



Native Vegetation Clearance

RN4643 Strathalbyn Road, North and South of Mylor: Data Report

Clearance under the Native Vegetation Regulations 2017

11 April 2025
Revised 29 July 2026

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Umwelt (Australia) Pty Ltd



Native Vegetation Clearance: RN4643 Strathalbyn Road, North and South of Mylor: Data Report

Prepared by Umwelt (Australia) Pty Ltd for Greenhill Engineers Pty Ltd

Project Number: 31488 / 314882 / 33395

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Cover photograph: *Eucalyptus dalrympleana* (Candlebark Gum) scattered tree within the Project Area.

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Glossary and Abbreviations

Term/Abbreviation	Definition
AHPRS	Adelaide Hills Productivity and Road Safety Project
BAM	Bushland Assessment Method
BDBSA	Biological Databases of South Australia
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
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
Greenhill	Greenhill Engineers Pty Ltd
IBRA	Interim Biogeographic Regionalisation of Australia
LSA Act	<i>Landscape South Australia Act 2019</i>
MLR	Mount Lofty Ranges
MNES	Matter(s) of National Environmental Significance
Native vegetation	A plant or plants of a species indigenous to South Australia (including dead trees >600 mm diameter, and planted vegetation protected under the NV Act such as SEB or Heritage Agreements).
NPW Act	<i>National Parks and Wildlife Act 1972</i>
NV Act	<i>Native Vegetation Act 1991</i>
NVC	Native Vegetation Council
PDI Act	<i>Planning, Development and Infrastructure Act 2016</i>
PMST	Protected Matters Search Tool.
The Project	Upgrade of sections of Strathalbyn Road, north and south of Mylor.
Project Area	The area in Figure 1.
RN	Road Number
RRD	Road Running Distance
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 (singular)
spp.	Species (plural)
ssp.	Subspecies
STAM	Scattered Tree Assessment Method.
SRZ	Structural Root Zone
TEC	Threatened Ecological Community.
TPZ	Tree Protection Zone
Umwelt	Umwelt (Australia) Pty Ltd
var.	Variant
WoNS	Weed of National Significance

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Attachment 2 - Scattered Tree Assessment Scoresheet (excel format)

Attachment 3 – Scattered Tree Photo File

Attachment 4 – Spatial Data Package (shapefiles)

1. APPLICATION INFORMATION

Details of the native vegetation clearance applicant are summarised in **Table 1.1** with a summary of the proposed clearance provided in **Table 1.2**.

Table 1.1 Application Details

Applicant:	Department for Infrastructure and Transport (DIT)		
Key Contact:	[REDACTED]		
Landowner:	N/A - DIT road reserve		
Site Address:	Strathalbyn Road between Stirling and Echunga (Road Running Distance (RRD) 2.56 to RRD 9.58) Chainage 5090 to 8000 (2910 m) and ~8870 to 9370 (500 m).		
Local Government Area:	Adelaide Hills Council	Hundred:	Noarlunga
Title ID:	N/A - DIT road reserve	Parcel ID:	N/A - DIT road reserve

Table 1.2 Summary of the Proposed Clearance

Purpose of Clearance:	Development of a portion of Strathalbyn Road as a component of the Adelaide Hills Productivity and Road Safety Project (AHPRS), which aims to upgrade some of the region's key strategic arterial roads. Works include pavement works, shoulder sealing, safety barrier installation and vegetation management.
Native Vegetation Regulation:	Regulation 12(32)—Works on behalf of Commissioner of Highways
Description of the Vegetation Under Application:	A1: <i>Pteridium esculentum</i> (Bracken Fern) with <i>Rubus fruticosus</i> (Blackberry) and <i>Rosa canina</i> (Dog Rose) - 0.0012 ha in poor condition. 44 scattered trees (3 x remove; 41 x prune (root impact)) from small to large and in poor to excellent condition comprising: • <i>Acacia verniciflua</i> (Varnish Wattle) – 1 x removal • <i>Eucalyptus dalrympleana</i> (Candlebark Gum) – 4 x prune • <i>Eucalyptus obliqua</i> (Messmate stringybark) – 38 (2 x removal; 36 x prune) • <i>Eucalyptus fasciculosa</i> (Pink Gum)– 1 x prune
Total Proposed Clearance – area (ha) and/or Number of Trees:	0.0012 ha of native vegetation and 44 scattered trees to be impacted (3 removal; 41 prune as root impact).
Level of Clearance:	Level 4
Overlay (Planning and Design Code):	Native Vegetation Overlay

Map of Proposed Clearance Area:	 FIGURE 2.2 Project Area Legend - Project Area - NPWS Reserves - Waterbodies - Watercourses 0 0.2 0.5 Kilometres umwelt
Mitigation Hierarchy:	Refer to Figure 2.2 for more detail. Avoidance Impacts to vegetation have been avoided or reduced by confining road design to the existing road footprint (which is already clear of vegetation) as much as possible. Minimisation Impacts to vegetation have been minimised during the design development process, including a reduction in the scope of works which has resulted in a significant reduction of impacts to native vegetation. Impacts to vegetation will also be minimised during construction works via (but not limited to) minimising excavation, use of hydrovac and arborist advice within Tree Protection Zone and Structural Root Zone of trees identified for potential root impacts. Rehabilitation or restoration As majority of the Project Area (i.e. road corridor) is already highly vegetated and areas of clearance will be within the operational road footprint, no rehabilitation or restoration is proposed or likely to be required. The above is a summary. Refer to Section 4.5 for more detail.
SEB Offset Proposal	Payment of \$92,037.17 into the Native Vegetation Fund which includes an administration fee of \$4,798.15 (including GST).

2. PURPOSE OF THE CLEARANCE

2.1. Description

The Department for Infrastructure and Transport (DIT) plans to upgrade sections of Road Number (RN) 4643 Strathalbyn Road (the Project) as a component of the Adelaide Hills Productivity and Road Safety Project (AHPRS), which aims to upgrade some of the region's key strategic arterial roads. A range of road improvements will be undertaken to support economic growth, improve road safety and increase fire resilience in the Adelaide Hills area. Works include pavement works, shoulder sealing, safety barrier installation and vegetation management.

The targeted upgrades aim to:

- provide safer escape and emergency response routes in emergency situations
- improve road risk rating
- improve connectivity between supply source and market.

2.2. Background

The Project is located within the Adelaide Hills Local Government Area and the Hills and Fleurieu Landscape Management Region. The Project Area is on Strathalbyn Road, between Aldgate and Echunga in South Australia (**Figure 2.1**), comprising a total of approximately 3.5 km of road. The Project Area consists of two sections:

- Northern section: 2910 m stretch between Montford Avenue, Bridgewater and Whitehead Road, Mylor, from Chainage 5090 to 8000 (100 % design drawing).
- Southern section: 500 m stretch in Mylor intersecting with Hampton Road and Silver Lake Road, from Chainage ~8870 to 9370 (100 % design drawing).

The township of Mylor is between the northern and southern sections (**Figure 2.2**).

The width of the Project Area is variable and is dependent on the treatment required but is entirely within DIT road reserve.

2.2.1. *Interim Biogeographic Regionalisation for Australia*

The Interim Biogeographical Regionalisation of Australia (IBRA) classifies Australia's landscapes into geographically distinct Bioregions based on common climate, landscape type, geology and native vegetation. Each Bioregion is further divided into smaller sub-regions, with subregions categorised by environmental association based on differences at a more local scale.

The Project Area occurs in the Mount Lofty Ranges subregion of the Flinders Lofty Block Bioregion. At a local scale the IBRA subregions are further categorised by Environmental Associations. The Project Area is located within the Uraidla (northern section) and Hahndorf (southern section) Environmental Associations (**Table 2.1**).

Table 2.1 IBRA bioregion, Subregion and Environmental Association Environmental Landscape Summary

Flinders Lofty Block IBRA bioregion	
The bioregion comprises temperate to arid Proterozoic ranges, alluvial fans and plains, and some outcropping volcanics, with the semi-arid to arid north supporting <i>Callitris</i> spp., <i>Casuarina pauper</i> (Black Oak) and mallee open woodlands, <i>Eremophila</i> spp. and <i>Acacia</i> spp. shrublands, and chenopod shrublands on shallow, well-drained loams and moderately deep, well-drained red duplex soils. The increase in rainfall to the south corresponds with an increase in low open woodlands of <i>Eucalyptus obliqua</i> (Messmate Stringybark) and <i>Eucalyptus baxteri</i> (Brown Stringybark) on deep lateritic soils, and <i>Eucalyptus fasciculosa</i> (Pink Gum) and <i>Eucalyptus cosmophylla</i> (Cup Gum) on shallower or sandy soils.	
Mount Lofty Ranges IBRA subregion	
This subregion extends from north of the Fleurieu Peninsula to the Barossa Valley. The subregion is predominantly an undulating to low hilly upland with steeper marginal ranges and hills. The Barossa Valley is the lowest area in this subregion and represents a structural basin. The rest of the subregion consists of hilly uplands on sandstone and shale with northerly trending strike ridges and dissected lateritic tableland remnants. Low open woodland commonly dominated by <i>Eucalyptus obliqua</i> and <i>Eucalyptus baxteri</i> are found in higher rainfall areas on deep, lateritic soils. Shallower or sandy soils support <i>Eucalyptus fasciculosa</i>, <i>Eucalyptus cosmophylla</i> and in the northern part of the region <i>Eucalyptus goniocalyx</i> (Long-leaved Box). <i>Eucalyptus leucoxylon</i> (Blue Gum) dominates the woodlands on podzolised soils in the lower rainfall areas, <i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i> (Rough-barked Manna Gum) dominate the wetter and cooler woodlands and <i>Eucalyptus odorata</i> characterises drier sites. <i>Eucalyptus</i> spp. give way to <i>Allocasuarina verticillata</i> (Drooping Sheoak) in the most arid woodlands and in coastal situations on shallow rocky soils.	
Remnant vegetation	Approximately 15% (46,342 ha) of the subregion is mapped as remnant native vegetation, of which 27% (12,706 ha) is formally conserved.
Landform	Hills and valleys; alternating subparallel hilly ridges and valleys trend in the north. In the south, majority hilly dissected tableland.
Geology	Dissected lateritized surface in south
Soil	Hard setting loams with red clayey subsoils, highly calcareous loamy earths, hard setting loams with mottled yellow clayey subsoil, coherent sandy soils, cracking clays.
Vegetation	<i>Eucalyptus</i> woodlands with a shrubby understorey.
Conservation significance	129 species of threatened fauna, 270 species of threatened flora. 4 wetlands of national significance.
Hahndorf IBRA environmental association	
Remnant vegetation	Approximately 6% (3,934 ha) of the association is mapped as remnant native vegetation, of which 3% (100 ha) is formally conserved.
Landform	Undulating upland plain with broad interfluvies and occasional higher hills.
Geology	Metasediments and alluvium.
Soil	Hard pedal mottled-yellow duplex soils, bleached sands and reddish weakly structured sandy soils.
Vegetation	Woodlands of South Australian Blue Gum and woodlands of River Red Gum.
Conservation significance	23 species of threatened fauna, 65 species of threatened flora. 0 wetlands of national significance.
Uraidla IBRA environmental association	
Remnant vegetation	Approximately 26% (3674 ha) of the association is mapped as remnant native vegetation, of which 20% (749 ha) is formally conserved.
Landform	Hilly uplands on sandstone and shale with long smooth slopes.
Geology	Sandstone, shale and alluvium.

Flinders Lofty Block IBRA bioregion	
Soil	Hard pedal or apedal mottled-yellow soils, red duplex soils on the slopes, grey-brown weakly structured sandy soils and bleached sands.
Vegetation	Open forest of <i>Eucalyptus obliqua</i> or <i>Eucalyptus baxteri</i> on the slopes and crests. Open forests of <i>Eucalyptus dalrympleana</i> (Mountain Gum) on the valley floors.
Remnant vegetation	29 species of threatened fauna, 96 species of threatened flora. 1 wetlands of national significance.

2.3. Details of the Proposal

The proposed upgrades to Strathalbyn Road form a component of the overarching AHPRS, whereby important road corridors have been selected for upgrade. It is anticipated that upgrades will involve:

- road resurfacing for improved rideability and skid resistance
- pavement and shoulder widening
- implementing minimum lane and shoulder widths
- minor improvements to side roads and junctions
- widening of seal width at bus stops
- curve easing at isolated horizontal radii
- installation of safety barriers where required for roadside hazard protection
- traffic control, line marking, signage and delineation improvements
- vegetation removal and trimming.

In April / May 2026, the following changes were made to the design:

- Removal of two curve widening only components of work at:
 - RRD 6.35-6.48 (near property #279)
 - RRD 6.77-6.92 (near Hooper Rd)
- Changed cross section to nominal 3.0-3.2 m lanes and 0.5 m sealed shoulder (previous design cross section was nominal 3.0-3.2 m lanes, 0.5 m sealed + 0.5 m unsealed shoulders).

As such, impact to native vegetation has been reduced.

Legend

- Project Area
- NPWSA Reserves
- Waterbodies
- Watercourses



A horizontal number line with tick marks at 0, 1, and 2. The segment between 0 and 1 is shaded in gray.

Scale 1:50,000 at A4
GDA2020 MGA Zone 54



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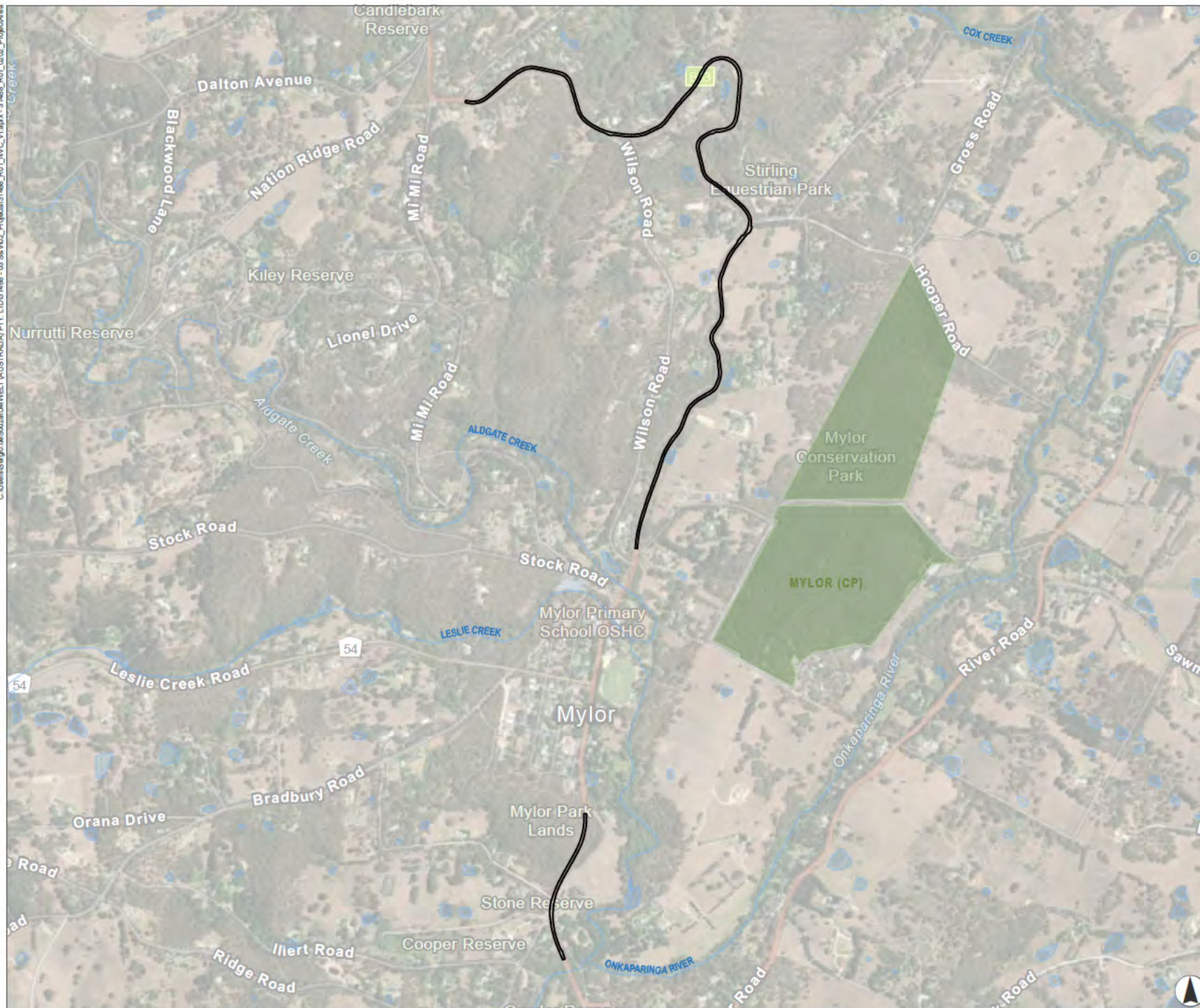


FIGURE 2.2
Project Area

Legend

- Project Area
- NPWSA Reserves
- Waterbodies
- Watercourses

0 0.3 0.6
Kilometres

Scale 1:16,731 at A4
GDA2020 MGA Zone 54



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2.4. Approvals Required or Obtained

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act):
 - Although three EPBC Act listed flora species were identified via desktop assessment (**Table 4.4**) they are unlikely to be impacted by the proposed works and any impact to them is unlikely to be a significant impact in accordance with the EPBC Act Matters of National Environmental Significance Significant Impact Guidelines 1.1 (DEWHA 2013).
 - Similarly, although six EPBC Act listed fauna species were identified via desktop assessment (**Table 4.5**), impacts will be limited to an insignificant amount of habitat loss within the Project Area and very minor displacement within and adjacent to the Project Area, associated with the removal of 3 scattered trees and a very small amount of native vegetation. These impacts are unlikely to constitute a significant impact in accordance with the EPBC Act Significant impact Guidelines.
 - As such, EPBC Act approval is not required.
- *Native Vegetation Act 1991* (NV Act)– The Project is subject to the NV Act, which is the subject of this Data Report. Approval must be obtained to clear native vegetation.
- *National Parks and Wildlife Act 1972* (NPW Act) – Umwelt has the required flora collection permit (K25613-23; K25613-28).
- *Landscape 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 spread of weeds including those listed as Declared under the LSA Act. Standard procedures, such as those outlined in a Construction Environmental Management Plan should be in place to prevent the encroachment of weeds and other potential environmental impacts.
- *Planning, Development and Infrastructure Act 2016* (PDI Act) – As the Project will not be subject to a Development Application the PDI Act does not apply. Furthermore, regulated tree provisions within the PDI Act do not apply across or within the Project Area.
- *Aboriginal Heritage Act 1988* – Approval will be required if any items of cultural significance are uncovered during construction works. A 'Stop Work' procedure should be in place if any items of this nature are located.

