAGE TOURISM

PLACES DATABASE ACTIONS:

QUICK SEARCH
ADVANCED SEARCH
RESULTS LIST
LOCATION REPORT
SAVE DATA

OTHER REGISTER INFORMATION:

Displaying results: [1-2] of 2

hide selected | hide unselected

☐ Dianella Bushland (4512) between Morley & Yirrgan Drs, W of Dianella Dr, Dianella

☐ Hampton Senior High School (9823) Morley Dve East, Morley

hide selected | hide unselected

Perform a new: QUICK PLACES DATABASE SEARCH | ADVANCED PLACES DATABASE SEARCH

HELP

HELP

Appendix D – Department of Indigenous Affairs Database Search



Government of **Western Australia**
Department of **Indigenous Affairs**

Aboriginal Heritage Inquiry System

Register of Aboriginal Sites



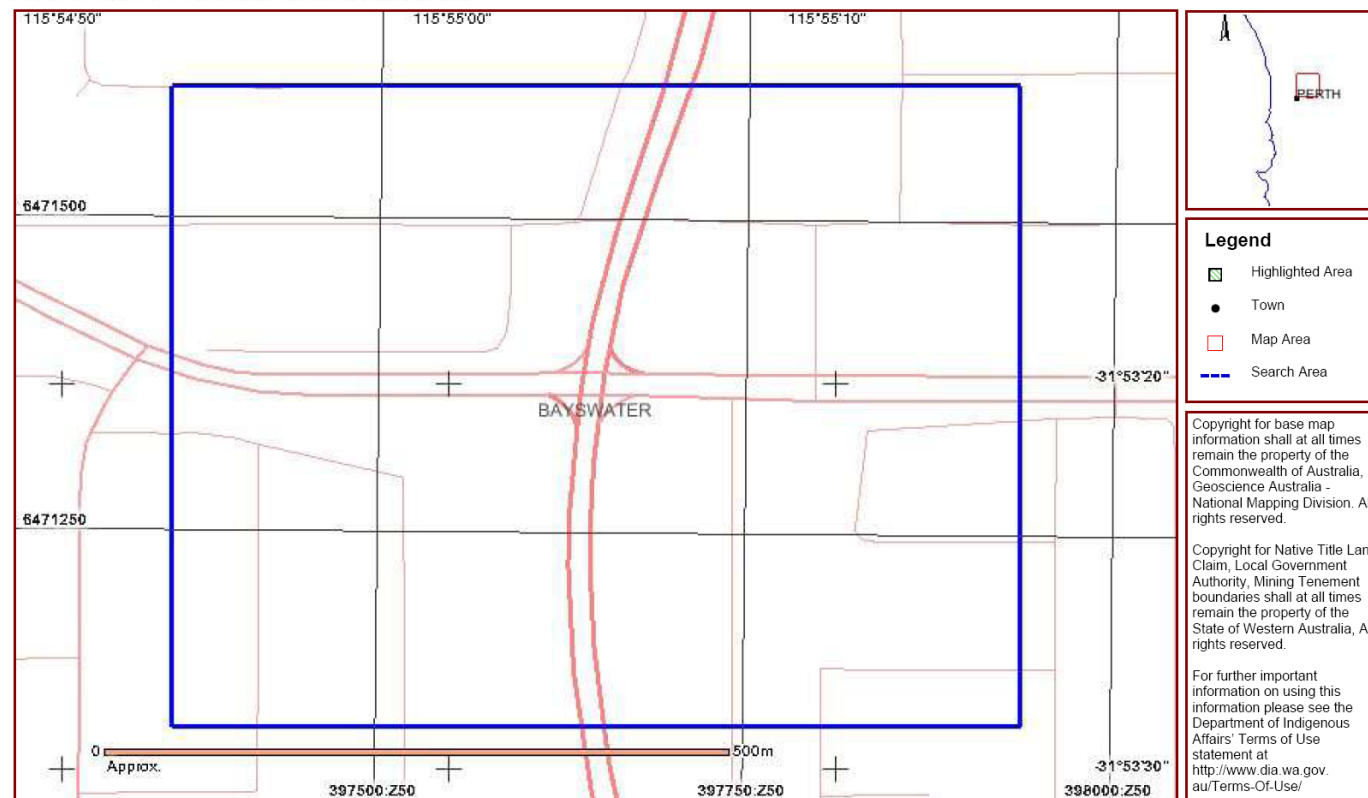
Search Criteria

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

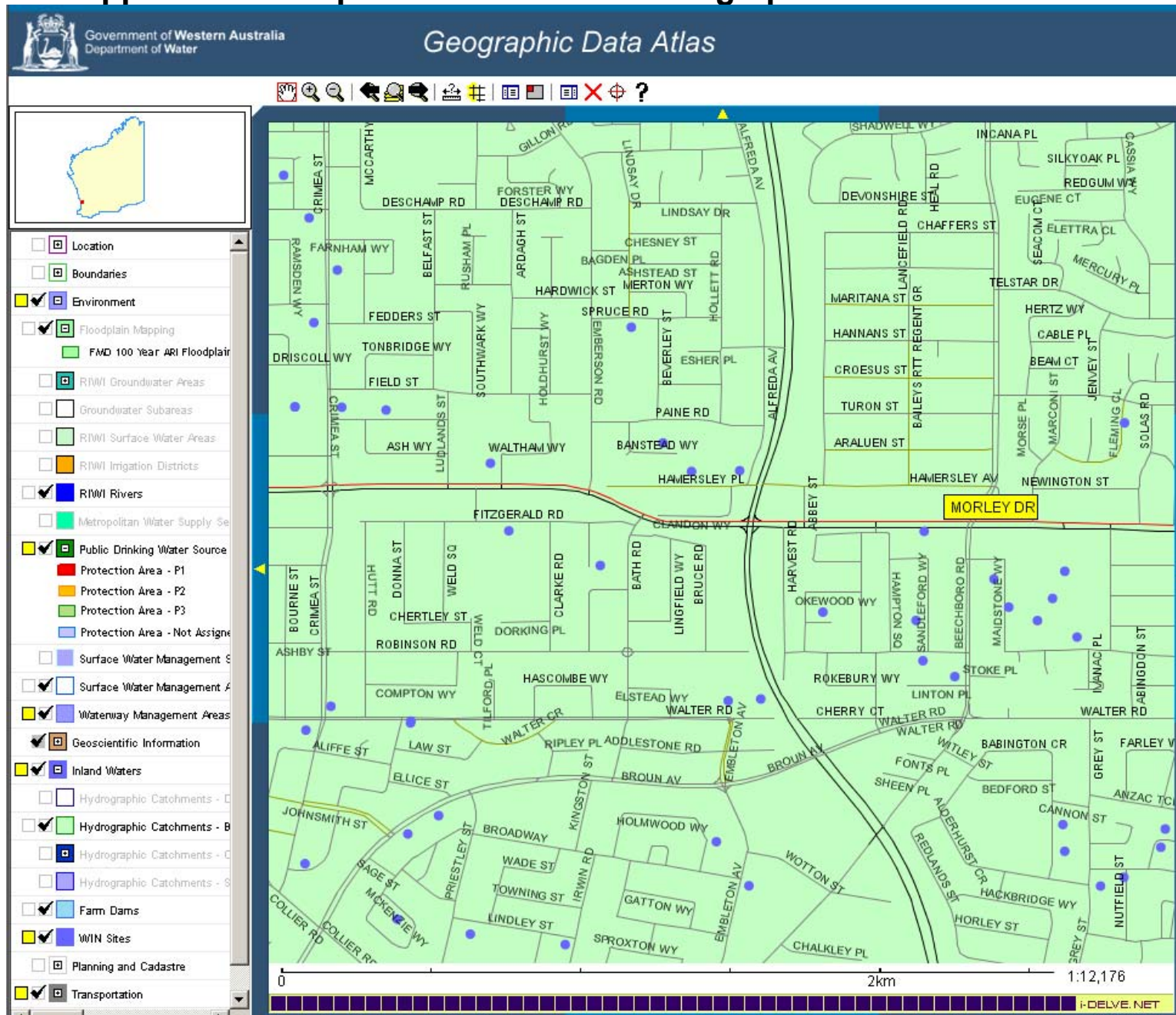
MGA Zone 50	
Northing	Easting
6471092	397362
6471609	397934

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.



Appendix E – Department of Water's Geographic Data Atlas Search



Appendix F – WAPC's Acid Sulfate Soils Mapping



Acid Sulfate Soils Applicant Self-Assessment Form



Important information for applicants

This form need only be completed if there is evidence of significant risk of disturbing acid sulfate soils at this location or having completed Form 1A - Application for approval of freehold subdivision or survey strata you have indicated yes to either question 1 or 2, Acid sulfate soils assessment, section 7.

Applicant

The applicant is the person with whom the WAPC will correspond and, if the application is approved, the person to whom the approval will be sent.

Full name **Shane Collins**

Applicant signature **Shane Collins**

Date **17th March 2009**

Application property details **Tonkin Highway and Morley Drive Intersection**

Step 1

If you have previously indicated yes to question 1 or 2 on Form 1A go to Step 2.

Is there evidence of a significant risk of disturbing acid sulfate soils at this location?

