Native Vegetation Clearance

Normanville to Cape Jervis Overtaking Lanes – Option 1

Data Report – Final

Clearance under the *Native Vegetation Regulations 2017*

15/08/2025

Prepared by E. West (NVC Accredited Consultant)

Normanville to Cape Jervis Overtaking Lanes – Option 1 Native Vegetation Clearance Data Report – Final

Prepared by Umwelt (Australia) Pty Ltd for Department for Infrastructure and Transport

Project Number: 31960

Disclaimer

CITATION: Umwelt (2025) Normanville to Cape Jervis Overtaking Lanes – Option 1 Native Vegetation Clearance Data Report. Report to Department for Infrastructure and Transport. Umwelt (Australia) Pty Ltd, Adelaide.

Document Status

Rev No.	Reviewer		Approved for Issue	
	Name	Date	Name	Date
V1	J. Skewes	04/03/2025	Dr. M. Louter	04/03/2025
V2	E. West and I. Marshall	21/03/2025	Dr. M. Louter	24/03/2025
V3	E. West and I. Marshall	23/06/2025	Dr. M. Louter	23/06/2025
V4	-	-	Dr. M. Louter	08/07/2025
V5	-	-	Dr. M. Louter	14/08/2025
V6	-	-	Dr. M. Louter	15/08/2025

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Glossary and Abbreviations

BAM	Bushland Assessment Method
BDBSA	Biological Database of South Australia (maintained by DEW)
CAD	Computer-aided Design
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DEW	Department for Environment and Water (South Australia)
DIT	Department for Infrastructure and Transport (South Australia)
EBS	EBS Ecology, now trading as Umwelt
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
FCA	Fleurieu Connections Alliance
ha	Hectare(s)
IBRA	Interim Biogeographical Regionalisation of Australia
km	Kilometre(s)
LSA Act	*Landscape South Australia Act 2019* (South Australia)
m	Metre(s)
MM	Maintenance Marker(s)
mm	Millimetre(s)
MNES	Matters of National Environmental Significance
NatureMaps	An online format for accessing information on South Australia's natural resources (maintained by DEW)
NPW Act	*National Parks and Wildlife Act 1972* (South Australia)
NPWSSA	National Parks and Wildlife Service (South Australia)
NV Act	*Native Vegetation Act 1991* (South Australia)
NVC	Native Vegetation Council
Pers. comms	Personal Communications
PDI Act	*Planning, Development and Infrastructure Act 2016* (South Australia)
PMST	Protected Matters Search Tool (under the EPBC Act; maintained by DCCEEW)
Project	The development of overtaking lanes on Main South Road.
Project Area	The 3.376 ha of land under application, between MM 70.04 and MM 72.06
SA	South Australia(n)
Search Area	5 km buffer of the Project Area considered in the desktop assessment database searches
SEB	Significant Environmental Benefit
sp.	Species
spp.	Species (plural)
ssp.	Sub-species
STAM	Scattered Tree Assessment Method
TBS	Total Biodiversity Score
UBS	Unit Biodiversity Score
TEC	Threatened Ecological Community
Umwelt	Umwelt (Australia) Pty Ltd
var.	Variety (a taxonomic rank below that of species and subspecies, but above that of form)
WoNS	Weeds of National Significance
%	Percent
<	Less than

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Attachment 4 – Spatial data package (shapefiles)

1. APPLICATION INFORMATION

Details of the native vegetation clearance applicant are summarised in **Table 1.1**. A summary of the proposed clearance is available in **Table 1.2**.

Table 1.1 Applicant Details

Applicant:	Department for Infrastructure and Transport (DIT).		
Key contact:	Structures & Fleurieu Connections Department for Infrastructure and Transport E M:		
Landowner:	Department for Infrastructure and Transport.		
Site Address:	Main South Road: Maintenance Marker (MM) 70.04 and MM 72.06.		
Local Government Area:	District Council of Yankalilla	**Hundred:**	Yankalilla
Title ID:	Road Reserve: DIT CT/5827/180 CT/6074/7	**Parcel ID**	Road Reserve: DIT D55660 Q51 D43198 Q50

Table 1.2 Summary of the Proposed Clearance

Purpose of Clearance:	Native vegetation clearance is required to establish overtaking lanes on Main South Road between MM 70.04 and MM 72.06.
Native Vegetation Regulation:	Regulation 12, Schedule 1, clause 32, Works on Behalf of the Commissioner of Highways.
Description of the Vegetation under Application:	A total of 84 scattered trees consisting of three species. This includes 27 *Allocasuarina verticillata* (Drooping Sheoak), 56 *Acacia pycnantha* (Golden Wattle) and one (1) *Eucalyptus fasciculosa* (Pink Gum). A total of 0.655 hectares (ha) of native vegetation consisting of three different Vegetation Associations (VAs): • **A1:** *Austrostipa* sp. grassland +/- *Allocasuarina verticillata* and *Acacia pycnantha* over *Actrotriche* sp. and *Leucopogon parviflorus* • **A2:** *Dodonaea viscosa* very open shrubland over exotic grasses. • **A3:** *Acacia pycnantha* and *Allocasuarina verticillata* open woodland.
Total Proposed Clearance – Area (ha) and/or Number of Trees:	84 scattered trees and 0.655 ha patch of native vegetation.
Level of Clearance:	Level 4
Overlay (Planning and Design Code):	Native Vegetation.
Map of Proposed Clearance Area:	Please refer to **Figure 4.1**.
Mitigation Hierarchy:	**Avoidance** Through the initial planning study and subsequent design refinement, the location and alignment of the overtaking lane has avoided native vegetation, where possible. The initial assessment undertaken in 2023 at Option 1, identified a total of 15 *Eucalyptus fasciculosa* trees (NPW Act: Rare), three of which TBS greater than (>) 4. The redesign of Option 1 has resulted in only 1 of the three trees TBS less than (<) 4 (Tree 57) proposed to be impacted. Furthermore, a redesign in in May 2025, resulted in the further reduction of trees proposed to be impacted. Initial designs sent through in February 2025 proposed to impact 118 trees (46 *Allocasuarina verticillata*, 71 *Acacia pycnantha* and 1 *Eucalyptus*

	fasciculosa). This how now been reduced to a total of 84 scattered trees (please refer to Attachment 2). **Minimisation** A large portion of construction is proposed to take place within previously disturbed areas of the road corridor or areas dominated by amenity plantings or weed species, thereby minimising impacts to native vegetation. DIT and its contractors will adhere to guidelines and policies for assessing and removing native vegetation and the construction contractor will be required to implement a Construction Environmental Management Plan (CEMP) to minimise any direct and indirect impacts including to off-target vegetation, and to address fauna protection measures. Further design measures used to minimise impact include maintaining the existing alignment despite geometric deficiencies, utilising the shoulder and Wide Centre Line Treatment area for large vehicles to negotiate curves instead of widening the road and replacing features like benches in the cut face, which facilitate maintenance, with other engineering measures that reduce the need for future maintenance access. More specifically, redesign at the post IFC level include the following changes to mimise impact: • Reduce total length of the overtaking lane by approximately 190 m by removing the extension of the wide centreline marking and reducing the wide centreline transition length at the start and end of the overtaking lane. • Reducing the width of the wide centreline treatment from 1.4 m to 1 m. • Steepening the batter of the overtaking lane. **Rehabilitation or Restoration** As clearance will not be a temporary action, vegetation that is to be impacted will be permanently removed. The opportunity to incorporate final landscaping works utilising locally native species is currently being investigated (*pers. comms,* R. Joseph, DIT). **Offset** Offsetting will be made by way of payment into the Native Vegetation Fund. Please note, that DIT will be investigating an on-ground SEB Offsets via an NVC Accredited Third Party Provider.
SEB Offset Proposal	At the time of application, DIT will be meeting the SEB Offset requirement via payment to the NV Fund. The total SEB payment for the clearance of **84** scattered trees and **0.655 ha** of native vegetation, with a combined TBS of **53.99**, is **$75,744.77** (including an administration fee of **$3,948.79**).

2. PURPOSE OF THE CLEARANCE

2.1. Description

The Department for Infrastructure and Transport (DIT) are proposing to deliver a series of overtaking lanes on Main South Road between Normanville and Cape Jervis, in the lower Fleurieu Peninsula, South Australia (SA) (the Project). In order to facilitate these works, DIT will be required to undertake native vegetation clearance for the installation of road infrastructure. Umwelt (Australia) Pty Ltd (Umwelt) has been engaged by DIT to prepare a clearance report for works between Maintenance Markers (MM) 70.04 and MM 72.06. (the Project Area) (see **Figure 2.1**).

At the 30 percent (%) design stage, EBS Ecology (now Umwelt) was engaged by Fleurieu Connections Alliance (FCA), on behalf of DIT, to undertake an ecological field assessment for potential site options for the overtaking lanes. Following selection of the three proposed overtaking lane locations, Umwelt was directly engaged by DIT to conduct an additional field assessment to assist in design refinement.

This report is based on the Computer-aided Design (CAD) files issued to Umwelt by DIT on the 21 July 2025.

This report pertains to the ecological assessment conducted for Option 1. For this assessment, all impacts to native vegetation have been assessed in accordance with DIT's *Vegetation Impact Assessment Guideline EHTM Attachment 4B* (DIT 2021) and associated legislation. As per these guidelines, native vegetation can be removed under various activities (i.e., New Works, Public Safety Works, and/or Maintenance Works) that require different levels and/or types of approval and offsetting. As the construction of overtaking lane infrastructure falls under what is considered New Works, this has required the preparation and submission of a formal Data Report to the Native Vegetation Council (NVC) for approval.

Objectives

This native vegetation assessment, in accordance with the *Native Vegetation Act 1991* (NV Act) and the *Native Vegetation Regulations 2017,* has the following objectives:

- To undertake a desktop assessment for the likelihood of occurrence of Threatened Ecological Communities (TECs), flora and fauna protected under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and the State's *National Parks and Wildlife Act 1972* (NPW Act).
- To assess native vegetation within the Project Area by applying the NVC endorsed Scattered Tree Assessment Method (STAM) and Bushland Assessment Method (BAM).
- To identify any 'Declared' plants under the *Landscape South Australia Act 2019* or Weeds of National Significance (WoNS) that may be significant in relation to the Projects requirements.
- To calculate the SEB offset requirements for the Project based on the client supplied impact footprint.

2.2. General Location Map

The regional context of the Project Area is indicated in **Figure 2.1**.

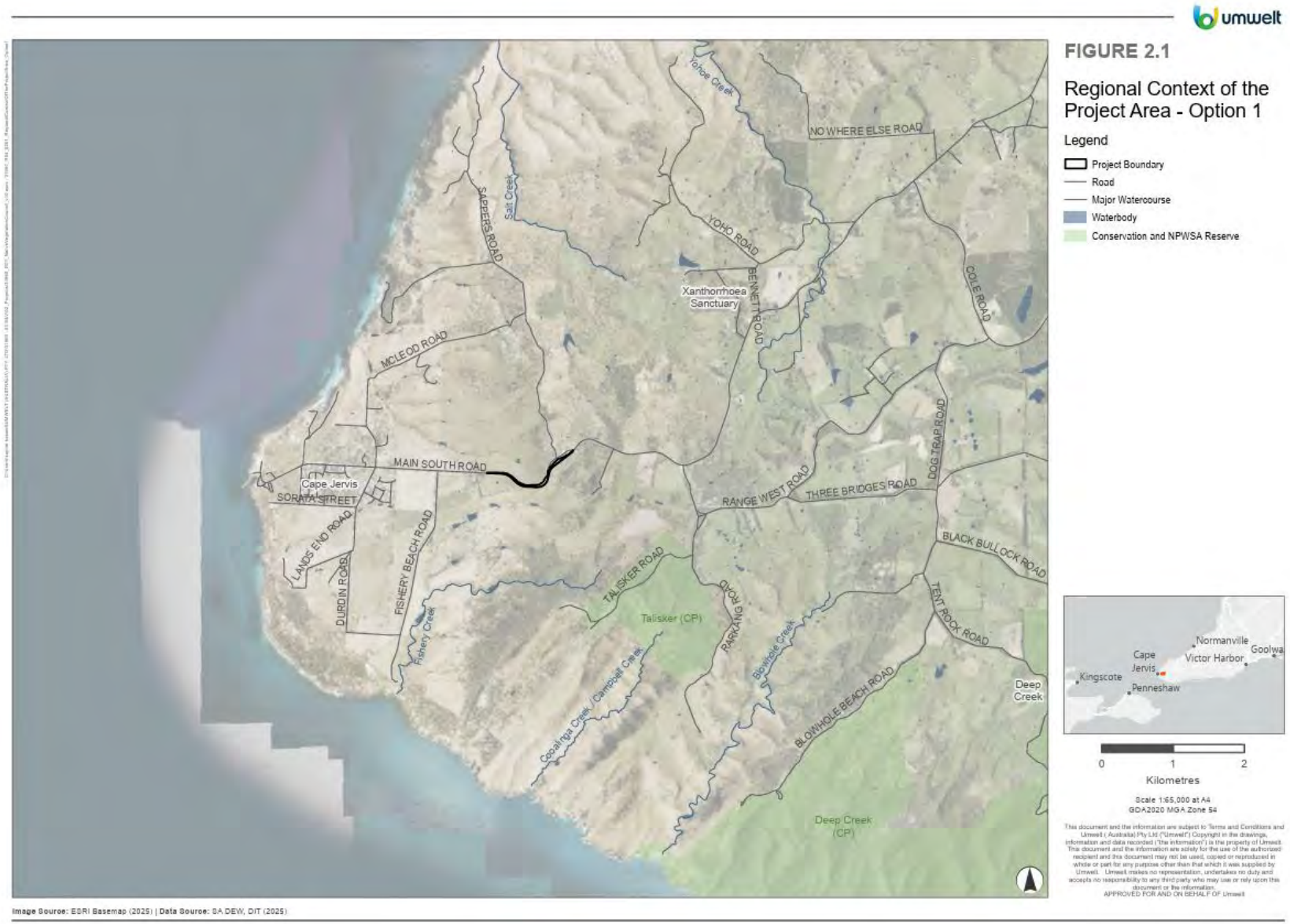

Figure 2.1 Regional Context of the Project Area – Option 1

2.3. Background

Two terms are used to describe the location of the Project:

- Project Area – the area where works are to occur (i.e., the footprint of the Project).
- Search Area – a 5-kilometre (km) buffer surrounding the Project Area, used for the desktop component of this Data Report.

Administrative Boundaries

Works are proposed in the District Council of Yankalilla, within the Hills and Fleurieu Landscape Management Region, and the Hundred of Yankalilla (DEW 2025a). The length of the Project Area does not encompass any Roadside Significant Sites (DEW 2025a). There are two Heritage Agreement areas and one National Parks and Wildlife Service South Australia (NPWSSA) property within the Search Area, although none are in close proximity to the Project Area (DEW 2025a).

Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) was designed to provide a framework for reporting on geographically distinct landscapes. IBRA entities broadly describe areas of similar topography, geology, soil, and vegetation composition.

The Project Area is represented by the Mt Rapid association of the Fleurieu subregion, encompassed by the wider Kanmantoo bioregion. Approximately 1,103 ha (9%) of this IBRA association is mapped as containing remnant vegetation, of which 81 ha (7%) is formally conserved.