2.5. Native Vegetation 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).

3. METHODOLOGY

3.1. Flora Assessment

The flora assessment was undertaken by Senior Environmental Consultant Emma Tremain (Native Vegetation Council [NVC] Accredited Consultant) and Ecologist Dayna Hoadley from 14-16 January 2025 in accordance with the Bushland Assessment Method (BAM) and Scattered Tree Assessment Method (STAM) (NVC 2024a, 2024b).

A follow up flora assessment was undertaken by Senior Environmental Consultant Emma Tremain and Principal Ecologist Dr Marina Louter (both NVC Accredited Consultants) on 29-30 April 2026 in accordance with the BAM and STAM, to assess revised design and update impact requirements.

3.1.1. Bushland Assessment Method

The BAM is derived from the Nature Conservation Society of South Australia's Bushland Condition Monitoring methodology (Croft *et al.* 2007, 2008a, 2008b, 2009; Milne and Croft 2012; Milne and McCallum 2012). The BAM is used to assess areas of native vegetation requiring clearance and calculate the Significant Environmental Benefit (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 2024a).

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 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.

3.1.2. 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). The STAM is suitable for assessing scattered trees in the following instances:

- Individual scattered trees (i.e., 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; or
- Dead trees (when a dead tree is considered native vegetation); or
- Clumps of trees (contiguous overlapping canopies) if the clump is small (approximately <0.1 ha); and
- 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; and
- The area around the trees consists of introduced pasture or crops.

The mean annual rainfall across the Project Area is between 760-870 mm (DEW 2024b). These values were averaged for the STAM scoresheets (815 mm).

Details of the scattered tree Point Scoring System are outlined in the *Scattered Tree Assessment Manual* (NVC 2024b).

As per DIT survey requirements, scattered trees within patches of native vegetation were recorded using both BAM and STAM methodology. Trees to be removed were assigned a loss factor of 1 in the Scattered Tree Scoresheet, and those with potential/likely impact to the root zone only (for example from installation of guardfence) were assigned a loss factor of 0.4.

The numbers of uncommon and threatened scattered tree using fauna species entered into the Scattered Tree Scoresheet were calculated by cross-referring the BDBSA data extract (see **Section 3.2.2**) and the lists of scattered tree using fauna in the *Scattered Tree Assessment Manual* (NVC 2020). 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).

3.1.3. 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 to determine the potential for any threatened fauna species and Threatened Ecological Communities (TECs) to occur within the Project Area. This included species listed under both the EPBC Act and the NPW Act.

The search was undertaken by applying a 5 km buffer around the Project Area, referred to as the Search Area. The following databases were searched to obtain records of threatened species:

- PMST: Report generated by the Department of Climate Change, Energy, Environment and Water (DCCEEW) to identify any MNES that may or are known to occur in the search Area.
- BDBSA: Data extract obtained from the Department for Environment and Water (DEW) that identifies the location of historical records of flora and fauna in the Search Area.

3.2.1. Protected Matters Search Tool Report

A PMST report was generated on 10 January 2025 to identify flora, fauna and TECs listed under the EPBC Act as threatened or migratory (DCCEEW 2024). 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.

Species identified as *known* to occur 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 clearance assessment and approval process.

Those species that are listed in Appendix 4 of the Scattered Tree Assessment Manual (NVC, 2024b) as scattered tree using wildlife have been entered in the STAM scoresheet.

3.2.2. Biological Databases of South Australia Data Extract

A data extract from the BDBSA was obtained from DEW to identify flora and fauna species that have been recorded within 5 km of the Project Area (data extracted 14 January 2025; DEW 2024b Recordset number: DEWNRBDBSA250114-2).

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 the Department for Environment and Water's (DEW) 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 clearance assessment and approval process.

3.2.3. Field Survey

All native and exotic vertebrate fauna species opportunistically encountered across the Project Area during the field survey (directly observed, or tracks, scats, burrows, nests, and other signs of presence) were recorded. Potential fauna refuge sites, such as hollows, rock crevices and creek lines were noted as an indication of availability of suitable habitat. Particular attention was given to identifying potential habitat for threatened species.

3.2.4. Likelihood of Occurrence

Threatened species and TECs that were identified by the desktop assessment were assessed for their likelihood of occurrence in 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 report were assessed.

The assessment was based on recency of records, habitat preferences and the results of the field survey, with criteria for the likelihood of occurrence described in **Table 3.1**. Marine, wetland and aquatic species were not assessed, as the clearance does not impact these or associated habitats.

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.

3.3. Limitations

Flora and fauna records were retrieved from the PMST and BDBSA extract. The BDBSA only includes verified flora and fauna records submitted to DEW or partner organisations. It is recognised that information is imperfectly captured, and it is possible that significant species may occur in the Project Area that are not reflected by 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 of the user or any person to whom the user discloses the information.

As the PMST and BDBSA records were limited to a 5 km 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 PMST and BDBSA results may not highlight all potential threatened flora and fauna species that may occur in the area. A precautionary approach has therefore been adopted, with reference to existing PMST and BDBSA records and native vegetation cover. The combination of database records and background research have provided a solid baseline foundation for determining the flora and fauna that are likely to, or are known to, occur within the Project Area.

In some cases it was difficult to obtain accurate data for scattered trees. Those that were very close together had overlapping canopies, obscuring effective collection of height and dieback measurements. The close proximity of many trees to the road also increased the difficulty of data collection.

3.3.1. Spatial Data Limitations

Spatial data collected during the field survey 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

All location coordinates listed in this report are expressed using this system. Spatial data converted from other coordinate reference systems may have accuracy limitations.

4. ASSESSMENT OUTCOMES

4.1. Vegetation Assessment

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

There is generally an upward slope from the road into the vegetation on the right-hand side (RHS) of the road, and a downward slope on the left-hand side (LHS), resulting in much of the adjacent vegetation being above or below the road surface. This will influence the effect of the works on particular trees. The shape of the Project Area predominantly follows the contours of the surrounding hills, ranging from approximately 300-400 m above sea level.

A total of 76 flora species were observed, including 44 introduced species. The full list of flora species recorded is provided in **Appendix 1**. Vegetation across the site consists of a combination of *Eucalyptus obliqua* (Messmate Stringybark) forest in variable condition, scattered trees originating from this vegetation association, as well as amenity plantings of both introduced and native species. Dead trees and live trees containing hollows are present, providing habitat for wildlife. There is a significant level of weed invasion in some areas (adjacent to the road) due to the proximity of grazing land and residential land, including several species that are Weeds of National Significance (WoNS), or declared under the LSA Act (**Table 4.1**).

Table 4.1 Weeds of National Significance (WoNS) and LSA Act Declared Weeds Recorded During the Field Survey

Scientific Name	Common Name	WoNS	Declared
<i>Cenchrus macrourus</i>	African Feather Grass		✓
<i>Chrysanthemoides monilifera</i>	Boneseed	✓	✓
<i>Cytisus scoparius</i>	Scotch Broom	✓	✓
<i>Erica arborea</i>	Tree Heath		✓
<i>Fraxinus angustifolia</i>	Desert Ash		✓
<i>Genista monspessulana</i>	Montpellier broom	✓	✓
<i>Pittosporum undulatum</i>	Sweet Pittosporum		✓
<i>Rosa canina</i>	Dog Rose		✓
<i>Rubus fruticosus</i>	Blackberry	✓	✓
<i>Ulex europaeus</i>	Gorse	✓	✓
<i>Watsonia meriana</i>	Bulbil Watsonia		✓

Although four vegetation associations were recorded within the Project Area during the initial flora assessment (14-16/01/2025), the revised design will only impact on one vegetation association:

- A1: *Pteridium esculentum* (Bracken Fern) with *Rubus fruticosus* (Blackberry) and *Rosa canina* (Dog Rose).

Similarly, while 98 scattered trees were recorded during the initial flora assessment, the revised design will impact 44 scattered trees from poor to excellent health, comprising the following species:

- *Acacia verniciflua* (Varnish Wattle)
- *Eucalyptus dalrympleana* (Candlebark Gum)
- *Eucalyptus fasciculosa* (Pink Gum)
- *Eucalyptus obliqua* (Messmate Stringybark)

4.1.2. Fauna

A total of 32 fauna species including two introduced species were recorded in the Project Area (**Appendix 2**). The following two State listed threatened species were recorded during the field survey:

- Yellow-tailed Black Cockatoo (*Zanda funerea whiteae*): NPW Act Vulnerable
- Scarlet Robin (*Petroica boodang boodang*): NPW Act Rare

4.1.3. Details of the Vegetation Associations Proposed to be Impacted

As stated above, one vegetation association, A1: *Pteridium esculentum* (Bracken Fern) with *Rubus fruticosus* (Blackberry) and *Rosa canina* (Dog Rose), will be impacted by the Project, and more information is provided in **Table 4.2**. Refer to **Appendix 3** for mapping.

Table 4.2 Summary of Vegetation Association A1

Vegetation Association	<i>Pteridium esculentum</i> with <i>Rubus fruticosus</i> and <i>Rosa canina</i>
	
General Description	A1 photo taken facing south, easting 296090, northing 6121702 A small patch of vegetation which is dominated by <i>Pteridium esculentum</i> (Bracken Fern). High level of weed invasion including declared weeds <i>Rosa canina</i> (Dog Rose), <i>Rubus fruticosus</i> (Blackberry) and <i>Cytisus scoparius</i> (English Broom). Disturbance surrounding this patch is high and it was likely part of the surrounding <i>Eucalyptus obliqua</i> (Messmate) woodland (as shown in the photo). The trees pictured adjacent to this association will not be affected by the proposed clearance.

	Over storey		Mid storey		Under storey
	None		<i>Pteridium esculentum</i> <i>Solanum laciniatum</i> <i>Rosa canina</i> <i>Rubus fruticosus</i> <i>Cytisus scoparius</i> <i>Onopordum acanthium</i> <i>Foeniculum vulgare</i> <i>Pittosporum undulatum</i>		<i>Centaurea</i> sp. <i>Euphorbia peplus</i> <i>Solanum nigrum</i> <i>Sonchus oleraceus</i> <i>Lolium</i> sp.
Threatened Species or Community	No threatened species were observed at this site. The patch is very small and highly disturbed, with a high level of weed invasion. Is it unlikely to contain any of the threatened plant species identified as potentially occurring by the likelihood of occurrence assessment. Threatened fauna species considered to potentially occur include: • <i>Antechinus flavipes</i> (Yellow-footed Antechinus) (NPW Act: V) • <i>Isodon obesulus obesulus</i> (Southern Brown Bandicoot) (EPBC Act EN; NPW Act V) • <i>Lewinia pectoralis pectoralis</i> (Lewin's Rail) (NPW Act: V) • <i>Pseudophryne bibronii</i> (Brown Toadlet) (NPW Act: R) • <i>Turnix varius varius</i> (Painted Buttonquail) (NPW Act: R) • <i>Zoothera lunulata halmaturina</i> (Bassian Thrush) (EPBC Act EN; NPW Act R)				
Landscape Context Score	1.15	Vegetation Condition Score	7.44	Conservation Significance Score	1.10
Unit Biodiversity Score	9.41	Area (ha)	0.0012	Total Biodiversity Score	0.01

4.1.4. Details of the Scattered Trees Proposed to be Impacted

As outlined above, 44 scattered trees from poor to excellent health, have been identified as impacted by the Project, with details provided in **Table 4.3**. Three scattered trees are likely to require removal, while 41 are likely to have root impacts, mostly associated with the installation of guardfence. However, root impacts are difficult to assess and may be overestimated.

Maps showing the location of scattered trees proposed to be impacted are provided in **Appendix 3**. A photo file of the scattered trees is provided as Attachment 3.

Table 4.3 Details of the Scattered Trees Proposed to be Impacted

Tree #	Tree species	No. of trees	Height (m)	Hollows	Diameter (cm)	Canopy Dieback (%)	Biodiversity Score	Impact Type	General Comments
1	<i>Eucalyptus dalrympleana</i>	1	17.0	None	51	5	2.43	Prune	Large tree in excellent condition. Mistletoe 20% of canopy.
2	<i>Eucalyptus dalrympleana</i>	1	9.0	None	22	5	0.51	Prune	Medium tree in excellent condition.
3	<i>Eucalyptus dalrympleana</i>	1	10.0	None	20	5	0.51	Prune	Medium tree in excellent condition.
4	<i>Eucalyptus dalrympleana</i>	1	11.0	None	17	5	0.50	Prune	Medium tree in excellent condition.
8	<i>Eucalyptus obliqua</i>	1	12.0	None	65	5	2.35	Prune	Medium tree in excellent condition.
11	<i>Acacia verniciflua</i>	1	0.3	None	2.0	70	0.01	Removal	Small tree previously cut to a short stump but regrowing with branches that are approximately 30 cm tall. Recorded as <i>A. pycnantha</i> on STAM scoresheet as <i>A. verniciflua</i> is not an option.
13	<i>Eucalyptus obliqua</i>	1	15.0	1 small	51	10	3.43	Removal	Large tree in good condition.
15	<i>Eucalyptus obliqua</i>	1	10.0	None	20	80	0.26	Removal	Medium tree in poor condition.
50	<i>Eucalyptus obliqua</i>	1	14.0	None	47	5	2.19	Prune	Medium tree in excellent condition.
51	<i>Eucalyptus obliqua</i>	1	14.5	None	79	20	2.39	Prune	Medium tree in good condition.
52	<i>Eucalyptus obliqua</i>	1	19.0	None	80	20	3.74	Prune	Large tree in good condition.
54	<i>Eucalyptus obliqua</i>	1	9.0	None	25	10	0.55	Prune	Small tree in good condition.
56-62 excluding 58 (dead)	<i>Eucalyptus obliqua</i>	6	14.0	None	34	60	3.06	Prune	Medium trees in moderate condition.

