



mainroads  
WESTERN AUSTRALIA

# Clearing Assessment Report – CPS 818

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Western Australia.*

M042 Goodwood Road  
[34.70 to 36.50 SLK] – Road widening  
and guard rail installation  
South West Region  
EOS 2837

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## Document Control

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Shane Priddle Contractor Environment	Draft v1	27/01/2023
Reviewer:	Senior Environment Officer	Rev0	09/03/2023
Author:	Senior Environment Officer	Rev0	20/03/2023

# 1 PROPOSAL

## 1.1 Purpose and Justification

The purpose of the project is to ensure ongoing safety and efficacy of Goodwood Road. As part of a blackspot funded project, the project is to provide additional recovery room for errant vehicles through the construction of a sealed shoulder and wide centre line treatment as well as provide guard rail at non-recoverable batter slope locations.

### 1.1.1 Main Roads Approach to Road Safety and the Environment

Main Roads is committed to minimising the environmental impacts of all of its activities, and manages the State road network to achieve balanced economic, social, safety and environmental benefits for the community. Main Roads recognises that Western Australia's environment is significant from a global perspective and the unique conservation values that are contained within its road reserve. Main Roads road network often adjoins natural areas and, in some locations, the reserve itself hosts remnant vegetation with high environmental values. Although the reserves were not established for this purpose, Main Roads recognises that it has a responsibility to conserve the environmental values that occur within the State's road network and minimise the impact its proposals have on the environment. In addition to providing a safe and efficient road network for all people using the roads under its control, Main Roads is also committed to protecting and enhancing the natural environment.

In accordance with National and State Government road safety policies, Main Roads is also committed to substantially reducing road trauma on the road network through Safe System principles. The Safe System approach acknowledges that more than two thirds of all serious crashes are due to human error rather than deliberate risk taking (e.g. speeding or drink driving) and seeks to improve behaviour through education and enforcement while managing the safety of vehicles, speeds and the road and road infrastructure. It is shown that improving sub-optimal road formation will substantially reduce the likelihood and severity of road crashes. For example, according to the Road Safety Management Guideline, increasing the sealed shoulder from 0.5 m to 2 m will reduce Killed and Seriously Injured numbers by more than 50%.

As the statutory authority responsible for providing and managing a safe and efficient main road network in Western Australia, Main Roads focuses on improving road safety by thoroughly considering all environmental, economic and community benefits and impacts. It operates on a hierarchy of avoiding, minimising, reducing and then, if required, offsetting our environmental impacts. This has been achieved through changes in proposal scope and design. Main Roads regularly reduces its clearing footprint by restricting earthworks limits for proposals, steepening batters, installing barriers, establishing borrow pits in cleared paddocks and avoiding temporary clearing for storage, stockpiles and turn around bays to avoid and minimise its impacts.

Further details on measures to avoid, minimise and reduce are provided in Section 1.5.

## 1.2 Proposal Scope

The proposal includes the requirement to construct pavement widening to achieve a nine metre seal on nine metre pavement including additional pavement widening at curve locations in order to provide guard rail. See Attachment 1. Details regarding construction are summarised below:

Fill material will be sourced from Shire of Donnybrook – Balingup Tip (Thompson Hill Clay). Other material locations to be determined. Water will be sourced from a standpipe on Marmion Road, Donnybrook. Turnaround point will be at the Hastie Waste Facility located adjacent to the project (34.7 SLK).

Side tracks, paths and relocation of services are not required.

The location of the site office and stockpiles (mulch, aggregate, material) are yet to be determined but will be on existing hardstand or cleared areas.

Most of the works will be within the existing road formation and batters. Selective clearing of up to approximately 19 trees (canopy area of 0.13 ha) will be required, mostly within the existing road reserve. Up to three of the trees occur in private property (clearing shapefile is provided in TRIM D23#102542). No clearing will be undertaken within the adjacent Boyanup State Forest.