2.4. Details of the Proposal

The South Australian Government, in partnership with the Commonwealth, are intending to deliver a series of overtaking lanes on Main South Road between Normanville and Cape Jervis to improve road safety for commuters. This specific Project and NV Application concerns the development of Option 1.

The proposed scope of work will include:

- 1m wide centreline treatment
- Road widening to facilitate the installation of the overtaking lanes on the northern side of the road.
- The installation of sealed and unsealed shoulders.
- Upgraded culverts.
- Safety barriers and audio tactile line markings in required locations.

Options 4 (Umwelt 2025b) and Option 5 (Umwelt 2025c) will be addressed in separate Data Reports submitted to the NVC. Hereafter, reference to ‘the Project’ refers to Option 1 only.

2.5. Approvals Required or Obtained

- ***Native Vegetation Act 1991*** **(NV Act)** – The Project is subject to the NV Act, which is the focus of this Data Report, and fulfils the requirements of the NV Act to clear native vegetation.
- ***Planning, Development and Infrastructure Act 2016*** **(PDI Act)** – Provisions relating to Regulated or Significant Trees will not apply for this Project.
- ***Environment Protection and Biodiversity Conservation Act 1999*** **(EPBC Act)** – An assessment of Matters of National Environmental Significance (MNES) protected under the EPBC Act found it unlikely for there to be any significant impact to an MNES-listed entity from these specific Project works. Therefore, the preparation of a Self-assessment or a Referral under the EPBC Act is not considered necessary.
- ***National Parks and Wildlife Act 1972*** **(NPW Act)** – The flora and fauna surveys conducted as part of this native vegetation clearance application were undertaken by Umwelt under Scientific Research License K25613-27.
- ***Landscapes South Australia Act 2019*** **(LSA Act) –** All landowners have a responsibility to promote sustainable management of the State's landscape, which includes minimising occurrence, transport, and dispersal of weeds, including those listed as Declared under the LSA Act or a Weed of National Significance (WoNS) under Biosecurity Act 2015. Standard procedures, such as those outlined in a Construction Environmental Management Plan (CEMP), should be in place to prevent the encroachment of weeds and other indirect environmental impacts.
- ***Aboriginal Heritage Act 1988*** – Approval will be required if any sites, objects or remains are uncovered during the works. A 'Stop Work' procedure should be implemented if any items of this nature are located.

2.6. Native Vegetation Regulation

The Project is permitted under the following regulation:

> **Regulation 12 (32) – Works on behalf of Commissioner of Highways**
> Clearance of vegetation incidental to work being undertaken by, or on behalf, of the Commissioner of Highways (other than repair or maintenance work of a kind referred to in Part 1 clause 2).

2.6.1. *Approval and Offset Details for Impacts to Native Vegetation*

As per DIT's *Vegetation Impact Assessment Guideline EHTM Attachment 4B*, the establishment of an overtaking lane constitutes what is considered 'New Works' (DIT 2021). As the Project has been escalated to a Level 4 Clearance (see **Section 4.7**), approval for the Project will be sought from the Native Vegetation Assessment Panel and endorsed by the Department's Director of Planning and Technical Services (DIT 2021).

3. METHODOLOGY

3.1. Flora Assessment

An initial flora assessment was undertaken at the 30% design phase by NVC Accredited Senior Ecologist J. Skewes and Ecologist S. Greer from 19 to 24 July 2023 and from 7 to 15 August 2023. An additional flora assessment was undertaken by NVC Accredited Consultant E. West and Ecologist I. Marshall from 21 January to 24 January 2025. All surveys were conducted in accordance with the STAM (NVC 2024a) and BAM (NVC 2024b) as required, detailed further in the following sections.

3.1.1. Scattered Tree Assessment Method

The STAM is derived from the *Scattered Tree Clearance Assessment in South Australia: Streamlining, Guidelines for Assessment and Rural Industry Extension report* (Cutten and Hodder 2002). As outlined in the Scattered Tree Assessment Manual (NVC 2024a), scattered trees may be assessed in the following instances:

- Where there are individual scattered trees (i.e., the canopy does not overlap). The spatial distribution of trees may vary from approaching what would be considered their original distribution (pre-European) through to single isolated trees in the middle of a paddock.
- Dead trees (when a dead tree is considered native vegetation).
- Clumps of trees (contiguous overlapping canopies) if the clump is small (approximately <0.1 ha).

For both scattered trees and clumps:

- the ground layer comprises wholly or largely of introduced species
- some scattered colonising native species may be present but represent <5 % of the ground cover
- the area around the trees consists of introduced pasture or crops.

The number of uncommon and threatened scattered tree using fauna species were entered into the Scattered Tree Scoresheet by cross referencing the Biological Database of South Australia (BDBSA) data extract and the lists of scattered trees using fauna in the *Scattered Tree Assessment Manual* (NVC 2024a). The resource use of each species identified was considered when determining each tree's suitability for threatened fauna species (e.g., species that only use hollows in scattered trees were only assigned to scattered trees containing hollows).

3.1.2. Bushland Assessment Method

The BAM is derived from the Nature Conservation Society of South Australia's Bushland Condition Monitoring methodology (Croft et al. 2008). The BAM is used to assess areas of native vegetation requiring clearance and calculate the SEB requirements.

Details of site selection/stratification and assessment protocols, and the biodiversity value components assessed and the factors that influence these components are outlined in the Bushland Assessment Manual (NVC 2024b).

The Conservation Significance Scores were calculated from direct observations of flora and direct and historical observations of fauna species of conservation significance. All fauna identified as known or likely to occur in the Protected Matters Search Tool (PMST), and fauna with Biological Database of South Australia (BDBSA) records since 1995 and with a spatial reliability of less than 1 km, within 5 km of the Project Area, were included in the BAM scoresheets. Species determined as unlikely to occur within the Project Area will be removed by the Native Vegetation Branch if the finding is supported. Marine and/or wetland species were omitted from the scoresheets given the Project Area is terrestrial.

3.1.3. Provisional List of Threatened Ecosystems

The *Provisional List of Threatened Ecosystems* (Department for Environment and Heritage 2005) was reviewed to determine whether any vegetation associations impacted meet the criteria for listing as a threatened ecosystem at the state level.

3.2. Fauna Assessment

A desktop assessment was undertaken for the Search Area to determine the potential for any threatened fauna species to occur within the Project Area. This included species listed under the EPBC Act and the NPW Act. The following databases were utilised to obtain records of threatened species:

- a Protected Matters Search Tool (PMST) report, generated by the Department of Climate Change, Energy, the Environment and Water (DCCEEW), to identify any MNES that are known to occur from within the Search Area.
- A BDBSA data extract obtained from the Department for Environment and Water (DEW) that identifies the location of historical records of flora and fauna from within the Search Area.

3.2.1. Protected Matters Search Tool report

A PMST report was generated on 17 January 2025 to identify flora, fauna and TECs listed under the EPBC Act as threatened or Migratory (DCCEEW 2025a). Only species and TECs identified in the PMST report as 'Known' to occur within the Search Area were assessed for their likelihood of occurrence within the Project Area. A complete assessment of all species identified by the PMST is provided in **Appendix 3.**

3.2.2. Biological Database of South Australia Data Extract

A BDBSA data extract was obtained from the DEW to identify flora and fauna species that have been recorded within the Search Area (data extracted 13/01/2025; DEW 2025b Recordset number: 250110-3).

The BDBSA is comprised of an integrated collection of species records from the South Australian Museum, conservation organisations, private consultancies, Birds SA, Birdlife Australia and the Australasian Wader Study Group, which meet DEW's standards for data quality, integrity and maintenance. Only species with records since 1995 and a spatial reliability of less than (<) 1 km were assessed for their likelihood of occurrence.

All threatened fauna identified by the BDBSA extract were entered into the scoresheets for the purposes of calculating the threatened fauna score, conservation significance score and SEB obligations of the clearance. Species assessed as unlikely to occur in the Project Area may be removed by the NVC during the approvals process.

3.2.3. Field Survey

Opportunistic observations of fauna were recorded throughout the Project Area for the duration of the vegetation assessment. All native and exotic fauna species opportunistically encountered – directly observed, or from tracks, scats, burrows, nests, or other signs of presence – were recorded.

Potential fauna refuge sites (i.e., surface rock deposits) were noted as an indication of the availability of suitable habitat. Particular attention was given to identifying habitat for the threatened species identified in the desktop assessment. For each opportunistic fauna observation, the species and location, detection methodology (i.e., sight, sound, or sign) were recorded.

3.2.4. Likelihood of Occurrence

Threatened species and TECs identified from the PMST and BDBSA data extract were assessed for their likelihood of occurrence within the Project Area. All species with historical records since 1995 with a spatial reliability of < 1 km, and species listed as 'Known' to occur by the PMST, were assessed. Species with habitat requirements wholly inappropriate for the land under application (i.e., marine species) were not assessed.

The assessment was based on the recency of records, habitat preferences, and the results of the field survey. The criterion for this assessment is described in Table 3.1. Species that have recent records but do not have suitable habitat within the Project Area have been excluded from Bushland Scoresheets, this includes coastal species that have specific habitat and foraging habitats. Species that have been excluded include:

- Australian Sea lion (*Neophoca cinerea*) – nationally Endangered and State Vulnerable (BDBSA record 1997)
- Fairy Tern (*Sternula nereis nereis*) – nationally Vulnerable and State Endangered (PMST Known).
- Flesh-footed Shearwater (*Ardenna carneipes*) - State Rare (BDBSA record 2006)
- Hooded Plover (*Thinornis cucullatus cucullatus*) – nationally and State Vulnerable (BDBSA record 2016)
- Pacific Reef Heron (*Egretta sacra sacra*) - State Rare (BDBSA record 2004).

Table 3.1 Criteria for the Likelihood of Occurrence of Threatened Species within the Project Area

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or; The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species. Recorded within 20–40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provides no habitat or feeding resources for the species, including perching, roosting or nesting opportunities, corridor for movement or shelter. Recorded within 20–40 years; however, suitable habitat does not occur, and species of similar habitat requirements have not been recorded in the area. No records despite adequate survey effort.

3.2.5. Limitations

Flora and fauna records were retrieved from the PMST and BDBSA data extract. The BDBSA only includes verified flora and fauna records submitted to DEW or partner organisations. It is recognised that information is captured imperfectly, and it is possible that significant species may occur in the Project Area that are not reflected by the database records. Although much of the BDBSA data has been through a variety of validation processes, the lists may contain errors and should be used with caution. DEW gives no warranty that the data is accurate or fit for any particular purpose.

As the database search was limited to a buffer around the Project Area, the reliability of records is challenged by the ability of fauna species (particularly birds) traversing distances greater than that of the search buffer. It is also acknowledged that the presence of species may not be adequately represented by database records. Hence, the results may not highlight all potential threatened species that may occur in the area.

Limitations associated with the field work component of this assessment are as follows:

- Due to the timing of the surveys certain species may not have been present, visible, or identifiable. Therefore, species lists should not be considered wholly comprehensive.
- Targeted fauna survey methods such as fauna trapping, microbat ultrasonic call capture and analysis, and nocturnal spotlighting were not undertaken for the current assessment.
- Spatial data recorded during the field survey was collected by hand-held GPS and has a spatial reliability of approximately +/- 3-5 m.
- All spatial data has been captured or converted to the following coordinate reference system:
  - Datum: Geocentric Datum of Australia 2020 (GDA2020
  - Projection: Map Grid of Australia 2020 (MGA2020), Zone 54.

4. ASSESSMENT OUTCOMES

4.1. Vegetation Assessment

4.1.1. General Description of the Vegetation, the Site and Matters of Significance

Option 1 was the southern-most option for the overtaking lanes, located approximately 3.2 km north from the town of Cape Jervis. Within the surveyed road corridor, the vegetation consisted of scattered trees with small patches of native vegetation, joined by lengths of degraded vegetation with cover dominated by exotic grasses and forbs. Vegetation beyond the Project Area was largely cropping, exotic pasture or planted vegetation (of both native and introduced species) on private land.

The Project Area is located amidst rolling hills and ridges, characterised by shallow, stony soils and varying rock outcrops. The soils range from shallow to moderately deep, with a predominant loam or clay composition, often underlain by basement rock or calcareous materials. While no watercourses are found within the Project Area itself, several unnamed non-perennial watercourses and dams are present in the surrounding area. The site receives an average annual rainfall of 732 millimeters (mm).

The field survey encountered 35 flora species in the vicinity of the Project Area, as listed in **Appendix 1**, which included 16 native and 19 exotic species. Four of the exotic species are Declared plants under the LSA Act, with two also WoNS, this includes:

- *Asparagus asparagoides* (Bridal Creeper) – listed as Declared and WoNS
- *Olea europaea* (European Olive) – listed as Declared
- *Rosa canina* (Dog Rose) – listed as Declared
- *Ulex europaeus* (Gorse) – listed as Declared and WoNS.

The field survey encountered six fauna species, as listed in **Appendix 2**, all of which were native. One threatened fauna species was encountered within the Project Area (discussed further in **Section 4.3.2**):

- Yellow-tailed Black-Cockatoo (*Zanda funerea whiteae*) – listed as Vulnerable under the NPW Act.

4.1.2. Details of the Scattered Trees Proposed to be Impacted

A summary of the scattered trees proposed to be impacted by the Project is provided in **Table 4.1** and mapped in **Figure 4.1.** The relevant STAM scoresheet is provided as **Attachment 2** and photos of impacted trees are outlined in **Appendix 4**.

Table 4.1 Scattered Trees within the Project Area

Tree #	Scientific Name	No.	Height (m)	Diameter (cm)	Dieback (%)	Hollows (S, M, L)	Total Biodiversity Score
2	*Acacia pycnantha*	1	5	15	40	0	0.48
4	*Allocasuarina verticillata*	3	2	2	0	0	0.48
6	*Allocasuarina verticillata*	1	1	1	0	0	0.12
7	*Allocasuarina verticillata*	19	1.5	1	0	0	2.66

Tree #	Scientific Name	No.	Height (m)	Diameter (cm)	Dieback (%)	Hollows (S, M, L)	Total Biodiversity Score
8	*Acacia pycnantha*	1	1	1	0	0	0.17
9	*Acacia pycnantha*	6	1	1	0	0	1.02
10	*Acacia pycnantha*	1	1	1	5	0	0.14
11	*Allocasuarina verticillata*	1	5	23.5	15	0	0.52
12	*Allocasuarina verticillata*	1	6	20	20	0	0.40
13	*Allocasuarina verticillata*	1	3	4	0	0	0.21
14	*Acacia pycnantha*	5	4.5	14	15	0	4.80
16	*Acacia pycnantha*	4	5	10	5	0	3.88
24	*Acacia pycnantha*	1	2	4	80	0	0.09
26	*Acacia pycnantha*	7	5	14.5	15	0	7.56
31	*Allocasuarina verticillata*	1	2.5	5	0	0	0.20
32	*Acacia pycnantha*	3	1	1	0	0	0.42
33	*Acacia pycnantha*	1	4.5	19.5	40	0	0.54
34	*Acacia pycnantha*	1	6	25	45	0	1.27
37	*Acacia pycnantha*	2	6	25	75	0	1.92
42	*Acacia pycnantha*	2	5.5	12.5	10	0	2.30
44	*Acacia pycnantha*	5	4.5	17	20	0	2.55
46	*Acacia pycnantha*	1	3.5	9	25	0	0.28
47	*Acacia pycnantha*	1	5.5	19	5	0	1.32
49	*Acacia pycnantha*	2	4.5	14	30	0	0.94
50	*Acacia pycnantha*	1	4.2	18.5	10	0	1.00
51	*Acacia pycnantha*	1	3	7.5	75	0	0.14
52	*Acacia pycnantha*	5	5	17	25	0	2.85
53	*Acacia pycnantha*	1	5.5	19	15	0	1.32
54	*Acacia pycnantha*	1	1.8	1	5	0	0.19
55	*Acacia pycnantha*	1	2.4	5	10	0	0.26
56	*Acacia pycnantha*	1	4	11	15	0	0.53
57	*Eucalyptus fasciculosa* (medium trees in South east; Eastern MLR footslopes & area grading to the Lakes - i.e.lower rainfall – see maps)	1	7.5	50	30	0	2.35
58	*Acacia pycnantha*	1	5	17	5	0	1.14

No. = Number in clump, **Hollow Code: S** = Small, **M** = Medium, **L** = Large.

