



mainroads  
WESTERN AUSTRALIA

# Clearing Assessment Report – CPS 818

*We're working for  
Western Australia.*

GEH Walgoolan to Southern Cross  
Package 1A – Side Track

July 2022

EOS 1771

# Contents

<b>1</b>	<b>PURPOSE</b> .....	<b>3</b>
<b>2</b>	<b>SCOPE</b> .....	<b>3</b>
2.1	Project Scope.....	3
2.2	Assessment Report Scope.....	3
2.3	Alternatives to clearing.....	6
2.4	Measures to Avoid, Minimise, Reduce and Manage Project Clearing Impacts.....	6
2.5	Approved Policies and Planning Instruments.....	9
<b>3</b>	<b>SUMMARY OF SURVEYS</b> .....	<b>10</b>
3.1	Biological Survey.....	10
3.1.1	Summary of Biological Survey.....	10
3.2	Summary of Targeted Surveys.....	11
3.2.1	Summary of Flora Survey.....	11
3.2.2	Summary of Eucalypt Woodlands TEC Assessment.....	11
<b>4</b>	<b>VEGETATION DETAILS</b> .....	<b>12</b>
4.1.1	Project Site Vegetation Description.....	12
<b>5</b>	<b>ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES</b> .....	<b>14</b>
<b>6</b>	<b>ADDITIONAL ACTIONS REQUIRED</b> .....	<b>23</b>
<b>7</b>	<b>STAKEHOLDER CONSULTATION</b> .....	<b>25</b>
<b>8</b>	<b>REFERENCES</b> .....	<b>26</b>
<b>9</b>	<b>APPENDICES</b> .....	<b>27</b>
	Appendix 1 – Site Photos.....	28

# Amendments

Report Compilation & Review	Name and Position	Document Revision	Date
Author:	Senior Environment Officer	Draft v1	22/07/2022
Reviewer:	Senior Environment Officer	Rev 0	28/07/2022

## 1 PURPOSE

The purpose of this Clearing Assessment Report (CAR) is to provide a report detailing the assessment of native vegetation clearing that is proposed to be undertaken using the Statewide Clearing Permit CPS 818 issued to Main Roads Western Australia (Main Roads).

The CAR outlines the key activities associated with the project, the existing environment and an assessment of native vegetation clearing. This assessment provides an evaluation of the vegetation clearing impacts associated with the project using the ten Clearing Principles, and the strategies used to manage vegetation clearing.

## 2 SCOPE

### 2.1 Project Scope

**Project Name:** Great Eastern Hwy Walgoolan to Southern Cross Upgrade Project – Package 1A – Side Track

**Project Purpose / Components:** The purpose of the proposed clearing is to construct a temporary side track to divert traffic around construction works occurring on Great Eastern Hwy (GEH). The alignment of the side track has been chosen to avoid as much native vegetation as possible by utilising cleared farmland. A small area of temporary clearing is required to connect the side track to GEH.

**The proposed clearing undertaking using CPS 818 is:** 0.35 ha

**The proposed temporary clearing undertaking using CPS 818 is:** 0.35 ha

**Project Location(s):** The project area is located on GEH between Straight Line Kilometre (SLK) 293.3 to SLK 293.7, 6 km west of Carrabin in the Shire of Westonia, as shown in Figure 1.

- Latitude: 31.370219°S
- Longitude: 118.613237°E

The location of the proposed works is at Figure 1.

### 2.2 Assessment Report Scope

The assessment area (Figure 2) is confined to a local area of a 20 km radius.