### **1.3 Proposal Location**

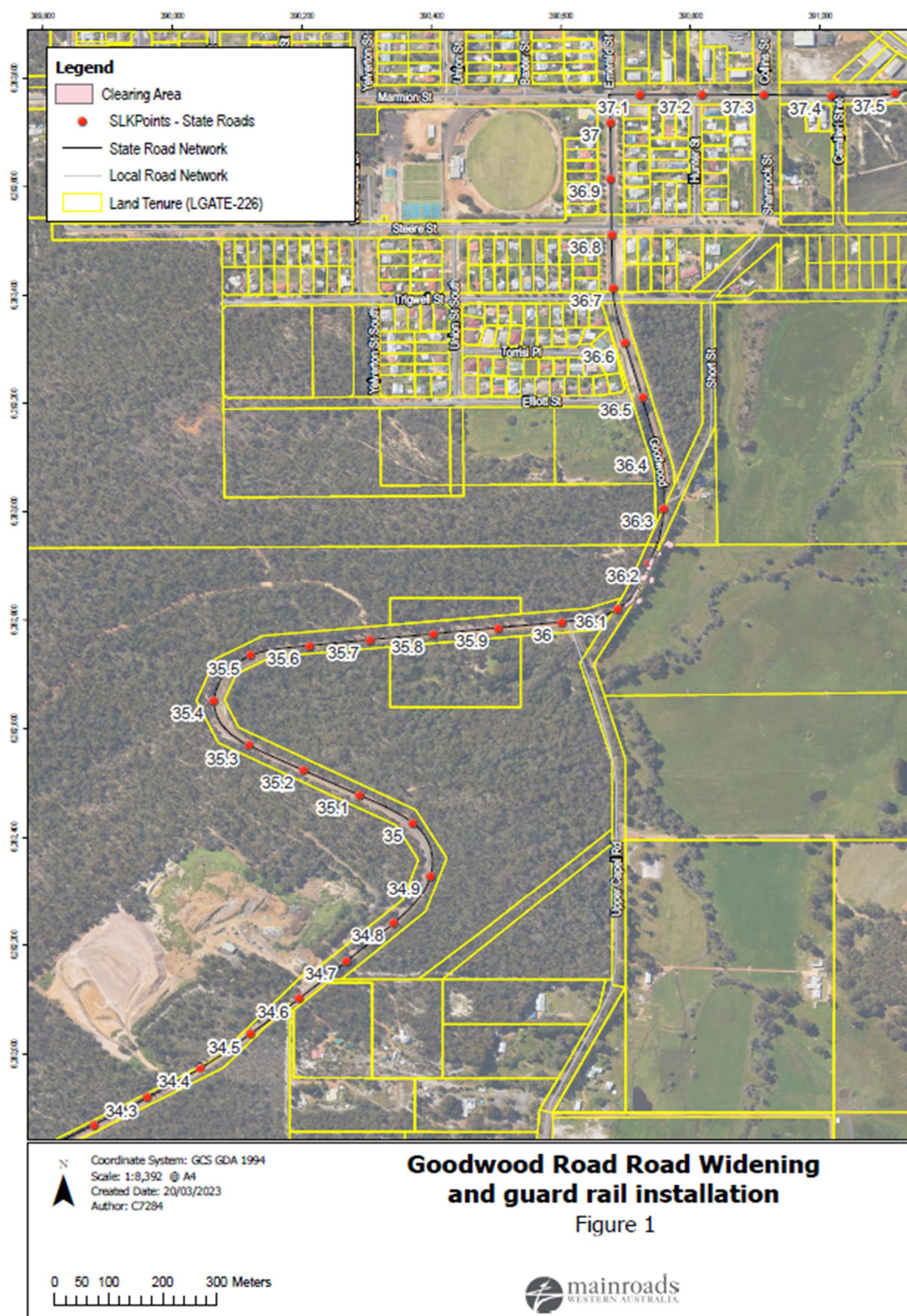
The project is located at Goodwood Road (M042), Donnybrook (34.70 to 36.50 SLK), Shire of Donnybrook – Balingup (Figure 1. Project Area).

GDA 2020 zone 50: Start 390727 6283247 End 390145 6282042.

The location and boundaries of the study area (10 km radius) for the project are shown in Figure 2.