4.1.3. Detail of Vegetation Associations Proposed to be Impacted

Table 4.2 to Table 4.4 describe the Vegetation Associations (VAs) in further detail and mapped in **Figure 4.1**. The relevant BAM scoresheets are provided as **Attachment 3**.

Table 4.2 Summary of Vegetation Association 1

Vegetation Association	**A1:** *Austrostipa* sp. grassland +/- *Allocasuarina verticillata* and *Acacia pycnantha* over *Actrotriche* sp. and *Leucopogon parviflorus*				
BAM Sites	**A1**				
	 **Photo direction**: North. **Eastings**: 241025, Northing: 6056180.				
General description	This vegetation is located on steep slope on the northern side of Main South Road. Dominance from native grasses with regenerating and scattered midstorey of *Allocasuarina* and *Acacia pycnantha*. Understorey plants include *Leucopogon parviflorus* and *Actrotriche* sp.				
Threatened species or community	The VA did not meet the criteria for any listed TECs and no threatened flora species were recorded within this vegetation association. One State listed threatened fauna species was recorded as a fly-over while surveying the area, Yellow-tailed Black-Cockatoo (*Zanda funerea whiteae*) – listed as Vulnerable under the NPW Act. *Allocasuarina* is likely to provide foraging habitat. Other species that may utilise this VA, includes: Species assessed as **Likely** to occur: • Common Brushtail Possum (*Trichosurus vulpecula*) – State Rare • Elegant Parrot (*Neophema elegans elegans*) – State Rare • Grey-headed Flying-fox (*Pteropus poliocephalus*) – nationally Vulnerable and State Rare • Peregrine Falcon (*Falco peregrinus macropus*) – State Rare • Scarlet Robin (*Petroica boodang boodang*) – State Rare. • Swamp Rat (*Rattus lutreolus*) – State Rare • White-bellied Sea Eagle (*Haliaeetus leucogaster*) – State Endangered Species assessed as **Possibly** occurring: • Beautiful Firetail (*Stagonopleura bella samueli*) – nationally Endangered and State Rare • Cunningham's Skink (*Egernia cunninghami*) – State Endangered • Eastern Shriketit (Falcunculus frontatus frontatus) – State Rare • Painted Buttonquail (*Turnix varius varius*) – State Rare • South Australian Bassian Thrush (*Zoothera lunulata halmaturina*) – nationally Endangered and State Rare • Southern Brown Bandicoot (*Isoodon obesulus obesulus*) – nationally endangered and State Vulnerable • Yellow-footed Antechinus (*Antechinus flavipes*) – State Vulnerable.				
Landscape context score	1.16	**Vegetation Condition Score**	12.31	**Conservation significance score**	1.10
Unit biodiversity Score	15.71	**Area (ha)**	0.155	**Total biodiversity Score**	2.44

Table 4.3 Summary of Vegetation Association 2

Vegetation Association	**A2:** *Dodonaea viscosa* very open shrubland over exotic grasses.				
BAM Sites	**A2a and A2b**				
 **A2a**: **Photo direction**, South east. **Easting**: 240858, **Northing**: 6055962			 **A2b: Photo direction**, West. **Eastings**: 240712, **Northing**: 6055849.		
General description	This VA was located within the understorey of a planted patch of *Allocasuarina verticillata*. Native species were sparse and scattered but consisted of a variety of lifeforms such as shrubs, grasses and herbs, including *Astroloma humifusum*, *Austrostipa* sp., *Rytidosperma* sp., *Lomandra densiflora* and *Dichondra repens*. Natural regeneration of the *A. verticillata* was also noted throughout this area. Exotic grasses were dominant throughout the understorey with scattered individuals of the Declared weed *Ulex europaeus* (Gorse).				
Threatened species or community	The VA did not meet the criteria for any listed TECs and no threatened flora species were recorded within the association. One State listed threatened fauna species was recorded as a fly-over while surveying the area, Yellow-tailed Black-Cockatoo (*Zanda funerea whiteae*) – listed as Vulnerable under the NPW Act. Species assessed as **Likely** to occur: • Common Brushtail Possum (*Trichosurus vulpecula*) – State Rare • Elegant Parrot (*Neophema elegans elegans*) – State Rare • Grey-headed Flying-fox (*Pteropus poliocephalus*) – nationally Vulnerable and State Rare • Peregrine Falcon (*Falco peregrinus macropus*) – State Rare • Scarlet Robin (*Petroica boodang boodang*) – State Rare. • Swamp Rat (*Rattus lutreolus*) – State Rare • White-bellied Sea Eagle (*Haliaeetus leucogaster*) – State Endangered Species assessed as **Possibly** occurring: • Beautiful Firetail (*Stagonopleura bella samueli*) – nationally Endangered and State Rare • Cunningham's Skink (*Egernia cunninghami*) – State Endangered • Eastern Shriketit (Falcunculus frontatus frontatus) – State Rare • Painted Buttonquail (*Turnix varius varius*) – State Rare • South Australian Bassian Thrush (*Zoothera lunulata halmaturina*) – nationally Endangered and State Rare • Southern Brown Bandicoot (*Isoodon obesulus obesulus*) – nationally endangered and State Vulnerable • Yellow-footed Antechinus (*Antechinus flavipes*) – State Vulnerable.				
Landscape context score	1.16	**Vegetation Condition Score**	7.57	**Conservation significance score**	1.10
Unit biodiversity Score (average score)	9.65	**Area (ha)**	0.387	**Total biodiversity Score (average score)**	3.67

Table 4.4 Summary of Vegetation Association 3

Vegetation Association	**A3:** *Acacia pycnantha and Allocasuarina verticillata* open woodland.				
BAM Sites	**A3**				
	 **Photo direction**: East. **Eastings**: 240368, **Northing**: 6055989.				
General description	This VA was located along the northern side of Main South Road. It consisted of mature *Acacia pycnantha*, *Allocasuarina verticillata* and *Eucalyptus fasciculosa* trees. The understorey was dominated predominately by exotic grasses with scattered native grasses and shrubs such as *Austrostipa* sp., *Rytidosperma* sp. And *Astroloma humifusum*.				
Threatened species or community	The VA did not meet the criteria for any listed TECs. One State listed threatened flora species was recorded in the association, *Eucalyptus fasciculosa* (Pink Gum) – listed as Rare under the NPW Act. One State listed threatened fauna species was recorded as a fly-over while surveying the area, Yellow-tailed Black-Cockatoo (*Zanda funerea whiteae*) – listed as Vulnerable under the NPW Act. Species assessed as **Likely** to occur: • Common Brushtail Possum (*Trichosurus vulpecula*) – State Rare • Elegant Parrot (*Neophema elegans elegans*) – State Rare • Grey-headed Flying-fox (*Pteropus poliocephalus*) – nationally Vulnerable and State Rare • Peregrine Falcon (*Falco peregrinus macropus*) – State Rare • Scarlet Robin (*Petroica boodang boodang*) – State Rare. • Swamp Rat (*Rattus lutreolus*) – State Rare • White-bellied Sea Eagle (*Haliaeetus leucogaster*) – State Endangered Species assessed as **Possibly** occurring: • Beautiful Firetail (*Stagonopleura bella samueli*) – nationally Endangered and State Rare • Cunningham's Skink (*Egernia cunninghami*) – State Endangered • Eastern Shriketit (Falcunculus frontatus frontatus) – State Rare • Painted Buttonquail (*Turnix varius varius*) – State Rare • South Australian Bassian Thrush (*Zoothera lunulata halmaturina*) – nationally Endangered and State Rare • Southern Brown Bandicoot (*Isoodon obesulus obesulus*) – nationally endangered and State Vulnerable • Yellow-footed Antechinus (*Antechinus flavipes*) – State Vulnerable.				
Landscape context score	1.16	**Vegetation Condition Score**	24.11	**Conservation significance score**	1.14
Unit biodiversity Score	31.88	**Area (ha)**	0.120	**Total biodiversity Score**	3.83

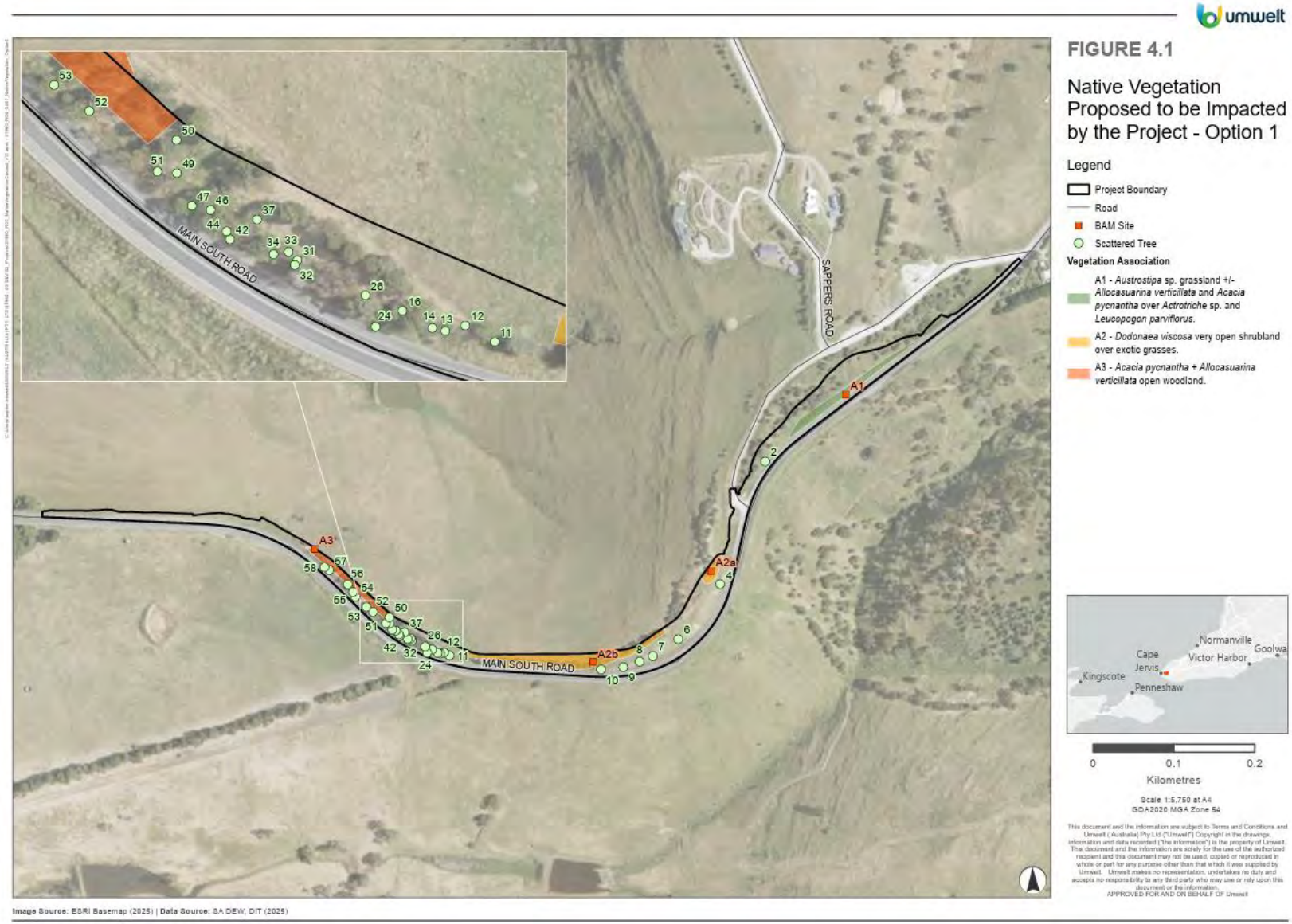

Figure 4.1 Native Vegetation Proposed to be Impacted by the Project – Option 1

4.2. Threatened Ecological Communities

The PMST search identified one TEC that could potentially occur within the Project Area (DCCEEW 2025a) (see **Table 4.5**). The criterion of this TEC was assessed against the results of the field survey, which found that this community was absent from the Project Area.

Table 4.5 Assessment of the Presence of Threatened Ecological Communities in the Project Area

Threatened Ecological Community	Conservation Status	Definition	Assessment
Swamps of the Fleurieu Peninsula	Critically Endangered	Localised wetlands occurring in high rainfall areas in the local catchment areas of Tookayerta, Hindmarsh, Parawa, Myponga, Yankalilla, Onkaparinga, Currency Creek and Finniss. They are densely vegetated and occur adjacent to waterlogged soils around low-lying creeks and flats. The swamps are typified by their reedy/heathy vegetation growing on peat, silt, peat silt, or black clay soils (DCCEEW 2025b).	**Unlikely** – The Project Area lacked appropriate swamp depressions and associated vegetation communities (i.e., rushland/sedgeland).

4.3. Threatened Species Assessment

4.3.1. Threatened Flora

A total of 13 flora species listed under the EPBC Act and were identified as potentially occurring within the Search Area (DCCEEW 2025a). Only one of these species, *Correa eburnea* (Deep Creek Correa) was assessed as Known to occur by the PMST. A NatureMaps search identified records of this species within Deep Creek Conservation Park, outside of the Search Area (DEW 2025a). An additional 16 flora species listed under the NPW Act, with historical records since 1995 and a spatial reliability of < 1 km, were identified in the BDBSA dataset (DEW 2025b). Only two have been assessed as possibly occurring within the Project Area, this includes:

- *Scutellaria humilis* (Dwarf Skullcap) – State Rare
- *Sphaerolobium minus* (Leafless Globe-pea) – State Rare.

The Project Area is situated along Main South Road, with a large portion of the works confined to the existing road corridor, which has been previously cleared and maintained. Surrounding land has also been historically cleared for agricultural purposes, further fragmenting the vegetation. As a result, the Project Area is highly modified, containing fragmented roadside vegetation. No riparian or wetland habitats were identified. Given the habitat requirements of the threatened flora identified in the database searches and the adequacy of the survey effort, it is unlikely that any additional species of conservation significance are present within the Project Area.