Tree #	Tree species	No. of trees	Height (m)	Hollows	Diameter (cm)	Canopy Dieback (%)	Biodiversity Score	Impact Type	General Comments
66	<i>Eucalyptus obliqua</i>	1	19.0	None	103	10	6.08	Prune	Large tree in good condition.
67	<i>Eucalyptus fasciculosa</i>	1	12.0	None	41	20	1.20	Prune	Medium tree in good condition.
68	<i>Eucalyptus obliqua</i>	1	15.0	None	95	15	4.14	Prune	Large tree in good condition.
83	<i>Eucalyptus obliqua</i>	1	15.0	None	50	40	1.39	Prune	Large tree in moderate condition.
103	<i>Eucalyptus obliqua</i>	1	13.0	None	97	10	3.82	Prune	Medium tree in good condition.
104	<i>Eucalyptus obliqua</i>	1	13.0	None	58	15	2.31	Prune	Medium tree in good condition.
105	<i>Eucalyptus obliqua</i>	1	10.0	None	59	5	2.00	Prune	Medium tree in excellent condition.
106	<i>Eucalyptus obliqua</i>	1	12.0	None	43	5	1.42	Prune	Medium tree in excellent condition.
109	<i>Eucalyptus obliqua</i>	1	13.0	2 small, 5 medium, 2 large	144	20	4.83	Prune	Medium tree in good condition.
110	<i>Eucalyptus obliqua</i>	1	11.0	None	71	35	1.39	Prune	Medium tree in moderate condition.
111	<i>Eucalyptus obliqua</i>	1	20.0	None	73	10	4.55	Prune	Large tree in good condition.
112	<i>Eucalyptus obliqua</i>	1	10.0	None	91	5	2.58	Prune	Medium tree in excellent condition.
113	<i>Eucalyptus obliqua</i>	1	9.0	None	95	5	2.51	Prune	Medium tree in excellent condition.
114	<i>Eucalyptus obliqua</i>	1	13.0	None	33	20	0.64	Prune	Medium tree in good condition.
115	<i>Eucalyptus obliqua</i>	1	15.0	None	50	50	1.39	Prune	Large tree in moderate condition.
116	<i>Eucalyptus obliqua</i>	1	14.0	None	68	40	2.11	Prune	Medium tree in moderate condition.
117	<i>Eucalyptus obliqua</i>	1	15.0	None	100	5	4.22	Prune	Large tree in excellent condition.
119	<i>Eucalyptus obliqua</i>	1	17.0	None	79	20	3.38	Prune	Large tree in good condition.

Tree #	Tree species	No. of trees	Height (m)	Hollows	Diameter (cm)	Canopy Dieback (%)	Biodiversity Score	Impact Type	General Comments
121	<i>Eucalyptus obliqua</i>	1	17.0	2 small	180	15	8.38	Prune	Large tree in good condition.
123	<i>Eucalyptus obliqua</i>	1	19.0	None	73	15	4.36	Prune	Large tree in good condition.
124	<i>Eucalyptus obliqua</i>	1	14.0	2 small	133	15	6.27	Prune	Medium tree in good condition.
125	<i>Eucalyptus obliqua</i>	1	16.0	1 small	124	15	6.56	Prune	Large tree in good condition.
126	<i>Eucalyptus obliqua</i>	1	10.0	1 small	71	25	2.04	Prune	Medium tree in good condition.
127	<i>Eucalyptus obliqua</i>	1	10.0	None	65	5	2.12	Prune	Medium tree in excellent condition.
128	<i>Eucalyptus obliqua</i>	1	14.0	1 small; 1 large	163	15	7.85	Prune	Medium tree in good condition.
129	<i>Eucalyptus obliqua</i>	1	17.0	None	96	15	4.52	Prune	Large tree in good condition.

4.1.5. Photo Log



Photo 4.1 *Eucalyptus dalrympleana* (Candlebark Gum) at the northern end of the Project Area.

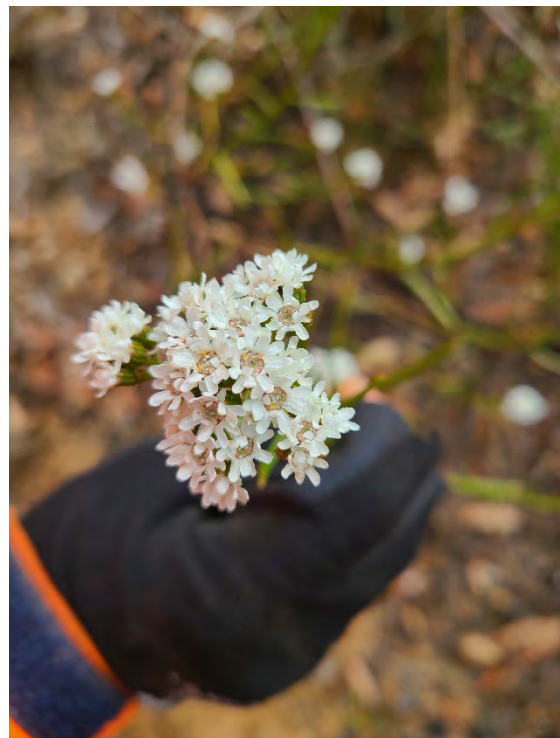


Photo 4.2 *Ixodia achillaeoides* (Sand Ixodia) were plentiful within vegetation association A2 (which is no longer impacted by the proposed works).



Photo 4.3 Substantial numbers of dead trees with hollows provide habitat for wildlife.



Photo 4.4 Tawny Frogmouth (*Podargus strigoides*) observed in roadside vegetation association (STAM Tree 46 which is not impacted).

4.2. Threatened Ecological Communities

The PMST indicated that no TECs occur within the Search Area. No TECs were identified during the on ground flora assessment.

4.3. Threatened Species Assessment

4.3.1. Threatened Flora

Two NPW Act listed threatened flora species were recorded during the survey:

- *Eucalyptus dalrympleana* ssp. *dalrympleana* (Candlebark Gum): NPW Act Rare
- *Eucalyptus fasciculosa* (Pink Gum): NPW Act Rare

Four impacted scattered trees (Trees 1-4) are *E. dalrympleana* ssp. *dalrympleana* and one impacted scattered tree (Tree 67) is *Eucalyptus fasciculosa* (**Appendix 3**).

The database searches identified 76 threatened flora species which may occur in the Search Area, of which 32 were assessed as possible, likely, highly likely or known to occur in, or immediately adjacent to, the Project Area. These species are listed in **Table 4.4**. The full likelihood of occurrence assessment for all species is provided in **Appendix 4**. Locations of BDBSA threatened flora species records are provided in **Appendix 5**.

Impact to threatened flora species will most likely be limited to the following trees:

- Prune (root impact) to 4 x *Eucalyptus dalrympleana* (Candlebark Gum).
- Prune (root impact) to 1 x *Eucalyptus fasciculosa* (Pink Gum).

Other threatened flora species listed in **Table 4.4** are unlikely to be directly impacted by the proposed works as only a very small amount of other vegetation (0.0012 ha of VA1) will be impacted by the works.

Table 4.4 Likelihood of Occurrence of Threatened Flora Species Identified via Desktop Assessment

Scientific Name	Common Name	Conservation Status		Data Source	Last Sighting / PMST Likelihood	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Acacia gunnii</i>	Ploughshare Wattle	-	R	2	2022	Highly Likely
<i>Acacia stricta</i>	Hop Wattle	-	R	2	2005	Likely
<i>Bauera rubioides</i>	Wiry Bauera	-	R	2	2011	Possible
<i>Boronia nana</i> var. <i>hyssopifolia</i>	Dwarf Boronia	-	R	2	2020	Highly Likely
<i>Caladenia behrii</i>	Pink-lipped Spider-orchid	EN	E	1	Known, 2022	Highly Likely
<i>Caladenia leptochila</i>	Narrow-lip Spider-orchid	-	R	2	2022	Highly Likely
<i>Caladenia reticulata</i>	Veined Spider-orchid	-	R	2	2022	Highly Likely
<i>Caleana major</i>	Large Duck-orchid	-	V	2	2000	Possible
<i>Deyeuxia minor</i>	Small Bent-grass	-	V	2	2020	Highly Likely
<i>Dianella longifolia</i> var. <i>grandis</i>	Pale Flax-lily	-	R	2	2022	Highly Likely
<i>Dipodium pardalinum</i>	Leopard Hyacinth-orchid	-	V	2	2012	Likely

Scientific Name	Common Name	Conservation Status		Data Source	Last Sighting / PMST Likelihood	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Dipodium punctatum</i>	-	-	E	2	2015	Likely
<i>Diuris behrii</i>	Behr's Cowslip Orchid	-	V	2	2008	Possible
<i>Eucalyptus dalrympleana</i> ssp. <i>dalrympleana</i>	Candlebark Gum	-	R	2, 3	2024	Known
<i>Eucalyptus fasciculosa</i>	Pink Gum	-	R	2, 3	2024	Known
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	-	R	2	2023	Highly Likely
<i>Euphrasia collina</i> ssp. <i>osbornii</i>	Osborn's Eyebright	EN	E	1,2	Known, 2000	Possible
<i>Gastrodia sesamoides</i>	Potato Orchid	-	R	2	2024	Highly Likely
<i>Gleichenia microphylla</i>	Coral Fern	-	R	2	2023	Highly Likely
<i>Glycine latrobeana</i>	Clover Glycine, Purple Clover	VU	V	1,2	Known, 2010	Likely
<i>Gonocarpus micranthus</i> ssp. <i>micranthus</i>	Creeping Raspwort	-	R	2	2008	Possible
<i>Logania saxatilis</i>	Rock Logania	-	R	2	1996	Possible
<i>Oreomyrrhis eriopoda</i>	Australian Carraway	-	E	2	2020	Highly Likely
<i>Poa umbricola</i>	Shade Tussock-grass	-	R	2	2000	Possible
<i>Pterostylis foliata</i>	Slender Greenhood	-	R	2	2013	Likely
<i>Pultenaea graveolens</i>	Scented Bush-pea	-	R	2	2021	Highly Likely
<i>Rytidosperma laeve</i>	Smooth Wallaby-grass	-	R	2	2016	Possible
<i>Thelymitra batesii</i>		-	R	2	2019	Highly Likely
<i>Thelymitra carnea</i>	Small Pink Sun-orchid	-	R	2	2022	Highly Likely
<i>Thelymitra grandiflora</i>	Great Sun-orchid	-	R	2	2023	Highly Likely
<i>Thelymitra ixioides</i>	Spotted Sun-orchid	-	E	2	2013	Likely
<i>Xanthosia tasmanica</i>	Southern Xanthosia	-	R	2	2018	Highly Likely

Conservation status

Aus: EPBC Act; SA: NPW Act

Conservation Codes: EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2025) – 5 km buffer applied to Project Area.
2. BDBSA data extract (DEW 2025) – 5 km buffer applied to Project Area.
3. Recorded during the field survey.

4.3.2. Threatened Fauna

The following two NPW Act listed threatened fauna species were recorded during the survey:

- *Petroica boodang boodang* (Scarlet Robin): NPW Act R
- *Zanda funerea whiteae* (Yellow-tailed Black Cockatoo): NPW Act V

Scarlet Robin was observed in vegetation immediately adjacent to the Project Area, while Yellow-tailed Black Cockatoos were observed on multiple occasions flying over and perching or feeding in vegetation within or immediately adjacent to the Project Area.

The database searches identified 37 threatened fauna species which may occur in the Search Area, of which 25 were assessed as possible, likely, highly likely or known to occur in, or immediately adjacent to, the

Project Area. These species are listed in **Table 4.5**. The full likelihood of occurrence assessment for all species is provided in **Appendix 6**. Locations of BDBSA threatened flora species records are provided in **Appendix 7**.

Direct impact to threatened fauna species will most likely be limited to a minor amount of habitat loss (including food, shelter and breeding resources) within the Project Area and very minor displacement of fauna within and adjacent to the Project Area. Indirect impacts are likely to involve a minor increase in fragmentation of habitat within and adjacent to the Project Area. It is also likely that indirect impacts will include noise, dust, sedimentation and others for a short time during construction.

Table 4.5 Likelihood of Occurrence of Threatened Fauna Species Identified via Desktop Assessment

Scientific Name	Common Name	Conservation Status		Data Source	Last Sighting / PMST Likelihood	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Antechinus flavipes</i>	Yellow-footed Antechinus	-	V	2	2023	Highly Likely
<i>Climacteris affinis</i>	White-browed Treecreeper	-	R	2	2022	Possible
<i>Corcorax melanorhamphos</i>	White-winged Chough	-	R	2	2023	Highly Likely
<i>Falco peregrinus</i>	Peregrine Falcon	-	R	2	2022	Highly Likely
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit	-	R	2	2022	Highly Likely
<i>Hieraaetus morphnoides</i>	Little Eagle	-	V	2	2019	Highly Likely
<i>Hylacola pyrrhopygia parkeri</i>	Chestnut-rumped Heathwren (Mt Lofty Ranges)	EN	E	1,2	Known, 2023	Likely
<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot	EN	V	1,2	Known, 2023	Highly Likely
<i>Lewinia pectoralis pectoralis</i>	Lewin's Rail	-	V	2	2010	Possible
<i>Lophoictinia isura</i>	Square-tailed Kite	-	E	2	2018	Highly Likely
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (YP, MN, AP, MLR, MM, SE)	EN	R	2	2005	Possible
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	-	V		2000	Possible
<i>Microeca fascians fascians</i>	Jacky Winter (MLR, SE)	-	R	2	2018	Likely
<i>Neophema elegans elegans</i>	Elegant Parrot	-	R	2	2022	Highly Likely
<i>Petroica boodang boodang</i>	Scarlet Robin	-	R	2, 3	2023	Known
<i>Petroica phoenicea</i>	Flame Robin	-	V	2	2003	Possible
<i>Plectorhyncha lanceolata</i>	Striped Honeyeater	-	R	2	2020	Highly Likely
<i>Pseudophryne bibronii</i>	Brown Toadlet	-	R	2	2009	Likely
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	R	2	2020	Highly Likely
<i>Stagonopleura bella samueli</i>	Beautiful Firetail (MLR, KI)	EN	R	1,2	Known, 2013	Likely
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	-	R	2	2023	Highly Likely
<i>Turnix varius varius</i>	Painted Buttonquail	-	R	2	2023	Highly Likely
<i>Varanus rosenbergi</i>	Heath Goanna	-	V	2	2014	Likely

Scientific Name	Common Name	Conservation Status		Data Source	Last Sighting / PMST Likelihood	Likelihood of Occurrence in Project Area
		EPBC Act	NPW Act			
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	-	V	2, 3	2024	Known
<i>Zoothera lunulata halmaturina</i>	Bassian Thrush	EN	R	1,2	Known, 2023	Highly Likely

Conservation status

Aus: EPBC Act; SA: NPW Act

Conservation Codes: EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2025) – 5 km buffer applied to Project Area.
2. BDBSA data extract (DEW 2025) - 5 km buffer applied to Project Area.
3. Recorded during the field survey.

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 include clearance of native vegetation to enable pavement and shoulder widening, removal of some scattered trees closest to the road and impacts to roots of vegetation close to the road from installation of safety barriers. Due to the small scale and extent of proposed clearance, impacts are expected to be minor and insignificant.

Potential indirect impacts associated with the proposed works, which have been considered include:

- Dust generation during construction, which may impact surrounding vegetation. However, construction works will only be short term, and dust generation will be managed via use of a water cart (or similar). As such, potential impacts are expected to be minor and insignificant.
- Potential changes to runoff due to increased cleared area which may impact surrounding vegetation. There will only be a very small increase of cleared area, therefore potential impacts are expected to be minor and insignificant.
- The proliferation of weed species may be an indirect impact of Project activities. The most likely causes of weed dispersal and importation associated with the Project include earthworks and the attachment of seeds and other propagules to machinery and vehicles. It will be necessary for DIT to manage the spread of this species, and to ensure appropriate management actions are in place to mitigate the risk of further weed infestations.

There is also potential for short-term, indirect impacts to fauna through noise, light, and vibration during the construction phase of the Project. Although this may lead to fauna temporarily avoiding certain habitats adjacent to the construction zone, given the current level of disturbance caused by vehicular activity on Strathalbyn Road, the severity of this impact is considered low.

Future impacts associated with the clearance are expected to be low, as the majority of road maintenance will occur within the previously disturbed areas of the road corridor.

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

Impacts to vegetation have been avoided (where possible) by confining road design to the existing road footprint (which is already clear of vegetation) as much as possible.

b) Minimization – 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).

Impacts to vegetation have been minimised during the design development process. The original scope of works at the start of the project included two key locations of curve easing to mitigate safety concerns by improving non-compliant curve radii and poor sight distances. In addition, the original scope included widening of lanes, 1 m sealed shoulders and 0.5 m unsealed shoulders to improve road design and safety along the corridor. At lodgements of the 30% Design to DIT, it was evident that the work zone footprint would have an extensive impact on existing native vegetation and trees. Through consultation with DIT's project team, the design parameters were refined to minimise the impacts on cut and fill, and subsequent tree and vegetation impacts and/or removals. This was achieved by reducing the sealed and unsealed shoulder widths where possible between 30% Design to 70% Design.