#### **Project Location and Study Area**





### Figure 1. Project Area



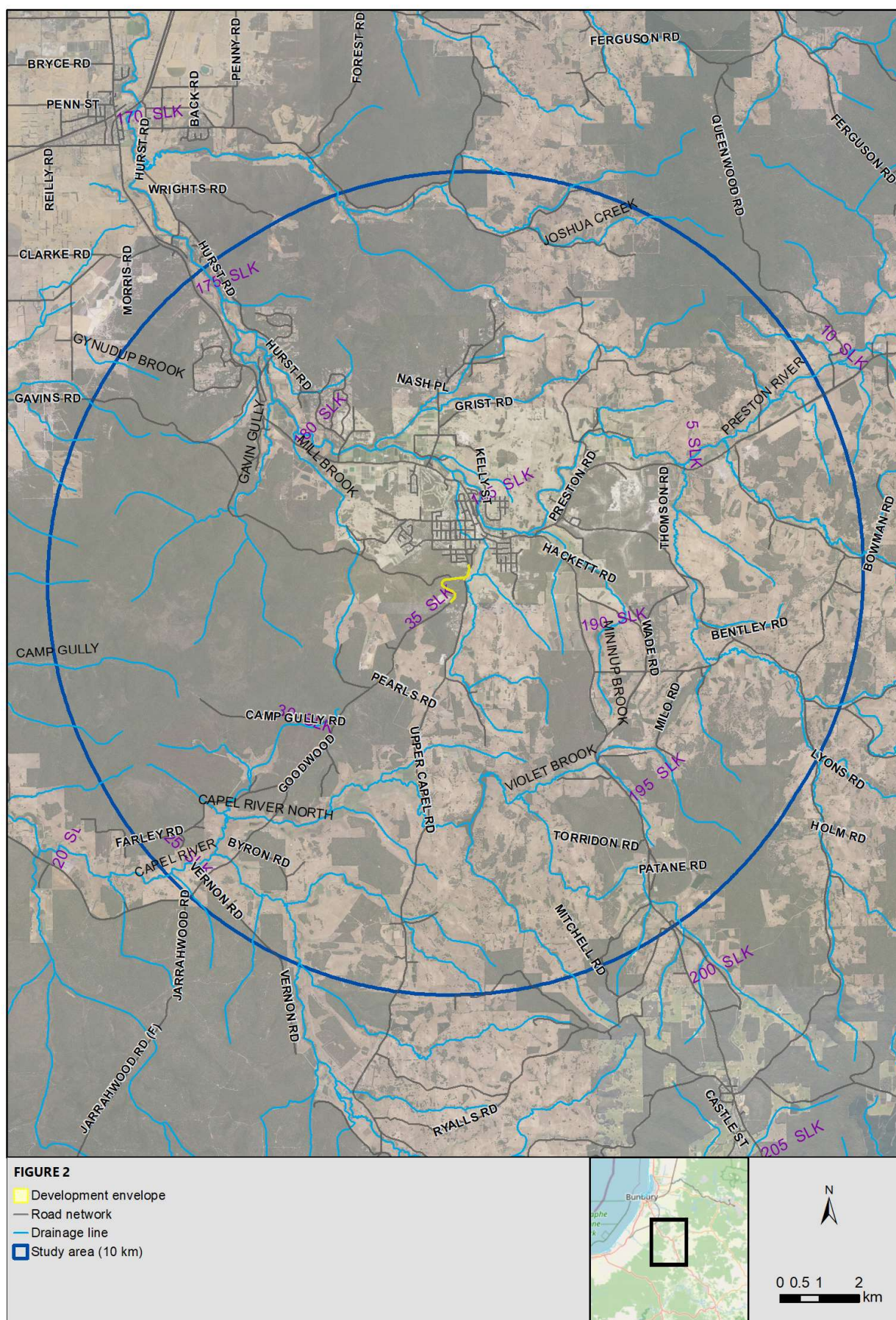


Figure 2. Project Location and Study Area

## 1.4 Clearing Details

**Proposed Clearing to be undertaken using CPS 818:** 0.13 ha

**Areas of Native Vegetation Clearing:** The areas of native vegetation to be cleared are shown in Figure 1.

### **Type of Native Vegetation:**

The type of vegetation to be cleared under this Proposal consists of marri and jarrah trees (individual and a narrow band) and is shown in Figure 1.

## 1.5 Alternatives to Native Vegetation Clearing Considered During Proposal Development

The following alternatives to clearing were considered during the development of the proposal:

- Preferentially locating the new alignment in cleared pasture areas over the existing road reserve, however this was considered cost prohibitive e.g. due to cost of resumption of farmland and construction of completely new road rather than widening in existing alignment and premature redundancy of State road asset, lack of adequate funding, stakeholder engagement, resource requirements. Under this option, clearing would still be required for tie-ins to the existing road network.
- Upgrading other alternative routes that are less vegetated and environmentally constrained, however these are not suitable due to longer travel times, sensitive local receptors (such as residences) or other planning issues.
- Do not upgrade the road, however this will potentially result in a poorer safety outcome and may result in future fatalities or serious injuries and further degradation of the State road asset.
- Reducing the speed limit to minimise clearing requirements, while still balancing safety (driver fatigue) and freight efficiency.

## 1.6 Measures to Avoid, Minimise, Reduce and Manage Proposal Clearing Impacts

The design and management measures implemented to avoid and minimise the potential clearing impacts of the Proposal are provided in Table 1.



**Table 1. Measures Undertaken to Avoid, Minimise, Reduce and Manage the Proposal Clearing Impacts**

Design or Management Measure	Applied to Current Design	Discussion and Justification
<b>Steepen batter slopes</b>	Yes	To comply with standard batter slopes, batters would need to be constructed at 4:1 which would involve significant additional clearing with little benefit other than ensuring compliance. To minimise the clearing, the slope on the fill batters have been increased to a maximum of 2:1 with barriers installed and cut batters will be increased to 3:1 where obtaining a 4:1 batter would require additional clearing.
<b>Installation of safety barriers</b>	Yes	As noted, guard rail will be installed where it was possible to steepen batters to 2:1, to reduce the overall clearing footprint.
<b>Alignment to one side of existing road</b>	Yes	Around the outside of the curve at SLK 36.10 the road centreline has been shifted so that the widening occurs on the outside of the curve of the road to avoid any clearing on the inside of the curve. The clearing on the outside of the curve would be required regardless so this has minimised the total clearing impact.
<b>Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas</b>	No	The existing road reserve is the only cleared area of land in this location. Any realignments outside of the existing road reserve would require additional clearing.
<b>Installation of kerbing</b>	No	Installation of kerbing to minimise clearing impacts was investigated however it was determined that there were no suitable locations that this could be achieved.
<b>Simplification of design to reduce number of lanes and/or complexity of intersections</b>	Yes	Originally the design allowed for 4.6m lanes through the various curves as well as a left turn pocket into Upper Capel Road. Achieving this would require significant additional clearing so the scope was reduced to remove the left turn pocket and to narrow the lanes through the curves to 4.0-4.2m lanes. This has reduced the required clearing without significantly impacting on the road safety benefits of the project.

Design or Management Measure	Applied to Current Design	Discussion and Justification
<b>Preferential use of existing cleared areas for access tracks, construction storage and stockpiling</b>	Yes	The works crew are to utilise previously cleared land (farmland and the local tip site) for site facilities and storage of facilities. As such, no additional clearing is to be undertaken to provide for site facilities or stockpiles.
<b>Drainage modification</b>	No	Due to the scope of the works, drainage modifications would be unlikely to have any impacts on clearing requirements.
<b>Other design treatment</b> <b>List any additional avoidance and measures considered during the project design process.</b>	Yes	Guard rail will be installed at a reduced offset to the traffic lane and with minimal pavement behind the guard rail to reduce the clearing footprint. Only trees that have 50% or more of the trunk within the deflection zone of the guard rail will be removed to reduce the requirement to clear mature trees. Wide centre line treatment has been reduced from 1.0m to 0.6m to further reduce the clearing footprint. Cleared farm land on the eastern side of the road around SLK 65.10 will be purchased to push the road to the east to avoid clearing on the western side.

## 1.7 Approved Policies and Planning Instruments

The clearing of native vegetation in Western Australia is regulated under the EP Act and the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004* (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act, Main Roads has also had regard to the below instruments where relevant.

### **Other Legislation potentially relevant for assessment of clearing and planning/other matters:**

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Planning and Development Act 2005* (WA) (P&D Act)
- *Soil and Land Conservation Act 1945* (WA)
- *Rights in Water and Irrigation Act 1914*
- *Aboriginal Heritage Act 1972* (WA).

### **Environmental Protection Policies:**

- Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992
- Environmental Protection (Western Swamp Tortoise Habitat) Policy 2011.