The field surveys encountered one species of conservation significance, *Eucalyptus fasciculosa* (Pink Gum, NPW Act Rare) which was scattered throughout the wider area. The project has been designed to avoid this species where possible resulting in impacts to one scattered *Eucalyptus fasciculosa* (Tree 57) and a further 0.120 ha of Vegetation Association A3, which contained mature *Eucalyptus fasciculosa* trees.

Flora species of conservation significance with records in the Search Area or identified as 'Known' to occur by the PMST are detailed in **Table 4.6.** The locations of historical records for threatened flora species occurring within the Search Area are presented in **Figure 4.2.** The full likelihood assessment for all threatened flora species is provided in **Appendix 3.**

Table 4.6 Likelihood of Occurrence for Threatened Flora Species identified in the Desktop Assessment

Scientific Name	Common Name	Conservation Status		Data Source	PMST / Year of Last Record	Likelihood of Occurrence in the Project Area
		EPBC Act	NPW Act			
Acacia iteaphylla	Flinders Ranges Wattle		R	2	2007	N/A – Environmental weed in the Mount Lofty Ranges
Austrostipa echinata	Spiny Spear-grass		R	2	2015	Unlikely
Correa eburnea	Deep Creek Correa	EN	E	1	Known	Unlikely
Cyperus flaccidus	Flaccid Flat-sedge		R	2	2004	Unlikely
Dipodium pardalinum	Leopard Hyacinth-orchid		V	2	2018	Unlikely
Drosera praefolia	Early Sundew		R	2	2006	Unlikely
Eucalyptus fasciculosa	Pink Gum		R	2,3	2020	**Known**
Hibbertia cinerea	Port Lincoln Guinea-flower		R	2	1996	Unlikely
Luzula flaccida	Pale Wood-rush		V	2	1997	Unlikely
Maireana rohrlachii	Rohrlach's Bluebush		R	2	2014	Unlikely
Ranunculus inundatus	River Buttercup		R	2	2007	Unlikely
Rumex dumosus	Wiry Dock		R	2	1998	Unlikely
Scutellaria humilis	Dwarf Skullcap		R	2	2017	**Possible**
Sphaerolobium minus	Leafless Globe-pea		R	2	2017	**Possible**
Thelymitra ixioides	Spotted Sun-orchid		E	2	2008	Unlikely
Wurmbea latifolia ssp. *vanessae*	Broad-leaf Nancy		R	2	2003	Unlikely
Xanthorrhoea semiplana ssp. *tateana*	Tate's Grass-tree		R	2	2020	Unlikely

Conservation status

EPBC Act: (*Environment Protection and Biodiversity Conservation Act 1999*). **NPW Act** (*National Parks and Wildlife Act 1972*).
Conservation Codes: **EN/E**: Endangered. **V**: Vulnerable. **R**: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2025a) - 5 km buffer applied to Project Area.
2. Biological Database of South Australia data extract (DEW 2025b) - 5 km buffer applied to Project Area.
3. Recorded during the field survey.

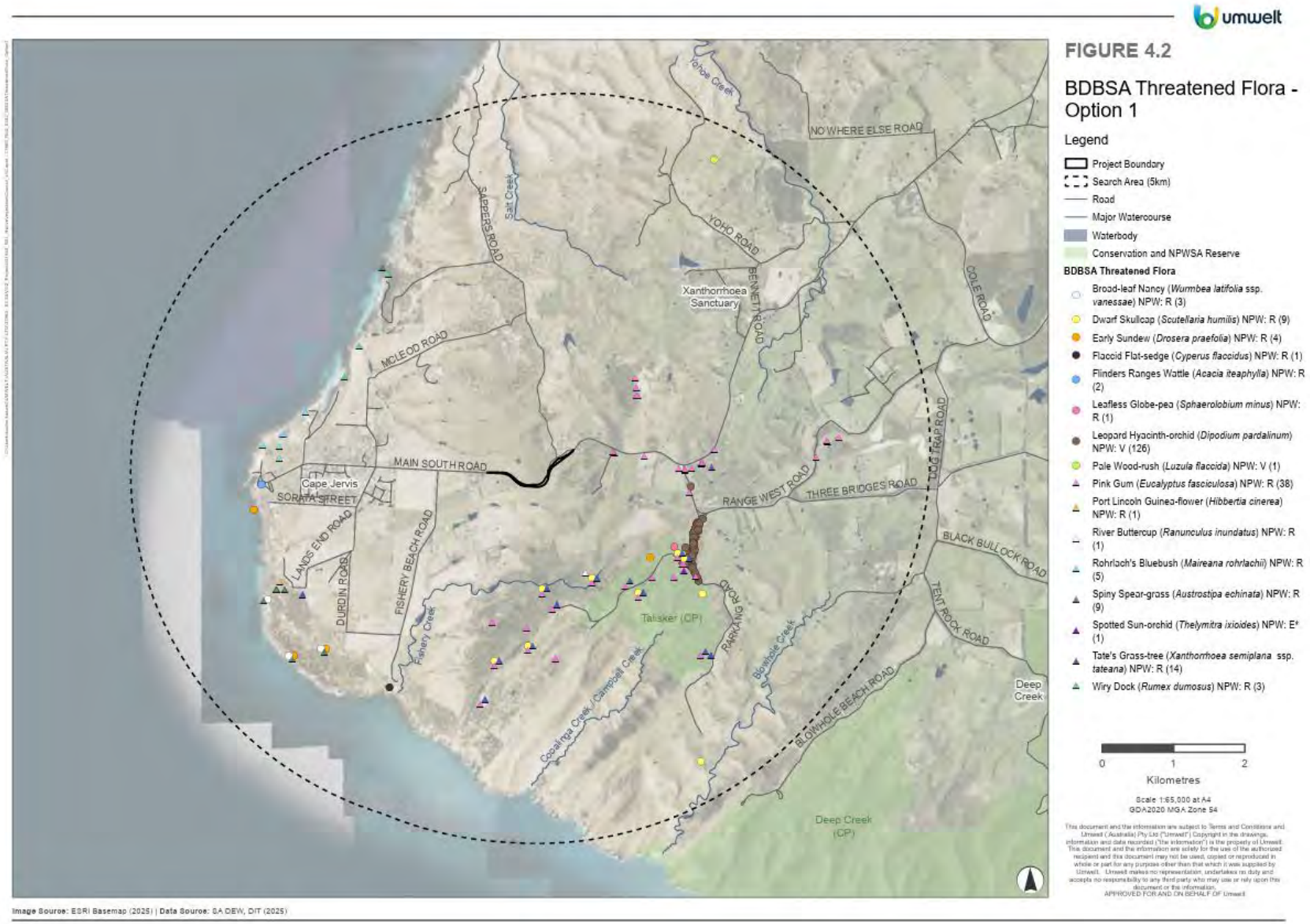

Figure 4.2 BDBSA Threatened Flora – Option 1

4.3.2. Threatened and Migratory Fauna

A total of 49 fauna species were listed under the EPBC Act and were identified by the PMST report within the Search Area. Of the 49 fauna species, 25 were deemed wholly unsuitable for the land under assessment (e.g. marine mammals, marine fish and pelagic birds). A total of six nationally listed species have been identified by the PMST as “Known to occur” of which, four of these species have recent records (DEW 2025b). An additional 13 fauna species listed solely under the NPW Act were identified within the Search Area (DEW 2025b) (**Table 4.7**).

The PMST report also identified 41 EPBC-listed migratory species as potentially occurring within the Search Area. Given their ecological characteristics, primarily comprising migratory shorebirds, beach-nesting birds and marine species, none were considered likely to utilise habitats within the Project Area.

One State Vulnerable threatened fauna species, the Yellow-tailed Black Cockatoo (*Zanda funerea whiteae*) was recorded during the field survey, with individuals observed flying over the Project Area during the survey. The Yellow-tailed Black-Cockatoo (*Zanda funerea whiteae*) inhabits eucalypt woodlands, pine plantations, and temperate forests across south and central eastern Queensland to southeastern South Australia, with a small population in the Eyre Peninsula. Their diet mainly consists of seeds from native trees including she-oaks, eucalypts, acacias, banksias, and hakeas. They also forage on introduced plants such as pines and will eat wood-boring grubs. Yellow-tailed Black-Cockatoos nest in large, old-growth trees, primarily Eucalypts. Despite being common in much of their range, population decline in Victoria and South Australia has occurred due to habitat fragmentation and the loss of suitable nesting trees (Cameron 2006; Forshaw 2002). Trees within the Project Area, particularly eucalypts, hakeas, and she-oaks, provide suitable foraging habitat for the Yellow-tailed Black-Cockatoo. However, the fragmentation of roadside vegetation, combined with the proximity of the trees proposed for removal to a major road, reduces their habitat value. No old-growth trees with suitable nesting hollows were recorded within the Project Area. Yellow-tailed Black Cockatoo are therefore more likely to inhabit areas with more intact vegetation, particularly those offering a higher diversity of foraging options and located farther from busy roads.

Seven species of conservation significance are deemed likely to occur within the impact footprint and an additional seven are deemed to possibly occur. Given the modified nature of the area, with fragmented roadside vegetation near a major road and the absence of riparian or wetland habitats, it is unlikely that any other species of conservation significance highlighted in the database searches would occur within the Project Area.

Fauna species of conservation significance with records within the Search Area and/or identified as ‘Known’ to occur by the PMST are detailed in **Table 4.7**. The locations of historical records for listed threatened species occurring within the Search Area are presented in **Figure 4.3.**

Table 4.7 Likelihood of Occurrence for Threatened and Migratory Fauna Species identified in the Desktop Assessment

Scientific Name	Common Name	Conservation Status		Data Source	PMST / Year of Last Record	Scattered Tree Using Species	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act				
Aves							
Ardenna carneipes	Flesh-footed Shearwater	Mi	R	1, 2	Likely / 1996	-	N/A - Marine
Egretta sacra sacra	Pacific Reef Heron		R	2	2020	-	Unlikely
Falco peregrinus macropus	Peregrine Falcon		R	2	2004	P, H, N, w/r	Likely
Falcunculus frontatus frontatus	Eastern Shriketit		R	2	1999	F, w	Possible
Haematopus fuliginosus fuliginosus	Sooty Oystercatcher		R	2	2014	-	Unlikely
Haliaeetus leucogaster	White-bellied Sea Eagle		E	2	2023	-	Likely
Neophema elegans elegans	Elegant Parrot		R	2	2003	P, H, w	Likely
Petroica boodang boodang	Scarlet Robin		R	2	2019	P, w	Likely
Stagonopleura bella samueli	Beautiful Firetail (MLR, KI)	EN	V	1	Known	-	Possible
Sternula nereis nereis	Australian Fairy Tern	VU	E	1	Known	-	Unlikely
Thinornis cucullatus cucullatus	Hooded Plover	VU	V	1, 2	Known / 2016	-	Unlikely
Turnix varius varius	Painted Buttonquail		R	2	2010	-	Possible
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V	2,3	2020	P, H, w	**Known**
Zoothera lunulata halmaturina	South Australian Bassian Thrush (southern FR, MLR, KI)	EN	R	1, 2	Known / 2023	-	Possible
Mammalia							
Antechinus flavipes	Yellow-footed Antechinus		V	2	2018	-	Possible
Isoodon obesulus obesulus	Southern Brown Bandicoot (SA mainland and KI)	EN	V	1, 2	Known / 2010	-	Possible
Neophoca cinerea	Australian Sea Lion	EN	V	1, 2	Known / 1997	-	N/A - Marine
Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	1, 2	May / 2019	F	Likely
Rattus lutreolus	Swamp Rat		R	2	2017	-	Likely
Trichosurus vulpecula	Common Brushtail Possum		R	2	2023	H, F	Likely
Reptilia							
Egernia cunninghami	Cunningham's Skink		E	2	2018	-	Possible

Conservation status

EPBC Act: (*Environment Protection and Biodiversity Conservation Act 1999*). **NPW Act** (*National Parks and Wildlife Act 1972*).
Conservation Codes: **VU/V**: Vulnerable. **R**: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2025a) - 5 km buffer applied to Project Area.
2. Biological Database of South Australia data extract (DEW 2025b) - 5 km buffer applied to Project Area.
3. Recorded during the field survey.

Scattered Tree Using Species

Resource use: P = perching / roosting, N = nesting, H = hollow using for nesting / roosting, F = feeding
Habitat /status: s = seasonal (includes waterbirds using trees near seasonal wetlands, seasonal and nomadic species), w = woodland birds that occasionally use adjacent scattered trees, r = species that can reside in scattered trees.

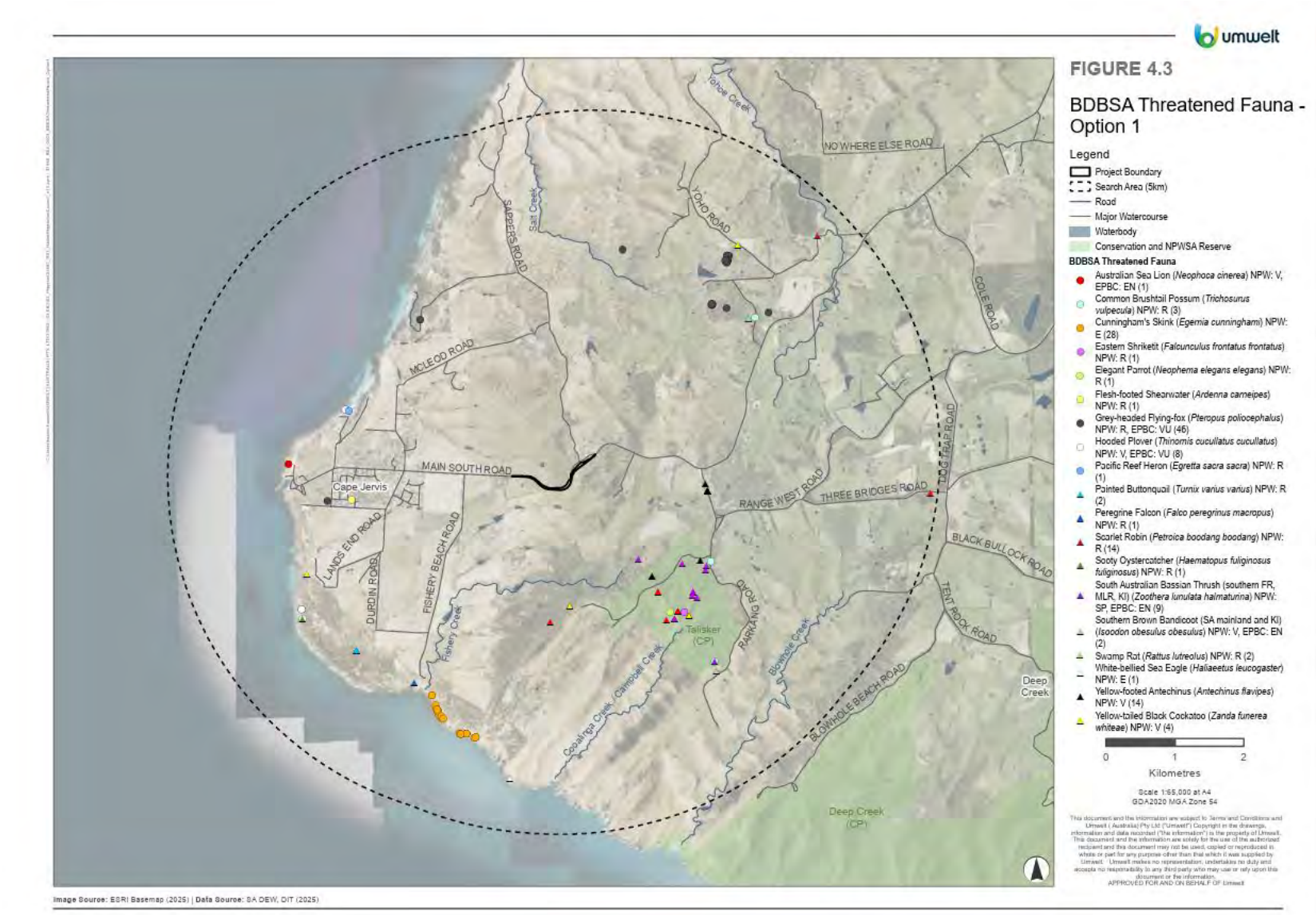

Figure 4.3 BDBSA Threatened Fauna – Option 1

4.4. Cumulative Impacts

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must consider the potential cumulative impact, both direct and indirect, that is reasonably likely to result from a proposed clearance activity.