The WAPC has published maps showing the levels of risk of acid sulfate soils. The maps are shown on figures 1-11 of planning bulletin no. 64 can be downloaded at www.wapc.wa.gov.au/Publications/213.aspx

Question 1: Is the land depicted in figures 1-11 of the WAPC's Planning Bulletin No 64 Acid Sulfate Soils as having a high risk of actual acid sulfate soil and potential acid sulfate soil <3m from the surface? ☐ yes ☒ no

Question 2: Is the land located in an area, whether depicted in figures 1-11 or not, where site characteristics and local knowledge lead you to form the view that there is a significant risk of disturbing acid sulfate soils at this location? ☐ yes ☒ no

If yes to either of these questions go to Step 2.

If no to both of these questions then no further investigation is required. Sign this form and submit it with your application together with the written results of the preliminary site assessment.

Step 2

Are any of the following works proposed, or likely to be carried out, on the land?

Question 3: Are any dewatering works proposed to be undertaken? ☐ yes ☒ no

Question 4: Is the surface elevation $\leq 5\text{m AHD}$ and is excavation of $\geq 100\text{m}^3$ of soil (ie 10 standard dump truck loads) with an excavation depth of $\geq 2\text{m}$ proposed? ☐ yes ☒ no

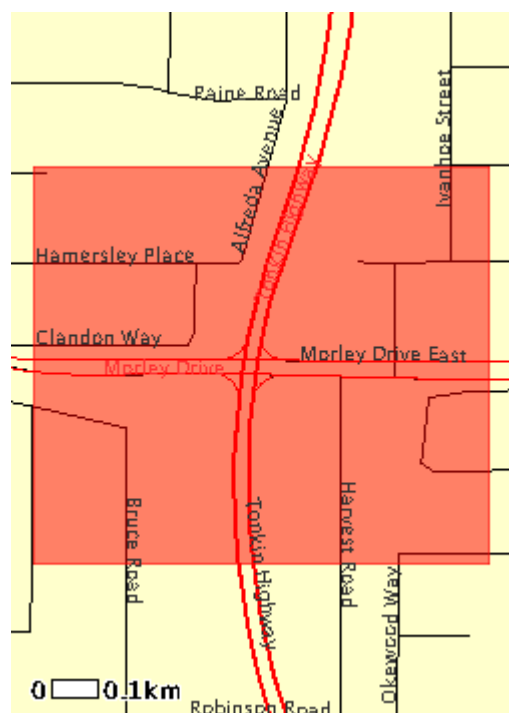
Question 5: Is the surface elevation $> 5\text{m AHD}$ and is excavation of $\geq 100\text{m}^3$ of soil (ie 10 standard dump truck loads) with an excavation depth of $\geq 2\text{m}$ proposed? ☐ yes ☒ no

If yes to any of these questions go to step 3.

If no to all of these questions no further investigation is required. Sign this form and submit it with your application.

Appendix G – Department of the Environment and Heritage Database Search

Protected Matters Search Tool



Coordinates: -31.886679,115.915321, -31.891073,115.915321, -31.891073,115.920343, -31.886679,115.920343

World Heritage Properties:	None
National Heritage Places:	None
Commonwealth Marine Areas:	None
Threatened Ecological Communities:	None
Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Places on the RNE:	None
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves:	None
State and Territory Reserves:	None
Other Commonwealth Reserves:	None
Regional Forest Agreements:	None

FORRESTDAL & THOMSONS LAKES

Within same catchment as Ramsar site

Threatened Species [[Dataset Information](#)]

Status

Type of Presence

Birds

[*Calyptrorhynchus baudinii*](#)

Baudin's Black-Cockatoo, Long-billed Black-Cockatoo

Vulnerable

Species or species habitat likely to occur within area

[*Calyptrorhynchus latirostris*](#)

Carnaby's Black-Cockatoo, Short-billed Black-Cockatoo

Endangered

Species or species habitat likely to occur within area

Mammals

[*Dasyurus geoffroii*](#)

Chuditch, Western Quoll

Vulnerable

Species or species habitat likely to occur within area

Plants

[*Lepidosperma rostratum*](#)

Beaked Lepidosperma

Endangered

Species or species habitat likely to occur within area

Migratory Species [[Dataset Information](#)]

Status

Type of Presence

[*Haliaeetus leucogaster*](#)

White-bellied Sea-Eagle

Migratory

Species or species habitat likely to occur within area

[*Merops ornatus*](#)

Rainbow Bee-eater

Migratory

Species or species habitat may occur within area

[*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

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.

Appendix H – Site Photos



Photo 1 – NE quadrant, view S, *Melaleuca* to be removed to accommodate pole and path.