### **Other relevant policies and guidance documents:**

- Environmental Offsets Policy (Government of Western Australia, 2011)
- A guide to the assessment of applications to clear native vegetation (Government of WA, December 2014)
- Procedure: Native vegetation clearing permits (Government of WA, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, 2014)
- Technical guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016)
- Technical guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA, 2020)
- Approved conservation advice under section 266B of the EPBC Act for threatened flora/fauna/vegetation communities.
- Referral guideline for 3 WA threatened black cockatoo species (DCCEEW, 2022)



## 2 SCOPE AND METHODOLOGY OF CLEARING ASSESSMENT

Native vegetation will be cleared to accommodate this Proposal. This clearing will be undertaken using the Main Roads Statewide Clearing Permit CPS 818.

To comply with CPS 818, Main Roads must prepare a Clearing Assessment Report (CAR).

The CAR outlines the key activities associated with the Proposal, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the Proposal using the ten Clearing Principles listed under s51 of the *Environmental Protection Act 1986* (EP Act) and strategies used to manage vegetation clearing.

### 2.1 Report Terminology and Sources

The following terms are used in this Clearing Report:

- **Native Vegetation Clearing Area** – The maximum amount of native vegetation to be cleared for the Proposal that will accommodate the designed earthworks and, typically, a nominal buffer to allow for the safe movement of machinery during construction.
- **Development Envelope** – The maximum extent within which the Clearing Area will be located. This envelope larger than the Clearing Area and the Proposal Area to allow for minor changes to the Proposal footprint as the design process continues, and to account for minor and unexpected changes that may occur during construction, such as working to avoid a large tree or encountering buried boulders or services. This flexibility allows the site personnel to make modifications to the Proposal to avoid areas that may contain better environmental values. The CAR has assessed all environmental values within the Development Envelope as though all of these values will be impacted, up to the amount specified within the Clearing Area.
- **Proposal Area** – The total footprint of the Proposal including both cleared and uncleared areas. This is based on the current design and is less than the development envelope. It usually includes a buffer to allow for constructability and the movement of machinery during construction.
- **Study Area** – Area covered by the Desktop Assessment. The Study Area for the Proposal is confined to a local area of a 10 km radius.
- **Survey Area** – Area covered by the Biological Survey, which is typically larger than the Development Envelope.

### 2.2 Desktop Assessment

A desktop assessment of the Native Vegetation Clearing Area was undertaken by viewing internal datasets and other government agency managed databases, and consulting with relevant stakeholders where necessary.

GIS layer viewing and mapping is done using ArcMap and/or Main Roads corporate mapping system known as iMaps. Referencing of the GIS layers accessed is done under the relevant methodology section of each clearing principle. Government managed databases were searched to locate additional information, which are found under References in Section 9.

## **2.3 Surveys and Assessments**

The following surveys/assessments were undertaken to inform this CAR:

- Flora and Vegetation Survey - Stream Environment and Water (2023)
- Phytophthora Dieback Assessment - Department of Biodiversity, Conservation and Attractions (DBCA) (2022)
- Targeted Black Cockatoo Habitat Assessment - SW Environmental (2022)

A summary of the methodology and the results of the above surveys are provided in Section 3.

### 3 SUMMARY OF SURVEYS

#### 3.1 Overview of Surveys

Biological and targeted surveys conducted for the proposal are outlined in Table 2. A summary of the findings in these reports are presented in Sections 3.2, 3.3, and 3.4.

**Table 2. Summary of Biological and Targeted Surveys Relevant to the Proposal**

Consultant & Survey Name	Survey Details
<b>Stream Environment and Water (2023)</b> Flora and Vegetation Survey	<b>Survey Area:</b> 34.5 to 36.5 SLK Goodwood Road verge over a survey area of approximately 8.74 ha, immediately south of Donnybrook. <b>Type:</b> Reconnaissance and targeted flora and vegetation survey. Mapped the dominant vegetation units, assessed vegetation condition and completed targeted searches for conservation significant ecological communities and flora taxa. <b>Timing:</b> Conducted in spring 2022. <b>Survey Results Shapefile TRIM Ref:</b> D23#267474 <b>Document TRIM Ref:</b> D23#267460
<b>Department of Biodiversity, Conservation and Attractions (2022)</b> Phytophthora Dieback Assessment	<b>Survey Area:</b> 34.5 to 36.5 SLK Goodwood Road verge over a survey area of approximately 8.74 ha, immediately south of Donnybrook. <b>Type:</b> Phytophthora Dieback Assessment <b>Timing:</b> 19 <sup>th</sup> December 2022 <b>Survey Results Shapefile TRIM Ref:</b> NA <b>Document TRIM Ref:</b> D23#103920
<b>SW Environmental (2022)</b> Targeted Black Cockatoo Habitat Assessment	<b>Survey Area:</b> 34.5 to 36.5 SLK Goodwood Road verge over a survey area of approximately 8.74 ha, immediately south of Donnybrook. <b>Type:</b> The assessment was required to identify black cockatoo habitat values, including potential and actual breeding habitat, foraging habitat and roost sites within the survey area <b>Timing:</b> 30th November 2022. <b>Survey Results Shapefile TRIM Ref:</b> D22#1292995 <b>Document TRIM Ref:</b> D22#1292974



### 3.2 Summary of Flora and Vegetation Survey

#### Flora and Vegetation Survey - Stream Environment and Water (2023)

Stream Environment and Water undertook a reconnaissance and targeted flora and vegetation survey of the broader survey area of approximately 8.74 ha between circa 34.5 and 36.5 SLK Goodwood Road in spring 2022. Key findings of the survey were following:

- Two native vegetation units were present:
  - CcEmBl: Forest of *Corymbia calophylla* and *Eucalyptus marginata* over shrubland of *Bossiaea linophylla* and *Acacia extensa* over shrubland/rushland of *Xanthorrhoea preissii*, *Phlebocarya ciliata* and *Hibbertia hypericoides*
  - EmAf: Woodland of *Eucalyptus marginata* and *Allocasuarina fraseriana* over shrubland of *Kunzea glabrescens* and *Xanthorrhoea preissii* over rushland of *Patersonia umbrosa* and *Dasyopogon bromeliifolius*.
- Some native revegetation, planted introduced species and cleared area were also recorded.
- The survey area did not contain any wetland vegetation or riparian vegetation.
- The majority of the survey area was cleared. The remaining native vegetation varied in condition from Completely Degraded to Excellent.
- Vegetation was not representative of TEC/PECs.
- One priority flora species *Acacia semitrullata* (P4) was recorded within the survey area but well outside of the clearing area.
- No threatened flora were observed.
- No declared pest plants or weeds of national significance were recorded.