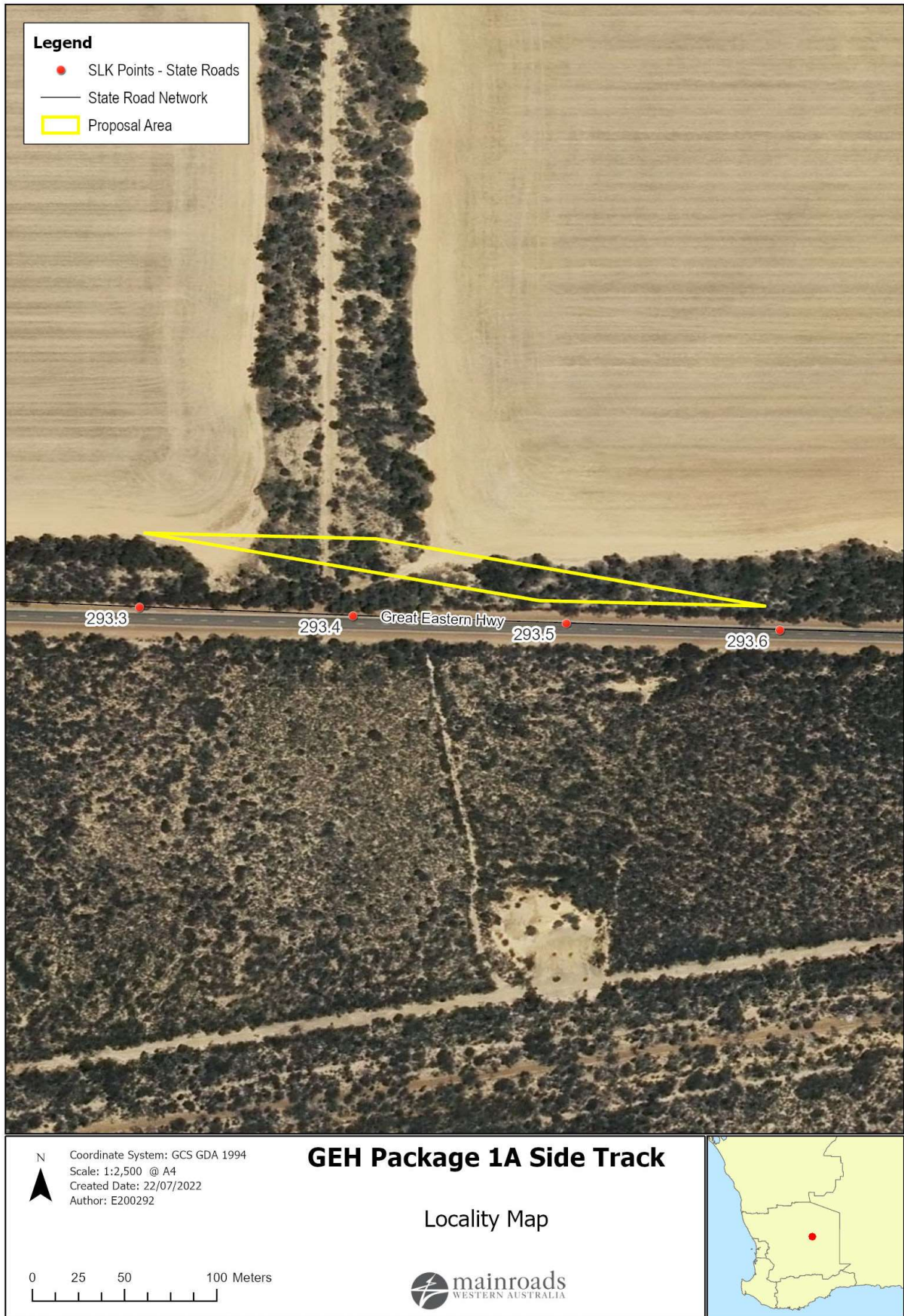


Figure 1. Project Area

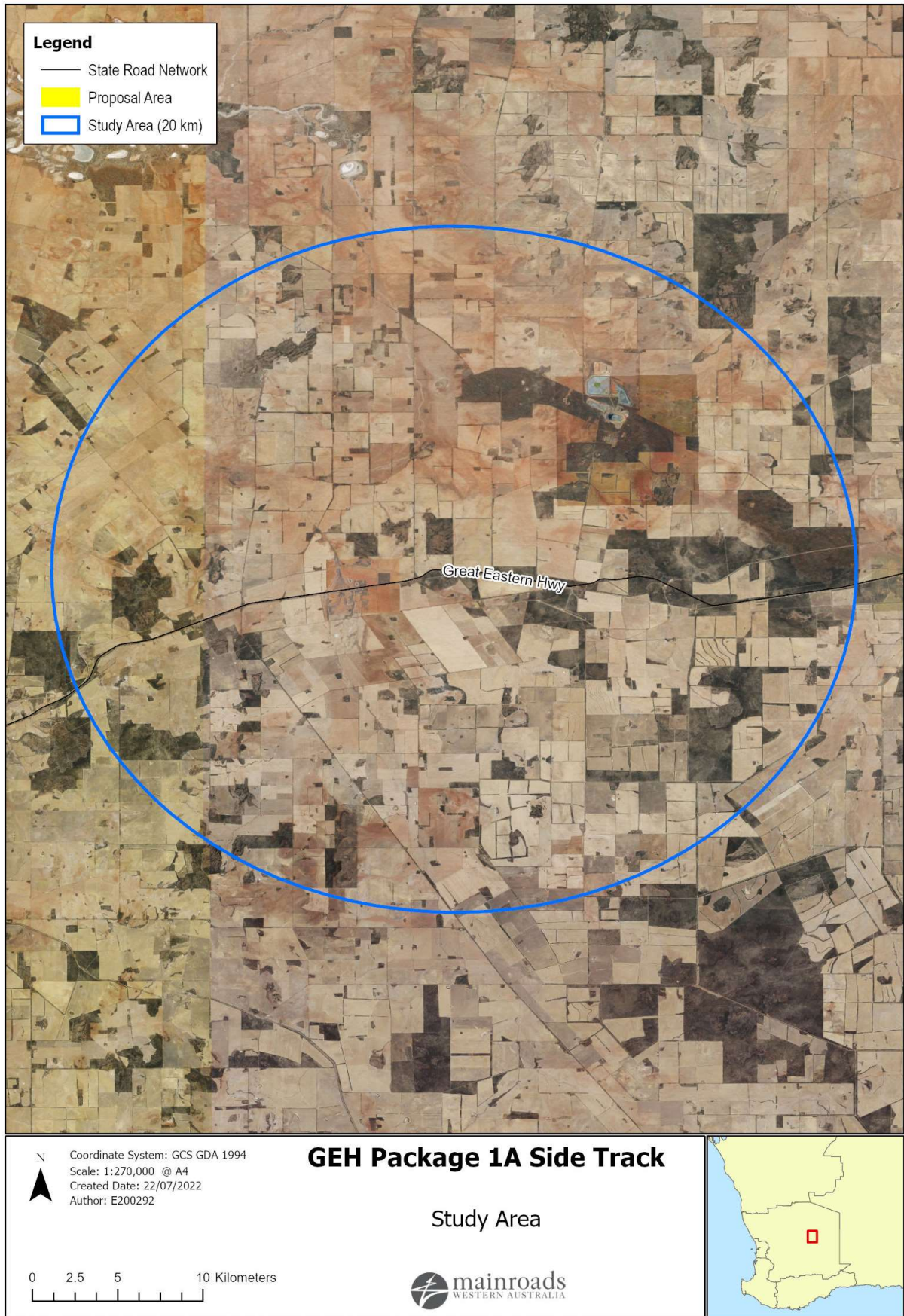


Figure 2. Assessment Area

## 2.3 Alternatives to clearing

Main Roads considered several options to achieve the best safety outcome for construction personnel and road users.