Direct impacts associated with the Project includes:

- the clearance of 84 scattered trees
- the clearance of 0.655 ha of native vegetation.

Indirect impacts may also include:

- Disturbance to nesting species during the construction period.
- The dispersal and importation of weed species through earthworks and the attachments of seeds and other propagules to machinery and vehicles.
- The spread of Phytophthora through earthworks and transfer of soil via machinery and vehicles.
- The potential for an increase in dust accumulation in the surrounding vegetation.
- Runoff from the work area into the various watercourses that cross through the Project Area.

The Project must not be considered in isolation, but in association with the wider Main South Road overtaking lane scope of works.

4.5. Addressing the Mitigation Hierarchy

When exercising a power or making a decision under Division 5 of the Native Vegetation Regulations 2017, the NVC must have regard to the mitigation hierarchy. The NVC will also consider, with the aim to minimize, impacts on biological diversity, soil, water and other natural resources, threatened species or ecological communities under the EPBC Act or listed species under the NPW Act.

a) Avoidance – outline measures taken to avoid clearance of native vegetation

Through the initial planning study and subsequent design refinement, the location and alignment of the overtaking lane has avoided native vegetation, where possible.

The initial assessment undertaken in 2023 at Option 1, identified a total of 15 *Eucalyptus fasciculosa* trees (NPW Act: Rare), three of which had a moderate TBS. The redesign of Option 1 has resulted in avoidance of all but one of these 15 trees, with the remaining impact to one tree (Tree 57) with a TBS of less than 4.

Furthermore, a redesign in in May 2025, resulted in the further reduction of trees proposed to be impacted. Initial designs sent through in February 2025 proposed to impact 118 trees (46 *Allocasuarina verticillata*, 71 *Acacia pycnantha* and 1 *Eucalyptus fasciculosa*). This how now been reduced to a total of 84 scattered trees (please refer to **Attachment 2**).

b) Minimisation – if clearance cannot be avoided, outline measures taken to minimize the extent, duration and intensity of impacts of the clearance on biodiversity to the fullest possible extent (whether the impact is direct, indirect or cumulative).

A large portion of the construction work is proposed to take place within previously disturbed areas of the road corridor or areas dominated by amenity plantings or weed species, thereby minimising impacts on native vegetation.

DIT and its contractors will adhere to guidelines and policies for assessing and removing native vegetation, as outlined in the DIT Environment and Heritage Technical Manual (DIT 2021). Additionally, the construction contractor will be required to implement a Construction Environmental Management Plan (CEMP) in accordance with DIT Master Specification and Standards and Guidelines (DIT 2024) to minimise any direct and indirect impacts including off-target vegetation and fauna protection measures.

Further design measures used to minimise impact include maintaining the existing alignment despite geometric deficiencies, utilising the shoulder and Wide Centre Line Treatment area for large vehicles to negotiate curves instead of widening the road and replacing features like benches in the cut face, which facilitate maintenance, with other engineering measures that reduce the need for future maintenance access. More specifically, redesign at the post IFC level include the following changes to mimise impact:

- Reduce total length of the overtaking lane by approximately 190 m by removing the extension of the wide centreline marking and reducing the wide centreline transition length at the start and end of the overtaking lane.
- Reducing the width of the wide centreline treatment from 1.4 m to 1 m.
- Steepening the batter of the overtaking lane.

c) Rehabilitation or Restoration – outline measures taken to rehabilitate ecosystems that have been degraded, and to restore ecosystems that have been degraded, or destroyed by the impact of clearance that cannot be avoided or further minimized, such as allowing for the re-establishment of the vegetation.

As clearance will not be a temporary action, vegetation that is to be impacted will be permanently removed. Amenity vegetation will be offset in accordance with the DIT Vegetation Impact Assessment Guidelines which includes a preference for amenity offsets to be delivered via on-ground works within or adjacent the project area where possible. Where not possible, a monetary offset will be paid to the DIT Amenity Planting Fund which provides funding to local re-vegetation projects. The opportunity to incorporate final landscaping works utilising locally native species is currently being investigated (*pers.comms* R. Joseph, DIT). The proponent will manage environmental weeds within the Project Area through the implementation of a CEMP.

d) Offset – any adverse impact on native vegetation that cannot be avoided or further minimized should be offset by the achievement of a significant environmental benefit that outweighs that impact.

The NVC will only consider an offset once avoidance, minimization and restoration have been documented and fulfilled. The SEB Policy explains the biodiversity offsetting principles that must be met.

At the time of application, DIT will be meeting the SEB Offset requirement via payment to the NV Fund. However, in accordance with the DIT Vegetation Impact Assessment Guideline, and based on the package of works (including 3 overtaking lanes) requiring an offset obligation greater than 150 SEB Points, opportunities

to provide on-ground SEB Offsets via an NVC Accredited Third Party Provider are currently being investigated (*pers.comms*, H. Keynes DIT).

4.6. Principles of Clearance (Schedule 1, *Native Vegetation Act 1991*)

The Native Vegetation Council will consider Principles 1(b), 1(c) and 1(d) when assigning a level of Risk under Regulation 16 of the Native Vegetation Regulations.

The clearance is assessed against the Principles of Clearance as set out in **Table 4.8.**

Table 4.8 Assessment against the Principles of Clearance

Principle of Clearance	Relevant Information	Assessment against the Principles	Moderating Factors that may be considered by the NVC
Principle 1(b) – significance as a habitat for wildlife	The desktop assessment identified eight threatened fauna species as having 'likely', or greater, probability of occurrence within the Project Area (listed below). An additional seven threatened fauna species were identified as having 'possible', or greater, probability of occurrence within the Project Area (**Table 4.7**). **Known:** • Yellow-tailed Black Cockatoo (*Zanda funerea whiteae*) – NPW Act Vulnerable **Likely:** • Common Brushtail Possum (*Trichosurus vulpecula*) – NPW Act Rare • Elegant Parrot (*Neophema elegans elegans*) – NPW Act Rare • Grey-headed Flying-fox (*Pteropus poliocephalus*) – EPBC Act Vulnerable, NPW Act Rare • Peregrine Falcon (*Falco peregrinus macropus*) – NPW Act Rare • Scarlet Robin (*Petroica boodang boodang*) - NPW Act R • Swamp Rat (*Rattus lutreolus*) – NPW Act R • White-bellied Sea Eagle (*Haliaeetus leucogaster*) – NPW Act Endangered Fauna Habitat Scores for scattered trees proposed for removal ranged from 1.0 to 1.8. Threatened Fauna Scores were 0.1 for all Vegetation Associations. Total Biodiversity Score for all trees and patches of vegetation proposed for removal is 53.99.	<u>Seriously at variance</u> Tree 8,9, 14, 16, 18, 19, 20, 23, 26, 33, 34, 37, 42, 44, 47, 49, 50,52, 53, 56, 57, 58. A1, A2 and A3 All other trees at variance with Principle 1(b)	No old-growth trees with hollows were recorded within the impact footprint for Option 1. Given that the scattered trees and vegetation associations proposed for clearance are located within areas of fragmented roadside vegetation, and considering their proximity to a major road, the habitat value of these trees is reduced. Additionally, the arrangement of vegetation in roadside corridors is narrow and linear, providing greater edge effects and lower habitat value than large patches of vegetation. Furthermore, scattered trees and patches of vegetation will remain in areas adjacent to the project which will provide a corridor for fauna that utilise this area. The removal of 84 scattered trees and 0.655 ha of vegetation is therefore unlikely to significantly impact local species populations, as more intact habitats, particularly those offering a broader diversity of foraging opportunities, are present within the wider area.

Principle of Clearance	Relevant Information	Assessment against the Principles	Moderating Factors that may be considered by the NVC
Principle 1(c) – plants of a rare, vulnerable or endangered species	One threatened flora species was known to occur within the Project Area and was recorded during the field surveys. • *Eucalyptus fasciculosa* (Pink Gum) -NPW Act Rare. One scattered *Eucalyptus fasciculosa* tree is proposed for removal. Tree 57 had a threatened flora score of 0.3 and a Biodiversity Score of 2.35. One vegetation association proposed for removal contained *Eucalyptus fasciculosa* trees and had a Threatened Plant Score of 0.04. The Total Biodiversity Score for the 0.120 ha of vegetation proposed for removal was 3.83.	**At Variance** - Tree 57 - Association A3	The removal of one scattered tree and 0.113 ha of highly fragmented roadside vegetation is unlikely to reduce the area of occupancy for the species, lead to a long-term decrease in the size of the population or fragment an existing population.
Principle 1(d) – the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered	No Threatened Ecological Communities were recorded within the Project Area.	**Not at Variance**	Not applicable.

Principles of Clearance (h-m) will be considered by comments provided by the local NRM Board or relevant Minister. The Data Report should contain information on these principles where relevant and where sufficient information or expertise is available.

4.7. Risk Assessment

The *Guide for Applications to Clear Native Vegetation* (NVC 2024) sets out how the risk level of a clearance application is assessed (see **Table 4.9**). The risk level of this clearance application is presented in **Table 4.10**, which indicates that this will be a **Level 4** clearance due to escalating matters (clearance is seriously at variance with Principle 1(b)).

Table 4.9 Risk Assessment for an NVC Clearance Application

	Patches – clearance	Trees – clearance	Escalating matters Clearance assessment will be raised to the next level if;
Level 1	**0.05 ha** or less	**5 trees** or less	The site contains a listed species or contains a threatened community under either the NP&W Act or EPBC Act Or Clearance of any trees of the specified circumference.
	And clearance does not involve **any** trees with a trunk circumference measured at 1m above the ground of (for multi stemmed trees, measure the largest trunk/stem): 50cm or more.		
Level 2	**>0.05 ha to 0.5ha**	**6 – 20 trees**	Clearance is seriously at variance with Principle of Clearance 1(b), 1(c) or 1(d).
Level 3	Total Biodiversity Score of less than or equal to **250**		Clearance is seriously at variance with Principle of Clearance 1(b), 1(c) or 1(d).
Level 4	Total Biodiversity Score of greater than **250**		

Table 4.10 Summary of Risk Level Associated with the Clearance Application

Total Clearance	**Number of Trees**	84
	Area (ha)	0.655
	Total Biodiversity Score	53.99
Seriously at Variance with Principle 1(b), 1(c) or 1 (d)		1b
Risk Assessment Outcome		Level 4

5. CLEARANCE SUMMARY

The clearance summary table, as per **Table 5.1** and **Table 5.2**, indicates the SEB points accrued from the proposed clearance. The total SEB obligations are summarised in **Table 5.3**.

Table 5.1 Clearance Summary Table for Vegetation Associations

Block	Site	Species Diversity Score	Threatened Ecological community Score	Threatened plant Score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity Score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	1	9	1	0	0.1	15.71	0.155	2.44	1			2.68	$3,262.90	$179.46
A	2	6	1	0	0.1	9.65	0.380	3.67	1			4.035	$4,894.36	$269.19
A	3	6	1	0.4	0.1	31.88	0.120	3.83	1			4.21	$5,075.63	$279.16
						Total	**0.655**	**9.94**				**10.93**	**$13,232.89**	**$727.81**

Table 5.2 Clearance Summary and Total SEB Obligations for Scattered Trees Impacted by the Project

Tree Number	Number of Trees	Fauna Habitat Score	Threatened Flora Score	Total Biodiversity Score	Loss Factor	SEB Points Required	SEB Payment (includes Admin Fee)
2	1	1.00	0.00	0.48	1.0	0.53	$675.72
4	3	1.00	0.00	0.48	1.0	0.53	$675.72
6	1	1.00	0.00	0.12	1.0	0.13	$165.74
7	19	1.00	0.00	2.66	1.0	2.93	$3,735.60
8	1	1.40	0.00	0.17	1.0	0.19	$242.24
9	6	1.40	0.00	1.02	1.0	1.12	$1,427.94
10	1	1.00	0.00	0.14	1.0	0.15	$191.24
11	1	1.00	0.00	0.52	1.0	0.57	$726.72
12	1	1.00	0.00	0.40	1.0	0.44	$560.98
13	1	1.00	0.00	0.21	1.0	0.23	$293.24
14	5	1.40	0.00	4.80	1.0	5.28	$6,731.73
16	4	1.40	0.00	3.88	1.0	4.27	$5,444.04
24	1	1.00	0.00	0.09	1.0	0.10	$127.49
26	7	1.40	0.00	7.56	1.0	8.32	$10,607.58
31	1	1.00	0.00	0.20	1.0	0.22	$280.49
32	3	1.00	0.00	0.42	1.0	0.46	$586.48
33	1	1.40	0.00	0.54	1.0	0.59	$752.22
34	1	1.40	0.00	1.27	1.0	1.40	$1,784.93

Tree Number	Number of Trees	Fauna Habitat Score	Threatened Flora Score	Total Biodiversity Score	Loss Factor	SEB Points Required	SEB Payment (includes Admin Fee)
37	2	1.40	0.00	1.92	1.0	2.11	$2,690.14
42	2	1.40	0.00	2.30	1.0	2.53	$3,225.62
44	5	1.40	0.00	2.55	1.0	2.81	$3,582.61
46	1	1.00	0.00	0.28	1.0	0.31	$395.23
47	1	1.40	0.00	1.32	1.0	1.45	$1,848.68
49	2	1.40	0.00	0.94	1.0	1.03	$1,313.20
50	1	1.40	0.00	1.00	1.0	1.10	$1,402.44
51	1	1.00	0.00	0.14	1.0	0.15	$191.24
52	5	1.40	0.00	2.85	1.0	3.14	$4,003.34
53	1	1.40	0.00	1.32	1.0	1.45	$1,848.68
54	1	1.00	0.00	0.19	1.0	0.21	$267.74
55	1	1.00	0.00	0.26	1.0	0.29	$369.74
56	1	1.40	0.00	0.53	1.0	0.58	$739.47
57	1	1.80	0.30	2.35	1.0	2.59	$3,302.12
58	1	1.40	0.00	1.14	1.0	1.25	$1,593.69
Scattered Tree SEB Total				**44.05**		**48.46**	**$61,784.04**

Table 5.3 Summary of the total SEB Obligations of the Clearance

	Total Biodiversity Score	Total SEB Points Required	SEB Payment	Admin Fee	Total Payment
Application	53.99	59.39	$71,795.98	$3,948.79	$75,744.77

Economies of Scale Factor	0.5
Rainfall (mm)	732

6. SIGNIFICANT ENVIRONMENTAL BENEFIT

The NVC must be satisfied that as a result of the loss of vegetation from the clearance that an SEB will result in a positive impact on the environment that is over and above the negative impact of the clearance.