### 3.3 Summary of Dieback Survey

#### Phytophthora Dieback Assessment - Department of Biodiversity, Conservation and Attractions (DBCA) (2022)

A Phytophthora Dieback Assessment was conducted by Department of Biodiversity, Conservation and Attractions (DBCA) on the 19<sup>th</sup> December 2022 which confirmed that the area should be treated as Infested and Unprotectable (TRIM D22#1299624). The Forest Management Branch Bunbury (DBCA) supplied comprehensive level occurrence information and advice that only basic hygiene management is required as the area is infested and excluded unprotectable. A Dieback Management Plan for access or disturbance activities associated with the assessment has been developed in consultation with Sustainable Forest Management Coordinator (DBCA Blackwood District).

### 3.4 Summary of Fauna Survey

#### Targeted Black Cockatoo Habitat Assessment - SW Environmental (2022)

A Targeted Black Cockatoo Habitat Assessment was conducted between 34.5 to 36.5 SLK over a survey area of approximately 8.74 ha on 30<sup>th</sup> November 2022. The assessment was required to identify black cockatoo habitat values, including potential and actual breeding habitat, foraging habitat and roost sites within the survey area. The assessment was to include a desktop assessment and field survey in line with relevant State and Commonwealth guidelines. The findings of the targeted Black Cockatoo Habitat Assessment (SW Environmental 2023) are summarised as follows:

- All three black cockatoo species may occur locally, though only FRTBC and Carnaby's cockatoo were recorded through feed residue. No black cockatoos were observed directly during the fieldwork.
- The broader survey area contains native vegetation (jarrah marri forest) (4.73 ha) which is classified as high quality foraging habitat. The remaining cleared areas, maintained or regrowth vegetation (0.62 ha) and planted non-native trees and tuart (0.24 ha) have either no or low quality foraging habitat potential.
- 138 suitable DBH trees were recorded in the survey area. Nine trees had hollows (eight jarrah, one marri). Two trees had large hollows with no signs of use (jarrah ID 13, 93), three trees had potentially suitable hollows and no signs of use (jarrah ID 28, 98; marri ID 18) and the remaining four trees had unsuitable hollows for breeding (all jarrah ID 17, 56, 58 and 59). No trees with hollows were considered likely to be supporting any current black cockatoo breeding activity.
- A night roost was recorded at E390637 S6282732 (GDA94) (ID76) in a marri tree, on the eastern verge of Upper Capel Road.

In a local context, extensive tracks of contiguous native vegetation remain (Jarrah Forest) including potential black cockatoo foraging and breeding habitat. Sixty-three to 73% of lands within six to 12 km of the project are mapped as remnant native vegetation (Main Roads 2022), much of which is reserved.

## 4 VEGETATION DETAILS

### 4.1 Proposal Site Vegetation Description

The proposed clearing area, totalling 0.13 ha, includes a row of trees at the edge of a fill batter and nearby paddock trees, and isolated trees at the edge of the existing road shoulder and maintenance zone. The proposed clearing area comprises vegetation type CcEmBl: Forest of *Corymbia calophylla* and *Eucalyptus marginata* over shrubland of *Bossiaea linophylla* and *Acacia extensa* over shrubland/rushland of *Xanthorrhoea preissii*, *Phlebocarya ciliata* and *Hibbertia hypericoides* (Stream Environment and Water 2023). However, the trees requiring removal are located in patches where native middle and understorey are largely absent and replaced by weeds. The mapped vegetation condition (Stream Environment and Water 2023) for the proposed clearing area is mostly Completely Degraded, apart from two very small patches (37m<sup>2</sup> and 38m<sup>2</sup>) in Degraded condition right along the edge of the current maintenance zone (Main Roads 2022). No declared plants or other significant weed infestations were observed (Main Roads 2022, Stream Environment and Water 2023).

Two broad scale pre-European vegetation associations, Association 999 and 1017, and two vegetation complexes, Donnybrook DB3 and Preston PR, intersect the project area (Government of Western Australia, 2018). However, vegetation within the footprint is not mapped as native vegetation remaining (DBCA in SLIP 2022), is in a degraded or completely degraded condition and is therefore not representative of the original association/complex.

Table 3 and Table 4 provide details of the vegetation types and their condition within the Proposal and the remaining extents of these associations.

For a full description of the existing vegetation, refer to flora and vegetation survey by Stream Environment and Water (2023).