Further to this, Greenhill advised Umwelt that from the 70% Design to the 100% Design, further reductions were made to the design footprint that would see the curve easing locations reduced to curve widening only, which would still improve safety conditions but further reduce vegetation impacts and removals. Furthermore, sealed shoulder widths were reduced to 0.5 m, and unsealed shoulders were only implemented where space was available, limiting further vegetation impacts. The number of trees identified for removal has been reduced by about 40% (avoiding removal of these trees) between these design gates. The design process has been iterated to consider and minimise the vegetation impacts whilst still aiming to achieve the necessary road and safety improvements to this key corridor.

The 100% Design has been further refined in April / May 2026, including:

- Removal of two curve widening only components of work at:
 - RRD 6.35-6.48 (near property #279)
 - RRD 6.77-6.92 (near Hooper Rd)
- Changed cross section to nominal 3.0-3.2 m lanes and 0.5 m sealed shoulder (previous design cross section was nominal 3.0-3.2 m lanes, 0.5 m sealed + 0.5 m unsealed shoulders).

As such, impact to native vegetation, particularly the previously proposed removal of numerous scattered trees for the curve widening works outlined above, has been further minimised.

The installation of guardfence is proposed in several areas and will prevent removal of trees close to the road, helping to minimise clearance.

DIT and its contractors will follow all guidelines and/or policies relating to the assessment and removal of native vegetation detailed in the DIT Environment and Heritage Technical Manual (DIT 2024). A Construction Environmental Management Plan (or similar) will be implemented during construction works to minimise impacts on vegetation and biodiversity. In particular, vegetation impacts will be minimised during construction via containing construction works within the existing road footprint (bitumen, shoulders and batter slopes) as much as possible and implementing tree protection zones and individual tree protection measures (where appropriate). Furthermore, the following will be implemented where practical:

- Minimise excavation as much as possible and adjust profiling and pavement depth at specific locations if tree roots are encountered.
- Hydrovac where construction activities encroach into Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) of trees identified for potential root impacts and have an arborist supervising works to provide advice where required.
- Adjust (increase or decrease) guardfence post spacing to avoid and/or minimise impact to tree roots, and/or reduce required deflection zone clearance.

As explained in **Section 5**, a loss factor of 0.4 has been assigned to each of the 41 scattered trees that are likely to have root impacts. However, root impacts are unknown and may be overestimated. Furthermore, as much as practically possible, root impacts will be avoided through hydrovac investigation and arborist supervision during construction.

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 majority of the Project Area (i.e. road corridor) is already highly vegetated and areas of clearance will be within the operational road footprint, no rehabilitation or restoration is proposed or likely to be required.

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.

DIT will offset impact to native vegetation that cannot be avoided or further minimised by the achievement of a significant environmental benefit that outweighs the impact. In accordance with the Policy for a Significant Environmental Benefit (i.e. The SEB Policy) (NVC 2024c), if an SEB is required as a result of an approved activity undertaken under the Regulations the applicant has a choice of either providing an On-ground SEB or a Payment SEB. However, if a proposed clearance will have an offset obligation of greater than 150 SEB Points Required, the NVC will first request that a reasonable attempt be made to identify an on-ground SEB before a payment will be accepted (NVC 2024c).

DIT have considered providing an on-ground SEB. However, as this clearance application requires an SEB associated with an approved activity undertaken under Regulation (Regulation 12(32)—Works on behalf of Commissioner of Highways) and the offset obligation is less than 150 SEB Points (see **Section 5**), DIT propose to pay the offset value into the Native Vegetation Fund. Alternatively, DIT may consider using SEB Credit as listed in the Native Vegetation SEB Credit Register, available at:

<https://www.environment.sa.gov.au/topics/native-vegetation/protecting-native-vegetation/seb-credit-register>.

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 Native Vegetation Council will consider all the Principles of clearance of the Act as relevant, when considering an application referred under the Planning, Development and Infrastructure Act 2016.

As this application is not referred under the PDI Act, the clearance is assessed against the Principles of Clearance 1(b), 1(c) and 1(d), as set out in Table 4.6.

Table 4.6 Assessment Against the Principles of Clearance

Principle of Clearance	Considerations								
Principle 1(b) – significance as a habitat for wildlife	Relevant information								
	Patch								
	<table><tr><th>Vegetation Association</th><th>Threatened Fauna Score</th><th>Unit Biodiversity Score</th><th>Total Biodiversity Score</th></tr><tr><td>A1</td><td>0.1</td><td>9.41</td><td>0.01</td></tr></table>	Vegetation Association	Threatened Fauna Score	Unit Biodiversity Score	Total Biodiversity Score	A1	0.1	9.41	0.01
	Vegetation Association	Threatened Fauna Score	Unit Biodiversity Score	Total Biodiversity Score					
	A1	0.1	9.41	0.01					
	Trees								
	Fauna Habitat Score: 1.8 for 43 of 44 trees (Table 5.2).								
	Biodiversity Score: 0.01 - 8.38 (Table 5.2).								
	Total Biodiversity Score: 113.99								
	<u>Total Biodiversity Score:</u> Trees 113.99 + Patch A1 0.01 = 114.00.								
Six EPBC listed species have recent nearby records and are assessed as highly likely, likely or possibly to occur in the Project Area:									
- Chestnut-rumped Heathwren (<i>Hylacola pyrrhopygia parkeri</i>) (EPBC: Endangered) - Southern Brown Bandicoot (<i>Isodon obesulus obesulus</i>) (EPBC: Endangered) - Hooded Robin (<i>Melanodryas cucullata cucullata</i>) (EPBC: Endangered) - Grey-headed Flying-fox (<i>Pteropus poliocephalus</i>) (EPBC: Vulnerable) - Beautiful Firetail (<i>Stagonopleura bella samueli</i>) (EPBC: Endangered) - South Australian Bassian Thrush (<i>Zoothera lunulata halmaturina</i>) (EPBC: Endangered).									
Two State listed species were recorded during the field survey:									
- Scarlet Robin (<i>Petroica boodang boodang</i>) (NPW Act: Rare) - Yellow-tailed Black Cockatoo (<i>Zanda funerea whiteae</i>) (NPW Act: Vulnerable)									
A BDBSA search found an additional 16 State listed species records within 5 km of the Project Area since 1995, with a sighting reliability of < 1 km of which:									
Ten were considered highly likely to occur:									
- Yellow-footed Antechinus (<i>Antechinus flavipes</i>) (NPW Act: Rare) - White-winged Chough (<i>Corcorax melanorhamphos</i>) (NPW Act: Rare) - Peregrine Falcon (<i>Falco peregrinus</i>) (NPW Act: Rare) - Eastern Shrike-tit (<i>Falcunculus frontatus frontatus</i>) (NPW Act: Rare) - Little Eagle (<i>Hieraaetus morphnoides</i>) (NPW Act: Vulnerable) - Square-tailed Kite (<i>Lophoictinia isura</i>) (NPW Act: Endangered) - Elegant Parrot (<i>Neophema elegans elegans</i>) (NPW Act: Rare) - Striped Honeyeater (<i>Plectorhyncha lanceolata</i>) (NPW Act: Rare) - Common Brushtail Possum (<i>Trichosurus vulpecula</i>) (NPW Act: Rare) - Painted Buttonquail (<i>Turnix varius varius</i>) (NPW Act: Rare)									
Three species were considered likely to occur:									
- Jacky Winter (<i>Microeca fascinans fascinans</i>) (NPW Act: Rare) - Brown Toadlet (<i>Pseudophryne bibronii</i>) (NPW Act: Rare) - Heath Goanna (<i>Varanus rosenbergi</i>) (NPW Act: Vulnerable)									

Principle of Clearance	Considerations
	Four species were considered to possibly occur: • White-browed Treecreeper (<i>Climacteris affinis</i>) (NPW Act: Rare) • Lewin's Rail (<i>Lewinia pectoralis pectoralis</i>) (NPW Act: Vulnerable) • Black-Chinned Honeyeater (<i>Melithreptus gularis</i>) (NPW Act: Vulnerable) • Flame Robin (<i>Petroica phoenicea</i>) (NPW Act: Vulnerable) However, impact to threatened fauna will be limited to an insignificant amount of habitat loss within the Project Area and very minor displacement within and adjacent to the Project Area, associated with the removal of 3 scattered trees and a very small amount of native vegetation. <u>Assessment against the principles</u> <u>Patches</u> Seriously at variance: A1 <u>Trees</u> 42 trees with a threatened fauna habitat score of >1.2 and one with a Total Biodiversity Score >7 = Seriously at variance <u>Moderating factors that may be considered by the NVC</u> <u>Impact Significance</u> Clearance is unlikely to: • lead to a long-term decrease in the size of a population, or • reduce the area of occupancy of a species, or • fragment an existing population into two or more populations, or • adversely affect habitat critical to the survival of a species, or • modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that a species is likely to decline, or • result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat, or • interfere with the recovery of a species. <u>Non-essential habitat</u> Habitat is not considered important or critical habitat of any of the listed threatened species which have been assessed as potentially occurring within the Project Area. Vegetation in the Project Area is not isolated in the landscape. As such, the clearance will have a negligible impact on fauna species local populations over the long term (i.e. next 20 to 50 years).
Principle 1(c) – plants of a rare, vulnerable or endangered species	<u>Relevant information</u> Two threatened flora species with a Threatened Flora Score of 0.3 were recorded as scattered trees, including: • 4 x <i>Eucalyptus dalrympleana</i> ssp. <i>dalrympleana</i> (Candlebark Gum): NPW Act R • 1 x <i>Eucalyptus fasciculosa</i> (Pink Gum): NPW Act R Impacts to these trees will be root prunes associated with installation of guardfence. The database searches identified 76 threatened flora species which may occur in the Search Area, of which 32 were assessed as possible, likely, highly likely or known to occur in, or immediately adjacent to, the Project Area (Table 4.4). However, apart from the impact to scattered trees (outlined above), other threatened flora species are unlikely to be impacted by the proposed works. VA: A1 Threatened Flora Score: 0 <u>Assessment against the principles</u> At Variance: Five scattered trees. <u>Moderating factors that may be considered by the NVC</u> <u>Impact Significance</u>

Principle of Clearance	Considerations
	Clearance is unlikely to: • lead to a long-term decrease in the size of a population, or • reduce the area of occupancy of a species, or • fragment an existing population into two or more populations, or • adversely affect habitat critical to the survival of a species, or • modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that a species is likely to decline, or • result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat, or • interfere with the recovery of a species.
Principle 1(d) – the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered	Relevant information No TECs or ecosystems listed in SA under the Provisional List of Threatened Ecosystems were present within the Project Area. The area did not contain intact remnant vegetation. Threatened Community Score: 1
	Assessment against the principles Not at variance
	Moderating factors that may be considered by the NVC N/A

4.7. Risk Assessment

The *Guide for applications to clear native vegetation* (Native Vegetation Council, 2020b) sets out how the risk level of a clearance application is assessed. This is summarised in **Table 4.7**.

Table 4.7 Risk Assessment for Native Vegetation Clearance Applications in the Agricultural Regions of South Australia

	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		

The risk level of this clearance application is presented in **Table 4.8**. The table indicates that this is a Level 4 clearance, due to escalating matters.

Table 4.8 Summary of the Level of Risk Associated with the Application

Total clearance	No. of trees	44 scattered trees to be impacted (3 remove and 41 prune (root impact)).
	Area (ha)	0.0012
	Total Biodiversity Score	Trees 113.99 + Patch A1 0.01 = 114.00
Seriously at variance with principle 1(b), 1(c) or 1 (d)		Trees and patches 1(b)
Risk assessment outcome		Level 3 escalated to Level 4

5. CLEARANCE SUMMARY

Clearance summary tables for the clearance application are shown in **Table 5.1** (native vegetation patch) and **Table 5.2** (scattered trees). A loss factor of 0.4 has been assigned to each of the 41 scattered trees that are likely to have root impacts.

The summary tables indicate the SEB points and SEB payment obligations of the clearance.

The total SEB obligations of the clearance are summarised in **Table 5.3**. SEB Scoresheets are provided as Attachment 1 (BAM) and Attachment 2 (STAM), and a spatial data package is provided as Attachment 4.

Table 5.1 Clearance Summary and Total SEB Obligations for Vegetation Associations Impacted by the Project

Block	Site	Species Diversity Score	Threatened Ecological community Score	Threatened Plant Score	Threatened Fauna Score	Unit Biodiversity Score	Area (ha)	Total Biodiversity score	Loss Factor	Loadings	Reductions	SEB Points Required	SEB Payment	Admin Fee
A	A1	3	1	0	0.1	9.25	0.0012	0.01	1	0	0	0.01	\$17.09	\$0.94
						Total	0.0012	0.01				0.01	\$17.09	\$0.94

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	Biodiversity Score	Loss Factor	SEB Points Required	SEB Payment (incl. admin fee)
1	1	1.80	0.30	2.43	0.4	1.07	\$1,871.87
2	1	1.80	0.30	0.51	0.4	0.22	\$384.87
3	1	1.80	0.30	0.51	0.4	0.22	\$384.87
4	1	1.80	0.30	0.50	0.4	0.22	\$384.87
8	1	1.80	0.00	2.35	0.4	1.03	\$1,801.90
11	1	0	0.00	0.01	1.0	0.01	\$17.49
13	1	1.80	0.00	3.43	1.0	3.77	\$6,595.29
15	1	1.80	0.00	0.26	1.0	0.29	\$507.33
50	1	1.80	0.00	2.19	0.4	0.96	\$1,679.44
51	1	1.80	0.00	2.39	0.4	1.05	\$1,836.88
52	1	1.80	0.00	3.74	0.4	1.65	\$2,886.53
54	1	1.80	0.00	0.55	0.4	0.24	\$419.86
56-62 excluding 58 (dead)	6	1.80	0.00	3.06	0.4	1.35	\$2,361.71
66	1	1.80	0.00	6.08	0.4	2.68	\$4,688.43
67	1	1.80	0.30	1.20	0.4	0.53	\$927.19
68	1	1.80	0.00	4.14	0.4	1.82	\$3,183.93
83	1	1.80	0.00	1.39	0.4	0.61	\$1,067.14
103	1	1.80	0.00	3.82	0.4	1.68	\$2,939.01
104	1	1.80	0.00	2.31	0.4	1.02	\$1,784.40
105	1	1.80	0.00	2.00	0.4	0.88	\$1,539.48
106	1	1.80	0.00	1.42	0.4	0.62	\$1,084.64

Tree Number	Number of Trees	Fauna Habitat Score	Threatened Flora Score	Biodiversity Score	Loss Factor	SEB Points Required	SEB Payment (incl. admin fee)
109	1	1.80	0.00	4.83	0.4	2.13	\$3,726.25
110	1	1.80	0.00	1.39	0.4	0.61	\$1,067.14
111	1	1.80	0.00	4.55	0.4	2.00	\$3,498.83
112	1	1.80	0.00	2.58	0.4	1.14	\$1,994.33
113	1	1.80	0.00	2.51	0.4	1.10	\$1,924.35
114	1	1.80	0.00	0.64	0.4	0.28	\$489.84
115	1	1.80	0.00	1.39	0.4	0.61	\$1,067.14
116	1	1.80	0.00	2.11	0.4	0.93	\$1,626.95
117	1	1.80	0.00	4.22	0.4	1.86	\$3,253.91
119	1	1.80	0.00	3.38	0.4	1.49	\$2,606.63
121	1	1.80	0.00	8.38	0.4	3.69	\$6,455.33
123	1	1.80	0.00	4.36	0.4	1.92	\$3,358.87
124	1	1.80	0.00	6.27	0.4	2.76	\$4,828.38
125	1	1.80	0.00	6.56	0.4	2.89	\$5,055.80
126	1	1.80	0.00	2.04	0.4	0.90	\$1,574.47
127	1	1.80	0.00	2.12	0.4	0.93	\$1,626.95
128	1	1.80	0.00	7.85	0.4	3.45	\$6,035.48
129	1	1.80	0.00	4.52	0.4	1.99	\$3,481.33
Total				113.99		52.60	\$92,019.14

Table 5.3 Summary of the Total SEB Obligations of the Clearance

Application	Total Biodiversity Score	Total SEB Points Required	SEB Payment (ex. GST)	Admin Fee (inc. GST)	Total Payment
Vegetation Association Patches	0.01	0.01	\$17.09	\$0.94	\$18.03
Scattered Trees	113.99	52.60	\$87,221.93	\$4,797.21	\$92,019.14
TOTAL	114.00	52.61	\$87,239.02	\$4,798.15	\$92,037.17
Economies of Scale Factor				0.5	
Rainfall (mm)				815 mm (average)	

6. SIGNIFICANT ENVIRONMENTAL BENEFIT

A SEB is required for approval to clear under Division 5 of the Native Vegetation Regulations 2017. 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

If a proponent proposes to achieve the SEB by paying into the Native Vegetation Fund, summary information must be provided on the amount required to be paid and the manner of payment:

Payment amount of **\$92,037.17** into the Native Vegetation Fund (including admin. Fee of \$4,798.15).