Photo 2 – NE quadrant, view E, plants to be removed (circled).



Photos 3a, b and c – NW quadrant, large *Melaleuca* to be cleared to accommodate modified turn pocket.



Photo 4 – NW quadrant, *Melaleucas* west of large *Melaleuca* to be cleared to accommodate modified turn pocket.



Photo 5 – SW quadrant, view S, trees to **avoid**.



Photo 6 – SE quadrant, view E, two trees to **avoid**.

Appendix I – Vegetation Clearing Assessment Report

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

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

AREA UNDER ASSESSMENT DETAILS

Proponent details

Proponent's name:

MRWA

Contacts:

Name: Dave McKenna
Phone: (08) 9323 4617
Fax: (08) 9323 4583
Email: david.mckenna@mainroads.wa.gov.au

Property details

Property:

Tonkin Highway / Morley Drive intersection

Colloquial name:

Tonkin Highway / Morley Drive intersection

Area under assessment

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:	Site Plan Attached
0.07	~22 trees and shrubs	Machine	Turning lanes and sightlines	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Avoidance/Minimise clearing

How have the clearing impacts been minimised?

On-site meetings, redesigning paths to using existing cleared areas, pruning rather than clearing.

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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Vegetation Complex	Clearing Description	Vegetation Condition	Comment
	Removal of 3 Melaleucas.	Degraded	

ASSESSMENT OF APPLICATION AGAINST CLEARING PRINCIPLES

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

Comments Proposal is not likely to be at variance to this Principle
Vegetation not floristically diverse, limited understorey. No fauna activity observed

Methodology DEC databases
MRWA database
Site visits

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

Comments Proposal is not likely to be at variance to this Principle
Clearing is minimal, species to be cleared are common and present in adjacent vegetation, no large branches to be affected, no hollows, nests or dreys observed.

Methodology DEC databases
DSEWPAC databases
MRWA database
Site visits

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	
Comments	Proposal is not likely to be at variance to this Principle None identified in the project area by previous surveys or current site assessment. <i>Lepidosperma rostratum</i> , indicated by the DSEWPAC database as potentially occurring in the area, was not observed on-site.
Methodology	DEC databases DSEWPAC databases MRWA database Site visits
(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.	
Comments	Proposal is not likely to be at variance to this Principle No threatened ecological communities have been identified in the project area.
Methodology	DEC databases MRWA database
(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	
Comments	Proposal is not likely to be at variance to this Principle Although the vegetation association present is vulnerable, occurring at less than the 30 % threshold set by EPA (25.3 %), the proposed clearing is minimal – less than 0.0005% of the current extent – and does not involve rare or recalcitrant species.
Methodology	Site visits DAF (Keiran Shepperd) Spreadsheet
(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.	
Comments	Proposal is not at variance to this Principle No adjacent natural wetlands or watercourses. The nearby drainage sump will not be affected by the works.
Methodology	DEC databases DSEWPAC databases DoW database Site visits
(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	
Comments	Proposal is not likely to be at variance to this Principle No excessive clearing, slopes, excavation or grading is proposed, therefore no expected effects on erosion, salinity, biodiversity or land use amenity.
Methodology	DEC databases MRWA database DoW database Site visits
(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	
Comments	Proposal is not likely to be at variance to this Principle None adjacent. Clearing is to accommodate pavement and will not increase the degree of soil exposure for weed invasion or seed-banking.
Methodology	DEC databases MRWA database DoW database Site visits

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments	Proposal is not likely to be at variance to this Principle No excessive clearing, slopes, excavation or grading is proposed – no direct contact with groundwater – and no contamination identified. Road is kerbed and runoff piped, with no surface water impacts on-site.
Methodology	DEC databases MRWA database DoW database

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

Comments	Proposal is not likely to be at variance to this Principle No excessive clearing, excavation or grading is proposed. No 100-yr ARI floodplains nearby. No significant cross-fall, elevation or drainage path modifications.
Methodology	DoW database Site visits

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

Comments Not applicable

Methodology MRWA cadastral data

SUBMISSIONS

If required have submissions been requested and addressed

Submission Requested from	Request Sent (Date)	Submission Received (Date)	Issues Raised / Comments Made
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ASSESSOR'S RECOMMENDATIONS

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

NONE

Recommendation (does this clearing require a Revegetation Management Plan / Offset Proposal / Environmental Management Plan / Management Strategy/New Application, under CPS 818/2)
REVEGETATION REQUIRED
NO REQUIREMENT FOR DEC APPROVAL OF REVEGETATION PLAN
ENVIRONMENTAL MANAGEMENT PLAN REQUIRED

OFFICER PREPARING REPORT

S. Collins

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Date: 14th April 2011