**Table 3. Summary of Vegetation Types within Clearing Area**

Vegetation Type	Extent within Clearing Area (ha)	Total Extent Mapped (ha) within Survey Area
<i>CcEmBl: Forest of Corymbia calophylla and Eucalyptus marginata over shrubland of Bossiaea linophylla and Acacia extensa over shrubland/rushland of Xanthorrhoea preissii, Phlebocarya ciliata and Hibbertia hypericoides</i>	0.13	4.42

**Table 4. Pre-European Vegetation Representation**

Pre-European Vegetation Association	Scale:	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 999</b>	<b>Statewide</b>	115,706.59	13,024.44	11.26	23.91
	<b>IBRA Bioregion</b> Jarrah Forest	11,531.17	2,895.03	25.11	60.33
	<b>IBRA Sub-region</b> Southern Jarrah Forest	11,531.17	2,895.03	25.11	60.33
	<b>Local Government Authority</b> Shire of Donnybrook-Balingup	4,447.68	765.77	17.22	48.33
<b>Veg Assoc No. 1017</b>	<b>Statewide</b>	17,528.01	11,550.51	65.90	46.55
	<b>IBRA Bioregion</b> Jarrah Forest	11,846.91	9,028.80	76.21	88.86
	<b>IBRA Sub-region</b> Southern Jarrah Forest	11,545.93	8,940.67	77.44	89.49
	<b>Local Government Authority</b> Shire of Donnybrook-Balingup	6,417.95	4,751.21	74.03	87.99

## 4.2 Vegetation Complexes and Representation

**Table 5. Vegetation complexes (Hedde/Mattiske) within the Project Area**

Hedde/Mattiske Veg Complex	Pre-European Extent (ha)	2013 Vegetation Extent	% Remaining
Donnybrook DB3	1,833.02	535.82	29.23
Preston PR	9,834.96	5,209.58	52.97



## 5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the Proposal's proposed clearing is likely to have a significant impact on the environment, the Proposal was assessed against the ten Clearing Principles (EP Act, Schedule 5). Each principle has been assessed in accordance with the former Department of Environment Regulation (now Department of Water and Environmental Regulation (DWER) '[A Guide to the Assessment of Applications to Clear Native Vegetation](#)' (Department of Environment Regulation, 2014) and other relevant clearing permit application decision reports prepared by DWER.

The proposed clearing is not likely to be at variance with the ten Clearing Principles.

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

#### Proposed clearing is not likely to be at variance to this Principle.

##### Assessment

The 0.13 ha area under application includes a row of trees at the edge of a fill batter or isolated trees within the existing road formation and shoulder or within a cleared paddock (up to 19 trees in total). The trees to be cleared include *Corymbia calophylla* (marri) and *Eucalyptus marginata* (jarrah), forming part of vegetation type CcEmBI (Stream Environment and Water 2023). The mapped vegetation condition (Stream Environment and Water 2023) for the proposed clearing area is mostly Completely Degraded, apart from two very small patches (37m<sup>2</sup> and 38m<sup>2</sup>) in Degraded condition right along the edge of the current maintenance zone (Main Roads 2022). Adjacent vegetation, but outside of the impact footprint, is associated with the Boyanup State Forest and consists of Jarrah Marri Forest. No water courses or wetlands will be impacted.

The vegetation proposed to be cleared is not representative of TEC/PECs (Stream Environment and Water 2023). One priority flora species *Acacia semitrullata* (P4) was recorded within the survey area (Stream Environment and Water 2023) but well outside of the clearing area.

Whilst there are a number of significant fauna species with potential to occur locally (MRWA GIS shapefiles from 10 km, PMST 2022), considering the very small scale of proposed clearing immediately adjacent to the existing road, the proposed clearing area is not expected to support a high level of fauna diversity – especially considering none of the trees to be cleared contain hollows and only 7 trees have DBH > 50 cm.

Overall based on the above, the vegetation proposed to be cleared does not comprise a high level of biological diversity in the local context and the clearing is not likely to be at variance to this clearing principle.

##### Methodology

- Main Roads Site Inspection (17/11/2022)
- DBCA shapefiles - Hydrography, Linear
- Main Roads GIS Shapefiles
- PMST (2022)
- Stream Environment and Water (2023)
- SW Environmental (2022)

**(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.**

**Proposed clearing is not likely to be at variance to this Principle.**

**Assessment**

The 0.13 ha area under application includes a row of trees at the edge of a fill batter or isolated trees within the existing road formation and shoulder or within a cleared paddock (up to 19 trees in total). None of the trees are hollow bearing. No water courses or wetlands will be impacted.

There are a number of Threatened fauna that may occur locally, including but not limited to the following recorded in the MRWA GIS shapefiles from 10 km and PMST (2022):

- Australasian bittern (*Botaurus poiciloptilus*) EN – wetland species
- Carter's freshwater mussel (*Westralunio carteri*) VU – aquatic
- Baudin's cockatoo (*Calyptorhynchus baudinii*) EN – Foraging habitat only
- Carnaby's cockatoo (*Calyptorhynchus latirostris*) EN - Foraging habitat only
- Forest red-tailed black cockatoo (*Calyptorhynchus banksii naso*) VU – Foraging habitat only
- Chuditch (*Dasyurus geoffroii*) VU – potential foraging but no denning habitat present
- Quokka (*Setonix brachyurus*) VU – not suitable habitat
- Tingle pygmy trapdoor spider (*Bertmainius tingle*) EN - no records within 9 km and habitat would be marginal at best
- Western ringtail possum (*Pseudocheirus occidentalis*) CR – typically found in low densities through the Jarrah Forest with higher densities through drainage lines within dreys and hollows during the day – no suitable habitat present

A targeted black cockatoo habitat survey was conducted by SW Environmental in spring 2022. The results are as follows with respect to the proposed clearing.

- A black cockatoo roost tree occurs south and outside of the proposed clearing area, off the Upper Capel Road reserve (western verge). It will not be impacted.
- Forest Red-tailed Black Cockatoo (FRTBC) feed residue was observed throughout the site. Some Carnaby's cockatoo feed sign was also observed but in much lower abundances. The proposed clearing requires 0.13 ha of foraging habitat to be removed.
- Several hollow bearing trees occurred within the road reserve, but none will be cleared. The 19 trees to be cleared include seven trees with DBH >50cm (all Marri).