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8. APPENDICES

Appendix 1 – Flora Species Recorded by the Field Survey

Scientific Name	Common Name	Conservation Status	
		EPBC Act	NPW Act
<i>*Acacia baileyana</i>	Cootamundra Wattle		
<i>*Acacia longifolia</i> ssp. <i>longifolia</i>	Sydney Golden Wattle		
<i>Acacia myrtifolia</i>	Myrtle Wattle		
<i>Acacia paradoxa</i>	Kangaroo Thorn		
<i>Acacia pycnantha</i>	Golden Wattle		
<i>Acacia verniciflua</i>	Varnish Wattle		
<i>Acrotriche fasciculosa</i>	Pink Ground-berry		
<i>*Agapanthus praecox</i>	Agapanthus		
<i>Amyema</i> sp.	Mistletoe		
<i>*Anthoxanthum odoratum</i>	Scented Vernal Grass		
<i>Austrostipa</i> sp.	Spear Grass		
<i>*Avena barbata</i>	Bearded Oat		
<i>*Briza maxima</i>	Large Quaking Grass		
<i>Cassytha</i> sp.	Dodder-laurel		
<i>*Cenchrus macrourus</i>	African Feather Grass		
<i>*Centaurium</i> sp.	Centaury		
<i>*Chrysanthemoides monilifera</i>	Boneseed		
<i>*Cirsium vulgare</i>	Spear Thistle		
<i>Coronidium scorpioides</i>	Button Everlasting		
<i>*Corymbia ficifolia</i>	Red Flowering Gum		
<i>*Corymbia maculata</i>	Spotted Gum		
<i>*Cupressus</i> sp.	Cypress		
<i>*Cynosurus echinatus</i>	Rough Dog's Tail Grass		
<i>*Chamaecytisus palmensis</i>	Tree Lucerne		
<i>*Cytisus scoparius</i>	Scotch Broom		
<i>*Dactylus glomerata</i>	Cocksfoot		
<i>Daviesia leptophylla</i>	Narrow-leaf Bitter-pea		
<i>Deyeuxia quadriseta</i>	Reed Bentgrass		
<i>Dianella brevicaulis</i>	Blueberry Flax-lily		
<i>Dipodium roseum</i>	Christmas Orchid		
<i>*Ehrharta calycina</i>	Perennial Veldtgrass		
<i>*Ehrharta longiflora</i>	Annual Veldtgrass		
<i>*Erica arborea</i>	Tree Heath		
<i>Eucalyptus dalrympleana</i>	Mountain Gum		R
<i>Eucalyptus fasciculosa</i>	Pink Gum		R
<i>Eucalyptus obliqua</i>	Messmate Stringybark		
<i>Eucalyptus viminalis</i>	Manna Gum		
<i>*Euphorbia peplus</i>	Radium Plant		
<i>Exocarpos cupressiformis</i>	Native Cherry		
<i>*Foeniculum vulgare</i>	Fennel		
<i>*Fraxinus angustifolia</i>	Ash		
<i>*Genista monspessulana</i>	Montpellier broom		

Scientific Name	Common Name	Conservation Status	
		EPBC Act	NPW Act
<i>Hakea carinata</i>	Erect Hakea		
<i>Hakea rostrata</i>	Beaked Hakea		
<i>Hibbertia exutiacies</i>	Spiky Guinea-flower		
* <i>Hypericum perforatum</i>	St. Johns Wort		
<i>Ixodia achillaeoides</i>	Sand Ixodia		
* <i>Lactuca serriola</i>	Prickly lettuce		
<i>Lepidosperma</i> sp.	Sedge		
<i>Leptospermum continentale</i>	Prickly Tea-tree		
* <i>Lolium</i> sp.	Ryegrass		
<i>Lomandra multiflora</i>	Many-flowered Mat-rush		
* <i>Malus</i> sp.	Apple		
* <i>Melaleuca armillaris</i>	Bracelet Honey Myrtle		
* <i>Onopordum acanthium</i>	Scotch Thistle		
* <i>Paspalum dilatatum</i>	Paspalum		
* <i>Pentameris pallida</i>	Pussy Tail		
* <i>Phalaris aquatica</i>	Toowoomba Canary-grass		
* <i>Pinus radiata</i>	Radiata Pine		
* <i>Pittosporum undulatum</i>	Sweet Pittosporum		
* <i>Plantago lanceolata</i>	Ribgrass		
<i>Platylobium obtusangulum</i>	Common Flat-pea		
<i>Pteridium esculentum</i>	Austral Bracken		
<i>Pultenaea daphnoides</i>	Large-leaf Bush Pea		
* <i>Rosa canina</i>	Dog Rose		
* <i>Rubus fruticosus</i>	Blackberry		
<i>Rytidosperma</i> sp.	Wallaby Grass		
* <i>Salix atropurpurea</i>	Pincushion		
* <i>Senecio pterophorus</i>	African Daisy		
<i>Solanum laciniatum</i>	Large Kangaroo-apple		
* <i>Solanum nigrum</i>	Black Nightshade		
* <i>Sonchus oleraceus</i>	Milk Thistle		
* <i>Ulex europaeus</i>	Gorse		
* <i>Vinca major</i>	Blue Periwinkle		
* <i>Watsonia meriana</i>	Bulbil Watsonia		
<i>Xanthorrhoea semiplana</i>	Flat-leaf Grass-tree		

Conservation Status: Aus: EPBC Act; SA: NPW Act.

Conservation codes: R: Rare.

*: Introduced

Appendix 2 – Fauna Species Recorded by the Field Survey

Scientific Name	Common Name	Conservation Status	
		EPBC Act	NPW Act
<i>Acanthiza lineata</i>	Striated Thornbill		
<i>Acanthorhynchus tenuirostris</i>	Eastern Spinebill		
<i>Anthochaera carunculata</i>	Red Wattlebird		
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo		
<i>Chalcites basalis</i>	Horsfield's Bronze Cuckoo		
<i>Chenonetta jubata</i>	Australian Wood Duck		
<i>Climacteris</i> sp.	Treecreeper		
<i>Colluricincla harmonica</i>	Grey Shrikethrush		
<i>Corvus mellori</i>	Little Raven		
<i>Dacelo novaeguineae</i>	Laughing Kookaburra		
<i>Eolophus roseicapilla</i>	Galah		
<i>Gymnorhina tibicen</i>	Australian Magpie		
<i>Malurus cyaneus</i>	Superb Fairywren		
<i>Melithreptus brevirostris</i>	Brown-headed Honeyeater		
<i>Neochmia temporalis</i>	Red-browed Finch		
<i>Oryctolagus cuniculus</i>	European Rabbit		
<i>Pachycephala fuliginosa</i>	Western Whistler		
<i>Pardalotus striatus</i>	Striated Pardalote		
<i>Parvipsitta porphyrocephala</i>	Purple-crowned Lorikeet		
<i>Petroica boodang</i>	Scarlet Robin		R
<i>Phaps chalcoptera</i>	Common Bronzewing		
<i>Phylidonyris novaehollandiae</i>	New Holland Honeyeater		
<i>Phylidonyris pyrrhopterus</i>	Crescent Honeyeater		
<i>Platycercus elegans</i>	Crimson Rosella		
<i>Podargus strigoides</i>	Tawny Frogmouth		
<i>Pseudocheirus peregrinus</i>	Common Ringtail Possum		
<i>Rhipidura albiscapa</i>	Grey Fantail		
<i>Strepera versicolor</i>	Grey Currawong		
<i>Tiliqua rugosa</i>	Shingleback Skink		
<i>Trichoglossus moluccanus</i>	Rainbow Lorikeet		
* <i>Turdus merula</i>	Common Blackbird		
<i>Zanda funerea</i>	Yellow-tailed Black Cockatoo		V

Conservation Status: Aus: EPBC Act; SA: NPW Act.

Conservation codes: VU/V: Vulnerable. R: Rare.

*: Introduced

Appendix 3 – Maps of Impacted Native Vegetation Patch and Scattered Trees

Refer to the following pages.



Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Roads

STAM

- Prune



0 10 20
Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

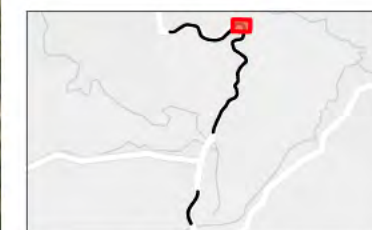
Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Roads

STAM

- Prune
- Remove



Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

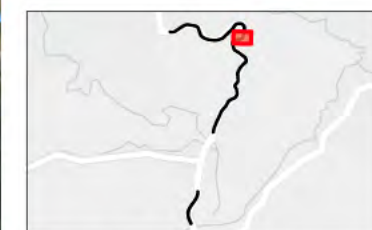
- Project Area
- Waterbodies
- BAM Sites
- Watercourses
- Roads

STAM

- Remove

Vegetation Associations Impacted

- A1



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Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Watercourses
- Roads

STAM

- Prune



Scale 1:900 at A4
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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

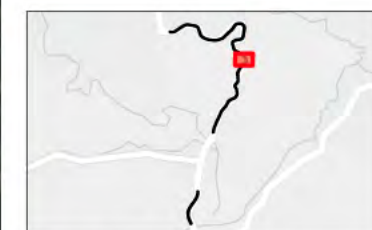
Legend

Project Area

Roads

STAM

Prune



0 10 20
Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

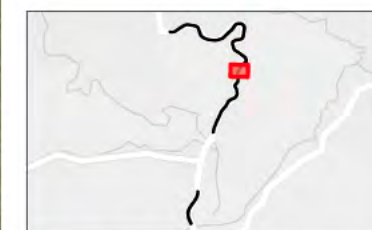
Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Road Maintenance Markers
- Roads

STAM

- Prune



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Metres

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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Watercourses
- Roads

STAM

- Prune



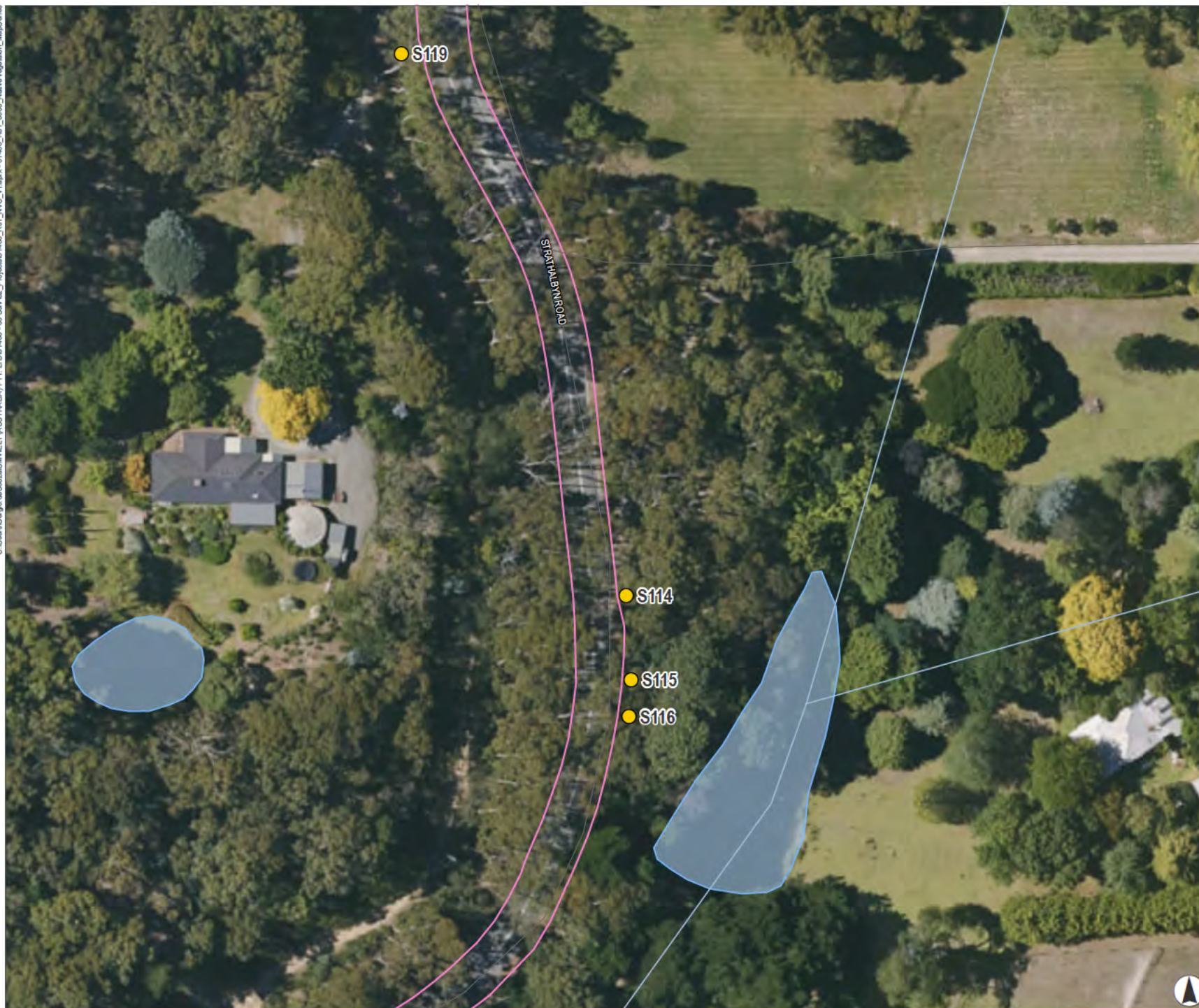
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Appendix 3

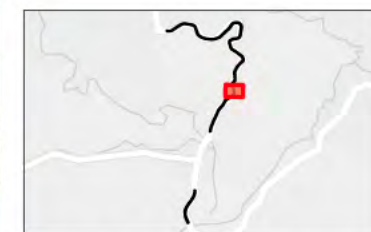
Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Watercourses
- Roads

STAM

- Prune



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Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Watercourses
- Roads

STAM

- Prune



0 10 20
Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 3

Maps of Impacted Native Vegetation Patch and Scattered Trees

Legend

- Project Area
- Waterbodies
- Watercourses
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Metres

Scale 1:900 at A4
GDA2020 MGA Zone 54



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Appendix 4 – Likelihood of Occurrence Assessment for Flora

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Acacia gunnii</i>	Ploughshare Wattle	-	R	2	2022	Grows in sclerophyll communities in various soil types.	Highly Likely – Recently recorded within the Search Area, suitable habitat in Search Area.
<i>Acacia iteaphylla</i>	Flinders Ranges Wattle	-	R	2	2023	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.	Unlikely – Recently recorded within the Search area and suitable habitat present. However, the Project Area is outside the natural range for this species and any specimens that are present are likely to be planted or self-seeded from planted specimens.
<i>Acacia stricta</i>	Hop Wattle	-	R	2	2005	Grows in sand or sandy clay in <i>Eucalyptus</i> spp. forest or woodland, or open scrub with heath understorey, often in moist sites.	Likely – record 20 years old in Search Area. Suitable habitat.
<i>Anogramma leptophylla</i>	Annual Fern	-	R	2	2013	Common on damp banks amongst grasses or in rocky crevices.	Unlikely – Record < 20 years old in Search Area, however suitable habitat does not occur in Project Area.
<i>Austrostipa tenuifolia</i>		-	R	2	2018	Sandy soils in grassland or grassy woodland associated with <i>Callitris</i> or <i>Allocasuarina</i> .	Unlikely – Recent record in Search Area but habitat in Project Area not suitable.
<i>Baloskion tetraphyllum</i> ssp. <i>tetraphyllum</i>	Tassel Cord-rush	-	V	2	2012	Moist to permanently wet soil along watercourses and in swamps, tolerating periods of drying out. Full sun, semi shade.	Unlikely – Record < 20 years old in Search Area, however suitable habitat does not occur in Project Area.
<i>Bauera rubioides</i>	Wiry Bauera	-	R	2	2011	Occurs in coastal heaths and forest.	Possible – Record < 20 years old in Search Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
							however Project Area is not coastal habitat.
<i>Blechnum nudum</i>	Fishbone Water-fern	-	R	2	2021	Occasional along stream banks in valleys.	Unlikely – Recent record in Search Area, however suitable habitat does not occur in Project Area.
<i>Boronia nana</i> var. <i>hyssopifolia</i>	Dwarf Boronia	-	R	2	2020	Forest, woodland, and heath. Widespread. Rarely coastal.	Highly Likely – Recently recorded within the Search Area, suitable habitat in Project Area.
<i>Brachyscome diversifolia</i>	Tall Daisy	-	E	2	2013	Recorded from steep areas on rich black soil, in woodland along watercourses and gullies. Within the Mount Lofty Ranges the preferred broad vegetation groups are Heathy Woodland, Grassy Woodland and Riparian (DEH 2008a).	Unlikely – Record < 20 years old in Search Area. Suitable habitat does not occur in Project Area.
<i>Caladenia behrii</i>	Pink-lipped Spider-orchid	EN	-	1	Known, 2022	Grows in fertile, shallow loams, amongst <i>Eucalyptus goniocalyx</i> / <i>E. fasciculosa</i> woodland and amongst <i>E. obliqua</i> / <i>E. microcarpa</i> / <i>E. leucoxylon</i> woodland. The understorey is usually open and shrubby. Also recorded amongst <i>E. fasciculosa</i> and <i>Xanthorrhoea semiplana</i> . Generally found in quartzite-derived soils on steep south facing slopes but also on ridge tops and occasionally near creek beds. Often grows alongside bushwalking paths, vehicle tracks or roads due to the openness of these locations (TSSC 2021).	Highly likely – Recent record and suitable habitat.
<i>Caladenia leptochila</i>	Narrow-lip Spider-orchid	-	R	2	2022	Prefers woodland and forest habitat.	Highly Likely – Recently recorded within the Search Area, suitable habitat in Project Area.
<i>Caladenia necrophylla</i>	Late Spider-orchid	-	R	2	2008	Alkaline soils in mallee areas.	Unlikely – Records < 20 years old in Search Area, however no suitable habitat in Project Area.
<i>Caladenia pusilla</i>	Pigmy Caladenia	-	R	2	1998	This species occurs mostly in coastal and near-coastal areas up to 200 m elevation in heathland, shrubland, woodland and open eucalypt forest on	Unlikely – Record in Search Area > 20 years