- 1) The base case approach is to not construct a side track and direct traffic through the construction site. In considering this option it was found that there is insufficient space in the project area to accommodate traffic safely, in particular heavy vehicles. As the project involves the construction of steep batters, further clearing and widening would be required along the length of the project to provide a safe, trafficable area. This option would not reduce clearing and would also result in additional impacts to patches of Eucalypt Woodlands of the Western Australian Wheatbelt Threatened Ecological Community (Eucalypt Woodlands TEC).
- 2) A shorter side track was considered that would direct traffic around the main pinch points in the project area. While this option utilises the adjacent cleared farmland, clearing would still be required to connect the side track to GEH. The necessary tie-in point onto GEH for this option would have risked clearing in patches of Eucalypt Woodlands TEC.
- 3) The preferred option is to construct a longer side track that bypasses the project area entirely. While this option requires clearing of native vegetation, the clearing area proposed utilises previously cleared fencelines and areas of sparse vegetation and avoids Eucalypt Woodlands TEC.

## 2.4 Measures to Avoid, Minimise, Reduce and Manage Project Clearing Impacts

The design and management measures implemented to avoid and minimise the clearing impacts by the project are provided in Table 1.

**Table 1. Measures undertaken to Avoid, Minimise, Reduce and Manage the Project Clearing Impacts**

<b>Design or Management Measure</b>	<b>Discussion and Justification</b>
<b>Steepen batter slopes</b>	Given it is a temporary bypass road, the design of the sidetrack has been simplified as much as possible to reduce the clearing footprint.
<b>Installation of safety barriers</b>	Safety barriers are not necessary for this scope of work. Implementing safety barriers would result in a larger clearing area.
<b>Alignment to one side of existing road</b>	The proposed side track is not able to be constructed along the alignment of GEH due to the native vegetation constraints. The alignment through the adjacent paddock has been chosen to reduce the area of clearing as much as possible.
<b>Alternative alignment to follow existing road (or) to preferentially locate within pasture or a degraded areas</b>	The preferred option is to construct the side track through adjacent cleared farmland, thereby reducing the amount of clearing in remnant vegetation and Eucalypt Woodlands TEC. A small area of temporary clearing is required to connect the side track to GEH. The clearing area chosen utilises existing cleared fencelines and farm access tracks.
<b>Installation of kerbing</b>	Kerbing is not necessary for this scope of work. Implementing kerbing would not avoid or minimise clearing.
<b>Simplification of design to reduce number of lanes and/or complexity of intersections</b>	The side track will need to accommodate a high volume of regular traffic and heavy vehicles, therefore the side track must maintain two lanes of traffic. Given this is a temporary bypass road, the design has been simplified as much as possible to minimise clearing.



<b>Design or Management Measure</b>	<b>Discussion and Justification</b>
<b>Preferential use of existing cleared areas for access tracks, construction storage and stockpiling</b>	The preferred option is to construct the side track through adjacent cleared farmland, thereby reducing the amount of clearing in remnant vegetation and Eucalypt Woodlands TEC. A small area of temporary clearing is required to connect the side track to GEH. The clearing area chosen utilises existing cleared fencelines and farm access tracks.
<b>Drainage modification</b>	Given this is a temporary bypass road, the drainage design has been simplified as much as possible to reduce the clearing footprint.

## 2.5 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 (see Section 1.3), Main Roads has also had regard to the below instruments.

### **Other Legislation of relevance 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)
- Town Planning and Development Act 1928

### **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 (DEC, December 2014)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Environmental Offsets Guidelines (Government of Western Australia, August 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
- Approved Recovery Plans for threatened species
- EPBC Act Referral guidelines for the three threatened black cockatoo species
- Strategic advice - EPA

## 3 SUMMARY OF SURVEYS

### 3.1 Biological Survey

The proposal area is included in the Great Eastern Hwy Merredin to Southern Cross SLK 258.5-365.5 Biological Assessment that was conducted in October 2015 and January 2016 by GHD.

Section 3.1.1 contains the summary of the survey.

#### 3.1.1 Summary of Biological Survey

A 60 m wide corridor was surveyed along GEH between Merredin and Southern Cross (GHD, 2016). The survey involved a level 1 vegetation, flora and fauna assessment, targeted significant flora survey and black cockatoo habitat assessment.