Overall, threatened fauna species listed above either would not occur at the site or would not be impacted by the negligible amount of marginal habitat proposed to be cleared within the application area. Therefore the vegetation proposed to be cleared does not comprise the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

**Methodology**

- Main Roads Site Inspection (17/11/2022)
- DBCA shapefiles - Hydrography, Linear
- Main Roads GIS Shapefiles
- PMST (2022)
- SW Environmental (2022)

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

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

**Assessment**

The 0.13 ha area under application includes a row of trees at the edge of a fill batter or isolated trees within the existing road formation and shoulder or within a cleared paddock (up to 19 trees in total). Stream Environment and Water (2023) found no Threatened flora within the proposed clearing area and none are considered likely to be present.

**Methodology**

- Main Roads Site Inspection (17/11/2022)
- DBCA shapefiles - Hydrography, Linear
- Main Roads GIS Shapefiles
- Stream Environment and Water (2023)

**(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.**

**Proposed clearing is not at variance to this Principle.**

**Assessment**

The 0.13 ha area under application includes a row of trees at the edge of a fill batter or isolated trees within the existing road formation and shoulder or within a cleared paddock (up to 19 trees in total). Stream Environment and Water (2023) confirmed that there were no Threatened Ecological Communities within the flora survey area which included the area under application.

**Methodology**

- Main Roads Site Inspection (17/11/2022)
- DBCA shapefiles - Hydrography, Linear
- Main Roads GIS Shapefiles
- Stream Environment and Water (2023)



**(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.**

**Proposed clearing is not likely to be at variance to this Principle.**

**Assessment**

**Table 4. Pre-European Vegetation Representation**

Pre-European Vegetation Association	Scale:	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 999</b>	<b>Statewide</b>	115,706.59	13,024.44	11.26	23.91
	<b>IBRA Bioregion</b> Jarrah Forest	11,531.17	2,895.03	25.11	60.33
	<b>IBRA Sub-region</b> Southern Jarrah Forest	11,531.17	2,895.03	25.11	60.33
	<b>Local Government Authority</b> Shire of Donnybrook-Balingup	4,447.68	765.77	17.22	48.33
<b>Veg Assoc No. 1017</b>	<b>Statewide</b>	17,528.01	11,550.51	65.90	46.55
	<b>IBRA Bioregion</b> Jarrah Forest	11,846.91	9,028.80	76.21	88.86
	<b>IBRA Sub-region</b> Southern Jarrah Forest	11,545.93	8,940.67	77.44	89.49
	<b>Local Government Authority</b> Shire of Donnybrook-Balingup	6,417.95	4,751.21	74.03	87.99

**Table 5. Vegetation complexes (Hedde/Mattiske) within the Project Area**

Hedde/Mattiske Veg Complex	Pre-European Extent (ha)	2013 Vegetation Extent	% Remaining
Donnybrook DB3	1,833.02	535.82	29.23
Preston PR	9,834.96	5,209.58	52.97

The EPA and national objectives and targets for biodiversity conservation have targets to prevent clearance of ecological communities with an extent below 30% of pre-European levels and to be reserved at over 10% (EPA, 2000) (Commonwealth of Australia, 2001).

From Table 4, Vegetation Association 999 and Donnybrook DB3 complex are below the 30% threshold. Vegetation mapped within the DBCA native vegetation remaining dataset (SLIP 2022) (screenshot below, in green) will be avoided.

Vegetation to be cleared is in a completely degraded to degraded condition comprising a single narrow band of trees along the fill batter (between 36.1 and 36.2 SLK) or within the cleared paddock, or as individual trees at the interface of or protruding into the existing clearing / maintenance zone at the other locations. It is not representative of the original vegetation association.



**Figure 3. Native Vegetation Extent (DPIRD mapping from SLIP, 2023) in dark green, noting that it does not overlap with the proposed clearing areas (light green).**

The minor clearing of completely degraded to degraded vegetation that is outside the mapped vegetation extent, is not likely to be considered clearing of a significant remnant and therefore not likely to be at variance to this Principle.

### **Methodology**

- Commonwealth of Australia (2001)
- EPA (2000)
- Main Roads Site Inspection (17/11/2022)
- Government of Western Australia (2018a, b)
- Aerial photography

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Proposed clearing is not likely to be at variance to this Principle.**

**Assessment**

A search of SLIP (2022) shows that no wetlands (RAMSAR, geomorphic, consanguineous suites, Directory of Important Wetlands) are located within the vicinity of the project area. No drainage lines or water courses will be impacted, with the closest being a minor perennial unnamed tributary of the Preston River approximately 100m east of the proposed clearing area. The vegetation proposed to be cleared does not represent riparian vegetation (Stream Environment and Water 2023).

**Methodology**

- DWER and DBCA shapefiles
- Main Roads Site Inspection (17/11/2022)
- Stream Environment and Water (2023)



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

<b>Proposed clearing is not at variance to this Principle.</b>
<b>Assessment</b> <p>The proposed clearing will not cause appreciable land degradation. It is located along the edge of an existing road and the clearing is of a minor scale and impact. Excavations associated with the widening will occur upslope, on well-drained moderate slopes and outside of any low-lying soils that may contain potential ASS. No ASS will be impacted and a CEMP will manage other potential environmental impacts. Dieback will also be addressed through the CEMP in consultation with DBCA.</p>
<b>Methodology</b> <ul style="list-style-type: none"><li>• Main Roads Site Inspection (17/11/2022)</li></ul>

**(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.**

**Proposed clearing is not likely to be at variance to this Principle.**

**Assessment**

All clearing will take place within the Goodwood Road reserve or private property to be resumed. No clearing of or access to the adjacent Boyanup State Forest is proposed.