ACHIEVING AN SEB

Indicate how the SEB will be achieved by ticking the appropriate box and providing the associated information:

☐ Establish a new SEB Area on land owned by the proponent

☐ Use SEB Credit that the proponent has established

☐ Apply to have SEB Credit assigned from another person or body

☒ Apply to have an SEB to be delivered by a Third Party

☒ Pay into the Native Vegetation Fund

PAYMENT SEB

At the time of application, DIT will be meeting the SEB Offset requirement via payment to the NV Fund. The total SEB payment for the clearance of **84** scattered trees and **0.655** ha of native vegetation, with a combined TBS of **53.99**, is **$75,744.77** (including an administration fee of **$3,948.79**). Please note, that DIT will be investigating an on-ground SEB Offsets via an NVC Accredited Third Party Provider.

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8. APPENDICES

Appendix 1 – Flora Species Recorded by the Field Survey

Scientific Name	Common Name	Conservation Status		Declared	WoNS
		EPBC Act	NPW Act		
Native					
Acacia paradoxa	Kangaroo Thorn				
Acacia pycnantha	Golden Wattle				
Acrotriche sp.	Ground-berry				
Allocasuarina verticillata	Drooping Sheoak				
Austrostipa sp.	Spear-grass				
Callitris sp.	Native Pine				
Dichondra repens	Kidney Weed				
Dodonaea viscosa ssp.	Sticky Hop-bush				
Enchylaena tomentosa var.	Ruby Saltbush				
Eucalyptus fasciculosa	Pink Gum		R		
Hakea sp.	Hakea/Needlewood				
Leucopogon parviflorus	Coast Beard-heath				
Lomandra densiflora	Soft Tussock Mat-rush				
Rytidosperma sp.	Wallaby-grass				
Scaevola sp.	Fanflower				
Styphelia humifusa	Cranberry Heath				
Introduced					
Asparagus asparagoides f.	Bridal Creeper			✓	✓
Avena barbata	Bearded Oat				✓
Briza sp.	Quaking Grass				✓
Dactylis glomerata	Cocksfoot				✓
Ehrharta sp.	Veldt Grass				
Gomphocarpus cancellatus	Broad-leaf Cotton-bush				
Hordeum vulgare	Barley				✓
Moraea setifolia	Thread Iris				
Olea europaea	Olive			✓	
Phalaris aquatica	Phalaris				✓
Pinus radiata	Radiata Pine				✓
Plantago lanceolata var.	-				✓
Rosa canina	Dog Rose			✓	
Senecio pterophorus	African Daisy				
Sixalix atropurpurea	Pincushion				✓

Scientific Name	Common Name	Conservation Status		Declared	WoNS
		EPBC Act	NPW Act		
Sonchus oleraceus	Common Sow-thistle				✓
Sonchus sp.	Sow-thistle				
Trifolium sp.	-				
Ulex europaeus	Gorse			✓	

Conservation Status: EPBC Act (*Environment Protection and Biodiversity Conservation Act 1999*). **NPW Act**: South Australia (*National Parks and Wildlife Act 1972*). **Conservation codes: R**: Rare. **Declared:** Declared plant under the *Landscape South Australia Act 2019*. **WoNS**: Weed of National Significance under the *Landscape South Australia Act 2019*.

Appendix 2 – Fauna Species recorded by the Field Survey

Scientific Name	Common Name	Conservation Status	
		EPBC Act	NPW Act
Native			
Acanthiza sp.	Thornbills		
Aquila audax	Wedge-tailed Eagle		
Falco berigora berigora	Brown Falcon		
Gavicalis virescens	Singing Honeyeater		
Rhipidura leucophrys	Willie Wagtail		
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V

Conservation Status: EPBC Act (*Environment Protection and Biodiversity Conservation Act 1999*). **NPW Act**: South Australia (*National Parks and Wildlife Act 1972*). **Conservation codes: V**: Vulnerable.

Appendix 3 – Likelihood of Occurrence Assessment

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Flora									
Acacia iteaphylla	Flinders Ranges Wattle		R	2	2007	-	-	Naturally occurs in the Flinders Ranges, across to the Gawler Ranges, and on the Eyre Peninsula. Naturalised beyond its native range in some parts of south-eastern and southern SA. Grows mainly among rocky outcrops on hillsides or along rocky creeks in valleys (SASCC 2025). Species is listed as Rare under the NPW Act in its natural range. Outside of its natural range the species is considered an environmental weed.	**N/A** - *Acacia iteaphylla* naturally occurs in the Flinders Ranges where it is listed as Rare under the NPW Act. However, the species is considered an Environmental Weed in the Mount Lofty Ranges where it has become widely naturalised.
Austrostipa echinata	Spiny Spear-grass		R	2	2015	-	-	Occurs in mallee and open scrub on sand associated with limestone, in coastal and near-coastal areas (DEH 2008). Recorded from Cape Jervis in light sandy soil with little depth over clay and broken calcrete.	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Caladenia ovata	Kangaroo Island Spider-orchid	VU		1	Likely	-	-	Occurs in South Australia (near Deep Creek on southern Fleurieu Peninsula, Kangaroo Island). Highly localised and rare, growing among dense, low shrubs in heathland and shrubby woodland in freely draining sand and laterite (DEH 2008).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Caladenia tensa	Greencomb Spider-orchid	EN		1	May	-	-	Occurs in South Australia (eastern mallee area), Victoria (Little Desert, Big Desert). Locally common, growing among shrubs and tussocks in woodland dominated by yellow gum and Rottnest Island Pine (*Callitris preissii*) in freely draining, red-brown, sandy loam. Also among spinifex in mallee communities on poor, sandy soil, less commonly in Black Box woodland and Buloke woodland in heavy soil (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Correa eburnea	Deep Creek Correa	EN	E	1	Known	-	-	Endemic to South Australia and found on the southern Fleurieu Peninsula. Occurs along the banks and sides of creeks including in black damp loams, near waterfalls and pools, on the steep slopes and ledges of rocky gorges including in skeletal soils amongst Kanmantoo schist, and on coastal cliff tops near to the mouths of major creeks (DEH 2008).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Cyperus flaccidus	Flaccid Flat-sedge		R	2	2004	-	-	Endemic to the eastern states of Australia where it has a scattered distribution throughout eastern Qld and NSW, western Vic. and eastern SA. It has small, isolated populations in the NT and the Kimberley region of WA. Mostly occurs in creek beds and other damp areas (PlantNET n.d.)	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20-40 years, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Dipodium pardalinum	Leopard Hyacinth-orchid		V	2	2018	-	-	South Australia (Yorke Peninsula, Mt Lofty Ranges). Locally common, usually growing in wetter forests with an open understorey dominated by bracken. Also, in heathy forest in freely draining sand, sandy clay loam and stony loam (DEH 2008).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Dodonaea procumbens	Trailing Hop-bush	VU		1	May	-	-	Recorded on the tip of Eyre Peninsula and near Burra in the Mount Lofty Range, SA, from southeastern SA across south-central Vic. and in southeastern NSW in the Cooma region. Occurs in low-lying, often winter-wet areas in woodland, low open forests, heathland and grasslands, on sands and clays (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, habitat was observed in the Project Area. Not recorded in the field surveys.
Drosera praefolia	Early Sundew		R	2	2006	-	-	Endemic to South Australia and found on Kangaroo Island and the southern Mount Lofty Ranges. Grows on lateritic clay-sand, loam or decomposed shale soils in exposed, dry sites or open woodland (SASCC 2025).	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20 years, no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Eucalyptus fasciculosa	Pink Gum		R	2,3	2020	-	-	Occurs on Kangaroo Island. and from near Adelaide, SA., east to west of Dergholm, Vic. Grows in coastal sand and poor soils on plains, ridges and slopes, in woodland and open forest DCCEEW 2025c).	**Known** to occur within the impact footprint. Recorded during the field surveys.

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Euphrasia collina subsp. *osbornii*	Osborn's Eyebright	EN		1	May	-	-	Confined to South Australia in the Upper South-East, Kangaroo Island (Dudley Peninsula), Fleurieu, Yorke and Eyre Peninsulas, and in the Flinders Ranges apparently as far north as Burra in the Mid North. Recorded mainly from the mallee (*Eucalyptus*) woodlands common throughout most of its range. In higher parts of the Mount Lofty Ranges it occurs in heathy openings in wet sclerophyll forest (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, habitat was observed in the Project Area. Not recorded in the field surveys.
Glycine latrobeana	Clover Glycine	VU		1	Likely	-	-	Found in the southern Flinders Ranges, southern Mount Lofty Ranges and the South-east in South Australia. Grows in grasslands and grassy woodlands on heavy soils. (SASCC 2025).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, habitat was observed in the Project Area. Not recorded in the field surveys.
Hibbertia cinerea	Port Lincoln Guinea-flower		R	2	1996	-	-	Endemic to southern Eyre Peninsula and Kangaroo Island, SA. Occurs in coastal scrub and low mallee shrublands, in sandy soils often over limestone (ALA n.d.).	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20-40 years, no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Hibbertia tenuis	null	CR		1	Likely	-	-	Endemic to South Australia and found in the vicinity of Mt Compass, growing in low or open vegetation in permanent wet places (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was

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									observed in the Project Area. Not recorded in the field surveys.
Luzula flaccida	Pale Wood-rush		V	2	1997	-	-	Found in the southern Mount Lofty Ranges and the lower South-east in South Australia, growing in moist rather shady sites in grassy woodland or open grassland (PlantNET n.d.)	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20-40 years, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Maireana rohrlachii	Rohrlach's Bluebush		R	2	2014	-	-	Perennial species found on saline or sandy loam soils rich in gypsum, often fringing lakes, and in seasonally wet areas (Ecolinc n.d.).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Olearia pannosa subsp. *pannosa*	Silver Daisy-bush	VU		1	Likely	-	-	Endemic to South Australia where the species is scattered throughout agricultural areas. Occurs in sandy, flat areas and in hilly, rocky areas in woodland or mallee (SASCC 2025).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Prasophyllum murfetii	Fleurieu Leek Orchid	CR		1	Likely	-	-	Endemic to South Australia. Highly localised and restricted to the margins of permanent swamps and bogs. Found growing among sedges and rushes in wet,	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and

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								brown to blackish, peaty loam (DCCEEW 2025c).	no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Prasophyllum pallidum	Pale Leek-orchid	VU		1	May	-	-	Relatively widespread, but disjunct distribution. Found growing in grassy forest and heathy forest in freely draining loam from the Flinders Ranges to the Northern and Southern Lofty regions of South Australia (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable, intact habitat was observed in the Project Area. Not recorded in the field surveys.
Ranunculus inundatus	River Buttercup		R	2	2007	-	-	Occurs on Kangaroo Island and in southeastern SA. Grows in shallow water, in mud, along creeks or in ponds, sometimes with the leaves floating or temporarily submerged (DEH 2008).	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20 years, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Rumex dumosus	Wiry Dock		R	2	1998	-	-	West to the Eyre Peninsula of SA. In grasslands and disturbed grassy areas; mostly on clayey soils (PlantNET n.d.)	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20-40 years, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Scutellaria humilis	Dwarf Skullcap		R	2	2017	-	-	Species can be found in Adelaide and Mount Lofty Ranges, Kangaroo Island,	**Possibly** occurs within the impact footprint.

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								Northern and Yorke and South Australian Murray-Darling Basin. Grows in various habitats, often in moist sheltered areas, particularly along creeks or gullies; widespread from coastal to inland districts (ALA n.d.)	Although recent records occur within the Search Area, habitat is highly modified due to proximity to a major road and historical clearance for both agriculture and road maintenance. Not recorded in the field surveys.
Senecio macrocarpus	Large-fruit Fireweed	VU		1	May	-	-	Occurs from Ardrossan in southeast SA southeast to Yan Yean in south-central Vic., with an outlier recently collected at Gundaroo in NSW. There are a few old records from Tas., but it is now presumed extinct in that state. Grows in low-lying areas on basalt-derived clay or clay-loam soils, in grassland, sedgeland and woodland (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Sphaerolobium minus	Leafless Globe-pea		R	2	2017	-	-	Species can be found Adelaide and Mount Lofty Ranges, Eyre Peninsula, Kangaroo Island, South Australian Murray-Darling Basin and South East. Widespread in wet heath or sometimes forest on sandy or peaty soils (ALA n.d.).	**Possibly** occurs within the impact footprint. Although recent records occur within the Search Area, habitat is highly modified due to proximity to a major road and historical clearance for both agriculture and road maintenance. Not recorded in the field surveys.
Thelymitra ixioides	Spotted Sun-orchid		E	2	2008	-	-	Found in the southern Mount Lofty Ranges and the lower South-east in South	**Unlikely** to occur within the impact footprint. Although

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								Australia, growing in woodland or swampy ground (SASCC 20245.	records occur within the Search Area in the previous 20 years, no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Thelymitra matthewsii	Spiral Sun-orchid	EN		1	May	-	-	SA (S Lofty Region, SE, Kangaroo Island), Vic. (very sporadic; near-coastal areas in S from Genoa to Anglesea, inland at Ararat, Grampians). Widespread, but rare, found growing on slopes and ridges in light open forest, heath and heathy woodland in freely draining sand and clay loam (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Veronica derwentiana subsp. *homalodonta*	Mount Lofty Speedwell	CR		1	Likely	-	-	Endemic to South Australia. Found in the wetter parts of the Mount Lofty Ranges. Very rare in South Australia. (SASCC 2025).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area. Not recorded in the field surveys.
Wurmbea latifolia ssp. *vanessae*	Broad-leaf Nancy		R	2	2003	-	-	Found along the coast from Eyre Peninsula, Kangaroo Island, Mount Lofty Rages and the South-east in south Australia, growing in low scrub on exposed sites (SASCC 2025).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, habitat is highly modified due to proximity to a major road and historical clearance for both agriculture and road maintenance. Not

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									recorded in the field surveys.
Xanthorrhoea semiplana ssp. *tateana*	Tate's Grass-tree		R	2	2020	-	-	Endemic to South Australia and found on the southern Eyre Peninsula, York Peninsula, Kangaroo Island and the southern Mount Lofty Ranges; growing on sandy soil (SASCC 2025).	**Unlikely** to occur within the impact footprint. Although the species occurs within the wider area and suitable habitat was observed in the Project Area, no individuals of the species were observed within the impact footprint.
Aves									
Actitis hypoleucos	Common Sandpiper	Mi		1	Likely	-	-	Inhabits saltwater and freshwater ecosystems (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Aphelocephala leucopsis	Southern Whiteface	VU		1	Likely	P, H	w	Occupy a variety of freshwater ecosystems, including slow flowing rivers, swamps and reservoirs (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Apus pacificus	Fork-tailed Swift	Mi		1	Likely	-	-	Almost entirely aerial, occurs over dry and open habitats (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was