The survey mapped 19 vegetation associations in the survey area, with the dominant vegetation being *Allocasuarina* tall shrublands and open *Eucalyptus salubris* open forests. The survey mapped one vegetation type within and adjacent to the proposal area:

VT3: *Allocasuarina* Tall Shrublands - *Allocasuarina corniculata*, *Allocasuarina spinosissima* and *Allocasuarina campestris* tall shrubland with *Eucalyptus burracoppinensis* isolated mallees over *Chamelaucium pauciflorum* subsp. *Perenjori* (B.J. Conn 2181), *Euryomyrtus maidenii* and *Melaleuca conothamnoides* low open shrubland over *Amphipogon caricinus* var. *caricinus* isolated grasses over *Waitzia acuminata* var. *acuminata* and *Drosera* sp. Isolated herbs.

The majority of vegetation throughout the project area was rated as Excellent to Very good; in these areas the vegetation structure was largely intact with limited signs of damage/disturbances observed. Large areas of vegetation within the project area have been impacted by past anthropogenic disturbances, such as clearing for the road and pipeline, grazing and farming. Vegetation condition in the proposal area is rated as Excellent (EPA, 2016).

Eucalypt dominated woodlands were inferred to represent the Eucalypt Woodlands of the Western Australian Wheatbelt TEC. This community was not recorded in the proposal area.

Seven significant flora species were recorded in the survey area:

- *Eremophila resinosa* (Threatened under BC Act, Endangered under EPBC Act)
- *Acacia subrigida* (Priority 2)
- *Acacia ancistrophylla* var. *perarcuata* (Priority 3)
- *Acacia crenulata* (Priority 3)
- *Leucopogon* sp. Ironcaps (N.Gibson & K. Brown 3070) (Priority 3)
- *Verticordia mitodes* (Priority 3)
- *Acacia filifolia* (Priority 3)

No Threatened or Priority flora were recorded in the proposal area. The nearest significant flora recorded to the proposal area was *Acacia ancistrophylla* var. *perarcuata* recorded 4.5 km to the east.

The field survey recorded 76 fauna species, consisting of 62 birds, three reptiles, ten mammals and one amphibian. Of these, 67 are native species and nine are introduced species. Seven fauna habitat types were recorded in the survey area. One fauna habitat was mapped in the proposal area, being *Allocasuarina* tall shrublands. One significant fauna species was recorded in the survey,

one individual of Malleefowl was recorded as road kill approximately 3 km east of the proposal area.

### **3.2 Summary of Targeted Surveys**

Main Roads conducted a targeted significant flora inspection along two sections of GEH (Package 1 and Package 4), which includes the proposal area.

Section 3.2.1 contains the summary of the survey.

Astron conducted a targeted Eucalypt Woodlands TEC assessment along GEH to verify patches inferred to represent the TEC by GHD.

Section 3.2.2 contains the summary of the survey.

#### **3.2.1 Summary of Flora Survey**

Two Threatened and 11 Priority flora species were assessed as having the potential to occur within Package 1 and Package 4 due to the likely presence of suitable habitats. The survey was conducted by traversing both sides of the corridors within Package 1 and Package 4 on foot. Systematic searches were undertaken for the Threatened and Priority flora species identified from the desktop review. The immediate vicinity of the conservation significant flora locations were also thoroughly searched with a view to map their distribution outside of Package 1 and Package 4.

No significant flora was recorded in the proposal area.

#### **3.2.2 Summary of Eucalypt Woodlands TEC Assessment**

Astron conducted a targeted Eucalypt Woodlands of the Western Australian Wheatbelt TEC assessment of Great Eastern Highway between Merredin and Southern Cross to confirm areas inferred by GHD (2016) and identify any patches of TEC not previously recorded. Astron targeted Eucalypt dominated vegetation types and assessed the vegetation against the diagnostic criteria and condition thresholds for the TEC.

Eucalypt Woodlands TEC was not recorded in the proposal area.

## 4 VEGETATION DETAILS

### 4.1.1 Project Site Vegetation Description

The clearing area comprises one vegetation unit, *Allocasuarina* tall shrublands (VT03), which is described as:

*Allocasuarina corniculata*, *Allocasuarina spinosissima* and *Allocasuarina campestris* tall shrubland with *Eucalyptus burracoppinensis* isolated mallees over *Chamelaucium pauciflorum* subsp. *Perenjori* (B.J. Conn 2181), *Euryomyrtus maidenii* and *Melaleuca conothamnoides* low open shrubland over *Amphipogon caricinus* var. *caricinus* isolated grasses over *Waitzia acuminata* var. *acuminata* and *Drosera* sp. Isolated herbs.

The vegetation has been mapped as excellent condition (GHD, 2016). Photos of the clearing area show that the vegetation has been affected by historical clearing for fence lines and grazing (Appendix 1).

Tables 2 and 3 provide details of the Pre-European Vegetation Associations within the proposal area and the remaining extents of these associations.

For a full description of the existing vegetation, refer to the biological survey (GHD, 2016).