No conservation reserves values will be directly impacted by the project. Main Roads has been in consultation with Parks and Wildlife Division of DBCA through the development process to ensure that the values of the adjacent Boyanup State Forest are not impacted. A Dieback Management Plan has been developed in consultation with Sustainable Forest Management Coordinator (DBCA Blackwood District).

The proposed clearing will not impact on ecological connectivity between the Boyanup State Forest and the surrounds.

Based on the above, the proposed clearing is not likely to impact on the environmental values of any adjacent or nearby conservation areas and is therefore not likely to be at variance to this Principle.

**Methodology**

- Government GIS Shapefiles: DBCA Legislated Lands and Waters & Lands of Interest (Accessed Dec 2022)
- Main Roads Site Inspection (17/11/2022)

**(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.**

**Proposed clearing is not at variance to this Principle.**

**Assessment**

The project does not directly impact any major drainage lines, watercourses or other water features. The closest drainage line is an upper tributary of the Preston River that will not be impacted (over 100 m away). Localised roadside drainage will be managed through the project design including tail out drains, minor roadside drainage improvements, including the extension of existing culverts.

The proposed clearing will not impact on the quality of local surface water. Where existing culverts are to be extended, rock protection will be included at adjacent outfalls. Along with where existing sections have steep longitudinal grades rock protection will be included. This will control the velocity and minimise erosion damage to the adjacent roadside and vegetation.

Although the project is located within the following areas, the clearing will not impact on any water resources due to minor scale and nature of the works:

Public Drinking Water Source Area - Donnybrook Water Reserve (P1 and P2 sections) (Ground water).  
Busselton-Capel Groundwater Area, declared under the RiWI Act (SLIP 2023).

The project is not located within any Surface Water Management or Waterway Management Areas proclaimed under the Riwi Act (SLIP 2023).

As no watercourses will be impacted a 'Bed and Banks' permit is not required. If water extraction is required, then a license will be required from DWER. A copy of the approval will need to be included in the CEMP. At this stage water will be taken from the standpipe in Donnybrook on Marmion Road.

The proposed clearing is not likely to cause deterioration in the quality of surface or underground water and is not likely to be at variance to this Principle.

**Methodology**

- EPA (2016)
- Main Roads Site Inspection (17/11/2022)
- Shared Land Information Platform (SLIP) (2023)

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

<b>Proposed clearing is not at variance to this Principle.</b>
<b>Assessment</b>  Existing drainage will be maintained or improved. Considering this and the very minor scale of clearing, the project will not cause or exacerbate the incidence or intensity of flooding.  The proposed clearing is not at variance to this Principle.
<b>Methodology</b> <ul style="list-style-type: none"><li>• Main Roads Site Inspection (17/11/2022)</li></ul>

## 6 VEGETATION MANAGEMENT

Main Roads will avoid clearing native vegetation where possible. Where clearing cannot be avoided then this clearing is kept to a minimum.



## 7 STAKEHOLDER CONSULTATION

Main Roads [undertakes](#) stakeholder consultation in accordance with CPS 818 Condition 8.

## 8 COMPLIANCE WITH CPS 818

The clearing associated with the proposal is unlikely or not at variance with the Clearing Principles. Additional management actions under CPS 818 are detailed in Table 6.

**Table 6. Summary of Additional Management Actions Required by CPS 818**

Impact of Clearing	Yes/No or NA	Further Action Required
1. The CAR indicates that the clearing is 'At Variance' or 'May be at Variance' with one or more of the Clearing Principles.	<b>No</b>	No further action required.
2. Clearing is at variance or may be at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality <b>or</b> (j) the incidence of flooding.	<b>No</b>	No further action required.
3. Clearing is at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality <b>and</b> (j) the incidence of flooding.	<b>No</b>	No further action required.
4. The Proposal involves clearing for temporary works (as defined by CPS 818).	<b>No</b>	No further action required.
<b>5a.</b> Proposal is within a Region that: <ul style="list-style-type: none"> <li>• has rainfall greater than 400mm; and,</li> <li>• is South of the 26<sup>th</sup> parallel; and,</li> <li>• works are necessary in 'Other than dry conditions'; and,</li> <li>• works have potential for <b>uninfested</b> areas to be impacted.</li> </ul>	<b>Yes</b>	Standard Vehicle and Plant management actions from Principal Environmental Management Requirements (PEMRs) and <u>Hygiene Checklists</u> will be applied.

Impact of Clearing	Yes/No or NA	Further Action Required
<b>5b.</b> Do the proposed works require clearing within or adjacent to DBCA managed lands in non-dry conditions?	<b>Yes</b>	Phytophthora Dieback Assessment was conducted by Department of Biodiversity, Conservation and Attractions (DBCA) on the 19th December 2022 which confirmed that the area should be treated as Infested and Unprotectable (TRIM D22#1299624). The Forest Management Branch Bunbury (DBCA) supplied comprehensive level occurrence information and advice that only basic hygiene management is required as the area is infested and excluded unprotectable. Dieback management measures have been developed in consultation with Sustainable Forest Management Coordinator (DBCA Blackwood District) and will be included in the CEMP.
<b>6.</b> Main Roads has been notified by DWER or an environmental specialist that the area to be cleared is susceptible to a pathogen other than dieback.	<b>No</b>	No further action required.
<b>7.</b> Weeds are likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition.	<b>No</b>	No further action required.
<b>8.</b> Did an environmental specialist conduct the survey or field assessment?	<b>Yes</b>	The Environmental Specialist undertaking the biological assessments was suitably qualified and had more than three years' experience.
<b>9.</b> Did an environmental specialist prepare the Assessment Report and any other associated documentation including the VMP, Dieback Management Plan or Offset Proposal?	<b>Yes</b>	The Environmental Specialist preparing the Assessment Report and any other associated documentation including the Dieback Management Plan was suitably qualified and had more than three years' experience.

## 9 REFERENCES

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