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
						sandy loam, sandy peat, granite gravel and rocky ground (TSSC 2023).	old, suitable habitat does not exist in Project Area.
<i>Caladenia reticulata</i>	Veined Spider-orchid	-	R	2	2022	Occurs singly or in small groups in clay or gravelly soils on forested slopes in the southern Mount Lofty Ranges and on Kangaroo Island in SA.	Highly likely – Recent record in Search Area and suitable habitat in Project Area.
<i>Caladenia rigida</i>	Stiff White Spider-orchid	EN	-	1	Known	Inhabits ridge tops and hillslopes in grey-brown loam often associated with coarse quartzite gravel or sandstone pebbles. Vegetation is usually an open-forest with a relatively open understorey of low shrubs and sedges (Quarmby 2010).	Unlikely – No records since 1995 in Search Area despite what is likely adequate survey effort.
<i>Caladenia valida</i>	Robust Spider-orchid	-	E	2	2009	The robust spider orchid occurs in Victoria and South Australia where it grows in coastal, or near-coastal heath. In Victoria it grows near Portland and Anglesea and in South Australia on Kangaroo Island and southern Fleurieu Peninsula (ALA 2025).	Unlikely – Record in Search Area < 20 years old, however habitat in Project Area not suitable.
<i>Caleana major</i>	Large Duck-orchid	-	V	2	2000	Forms sparse vegetative colonies in open forest and heathland (<i>Eucalyptus baxteri</i> forest and often associated with <i>Banksia ornata</i>), usually on sandy or gravelly soils. Forms small colonies often at the base of trees and generally found with smaller duck orchid species and more frequently seen after fires or at disturbed sites (DEH 2008).	Possible – Record in Search Area > 20 years old, suitable habitat present.
<i>Cardamine paucijuga</i>	Annual Bitter-cress	-	R	2	2023	Moist forest and along streams, and other habitats near permanent or seasonally wet areas. Widespread.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Deyeuxia densa</i>	Heath Bent-grass	-	R	2	2021	Commonly in heaths, sedgelands and in stream banks in damp, open to lightly shaded sites.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Deyeuxia minor</i>	Small Bent-grass	-	V	2	2020	Inhabits open eucalypt forests or the margins of wet sclerophyll forest.	Highly likely – Recent record in Search Area and suitable habitat in Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Dianella longifolia</i> var. <i>grandis</i>	Pale Flax-lily	-	R	2	2022	Occurs under a variety of overstorey Eucalypt species but is a grassy woodland specialist, e.g., Blue Gum, Candlebark, Manna Gum, Stringybark and Grey Box.	Highly likely – Recent record in Search Area and suitable habitat in Project Area.
<i>Dicksonia antarctica</i>	Soft Tree-fern	-	E	2	2020	Damp, sheltered woodland slopes and moist gullies, occasionally occur at high altitudes in cloud forests. Can grow in acid, neutral and alkaline soils. It can grow in semi-shade. It strongly resents drought or dryness at the roots and does best in moist soil (ALA 2025).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Dipodium pardalinum</i>	Leopard Hyacinth-orchid	-	V	2	2012	In South Australia, the species occurs from Naracoorte on the Victorian border to the Mount Lofty Ranges. In the Adelaide-Mount Lofty region the species is found in stringybark (<i>Eucalyptus obliqua</i>) woodland growing in association with <i>Acacia myrtifolia</i> , <i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i> and <i>Pteridium esculentum</i> . It does not grow in proximity to other <i>Dipodium</i> species as is the case elsewhere. Prior to recognition as a distinct taxon, this population was regarded as a variety of <i>Dipodium roseum</i> (ALA 2025).	Likely – Record < 20 years old in Search Area. Suitable habitat present in Project Area.
<i>Dipodium punctatum</i>	-	-	E	2	2015	In wet sclerophyll forest to dry sclerophyll woodland, on a variety of soils There are a few records of the species from the far south-east corner of South Australia (ALA 2025).	Likely – Record < 20 years old in Search Area. Suitable habitat present in Project Area.
<i>Diuris behrii</i>	Behr's Cowslip Orchid	-	V	2	2008	Grows in grassland, grassy forest and woodland on well-drained to moisture retentive soils. In SA occurs mostly in native grassland, open woodland and grassy forest clearings in more fertile soils, especially amongst Kangaroo Grass and <i>Triodia</i> on gentle slopes and flats. More rarely found on the granite aprons of massive tors. Recorded in the Adelaide Hills growing under Blue Gum. In the northern Mount Lofty Ranges, in <i>Allocasuarina verticillata</i> low open woodland over herbaceous understorey, and amongst rocky outcrops (DEH 2008).	Possible – Record in Search Area < 20 years old. Habitat not ideal but may be potentially suitable.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Diuris brevifolia</i>	Short-leaf Donkey-orchid	-	E	2	2020	Most frequently occurs at the edges of ephemeral swamps, or river flats, and on river valley and ridge slopes which are prone to waterlogging. Grows among shrubs in dense stunted forest and low heath in moist to wet soils; sometimes on swamp margins.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Diuris chryseopsis</i>	Cowslip Orchid	-	E	2	1998	Presumed extinct in the Mt Lofty Ranges (but may have been rediscovered in Kuitpo Native Forest Reserve) and found only between Naracoorte and Mount Gambier in South Australia, growing in damper grassy patches in woodland around waterholes, along creeks, on cooler slopes in rich, moist soils. Also found in New South Wales, Victoria and Tasmania. Very rare in South Australia (Plants of South Australia 2025).	Unlikely – Record in Search Area > 20 years old, habitat in Project Area not suitable.
<i>Drosera stricticaulis</i>	Erect Sundew	-	V	2	1998	Found on southern Eyre Peninsula and on Dutchmans Stern in the Flinders Ranges in South Australia, growing on sandy clay-loam along watercourses and granite outcrops (Plants of South Australia 2025).	Unlikely – Record in Search Area > 20 years old, habitat in Project Area not suitable.
<i>Eucalyptus dalrympleana</i> ssp. <i>dalrympleana</i>	Candlebark Gum	-	R	2, 3	2024	In SA, the species is mainly restricted to the Onkaparinga River catchment from Gumeracha to Parawa, but most common in Lobethal to Mylor area. Grows in deep well-watered, but well-drained soils and commonly associated with <i>Eucalyptus obliqua</i> (Nicolle 2013).	Known – Observed during field survey.
<i>Eucalyptus fasciculosa</i>	Pink Gum	-	R	2, 3	2024	Woodland or as an emergent low shrubland on soil of low fertility. Restricted to almost entirely SA. Often in poorer sandy soils, in woodland or as an emergent in low shrublands. Commonly associated with <i>E. baxteri</i> , <i>E. cosmophylla</i> , <i>E. diversifolia</i> , <i>E. leptophylla</i> and <i>E. leucoxylon</i> (Nicolle 2013).	Known – Observed during field survey.
<i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>	Manna Gum	-	R	2, 3	2023	Generally recorded as growing in mallee scrubland but has also been found growing in coastal heathlands, sclerophyll forests and woodlands. It is also found in heathy openings in wet sclerophyll	Highly Likely – Recent record in Search Area, observed directly adjacent to Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
						forest and in a swamp at Mt Compass (Nicolle 2013).	
<i>Euphrasia collina</i> ssp. <i>osbornii</i>	Osborn's Eyebright	EN	E	1,2	Known, 2000	Generally recorded as growing in mallee scrubland but has also been found growing in coastal heathlands, sclerophyll forests and woodlands. It is also found in heathy openings in wet sclerophyll forest and in a swamp at Mt Compass (Moritz and Bickerton 2010).	Possible – Record in Search Area > 20 years old. Habitat in Project Area not preferred but may be broadly suitable.
<i>Gastrodia sesamoides</i>	Potato Orchid	-	R	2	2024	Wet sclerophyll forests, dry sclerophyll forests, dry sclerophyll woodlands and riparian areas. Occurs in shady, well forested places in high rainfall areas (>800 mm per year), near decaying tree stumps, especially along creeks (DEW 2008e).	Highly likely – Recent record in Search Area, suitable habitat.
<i>Gleichenia microphylla</i>	Coral Fern	-	R	2	2023	A widespread species that forms large colonies in sunny damp sites around swamps, at bases of cliffs or in open forest.	Highly likely – Recent record in Search Area, suitable habitat.
<i>Glycine latrobeana</i>	Clover Glycine, Purple Clover	VU	V	1,2	Known, 2010	Inhabits native grasslands, dry sclerophyll forests, woodlands and low open woodlands, typically with a grassy ground layer, and growing on undulating plains. Prefers gentle south-west facing ridge slopes and lower south facing river valley slopes (Carter and Sutter 2010).	Likely – Record in Search Area <20 years old, suitable habitat.
<i>Gonocarpus micranthus</i> ssp. <i>micranthus</i>	Creeping Raspwort	-	R	2	2008	Occurs in heath and swampy areas, extending into open sclerophyll forest on damp sandy soils.	Possible– Record in Search Area <20 years old, habitat not ideal but potentially suitable.
<i>Gratiola pumilo</i>	Dwarf Brooklime	-	R	2	2022	Grows in seasonally inundated damp ground (PlantNET 2025).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Grevillea aquifolium</i>	Prickly Grevillea	-	R	2	1997	On calcareous sand in sclerophyllous woodland, and in heath on sands, limestone pavements and sandstone outcrops.	Unlikely – Record in Search Area > 20 years old, habitat not suitable.
<i>Hypericum japonicum</i>	Matted St John's Wort	-	R	2	2023	Cool, moist, often shaded sites in swampy heathland (SSCC 2018).	Unlikely – Recent record in Search Area, however

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
							habitat in Project Area not suitable.
<i>Hypolepis rugosula</i> ssp. <i>rugosula</i>	Ruddy Ground-fern	-	R	2	2018	Along shady streams or open wetter areas. Where it forms dense thickets. It is frequently in ditches or on embankments beside tracks (SSCC 2018).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Isoetes drummondii</i> ssp. <i>drummondii</i>	Plain Quillwort	-	R	2	1996	Growing in wet depressions subject to flooding in the winter and spring months.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Juncus amabilis</i>			V	2	2023	Found in the southern Mount Lofty Ranges and the southeast in SA growing damp sites.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Lagenophora sublyrata</i>	Slender Bottle-daisy	-	V	2	2023	Found on Kangaroo island, southern Mount Lofty Ranges and lower South-east in South Australia growing in moist gullies and near water. Also found in Queensland, New South Wales, Victoria and Tasmania. Native. Rare in South Australia (Plants of South Australia 2025).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Leionema hillebrandii</i>	Mount Lofty Phebalium	-	R	2	2013	Found in heathy woodland and forest gullies. Often in open rocky habitat along steep gullies.	Unlikely – Record in Search Area >10 years old, however habitat in Project Area not suitable.
<i>Logania saxatilis</i>	Rock Logania	-	R	2	1996	Associated with Grassy Woodlands in the foothills and hills face of the Southern Lofty Ranges.	Possible – Record in Search Area > 20 years old, habitat not ideal but could be suitable.
<i>Luzula flaccida</i>	Pale Wood-rush	-	V	2	2020	Occurs in the Mount Lofty Ranges and the lower southeast in SA, growing in swampy areas (SSCC 2018).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Machaerina acuta</i>	Pale Twig-rush	-	R	2	2023	Grows in swamps and damp heath on open sandy soils.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Machaerina laxa</i>	Lax Twig-rush	-	R	2	2018	Grows in damp and sandy soils.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Melaleuca armillaris</i> ssp. <i>akineta</i>	Needle-leaf Honey-myrtle	-	R	2	2008	Found in the Gawler Ranges of South Australia, where it grows on ridges and granite outcrops (Brophy et al. 2013).	Unlikely – Record within Search Area, however the Project and Search Areas are outside the known range of this species. <i>M. armillaris</i> was observed during the field survey, although these were planted specimens.
<i>Microlepidium pilosulum</i>	Hairy Shepherd's-purse	-	R	2	2016	Grows on sand and loam in coastal dunes and salt lake margins.	Unlikely – Record < 20 years old in Search Area, however suitable habitat does not occur in Project Area.
<i>Montia australasica</i>	White Purslane	-	R	2	2021	Grows in moist areas including ponds, swamps, creeks and damp depressions. Leaves reach greatest lengths in running water. Recorded in association with <i>Triglochin procerum</i> , <i>Eleocharis sphacelata</i> , <i>Ranunculus amphitrichus</i> , <i>Carex tereticaulis</i> and <i>Juncus</i> sp (DEH 2008).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Montia fontana</i> ssp. <i>chondrosperma</i>	Waterblinks	-	V	2	2022	Grows in moist areas along stream margins and wetlands (DEH 2008).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Nymphoides crenata</i>	Wavy Marshwort	-	R	2	1995	Grows in slow-flowing water to c. 1.5 m deep, usually on a mud substrate, can persist on drying mud; widespread in inland districts.	Unlikely – Record > 20 years old in Search Area, however habitat in Project Area not suitable.
<i>Olearia glandulosa</i>	Swamp Daisy-bush	-	V	2	2024	Wet heath, swamps and along river banks (ALA 2025).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Oreomyrrhis eriopoda</i>	Australian Carraway	-	E	2	2020	Found only in two areas in SA, the southern Mount Lofty Ranges and the lower southeast, growing in grassland, open heath and woodland communities.	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Phyllangium distylis</i>	Tiny Mitrewort	-	R	2	2019	Growing in wet sandy flats in open-heath and woodlands and in waterlogged soils or in shallow water (SSCC 2018).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Phylloglossum drummondii</i>	Pigmy Clubmoss	-	R	2	2022	Moist sandy or clay soil, particularly after fire (SSCC 2018).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Poa umbricola</i>	Shade Tussock-grass	-	R	2	2000	Associated with woodland communities where it is often straggling among rocks.	Possible – Record in Search Area > 20 years old, rocky habitat not present but species may still exist.
<i>Prasophyllum pruinsum</i>	Plum Leek-orchid	EN		1	Known	It has been recorded in the Adelaide and Mount Lofty Ranges region from eight geographically isolated and distinct locations, which extend from the Barossa Valley to Belair National Park. Preferred habitat includes open woodland and grassy forest, in the open or in the shelter of broom-like shrub growing in fertile loams, usually with other leek-orchids (Bates 2009).	Unlikely – No records since 1995 despite adequate search effort.
<i>Pterostylis foliata</i>	Slender Greenhood	-	R	2	2013	Occurs in small groups in sheltered, shaded spots in open forest often with <i>Eucalyptus fasciculosa</i> and colonising <i>Pinus radiata</i> plantations. Widespread but uncommon in the Adelaide hills (eFlora 2025).	Likely – Record < 20 years old in Search Area, habitat in Project Area potentially suitable.
<i>Pultenaea graveolens</i>	Scented Bush-pea	-	R	2	2021	Found in the southern Flinders Ranges and the southern Mount Lofty Ranges in SA, with a single record from Kangaroo Island, growing in dry sclerophyll woodland (SSCC 2018).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Ranunculus glabrifolius</i>	Shining Buttercup	-	V	2	2000	Preferences damp ground in depressions or beside watercourses.	Unlikely – Record > 20 years old in Search Area, however habitat in Project Area not suitable.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Rytidosperma laeve</i>	Smooth Wallaby-grass	-	R	2	2016	Ecologically variable, from alpine moorland to open grassland or light woodland, often in seasonally damp habitats (Sharp and Simon 2022).	Possible – Record <10 years old in Search Area. Habitat not ideal but potentially suitable.
<i>Rytidosperma tenuius</i>	Short-awn Wallaby-grass	-	R	2	2023	Grows in altitudes between 500-750 m, usually in somewhat damp habitats, rarely dominant; along the coastal shelf a very common constituent of disturbed road verges.	Unlikely – Recent record in Search Area but Project Area not above 500m elevation.
<i>Schizaea fistulosa</i>	Narrow Comb-fern	-	V	2	1996	Occurs on raised soil mounds in swamps or under vegetation in moist situations. Often found associated with <i>Schizaea bifida</i> (DEH 2008).	Unlikely – Record > 20 years old in Search Area, however habitat in Project Area not suitable.
<i>Schoenus laevigatus</i>	-	-	R	2	2019	No habitat information available but may be similar to others of the <i>Schoenus</i> genus.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Schoenus latelaminatus</i>	Medusa Bog-rush	-	V	2	2022	Occurs in freshwater boggy, swampy areas and drainage lines and temporarily wet places, including swampy valley sites under River Red Gum with <i>Myriophyllum amphibium</i> and damp depressions amongst <i>Juncus holoschoenus</i> , <i>Gratiola pumila</i> and <i>Myriophyllum</i> sp.	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Thelymitra aristata</i>	Great Sun-orchid	-	E	2	2008	Found primarily in the southeast in SA, north of Mt Gambier, growing in clay or gravel soils in forest or scrubland around swamp margins in damp sands (SSCC 2018).	Unlikely – Record < 20 years old in Search Area, however habitat in Project Area not suitable.
<i>Thelymitra batesii</i>	-	-	R	2	2019	Grows in heathy woodland and forest.	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Thelymitra carnea</i>	Small Pink Sun-orchid	-	R	2	2022	Widespread and relatively common, solitary or in small colonies, occurring in a variety of habitats, from margins of swampy heaths to open forests of drier areas (Royal Botanic Gardens Victoria 2020).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Thelymitra flexuosa</i>	Twisted Sun-orchid	-	R	2	2022	It grows with sedges and low shrubs in moist places such as the edge of swamps (ALA 2025).	Unlikely – Recent record in Search Area, however