**Table 2. Summary of Project Area’s Mapped Pre-European Vegetation Associations**

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 36 described as Shrublands; thicket, <i>acacia-casuarina</i> alliance (Government of Western Australia, 2017)	Clearing of up to 0.35 ha for road widening and drainage on Jarrahdale Road, Serpentine.	Excellent (EPA 2016)	Vegetation description and condition determined from GHD (2016)
Vegetation Association 1057 described as Mosaic: Shrublands; Medium woodland; salmon gum & gimlet / York gum & <i>Eucalyptus sheathiana</i> mallee scrub			

**Table 3. Pre-European Vegetation Representation**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 36</b>	<b>Statewide</b>	495,430.67	226,242.18	46%	6%
	<b>IBRA Bioregion</b> Avon-Wheatbelt	300,996.97	72,745.12	24%	3%
	<b>IBRA Sub-region</b> Merredin	300,996.97	72,745.12	24%	3%
	<b>Local Government Authority</b> Shire of Westonia	21,987.61	5,641.54	26%	7%

<b>Veg Assoc No. 1057</b>	<b>Statewide</b>	145,310.83	17,564.46	12%	2%
	<b>IBRA Bioregion</b> Avon-Wheatbelt	145,310.83	17,564.46	12%	2%
	<b>IBRA Sub-region</b> Merredin	145,310.83	17,564.46	12%	2%
	<b>Local Government Authority</b> Shire of Westonia	67,128.16	8,671.75	13%	1%

## 5 ASSESSMENT AGAINST THE TEN CLEARING PRINCIPLES

In assessing whether the project’s proposed clearing is likely to have a significant impact on the environment, the project was assessed against the ten Clearing Principles (Environmental Protection Act 1986, Schedule 5).

Each principle has been assessed in accordance with DWER’s ‘A Guide to the Assessment of Applications to Clear Native Vegetation’ and other relevant CPS Decision Reports prepared by DWER.

The proposed clearing is not likely to be at variance with the 10 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**

**Comment**

The proposal requires the temporary clearing of up to 0.35 ha of native vegetation for the purpose of constructing a side track. The vegetation comprises *Allocasuarina* tall shrublands (GHD, 2016). The clearing occurs in a strip of native vegetation situated between the Great Eastern Hwy road corridor and cleared farmland. While the vegetation has been mapped as excellent condition, the proposal area has been affected by historical clearing for fence lines and grazing (Appendix 1).

A desktop assessment identified one Priority Ecological Communities (PEC) that intersects the proposal area:

- Eucalypt Woodlands of the Western Australian Wheatbelt (P3).

A further two PECs are located in the study area:

- Red Morrel Woodlands of the Wheatbelt (P1)
- Salmon Gum Woodlands of the Wheatbelt (P3).

These three PECs are synonyms with the EPBC Act-listed Eucalypt Woodlands TEC. The vegetation to be cleared does not comprise Eucalypt woodlands and is not representative of these PECs (Astron, 2019). The biological survey and targeted TEC assessment did not record any other TECs or PECs in the proposal area (GHD, 2016; Astron; 2019).

A search of flora databases has identified four Threatened and 13 Priority flora taxa known to occur in the study area. Based on a likelihood of occurrence assessment, the following significant flora species may occur in the proposal area given the availability of suitable habitat (GHD, 2016; WA Herbarium, 2022):

- *Boronia adamsiana* (T)
- *Acacia ancistrophylla* var. *perarcuata* (P3)
- *Acacia filifolia* (P3)
- *Austrostipa blackii* (P3)
- *Hibbertia glabriuscula* (P3)
- *Verticordia mitodes* (P3)
- *Myriophyllum petraeum* (P4)

None of the records from the desktop assessment are located in the proposal area. The biological survey did not record any significant flora in the proposal area, but GHD (2016) noted that of the species considered as possibly occurring within the survey area, *Boronia adamsiana* may have been present but not observed. Habitat for this species may occur in the proposal area, of which 0.35 ha is proposed to be cleared. A follow-up targeted search for this species along GEH did not record any individuals in the proposal area (Main Roads, 2019).

Six significant fauna species have been recorded within the study area (see principle b). The small area of vegetation in close proximity to a high traffic volume area (impacted by light, noise etc) is not likely to contain relatively high fauna diversity and fauna species are unlikely to be reliant on the proposal area for habitat. The temporary clearing of 0.35 ha of shrubland fauna habitat is unlikely to significantly impact fauna, fauna habitats or fauna movement.

Based on the above, the proposed clearing is not likely to be at variance to this principle.

**Methodology**

Aston (2019)

GHD (2016)

Main Roads (2019)

GIS Database:

- DBCA Threatened Priority Fauna
- DBCA Threatened Priority Flora
- Threatened and Priority Ecological Communities
- WA Herbarium Flora

**(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**

**Comment**

The proposal area comprises one fauna habitat type, described as *Allocasuarina* tall shrublands (GHD, 2016).

The fauna survey did not record any significant fauna in the proposal area at the time of the survey (GHD, 2016). GHD considered the *Allocasuarina* tall shrublands habitat type suitable for the following significant species listed under the BC Act or Priority by DBCA:

- *Leipoa ocellata* (Malleefowl – VU)
- *Dasyurus geoffroii* (Chuditch – VU)
- *Phascogale calura* (Red-tailed phascogale – CD).

The desktop assessment also identified four other significant fauna species known to occur in the study area:

- *Calidris acuminata* (Sharp-tailed sandpiper – MI)
- *Falco peregrinus* (Peregrine falcon – OS)
- *Aspidites ramsayi* (Woma (southwest subpop.) – P1)
- *Aganippe castellum* (tree-stem trapdoor spider – P4)

Malleefowl was recorded as roadkill during the fauna survey approximately 3 km east of the proposal area (GHD, 2016). No evidence of nesting was recorded within the proposal area or along GEH. Malleefowl generally occurs in semi-arid areas of Western Australia, including much of the Wheatbelt. It is associated with long unburnt, thick, vegetation and occupies shrublands and low woodlands that are dominated by mallee vegetation, as well as native pine *Callitris* woodlands, *Acacia* shrublands, Broombush (*Melaleuca uncinata*) vegetation or coastal heathlands (Benshemesh, 2007). While the proposal area may provide suitable habitat for Malleefowl, given the small area of vegetation to be cleared adjacent to a major road, and no evidence of breeding has been recorded within or near the proposal area, the proposed clearing is not likely to significantly impact on Malleefowl habitat.