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									observed in the Project Area.
Ardenna carneipes	Flesh-footed Shearwater	Mi	R	1, 2	Likely / 1996	-	-	N/A - Marine	N/A - Marine
Ardenna grisea	Sooty Shearwater	VU, Mi		1	May	-	-	N/A - Marine	N/A - Marine
Botaurus poiciloptilus	Australasian Bittern	EN		1	Likely	-	-	Occurs in wetlands with tall dense fringing vegetation, where it forages in shallow water (Marchant & Higgins 1990).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Calidris acuminata	Sharp-tailed Sandpiper	VU, Mi		1	May	-	-	Occupies freshwater and saline ecosystems (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Calidris canutus	Red Knot	VU, Mi		1	May	-	-	Mainly inhabits intertidal mudflats, sandflats and sandy beaches of sheltered coasts, in estuaries, bays, inlets, lagoons and harbours; sometimes on sandy ocean beaches or shallow pools on exposed wave-cut rock platforms or coral reefs (Lane 1987; Barrett et al. 2002; Watkins 1993).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Calidris ferruginea	Curlew Sandpiper	CR, Mi		1	May	-	-	Occurs in freshwater and saline ecosystems, favouring intertidal mudflats, lakes and lagoons. Recorded less frequently inland, primarily around saltworks and sewerage farms (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was

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									observed in the Project Area.
Calidris melanotos	Pectoral Sandpiper	Mi		1	May	-	-	In SA the species is found mostly in the south-east, from north to the Murray River and west to Yorke Peninsula. In Australasia, the Pectoral Sandpiper prefers shallow fresh to saline wetlands (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records within the Search Area and no suitable habitat was observed in the Project Area.
Diomedea antipodensis	Antipodean Albatross	VU, Mi		1	Likely	-	-	N/A - Marine	N/A - Marine
Diomedea epomophora	Southern Royal Albatross	VU, Mi	V	1	Likely	-	-	N/A - Marine	N/A - Marine
Diomedea exulans	Wandering Albatross	VU, Mi	V	1	Likely	-	-	N/A - Marine	N/A - Marine
Diomedea sanfordi	Northern Royal Albatross	EN, Mi	E	1	May	-	-	N/A - Marine	N/A - Marine
Egretta sacra sacra	Pacific Reef Heron		R	2	2020	-	-	Found on the coast and islands of most of Australia but is more common on the Queensland coast and Great Barrier Reef than elsewhere. Rare on Victorian and Tasmanian coasts. The dark form predominates in temperate areas, the white form in the tropics. Inhabits beaches, rocky shores, tidal rivers and inlets, mangroves, and exposed coral reefs (Birdlife Australia 2025).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable habitat was observed in the Project Area.
Falco hypoleucos	Grey Falcon	VU		1	Likely	-	-	Occurs in arid and semi-arid Australia, including the Murray-Darling Basin, Eyre Basin, central Australia and Western Australia (Marchant and Higgins 1993). Frequents timbered lowland plains, particularly acacia shrublands that are crossed by tree-lined water courses (Garnett et al. 2011).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable habitat was observed in the Project Area.

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Falco peregrinus macropus	Peregrine Falcon		R	2	2004	P, H	w/r	Found across Australia, but not common anywhere within its distribution. Found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. Sparsely distributed in SA, with most records in Red Gum woodlands (especially near water), in gorges with rock faces and along coastal cliffs (DEH, 2008).	**Likely** occurs within the impact footprint. Records occur within the Search Area in the previous 20-40 years and suitable habitat was observed within the Project Area. Most likely to occur as a fly-over.
Falcunculus frontatus frontatus	Eastern Shriketit		R	2	1999	F	w	Concentrated in Eucalyptus forests, with a proclivity for *E. camaldulensis* lined watercourses (Pizzey & Knight 2007).	**Possibly** occurs within the impact footprint. Records occur within the Search Area in the previous 20-40 years and the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat. However, no suitable *E. camaldulensis* woodland was observed in the Project Area.
Gallinago hardwickii	Latham's Snipe	VU, Mi		1	Likely	-	-	Inhabits open, freshwater wetlands with low, dense vegetation (e.g., swamps, flooded grasslands and heathlands) (DCCEEW 2025c).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Grantiella picta	Painted Honeyeater	VU		1	May	-	-	Occurs in dry open forests, usually in association with its primary food species –	**Unlikely** to occur within the impact footprint. No recent

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								mistletoe of the *Amyema* genus (Pizzey & Knight 2007).	records occur within the Search Area and no suitable habitat was observed in the Project Area.
Haematopus fuliginosus fuliginosus	Sooty Oystercatcher		R	2	2014	-	-	Endemic to Australia and widespread in coastal eastern, southern and western Australia. Strictly coastal, usually within 50 m of the ocean. Prefers rocky shores but will be seen on coral reefs or sandy beaches near mudflats (Marchant and Higgins 1990).	**Unlikely** to occur within the impact footprint. Although records occur within the Search Area in the previous 20 years, no suitable habitat was observed in the Project Area.
Haliaeetus leucogaster	White-bellied Sea Eagle		E	2	2023	-	-	Occurs along the coastline (including offshore islands) of mainland Australia and Tasmania. Also extends inland along some of the larger waterways, especially in eastern Australia. Occupies habitats characterised by the presence of large areas of open water (larger rivers, swamps, lakes, the sea). Birds have been recorded in (or flying over) a variety of terrestrial habitats (Marchant & Higgins 1993).	**Likely** to occur within the impact footprint. Most likely to occur as a fly-over. Recent records occur within the Search Area.
Halobaena caerulea	Blue Petrel	VU		1	May	-	-	N/A – Marine	N/A - Marine
Hirundapus caudacutus	White-throated Needletail	VU, Mi		1	Likely	-	-	The species occurs in south-eastern South Australia, where it extends west to the Yorke Peninsula and the Mount Lofty Ranges. It is widespread in Tasmania (Barrett et al. 2003; Blakers et al. 1984; Higgins 1999). In Australia, the White-throated Needletail is almost exclusively aerial, from heights of less than 1 m up to more than 1000 m above the ground.	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and the species is predominantly aerial so may occasionally occur as a fly-over but is unlikely to utilise

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									habitat within the Project Area.
Hylacola pyrrhopygia parkeri	Chestnut-rumped Heathwren (Mt Lofty Ranges)	EN		1	Likely	-	-	Confined to the Fleurieu Peninsula and the southern Mount Lofty Ranges, SA (Barrett et al. 2003; Blakers et al. 1984; Schodde & Mason 1999). Occurs in dense heathland and undergrowth in Eucalypt forests and woodlands and is most commonly found in rocky areas (such as those that occur on hillsides) (Garnett & Crowley 2000; Paton & Paton 1980; Possingham et al. 2004).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	EN, Mi		1	May	-	-	Mainly occur along the north and east coasts (Garnett et al. 2011). In SA, most records occur around coasts from Lake Alexandrina to Denial Bay (Higgins & Davies 1996). Occurs mainly in coastal habitats such as large intertidal sandflats, banks, mudflats, estuaries, inlets, harbours, coastal lagoons and bays. It has also been recorded in coastal sewage farms and saltworks, saltlakes and brackish wetlands near coasts, sandy ocean beaches, rock platforms, and coral reef-flats (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Macronectes giganteus	Southern Giant Petrel	EN, Mi	V	1	May	-	-	N/A – Marine	N/A - Marine
Macronectes halli	Northern Giant Petrel	VU, Mi		1	Likely	-	-	N/A - Marine	N/A - Marine
Melanodryas cucullata cucullata	South-eastern Hooded Robin	EN		1	May	-	-	Occur in south-eastern Australia from far south-east Qld to Yorke Peninsula, SA, intergrading with *M. c. picata* in the southern MurrayDarling basin (Schodde & Mason 1999). The subspecies is now absent from many formerly occupied sites, particularly in the wetter areas of the south and east (DCCEEW 2025c; Ford et al. 2009). Prefer dry eucalypt and acacia	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.

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								woodlands and shrublands with an open understorey, some grassy areas and a complex ground layer. They avoid woodlands with tall trees or dense tree cover but sometimes occur in tall, dense heaths with scattered open areas.	
Motacilla cinerea	Grey Wagtail	Mi		1	May	-	-	European and Asian species. Migrates south in winter, usually to Indonesia and NG. Rarely reaches Australia, but when it does, favours habitat near freshwater streams, also mown grass, ploughed land or near sewage ponds (Carter 1993).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Motacilla flava	Yellow Wagtail	Mi		1	May	-	-	Considered a regular visitor to marshes of northern Australia between August and April, overflying normal wintering grounds (Johnstone 1982).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Neophema chrysostoma	Blue-winged Parrot	VU		1	Likely	P, N	w	Breed on mainland Australia south of the Great Dividing Range in southern Victoria from Port Albert in Gippsland west to Nelson, and sometimes in the far south-east of South Australia, and the north-western, central and eastern parts of Tasmania (Emison et al. 1987; Higgins 1999). Inhabit a range of habitats from coastal, sub-coastal and inland areas, through to semi-arid zones. They tend to favour grasslands and grassy woodlands and are often found near wetlands both near the coast and in semi-arid zones (Higgins 1999; Holdsworth et al. 2021). The species can also be seen in altered	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and limited suitable habitat was observed in the Project Area.

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								environments such as airfields, golf-courses and paddocks.	
Neophema elegans elegans	Elegant Parrot		R	2	2003	P, N	w	Occurs in two separate areas. One is in the southwest corner of WA and the other in southern Australia from the Flinders Ranges to just over the NSW and Victorian borders. Inhabits open forests, woodlands, mallee, mulga and salt marsh (Higgins 1999).	**Likely** occurs within the impact footprint. Records occur in the Search Area in the previous 20-40 years. Species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat.
Numenius madagascariensis	Eastern Curlew	CR, Mi		1	May	-	-	In South Australia, the species is scarce between the Victorian border and Cape Jaffa and patchily distributed from the Coorong north-west to the Streaky Bay area, and has previously been recorded in Lake Alexandrina and Lake Albert, South Australia (Marchant & Higgins, 1993). During the non-breeding season in Australia, the eastern curlew is most commonly associated with sheltered coasts, especially estuaries, bays, harbours, inlets and coastal lagoons, with large intertidal mudflats or sandflats, often with beds of seagrass (Zosteraceae). Occasionally, the species occurs on ocean beaches (often near estuaries), and coral reefs, rock platforms, or rocky islets. Also found in coastal saltworks and sewage farms (Marchant & Higgins, 1993).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Pachyptila turtur subantarctica	Fairy Prion (southern)	VU		1	Likely	-	-	N/A - Marine	N/A - Marine

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Petroica boodang boodang	Scarlet Robin			2	2019	P	w	Scarlet Robin is distributed across south-eastern and south-western Australia and prefers open forest and woodlands.	**Likely** – Recent records nearby. This species may use this vegetation as a corridor to suitable surrounding vegetation.
Phoebetria fusca	Sooty Albatross	VU, Mi	E	1	Likely	-	-	N/A - Marine	N/A - Marine
Pterodroma mollis	Soft-plumaged Petrel	VU		1	May	-	-	N/A - Marine	N/A - Marine
Rostratula australis	Australian Painted Snipe	EN		1	Likely	-	-	Recorded at wetlands in all states of Australia (Barrett et al. 2003; Blakers et al. 1984). Most common in eastern Australia, where it has been recorded at scattered locations throughout much of Queensland, NSW, Victoria and south-eastern South Australia. Generally, inhabits shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans. Also use inundated or waterlogged grassland or saltmarsh. Sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (Marchant & Higgins 1993).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Stagonopleura bella samueli	Beautiful Firetail (MLR, KI)	EN	V	1	Known	-	-	Occur on Kangaroo Island and the Fleurieu Peninsula, and previously occurred within the Mt Lofty Ranges, SA. The subspecies inhabits shrubland and woodland, especially those containing casuarinas, paperbarks, and tea-trees. The subspecies is also likely to inhabit eucalypt woodlands and forests with a shrubby/heathy understory. Areas near watercourses, swamps, and marshes tend to support the highest density of individuals. Low shrubby habitats such as grasslands, heathlands and sedgelands also provide possible habitat for the subspecies. Mainland birds are largely restricted to the Deep Creek Conservation Park and an adjacent property. There are also very small numbers in the Cox Scrub Conservation Park area; possibly fewer than three pairs (Allan et. al. 2020).	**Possibly** occurs within the impact footprint. Although no recent records occur within the Search Area, the subspecies is known to occur within the wider area and suitable Eucalypt and Sheoak woodland is present within the Project Area. The species may utilise vegetation within the Project Area while dispersing between patches of more intact habitat.
Stagonopleura guttata	Diamond Firetail	VU		1	Likely	P, N	w	Diamond firetails occur on the south-east mainland of Australia from south-east Queensland to Eyre Peninsula, South Australia, and about 300 km inland from the sea (Higgins et al. 2007). Birds in South Australia appear to have been separated into three isolated subpopulations (Eyre Peninsula, Mt Lofty to Southern Flinders Ranges, and the south-east) (Higgins et al. 2007), with few records from a fourth (Yorke Peninsula) in the last decade (Hodder et al. 2021). Occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees (Higgins et al. 2007).	**Unlikely** to occur within the impact footprint. Although potentially suitable habitat occurs within the Project Area, no recent records occur within the Search Area.
Sternula albifrons	Little Tern	Mi		1	May	-	-	The south-eastern population is migratory, breeding in eastern Australia from South	**Unlikely** to occur within the impact

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		EPBC Act	NPW Act						
								Australia, through Tasmania, Victoria, NSW, and into Queensland. They breed in spring-summer (DCCEEW 2025c). In Australia, Little Terns inhabit sheltered coastal environments, including lagoons, estuaries, river mouths and deltas, lakes, bays, harbours and inlets, especially those with exposed sandbanks or sand-spits, and also on exposed ocean beaches.	footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Sternula nereis nereis	Australian Fairy Tern	VU	E	1	Known	-	-	Occurs along the coasts of Victoria, Tasmania, South Australia and Western Australia; occurring as far north as the Dampier Archipelago near Karratha. The subspecies has been known from New South Wales (NSW) in the past, but it is unknown if it persists there (Birdlife International 2010; Garnett & Crowley 2000). The species nests on sheltered sandy beaches, spits and banks above the high tide line and below vegetation. The subspecies has been found in embayments of a variety of habitats including offshore, estuarine or lacustrine (lake) islands, wetlands and mainland coastline (Higgins & Davies 1996; Lindsey 1986).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Stipiturus malachurus intermedius	Mount Lofty Southern Emu-wren	EN		1	Likely	-	-	Restricted to south-eastern South Australia, where it is found only on the Fleurieu Peninsula and in the southern Mount Lofty Ranges (Schodde & Mason 1999). Its range extends from Cox Scrub Conservation Park south to Deep Creek Conservation Park (Conservation Council of South Australia 2005). The southern emu-wren (Fleurieu Peninsula) generally occurs in two habitat types - swamp and dry-heath.	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.
Thalassarche carteri	Indian Yellow-nosed Albatross	VU, Mi	E	1	Likely	-	-	N/A - Marine	N/A - Marine