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
							habitat in Project Area not suitable.
<i>Thelymitra grandiflora</i>	Great Sun-orchid	-	R	2	2023	Occurs singly or as small clumps of plants in forest clearings, woodland and scrub in well drained gravelly clay soils which may be laterite or podsols, or mixed with sand, extending to dry rocky ridges in better soils (Bates 2009).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Thelymitra ixioides</i>	Spotted Sun-orchid	-	E*	2	2013	Widespread in heath and sclerophyll forest, from the coast to subalpine regions.	Likely – Record < 20 years old in Search Area, suitable habitat in Project Area.
<i>Wurmbea uniflora</i>	One-flower Nancy	-	E	2	2020	It grows in marshy places (ALA 2025).	Unlikely – Recent record in Search Area, however habitat in Project Area not suitable.
<i>Xanthosia tasmanica</i>	Southern Xanthosia	-	R	2	2018	Grows in coastal heath or forest on sandy soils.	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.

Conservation status

Aus: EPBC Act; SA: NPW Act

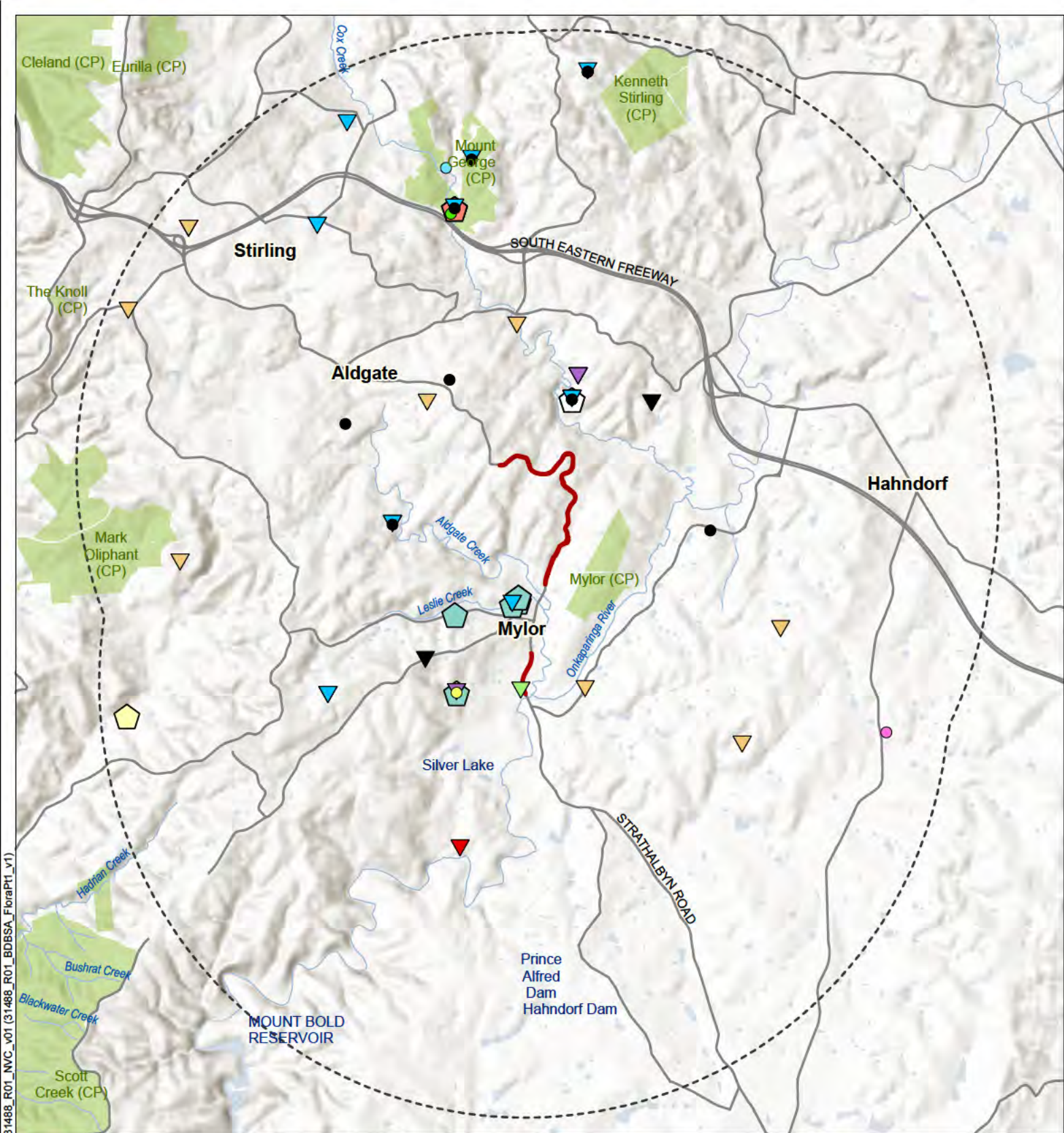
Conservation Codes: EN/E: Endangered. VU/V: Vulnerable. R: Rare.

Source of Information

1. EPBC Act Protected Matters Report (DCCEEW 2025) – 5 km buffer applied to Project Area.
2. BDBSA data extract (DEW 2025) - 5 km buffer applied to Project Area.
3. Observed during the field survey.

Appendix 5 - BDBSA Threatened Flora Records within 5 km of the Project Area

Refer to the following pages.



■ Project Area	● <i>Caladenia behrii</i> (Pink-lip Spider-orchid) NPW: E, EPBC: EN	▲ <i>Eucalyptus dalrympleana</i> ssp. <i>dalrympleana</i> (Candlebark Gum) NPW: R	◆ <i>Gastrodia sesamoides</i> (Potato Orchid) NPW: R
--- Search Area (5Km)	● <i>Caladenia reticulata</i> (Veined Spider-orchid) NPW: R	▲ <i>Eucalyptus fasciculosa</i> (Pink Gum) NPW: R	◆ <i>Gleichenia microphylla</i> (Coral Fern) NPW: R
● <i>Acacia gunnii</i> (Ploughshare Wattle) NPW: R	▼ <i>Caladenia rigida</i> (Stiff White Spider-orchid) NPW: E, EPBC: EN	▲ <i>Eucalyptus viminalis</i> ssp. <i>viminalis</i> (Manna Gum) NPW: R	◆ <i>Glycine latrobeana</i> (Clover Glycine) NPW: V, EPBC: VU
● <i>Anogramma leptophylla</i> (Annual Fern) NPW: R	▼ <i>Carex gunniana</i> (Mountain Sedge) NPW: R	◆ <i>Euphrasia collina</i> ssp. <i>osbornii</i> (Osborn's Eyebright) NPW: E, EPBC: EN	◆ <i>Gonocarpus micranthus</i> ssp. <i>micranthus</i> (Creeping Raspwort) NPW: R
● <i>Blechnum nudum</i> (Fishbone Water-fern) NPW: R	▼ <i>Deyeuxia densa</i> (Heath Bent-grass) NPW: R		◆ <i>Hypericum japonicum</i> (Matted St John's Wort) NPW: R

Data Source: Umwelt (2025), ESRI (2024), DEW (2022), DIT (2022)

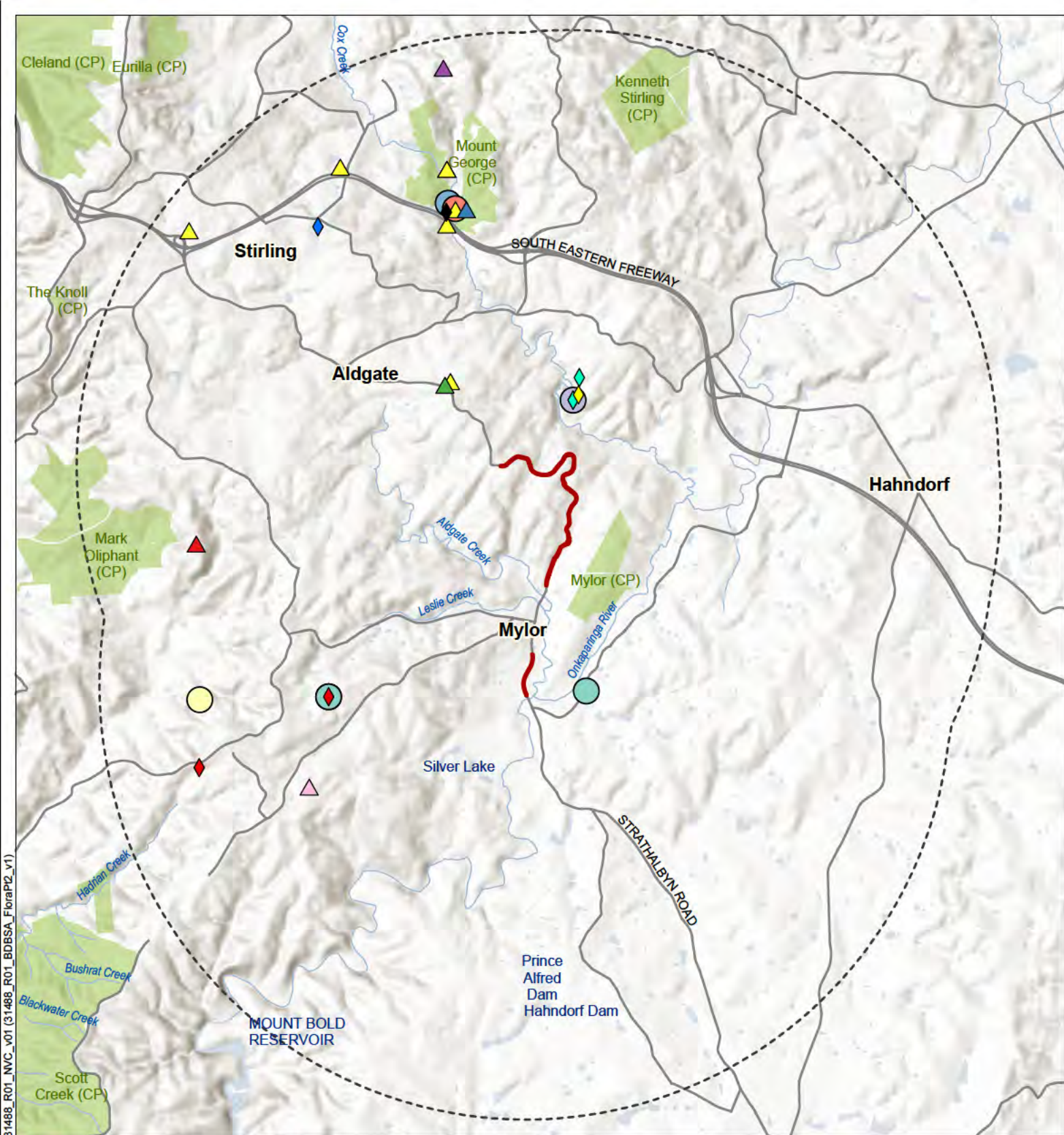
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GDA2020 MGA Zone 54

0 0.5 1 km





■ Project Area	◆ <i>Leionema hillebrandii</i> (Mount Lofty Phebalium) NPW: R	▲ <i>Oreomyrrhis eriopoda</i> (Australian Carraway) NPW: E	● <i>Schoenus laevigatus</i> NPW: R
■ Search Area (5Km)	▲ <i>Luzula ovata</i> (Clustered Wood-rush) NPW: R	▲ <i>Prasophyllum australe</i> (Austral Leek-orchid) NPW: R	● <i>Thelymitra grandiflora</i> (Great Sun-orchid) NPW: R
◆ <i>Hypolepis dicksonioides</i> (Downy Ground-fern) EPBC: VU*	▲ <i>Myriophyllum amphibium</i> (Broad Milfoil) NPW: R	▲ <i>Pultenaea graveolens</i> (Scented Bush-pea) NPW: R	● <i>Thelymitra holmesii</i> (NC) (Blue Star Sun-orchid) NPW: V
◆ <i>Hypolepis rugosula ssp. rugosula</i> (Ruddy Ground-fern) NPW: R	▲ <i>Nymphoides crenata</i> (Wavy Marshwort) NPW: R	● <i>Rytidosperma tenuius</i> (Short-awn Wallaby-grass) NPW: R	● <i>Viminaria juncea</i> (Native Broom) NPW: R
◆ <i>Juncus amabilis</i> NPW: V			● <i>Xanthosia tasmanica</i> (Southern Xanthosia) NPW: R
◆ <i>Juncus australis</i> (Austral Rush) NPW: R			