Chuditch and red-tailed phascogale are not known to occur in the study area and no evidence of these species was recorded during the fauna survey.

There is no suitable habitat for Sharp-tailed sandpiper in the proposal area.

Peregrine falcon may overfly the proposal area when foraging but this species would not be reliant on the proposal area for habitat.

The woma occurs in the arid zones of Western Australia, favouring open myrtaceous heath on sandplains, and dunefields dominated by spinifex (*Triodia* spp.). The proposal area is not considered suitable habitat for this species.

Tree-stem trapdoor spider typically occupies flood-prone depressions and flats that support myrtaceous shrub communities, in particular those areas supporting Broombush (*Melaleuca uncinata*) and Sheoaks (such as *Allocasuarina acutivalvis*) in sandy loam soils (Avon Catchment Council, 2007). The *Allocasuarina* tall shrubland habitat types may provide suitable habitat for this species, of which approximately 0.35 ha will be cleared. Considering there are large areas of native vegetation directly adjacent to the project area to the south, potential habitat for this species is not restricted to the project area.

The proposed clearing is relatively minor and temporary in nature and does not comprises significant habitat for fauna. Noting there are large areas of similar habitat to the south of GEH, clearing 0.35 ha of native vegetation is not likely to be at variance to this principle.

**Methodology**

- Avon Catchment Council (2007)
- Benshemesh (2007)
- GHD (2016)
- GIS Database:
  - DBCA Threatened and Priority Fauna

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

**Proposal is not likely to be at variance to this Principle**

**Comment**

The desktop assessment identified the following Threatened flora taxa known to occur in the study area:

- *Boronia adamsiana*
- *Eremophila resinosa*
- *Eremophila viscida*
- *Eucalyptus crucis* subsp. *crucis*
- *Roycea pycnophylloides*

None of these records from the desktop assessment are located in the proposal area and no Threatened flora was recorded in the biological survey (GHD, 2016).

*Eremophila resinosa*, *Eremophila viscida*, *Eucalyptus crucis* subsp. *crucis* and *Roycea pycnophylloides* are not likely to occur in the proposal area given the lack of suitable habitat (WA Herbarium, 2022).

GHD (2016) noted that *Boronia adamsiana* may have been present in the survey area but not observed at the time of the survey. *Boronia adamsiana* is an erect shrub that generally occurs on flats and road verges, on yellow sand/loam over laterite (WA Herbarium, 2022). Based on DBCA records, there is one record of this species in the study area approximately 9.5 kilometres north east of the proposal area. Outside the study area, this species is typically found across a range of approximately 140 km in the Avon Wheatbelt

and Coorlgardie IBRA bioregions. A targeted survey for significant flora did not record any individuals of this species in the proposal area (Main Roads, 2019).

Based on the above, the proposed clearing is not likely to be at variance to this principle.

**Methodology**  
 GHD (2016)  
 Main Roads (2019)  
 WA Herbarium (2022)  
 GIS Database:  
 - DBCA Threatened Priority flora  
 - WA Herbarium flora

**(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**

**Comment**  
 No TECs listed under the BC Act are known to occur in the study area (GIS Database). The biological survey and targeted TEC assessment did not record any TECs in the proposal area.

Based on the above, the proposed clearing is not at variance with this principle.

**Methodology**  
 Astron (2019)  
 GHD (2016)  
 GIS Database:  
 - Threatened and Priority Ecological Communities

**(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****Comment**

The project area is located within the Avon Wheatbelt IBRA region. Approximately 19% of pre-European vegetation remains in the IBRA region (Government of Western Australia, 2019).

The vegetation of the project area has been broadly mapped as the following pre-European vegetation associations:

- 36: Shrublands; thicket, *acacia-casuarina* alliance
- 1057: Mosaic: Shrublands; Medium woodland; salmon gum & gimlet / York gum & *Eucalyptus sheathiana* mallee scrub.

The National Objectives and Targets for Biodiversity Conservation recognise that the retention of 30 per cent or more of the pre-clearing extent of each ecological community is necessary if Australia's biological diversity is to be protected (Commonwealth of Australia, 2001). With regard to the two broad vegetation associations mapped within the project area, vegetation association 36 retains over 30% of its pre-European extent in the state but under 30% at the IBSA bioregion, sub region and LGA scales. Vegetation association 1057 retains less than 30% extent at all scales.

It is worth noting that vegetation association 1057 is described as a Eucalypt woodland. Vegetation within the proposal area has been mapped as *Allocasuarina* tall shrublands, which does not represent vegetation association 1057. Therefore, the proposed clearing will not impact on this community.

With regard to vegetation association 36, the desktop assessment determined there is approximately 11,444 ha of this community remaining in the study area (GIS Database). The proposed temporary clearing of 0.35 ha represents an impact of 0.003%. This is not likely to significantly reduce the representation of this vegetation association in the local area.