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Thalassarche impavida	Campbell Black-browed Albatross	VU, Mi	V	1	May	-	-	N/A - Marine	N/A - Marine
Thalassarche melanophris	Black-browed Albatross	VU, Mi		1	Likely	-	-	N/A - Marine	N/A - Marine
Thalassarche steadi	White-capped Albatross	VU, Mi		1	Known	-	-	N/A - Marine	N/A - Marine
Thinornis cucullatus cucullatus	Hooded Plover	VU	V	1, 2	Known / 2016	-	-	Widely dispersed on or near sandy beaches in south-eastern Australia. Its range extends from Jervis Bay in NSW to Fowlers Bay in SA and includes Tas. and various offshore islands such as Kangaroo Island, King Island and Flinders Island (Marchant & Higgins, 1993; Garnett et al., 2011). Inhabits ocean beaches, particularly wide beaches backed by dunes with large amounts of seaweed, creek mouths and inlet entrances. It may also occur on near-coastal saline and freshwater lakes and lagoons, tidal bays and estuaries, on rock platforms, or on rocky or sandy reefs close to shore (Marchant & Higgins, 1993; Garnett et al., 2011).	**Unlikely** to occur within the impact footprint. Although recent records occur within the Search Area, no suitable habitat was observed in the Project Area.
Tringa nebularia	Common Greenshank	EN, Mi		1	Likely	-	-	Occurs in all coastal regions west to, at least, Streaky Bay, with scattered records elsewhere along the coast (Higgins & Davies 1996). Inhabits a wide variety of inland wetlands and sheltered coastal habitats of varying salinity. The species will also utilise artificial wetlands, including sewage farms and saltworks dams, inundated rice crops and bores (Higgins & Davies 1996).	**Unlikely** to occur within the impact footprint. No recent records occur within the Search Area and no suitable habitat was observed in the Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Turnix varius varius	Painted Buttonquail		R	2	2010	-	-	Distributed throughout south-east QLD, NSW, VIC, TAS, south-west WA and southern SA (Marchant & Higgins 1993). Sparsely distributed mobile species that occupies a range of Eucalypt associations wherever leaf litter is prominent (G. Carpenter pers. comm.).	**Possibly** occurs within the impact footprint. Although the species' favoured habitat is not present within the Project Area, the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat. Records occur within the Search Area in the previous 20 years.
Zanda funerea whiteae	Yellow-tailed Black Cockatoo		V	2,3	2020	P, H	w	Species prefers native temperate forests, while also being ubiquitous in pine plantations, and occasionally in urban areas, as long as there is a plentiful food supply (Cameron 2006; Forshaw 2002).	**Known** to occur within the impact footprint. Recent records occur within the Search Area and the species was observed during the field surveys.
Zoothera lunulata halmaturina	South Australian Bassian Thrush (southern FR, MLR, KI)	EN	R	1, 2	Known / 2023	-	-	Occurs on Kangaroo Island, the Mt Lofty Ranges as far north as Tanunda (Schodde & Mason, 1999), and in the southern Flinders Ranges from Wirrabara Forest Reserve and Telowie Gorge Conservation Park to Mt Remarkable National Park (Garnett et al. 2011). Movements of other subspecies suggest that the mainland and Kangaroo Island birds are likely to constitute a single subpopulation (Garnett 1992). The subspecies is confined to remnant habitats on the mainland but is widespread on Kangaroo Island (Garnett et al., 2011). The subspecies mostly inhabits damp eucalypt forest or woodland (Garnett et al. 2011). Densely forested areas and	**Possibly** occurs within the impact footprint. Although the species' favoured habitat is not present within the Project Area, the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat. Recent records occur within the Search Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
								gullies are favoured, usually with a thick canopy overhead, a thick understorey of small trees and tall shrubs, and leaf-litter below (DEH 2008).	
Fish									
Seriolella brama	Blue Warehou	CD		1	Known	-	-	N/A - Marine	N/A - Marine
Mammalia									
Antechinus flavipes	Yellow-footed Antechinus		V	2	2018	-	-	In SA, a small population occurs in the southern Mt Lofty Ranges, on the Fleurieu Peninsula (Mackenzie 2001). The species is known to occur in a wide range of habitats, from tropical vine forests, swamps, stringybark forests and dry mulga country (Strahan, 1988).	**Possibly** occurs within the impact footprint. Although recent records for the species were present within the Search Area, habitat within the Project Area is highly modified with significant fragmentation of native vegetation and high levels of disturbance due to the proximity to a major road. However, the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat.
Balaenoptera edeni	Bryde's Whale	Mi		1	May	-	-	N/A - Marine	N/A - Marine
Balaenoptera musculus	Blue Whale	EN, Mi		1	May	-	-	N/A - Marine	N/A - Marine
Caperea marginata	Pygmy Right Whale	Mi		1	May	-	-	N/A - Marine	N/A - Marine

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Eubalaena australis	Southern Right Whale	EN, Mi		1	Known	-	-	N/A - Marine	N/A - Marine
Isoodon obesulus obesulus	Southern Brown Bandicoot (SA mainland and KI)	EN	V	1, 2	Known / 2010	-	-	Known from four separate regions of South Australia: the Mount Lofty Ranges, the south-east, Kangaroo Island and Eyre Peninsula. Inhabit a variety of habitats including heathland, shrubland, sedgeland, heathy open forest and woodland and are usually associated with infertile, sandy and well drained soils, but can be found in a range of soil types (Coates et al. 2008; Menkhorst and Seebeck 1990; NSW DEC 2006; Paull 1993). Within these vegetation communities they typically inhabit areas of dense ground cover.	**Possibly** occurs within the impact footprint. Although the species' favoured habitat is not present within the Project Area, the species may utilise vegetation within the Project Area while dispersing between patches of denser, more favourable habitat. Records for the species were present within the Search Area in the previous 20 years.
Lagenorhynchus obscurus	Dusky Dolphin	Mi		1	May	-	-	N/A - Marine	N/A - Marine
Megaptera novaeangliae	Humpback Whale	Mi		1	Likely	-	-	N/A - Marine	N/A - Marine
Neophoca cinerea	Australian Sea Lion	EN	V	1, 2	Known / 1997	-	-	N/A - Marine	N/A - Marine
Orcinus orca	Killer Whale, Orca	Mi		1	May	-	-	N/A - Marine	N/A - Marine
Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	1, 2	May / 2019	r	P, H	Historically occupied forests and woodlands in the coastal lowlands, tablelands and slopes of eastern Australia, from Qld to Vic., with some isolated camps and rare sightings outside this range. More recently, camps have established in SA, the ACT and inland areas of central and southern NSW and Vic. and sightings have increased in Tasmania (DAWE, 2021). In	**Likely** to occur within the Project Area periodically. The species is likely to move through the Project Area when moving between foraging sites and roosting grounds and

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
								2010 the species established a permanent camp in Botanic Park in Adelaide. Smaller camps also exist in southeast SA near Millicent, Naracoorte and Mount Gambier. Sightings and small camps have also been recorded across the Eyre Peninsula, including Port Augusta and Port Pirie suggesting they are now travelling further west. Grey-headed flying foxes are herbivores and feed on nectar and pollen from native trees such as eucalypts and banksias, as well as fruit from native and introduced species. They typically travel about 20 km from their camp each night in search of food, although they have been observed travelling >20 km from their camp in search of other food sources and it is not unusual for them to sleep away from the camp when making longer exploratory trips.	may utilise Eucalypts within the Project Area when flowering. However, habitat within the Project Area is not critical for the species. Recent records for the species were present within the Search Area.
Rattus lutreolus	Swamp Rat		R	2	2017	-	-	The westernmost extension of the range is on Kangaroo Island and nearby mainland of South Australia; it extends eastward and northward to southeastern Queensland at Imbil. Farther north, the species occurs on the highlands of north coastal Queensland at Mt. Spec, Kirrama, and Lake Barrine (Taylor, 1975). This species occurs primarily in wetlands harbouring tall grasses or sedges, along the banks of streams, in costal sand dunes, peaty ridges, heaths, and wet shelves of hillsides (Calaby 1966; Keith &Calaby 1968).	**Likely** occurs within the impact footprint. Although the species' favoured habitat is not present within the Project Area, the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat. Recent records for the species were present within the Search Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
Trichosurus vulpecula	Common Brushtail Possum		R	2	2023	r	H, F	Occupies a wide range of habitats including rocky ranges, smaller rocky outcrops, eucalypt-lined watercourses, Coolibah claypans, limestone sinkholes and spinifex grasslands with scattered eucalypts (Burbidge et al. 1988; Kerle et al. 1992).	**Likely** occurs within the impact footprint. Although the habitat within the Project Area is highly modified with significant fragmentation of native vegetation, the species is likely to utilise vegetation within the Project Area while dispersing between patches of more favourable habitat. Recent records for the species were present within the Search Area.
Reptilia									
Caretta caretta	Loggerhead Turtle	EN, Mi		1	Known	-	-	N/A - Marine	N/A - Marine
Chelonia mydas	Green Turtle	VU, Mi		1	May	-	-	N/A - Marine	N/A - Marine
Dermochelys coriacea	Leatherback Turtle	EN, Mi	V	1	Known	-	-	N/A - Marine	N/A - Marine
Egernia cunninghami	Cunningham's Skink		E	2	2018	-	-	South-eastern Australia along the slopes and ranges of the Great Dividing Range. There is an isolated population in Mt Lofty Ranges, South Australia. Rock crevices or under large slabs of rock throughout its range and sometimes inhabits hollow logs and tree stumps (Australian Museum 2025).	**Possibly** occurs within the impact footprint. Although the species' favoured habitat is not present within the Project Area, the species may utilise vegetation within the Project Area while dispersing between patches of more favourable habitat.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST / Year of Last Record	Habitat / Status	Scattered Tree Use	Habitat Preferences	Likelihood of Occurrence within Project Area
		EPBC Act	NPW Act						
									Recent records for the species were present within the Search Area.
Sharks									
Carcharias taurus	Grey Nurse Shark	Mi		1	May	-	-	N/A - Marine	N/A - Marine
Carcharodon carcharias	Great White Shark	VU, Mi		1	Known	-	-	N/A - Marine	N/A - Marine
Galeorhinus galeus	School Shark	CD		1	May	-	-	N/A - Marine	N/A - Marine
Lamna nasus	Mackerel Shark	Mi		1	Likely	-	-	N/A - Marine	N/A - Marine

Conservation status

EPBC Act (*Environment Protection and Biodiversity Conservation Act 1999*). **NPW Act** (*National Parks and Wildlife Act 1972*).
Conservation Codes: **CD:** Conservation Dependent. **CE**: Critically Endangered. **EN/E**: Endangered. **VU/V**: Vulnerable. **R**: Rare. **Mi**: Migratory (Migratory status: **M**: Marine, **T**: Terrestrial, **W**: Wetland).

Source of Information

1. **EPBC Act Protected Matters Report** (DCCEEW 2025a) - 5 km buffer applied to Project Area.
2. **Biological Database of South Australia data extract** (DEW 2025b) - 5 km buffer applied to Project Area.
3. **Observed during the field survey**.

Scattered Tree Using Species

Scattered Tree Use: P = perching / roosting, N = nesting, H = hollow using for nesting / roosting, F = feeding
Habitat / Status: s = seasonal (includes waterbirds using trees near seasonal wetlands, seasonal and nomadic species), **w** = woodland birds that occasionally use adjacent scattered trees, r = species that can reside in scattered trees.

Appendix 4 – Scattered Tree Photo File

Photo 1: Tree 2 (*Acacia pycnantha*)

Photo 2: Tree 4 (*Allocasuarina verticillata*) – clump of 3

Photo 3: Tree 6 (*Allocasuarina verticillata*)

Photo 4: Tree 7 (*Allocasuarina verticillata*) – clump of 19

Photo 5: Tree 8 (*Allocasuarina verticillata*)

Photo 6: Tree 9 (*Allocasuarina verticillata*) – clump of 6

Photo 7: Tree 10 (*Acacia pycnantha*)

Photo 8: Tree 11 (*Acacia pycnantha*)

Photo 9: Tree 12 (*Acacia pycnantha*)

Photo 10: Tree 13 (*Allocasuarina verticillata*)

Photo 11: Tree 14 (*Acacia pycnantha*) – clump of 5

Photo 12: Tree 16 (*Acacia pycnantha*) – clump of 4

Photo 13: Tree 24 (*Acacia pycnantha*)

Photo 14: Tree 26 (*Acacia pycnantha*) – clump of 7

Photo 15: Tree 31 (*Allocasuarina verticillata*)

Photo 16: Tree 32 (*Acacia pycnantha*) – clump of 3

Photo 17: Tree 33 (*Acacia pycnantha*)

Photo 18: Tree 34 (*Acacia pycnantha*)

Photo 19: Tree 37 (*Acacia pycnantha*) – clump of 2

Photo 20: Tree 42 (*Acacia pycnantha*) – clump of 2

Photo 21: Tree 44 (*Acacia pycnantha*) – clump of 5

Photo 22: Tree 46 (*Acacia pycnantha*)

Photo 23: Tree 47 (*Acacia pycnantha*)

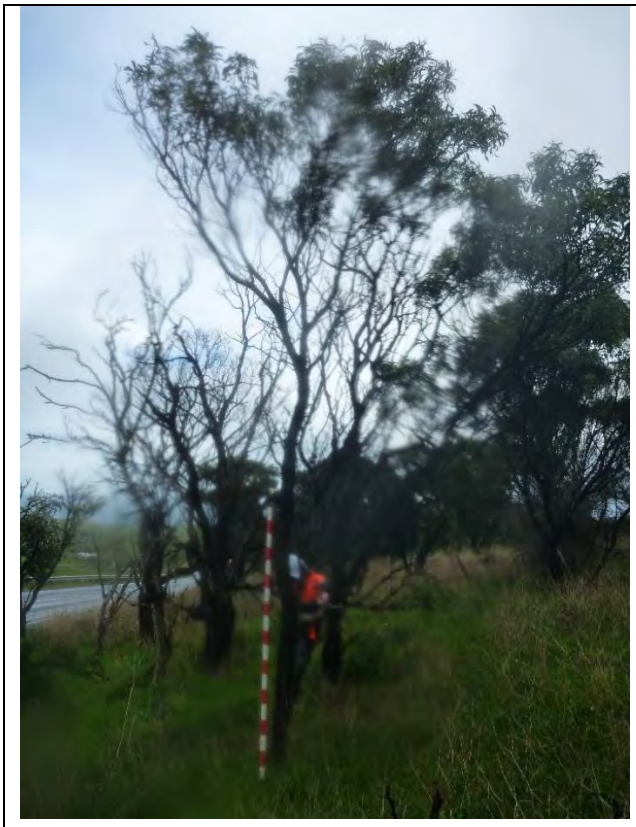

Photo 24: Tree 49 (*Acacia pycnantha*) – clump of 2

Photo 25: Tree 50 (*Acacia pycnantha*)

Photo 26: Tree 51 (*Acacia pycnantha*)

Photo 27: Tree 52 (*Acacia pycnantha*) – clump of 5

Photo 28: Tree 53 (*Acacia pycnantha*)

Photo 29: Tree 54 (*Acacia pycnantha*)

Photo 30: Tree 55 (*Acacia pycnantha*)

Photo 31: Tree 56 (*Acacia pycnantha*)

Photo 32: Tree 57 (*Eucalyptus fasciculosa*)

Photo 33: Tree 58 (*Acacia pycnantha*)