Appendix 6 – Likelihood of Occurrence Assessment for Fauna

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
Birds							
<i>Actitis hypoleucos</i>	Common Sandpiper	-	R	2	1995	Habitat is varied: coastal and interior wetlands – narrow muddy edges of billabongs, river pools, mangroves, among rocks and snags, reefs or rocky beaches. Avoids wide open mudflats. Perches on branches, posts, boats (Morcombe 2011).	Unlikely – Record 30 years old, no suitable habitat in Project Area.
<i>Anhinga novaehollandiae</i>	Australasian Darter	-	R	2	2018	This species prefers smooth, open waters, for feeding, with tree trunks, branches, stumps or posts fringing the water, for resting and drying its wings. Most often seen inland, around permanent and temporary water bodies at least half a metre deep, but may be seen in calm seas near shore, fishing (Morcombe 2011).	Unlikely – Record <10 years old but habitat in Project Area not suitable.
<i>Ardea intermedia plumifera</i>	Plumed Egret	-	R	2	2001	Found on freshwater wetland, especially lake margins, billabongs and swamps with abundant emergent vegetation; also occasionally mangrove swamps, tidal mudlfats (Morcombe 2011)	Unlikely – Record >20 years old, habitat in Project Area not suitable.
<i>Cereopsis novaehollandiae</i>	Cape Barren Goose	-	R	2	2009	Ocean beaches, headlands, margins of wetlands, pastures (Morcombe 2011)	Unlikely – Record <20 years old but habitat in Project Area not suitable.
<i>Charadrius mongolus</i>	Lesser Sand Plover	EN	E	2	2002	May be seen on intertidal sandflats and mudflats, beaches, estuary mudflats and sandbars, reef flats (Morcombe 2011).	Unlikely – Record >20 years old, habitat in Project Area not suitable.
<i>Climacteris affinis</i>	White-browed Treecreeper	-	R	2	2022	Rainforest, eucalypt forest and woodland; river margins of drier regions. Also lower scrubs of banksia, mallee and brigalow (Morcombe 2011).	Possible – Recently recorded and a <i>Climacteris</i> sp. was observed during field survey, but was not able to be identified further.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Corcorax melanorhamphos</i>	White-winged Cough	-	R	2	2023	Prefers drier forests, woodlands of <i>Eucalyptus</i> sp., crops and pastures (Pizzey and Knight 2007).	Highly likely – Suitable habitat present and recently recorded within the Search Area.
<i>Falco peregrinus</i>	Peregrine Falcon	-	R	2	2022	Habitat is extremely diverse, from rainforest to arid scrub to coastal heath to alpine (Morcombe 2011).	Highly likely – Suitable habitat present and recently recorded within the Search Area.
<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit	-	R	2	2022	Open forest, woodland, mallee, riverside and watercourse trees, cypress pines, banksia woodland (Morcombe 2011).	Highly likely – Recently recorded within the Search Area and suitable habitat present.
<i>Hieraaetus morphnoides</i>	Little Eagle	-	V	2	2019	Widespread over diverse habitats; forest, woodland, open scrub, tree-lined watercourses of interior Australia such as the Murray River. Prefers areas where open country intermixes with wooded or forested hills, as in farmland, irrigated land (Morcombe, 2011).	Highly likely – Recently recorded within the Search Area and suitable habitat present.
<i>Hylacola pyrrhopygia parkeri</i>	Chestnut-rumped Heathwren (Mt Lofty Ranges)	EN	E	1,2	Known, 2023	Mostly occur in heath and dense undergrowth within Eucalypt forests and woodlands, most commonly found in rocky areas. Inhabits heaths of coastal, mountain and hinterland areas, dense undergrowth of forests and woodlands (Willson and Bignall 2009).	Likely – Some habitat within the Project Area is broadly suitable and the species has been recently recorded in the Search Area.
<i>Lewinia pectoralis pectoralis</i>	Lewin's Rail	-	V	2	2010	Swamp woodlands; rushes, reeds, rank grass in swamps, creeks paddocks; wet heaths, tree ferns; samphire in saltmarsh (Pizzey and Knight 2020).	Possible – Record <20 years old within the Search Area. Habitat not ideal but may be used.
<i>Lophoictinia isura</i>	Square-tailed Kite	-	E	2	2018	In southern Australia uses eucalypt woodland, open forest and heath woodland (Morcombe 2011)	Highly likely – Recently recorded within the Search Area and suitable habitat present.
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (YP, MN, AP, MLR, MM, SE)	EN	R	2	2005	Prefer dry eucalypt and acacia 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,	Possible – Record in Search Area 20 years old. Habitat not ideal but may be used.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
						dense heaths with scattered open areas. While they can occur in patches as small as 2.9 ha, in agricultural landscapes they prefer larger patches greater than 10 ha with moderately deep to deep soils (DCCEEW 2023).	
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	-	V	2	2000	Forest, woodland of eucalypts, paperbarks, inland tree-lined watercourses (Morcombe 2011).	Possible – Record > 20 years old but habitat suitable.
<i>Microeca fascians fascians</i>	Jacky Winter (MLR, SE)	-	R	2	2018	Widely distributed throughout mainland Australia. Prefer open woodland (Eucalypt and mallee) with an open shrub layer and bare ground. Often seen in farmland and parks (Morcombe 2011).	Likely – Record in Search Area < 10 years old. Habitat in Search Area not ideal but may be used.
<i>Neophema elegans elegans</i>	Elegant Parrot	-	R	2	2022	It can be found in a wide variety of habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland (Morcombe 2011).	Highly likely – Recently recorded within the Search Area and suitable habitat present.
<i>Oxyura australis</i>	Blue-billed Duck	-	R	2	2018	Deep, densely vegetated freshwater lakes/swamps when breeding; winters on more open waters (Morcombe 2011)	Unlikely – Record < 10 years old but habitat in Project Area not suitable.
<i>Pachycephala inornata</i>	Gilbert's Whistler	-	R	2	2007	Dry woodland, mallee, mulga with shrubby understorey, abundant litter (Morcombe 2011).	Unlikely – Single record <20 years old, not usual habitat.
<i>Petroica boodang boodang</i>	Scarlet Robin	-	R	2, 3	2023	Eucalypt woodlands and forests. Breeds in Eucalypt forest, but not in adjacent grasslands even though individuals occupy this habitat during the non-breeding season (DEW 2008b).	Known – Heard during field survey.
<i>Petroica phoenicea</i>	Flame Robin	-	V	2	2003	Rainforest, wet eucalypt forest, woodland. Winters in open woodland and farmland (Morcombe 2011).	Possible - Record > 20 years, suitable habitat.
<i>Plectorhyncha lanceolata</i>	Striped Honeyeater	-	R	2	2020	Forests and woodlands, often along rivers, as well as mangroves and in urban gardens.	Highly likely – Record < 10 years old in Search Area, suitable habitat present.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Podiceps cristatus australis</i>	Great Crested Grebe	-	R	2	2023	Found almost exclusively on lakes, larger lagoons and swamps, reservoirs and bays or inlets (Pizzey and Knight 2007).	Unlikely – Recent record in Search Area, however suitable habitat does not exist in Project Area.
<i>Spatula rhynchotis</i>	Australasian Shoveler	-	R	2	2000	Prefers fresh and saline lakes and well-vegetated freshwater wetlands. Also occurs in coastal inlets, floodwaters and sewage ponds (Morcombe 2011).	Unlikely – Record in Search Area > 20 years old, suitable habitat does not exist in Project Area.
<i>Stagonopleura bella samueli</i>	Beautiful Firetail (MLR, KI)	EN	R	1,2	Known, 2013	Inhabits stringybark, mallee, bull oak scrub, drooping sheoak woodlands, eucalypt woodlands and forests with a shrubby/heathy understory, and river flats and forested river margins, particularly with teatree, honey-myrtle (<i>Melaleuca thymifolia</i>), and cutting grass (<i>Gahnia grandis</i>) (DCCEEW 2025b).	Likely – Record <20 years old in Search Area, suitable habitat in Project Area.
<i>Stagonopleura guttata</i>	Diamond Firetail	VU	V	1	Known	Diamond firetails occur in eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats, including farmland and grassland with scattered trees. They prefer areas with relatively low tree density, few large logs, and little litter cover but high grass cover (DCCEEW 2025b).	Unlikely – No records since 1995 despite adequate search effort.
<i>Turnix varius varius</i>	Painted Buttonquail	-	R	2	2023	Temperate and eastern tropical forests and woodlands form the habitats of this species (Morcombe 2011).	Highly likely – recent record in Search Area, suitable habitat in Project Area.
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	-	V	2, 3	2024	Occupies diverse habitats: coastal, inland and alpine. Feeds largely on seeds of native trees and shrubs including eucalypts, banksias, hakeas, grass trees. Plantation pines are worked for seeds and wood-boring insects (Morcombe 2011).	Known – observed during field survey.
<i>Zapornia tabuensis</i>	Spotless Crake	-	R	2	2010	Rarely out of dense cover; forages in shallows, wading, swimming, climbing over fallen and floating vegetation. Usual habitat is reedbeds and other dense vegetation in and around lakes, swamps, saltmarshes, mangroves (Morcombe 2011).	Unlikely – Record in Search Area < 20 years old, however no suitable habitat exists in the Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Zoothra lunulata halmaturina</i>	Bassian Thrush	EN	R	1,2	Known, 2023	The subspecies mostly inhabits damp eucalypt forest or woodland. Its habitat consists of densely forested areas and gullies, usually with a thick canopy overhead, a thick understorey of small trees and tall shrubs, and leaf-litter below (DCCEEW 2025b).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
Mammals							
<i>Antechinus flavipes</i>	Yellow-footed Antechinus	-	V	2	2023	Generally occurs in leaf litter and fallen logs in forests, heath, woodlands and coastal plains.	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Isodon obesulus obesulus</i>	Southern Brown Bandicoot (SA mainland and KI)	EN	V	1,2	Known, 2023	This species prefers dense ground cover, tall grass and low shrubbery. They live near swamps and rivers as well as in thick scrub in drier areas. They make their nests on the ground and in logs. The nests consist of sticks, leaves, grass, and soil (DCCEEW 2025b).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	VU	R	2	2020	Grey-headed Flying-foxes forage up to 40 km from their roost at Botanic Park each night. Food plants are typically planted trees, both native and exotic, that provide fruit or a rich source of nectar (DAWE 2021).	Highly Likely – Recent record in Search Area, suitable feeding habitat in Project Area.
<i>Trichosurus vulpecula</i>	Common Brushtail Possum	-	R	2	2023	Utilises various woodland habitats and suburban environs. Feeds on flowers, fruit, buds and leaves of native vegetation. Requires hollows (within dead or alive tree) or on ground for daytime nesting (Strahan & van Dyck 2008).	Highly Likely – Recent record in Search Area, suitable habitat in Project Area.
Reptiles							
<i>Egernia cunninghami</i>	Cunningham's Skink	-	E	2	2008	Forests and open woodlands usually in areas with rock outcrops (ALA 2025).	Unlikely – Record in Search Area <20 years old, however no rocky outcrop habitat observed in Project Area.

Scientific Name	Common Name	Conservation Status		Source of Information	PMST Likelihood / Last Sighting (Year)	Habitat Preferences	Likelihood of Occurrence Within Project Area
		Aus	SA				
<i>Varanus rosenbergi</i>	Heath Goanna	-	V	2	2014	Habitat across SA includes coastal heaths, humid woodlands, and wet and dry sclerophyll forests (Cogger 2014).	Likely – Record in Search Area > 10 years old, habitat is broadly suitable and termite mounds were present, which are required by this species for breeding.
Amphibians							
<i>Pseudophryne bibronii</i>	Brown Toadlet	-	R	2	2009	Found in damp areas with cover provided by logs and stones. Occupies forests, heathlands and grasslands. Occasionally utilizes small temporary dams and vegetated roadside drainage lines and ditches which are characterized by leaf litter and grassy debris (Wilson and Bignall 2009).	Likely – Record in Search Area < 20 years old, suitable habitat occurs in Search Area.

Conservation status

Aus: EPBC Act; SA: NPW Act

Conservation Codes: EN/E: Endangered. VU/V: Vulnerable. R: Rare.

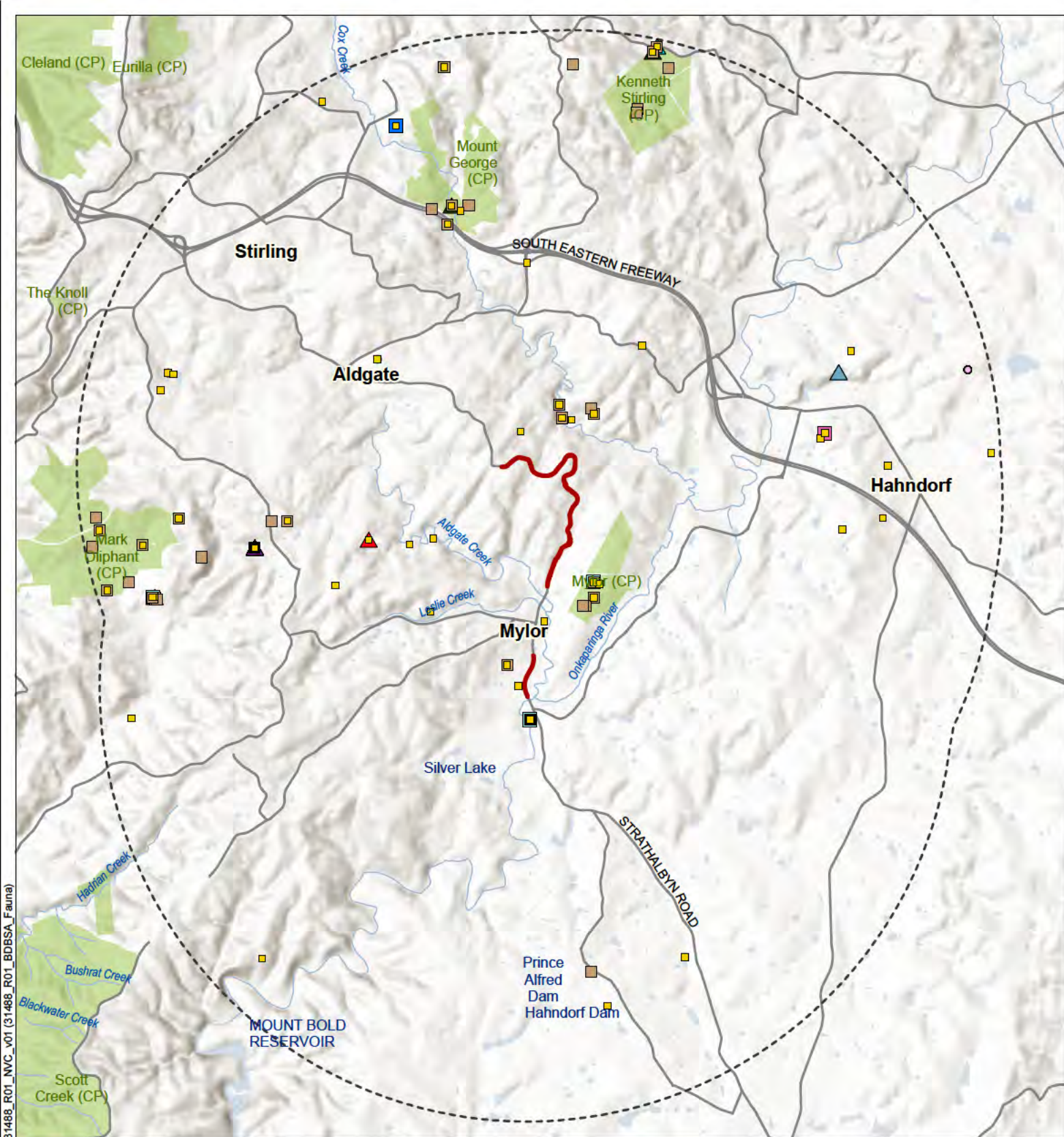
Source of Information

1. EPBC Act Protected Matters Report (DCCEW 2025) – 5 km buffer applied to Project Area.
2. BDBSA data extract (DEW 2025) - 5 km buffer applied to Project Area.
3. Observed during the field survey.

Appendix 7 - BDBSA Threatened Fauna Records within 5km of the Project Area

Refer to the following page.

31488_R01_NVC_v01 (31488_R01_BDBSA_Fauna)



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|---|---|---|
| <p>Project Area</p> <p>Search Area (5Km)</p> <p>BDBSA threatened fauna</p> <ul style="list-style-type: none"> ○ Australasian Darter (<i>Anhinga novaehollandiae novaehollandiae</i>) NPW: R ● Australasian Shoveler (<i>Spatula rhynchotis</i>) NPW: R ● Bassian Thrush (<i>Zoothera lunulata</i>) NPW: R, EPBC: EN ● Black-chinned Honeyeater (<i>Meliphaga munda</i>) NPW: V | <ul style="list-style-type: none"> ○ Blue-billed Duck (<i>Oxyura australis</i>) NPW: R ● Cape Barren Goose (<i>Cereopsis novaehollandiae novaehollandiae</i>) NPW: R ● Common Sandpiper (<i>Actitis hypoleucos</i>) NPW: R ● Eastern Shrikebill (<i>Falcunculus frontatus frontatus</i>) NPW: R ● Flame Robin (<i>Petroica phoenicea</i>) NPW: V ● Gilbert's Whistler (<i>Pachycephala inornata</i>) NPW: R | <ul style="list-style-type: none"> ● Jacky Winter (<i>Microeca fascians</i>) NPW: R ● Lesser Sand Plover (<i>Charadrius mongolus</i>) NPW: E, EPBC: EN ● Peregrine Falcon (<i>Falco peregrinus macropus</i>) NPW: R ● Scarlet Robin (<i>Petroica boodang boodang</i>) NPW: R ● White-winged Chough (<i>Corcorax melanorhamphos</i>) NPW: R ● Yellow-tailed Black Cockatoo (<i>Zanda funerea whiteae</i>) NPW: V |
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