On a local scale, aerial imagery shows that the GEH road reserve retains native vegetation on one or both sides of the road providing a vegetated corridor across the landscape. The vegetation proposed to be cleared forms part of roadside vegetation on the north side of GEH. While the proposed clearing will affect this corridor by removing a 20 m wide, linear strip of vegetation, given the temporary nature of the clearing, this impact will not be permanent. Following completion of the project, the proposed side track will be removed and the area will be rehabilitated by respreading native topsoil, thereby re-establishing this corridor. It is noted vegetation will be retained on the south side of GEH, including a large remnant patch of native vegetation (~280 ha) that will not be impacted by the clearing and will maintain connectivity along GEH.

While the proposed clearing is located in an extensively cleared landscape, the clearing is minor and temporary in nature and is not considered a significant remnant. The proposed clearing is not likely to be at variance to this principle.

**Summary of Project Area’s Mapped Pre-European Vegetation Associations**

Pre-European Vegetation Association(s)	Clearing Description	Vegetation Condition	Comments
Vegetation Association 36 described as Shrublands; thicket, <i>acacia-casuarina</i> alliance (Government of Western Australia, 2017)	Clearing of up to 0.35 ha for road widening and drainage on Jarrahdale Road, Serpentine.	Excellent (EPA 2016)	Vegetation description and condition determined from GHD (2016)
Vegetation Association 1057 described as Mosaic: Shrublands; Medium woodland; salmon gum & gimlet / York gum & <i>Eucalyptus sheathiana</i> mallee scrub			

**Pre-European Vegetation Representation**

Pre-European Vegetation Association	Scale	Pre-European (ha)	Current Extent (ha)	% Remaining	% Remaining in DBCA reserves
<b>Veg Assoc No. 36</b>	<b>Statewide</b>	495,430.67	226,242.18	46%	6%
	<b>IBRA Bioregion</b> Avon-Wheatbelt	300,996.97	72,745.12	24%	3%
	<b>IBRA Sub-region</b> Merredin	300,996.97	72,745.12	24%	3%
	<b>Local Government Authority</b> Shire of Westonia	21,987.61	5,641.54	26%	7%
<b>Veg Assoc No. 1057</b>	<b>Statewide</b>	145,310.83	17,564.46	12%	2%
	<b>IBRA Bioregion</b> Avon-Wheatbelt	145,310.83	17,564.46	12%	2%
	<b>IBRA Sub-region</b> Merredin	145,310.83	17,564.46	12%	2%
	<b>Local Government Authority</b> Shire of Westonia	67,128.16	8,671.75	13%	1%

**Methodology**

Commonwealth of Australia (2001)

Government of Western Australia (2019)

GIS Database:

- Aerial Imagery
- DAFWA Remnant Vegetation
- Pre-European Vegetation

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

<b>Proposed clearing is not at variance to this Principle</b>
<p><b>Comment</b></p> <p>The desktop assessment did not identify any mapped watercourses or wetlands intersecting the proposal area. No riparian vegetation has been recorded in the proposal area (GHD, 2016). The proposed clearing will not impact on any vegetation growing in, or in association with a watercourse or wetland.</p>
<p><b>Methodology</b></p> <p>GHD (2016)</p> <p>GIS Database:</p> <ul style="list-style-type: none"> <li>- Hydrology South</li> <li>- Watercourse</li> </ul>

**(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 likely at variance to this Principle</b>
<p><b>Comment</b></p> <p>The proposal area has been broadly mapped as occurring on the Bencubin System, which is described as gently undulating gneissic and granitic terrain with rock outcrop surrounded by mallee-broom bush duplexes and yellow sandplain (GIS Database). The proposal area occurs on a sandplain landform (GHD, 2016).</p> <p>According to DAFWA soil risk mapping, the proposal area has a low to very low risk of land degradation from waterlogging, water erosion, salinity and flooding, with a moderate risk of wind erosion. The clearing area is relatively small compared with the surrounding area of vegetation and cleared areas will be sealed. Therefore, the proposed clearing will not increase the incidence of wind erosion.</p> <p>The proposed clearing of 0.35 ha of native vegetation is not likely to cause appreciable land degradation and is not likely at variance to this principle.</p>
<p><b>Methodology</b></p> <p>GHD (2016)</p> <p>GIS Database:</p> <ul style="list-style-type: none"> <li>- DAFWA Land Systems</li> <li>- DAFWA Land Degradation Risk mapping</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.**

<b>Proposed clearing is not at variance to this Principle</b>
<p><b>Comment</b></p> <p>The proposed clearing is located entirely within the road reserve and will not directly impact on any conservation areas.</p> <p>The nearest reserve to the proposal area is an unnamed nature reserve (R 18199), which is located approximately 4 km north-west of the proposal area. Based on the distance to this reserve, and minor and temporary nature of the clearing proposed, the proposal is unlikely to affect the values of this reserve.</p>

Based on the above, the proposed clearing is not at variance to this principle.
<b>Methodology</b> GIS Database: - DBCA Managed Lands and Waters

**(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.**

<b>Proposed clearing is not likely to be at variance to this Principle</b>
<b>Comment</b> According to the desktop assessment, there are no wetlands or watercourses mapped in the proposal area. Noting the small extent of clearing, the proposal is unlikely to affect surface water quality.  The proposal area is not located in a Public Drinking Water Source Area. Groundwater salinity in the local area is 14,000 to 35,000 milligrams per litre total dissolved solids, which is considered brackish to saline. As groundwater is already considered saline, the temporary clearing of 0.35 ha of native vegetation is not likely to impact on groundwater quality or lead to an increase in salinity.  Based on the above, the proposed clearing is not likely to be at variance to this principle.
<b>Methodology</b> GIS Database: - Salinity Statewide - Hydrology South

**(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 likely to be at variance to this Principle</b>
<b>Comment</b> Risk of waterlogging or flooding in the area has been assessed as low, and the proposal area does not intersect any watercourses. The clearing is not of a scale that would result in an increase in the incidence or intensity of flooding.  Based on the above, the proposed clearing is not likely to be at variance to this principle.
<b>Methodology</b> N/A

## 6 ADDITIONAL ACTIONS REQUIRED

Table 5 summarises what further pre-clearing impact assessment and vegetation management is required in accordance with CPS 818.

**Table 5. Summary of Additional Management Actions Required by CPS 818**

Impact of Clearing	Yes/No or NA	Further Action Required
<p><b>1.</b> The CAR indicates that the clearing is 'At Variance' or 'May be at Variance' with one or more of the Clearing Principles.</p> <p>Where the clearing is at variance or may be at variance to Clearing Principle (f) and no other Clearing Principle, and the area of the proposed clearing is less than 0.5 hectares in size and the Clearing Principle (f) impacts only relate to:</p> <ul style="list-style-type: none"> <li>(i) a minor non-perennial watercourse(s);</li> <li>(ii) a wetland(s) classed as a multiple use management category wetland(s); and/or</li> <li>(iii) a wetland that is not a defined wetland;</li> </ul> <p>the preparation of an Assessment Report, as required by condition 6(e), is not required.</p>	<b>No</b>	No further action required.
<p><b>2.</b> Clearing is at variance or may be at variance with Clearing Principle (g) land degradation, (i) surface or underground water quality or (j) the incidence of flooding.</p>	<b>No</b>	No further action required.
<p><b>3.</b> The project involves clearing for temporary works (as defined by CPS 818).</p>	<b>Yes</b>	Implement CPS 818 Condition 9 Revegetation and Rehabilitation requirements.
<p><b>4 a.</b> Project is within Region that:</p> <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 in 'Other than dry conditions' and</li> <li>- Works have potential for <b>uninfested</b> areas to be impacted</li> </ul>	<b>No</b>	Proceed with standard Vehicle and Plant management actions from PEMR's and Vehicle and Plant Hygiene Checklists



Impact of Clearing	Yes/No or NA	<i>Further Action Required</i>
<p><b>4b.</b> Does the proposed works require clearing within or adjacent to DBCA estate in non-dry conditions?</p>	<p><b>No</b></p>	<p>No further action required.</p>
<p><b>5.</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</p>	<p><b>No</b></p>	<p>No further action required.</p>
<p><b>6.</b> The vegetation within the area to be cleared and/or the surrounding vegetation in a good or better condition and weeds likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition</p>	<p><b>No</b></p>	<p>No further action required.</p>

## **7 STAKEHOLDER CONSULTATION**

Main Roads will undertake stakeholder consultation in accordance with CPS 818/15 Condition 8.

## 8 REFERENCES

Astron (2018) Great Eastern Highway – Merredin to Southern Cross SLK 258.5 – 365.5 Biological Assessment, September 2018. Report prepared for Main Roads WA, by Astron Environmental Services.

Avon Catchment Council (2007) Tree-stem Trapdoor Spider (*Aganippe castellum*) Conservation Plan No. ##. Avon Catchment Council, Western Australia.

Bamford (2017) Red-tailed Phascogale Assessment – Maintenance Zone Establishment – Toodyay-Goomalling Road (M060), Williams-Narrogin Highway (H053) and Pinjarra-Williams Road (M053). Report prepared for Main Roads WA, by Bamford Consulting Ecologists.

Benshemesh, J. (2007). National Recovery Plan for Malleefowl. Department for Environment and Heritage, South Australia.

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001 – 2005. Commonwealth of Australia, Canberra.

GHD (2016) Great Eastern Highway – Merredin to Southern Cross SLK 258.5–365.5 Biological Assessment. Report prepared for Main Roads WA, by GHD.

Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. Available online from: <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>.

Main Roads Western Australia (2020) Site Inspection Report - Great Eastern Highway SLK 290.50 – 293. 23 January 2020.

Western Australian Herbarium (1998) *FloraBase* - The Western Australian Flora. Department of Biodiversity, Conservation and Attractions. Available online from: <https://florabase.dpaw.wa.gov.au/> Accessed 18/10/2019.

## 9 APPENDICES

Appendix	Title
Appendix 1	Site Photos

## Appendix 1 – Site Photos



**Photo 1 – Looking SE towards GEH**



**Photo 2 – Looking SE towards GEH**



GEH Sidetrack  
05.07.2022 11:17  
E: 653484 N: 6528251 Zone 50  
Great, National Highway 94, Walgoolan WA

**Photo 3 – Looking W towards existing fenceline**



GEH Sidetrack  
05.07.2022 11:16  
E: 653454 N: 6528232 Zone 50  
Great, National Highway 94, Walgoolan WA

**Photo 4 – Looking NW towards existing access track and disturbance**