

Native Vegetation Clearance

Upper Yorke Road

Kulpara to Arthurton

MM 0.50 to MM 36.00

Data Report

Clearance under the *Native Vegetation Regulations 2017*

18 December 2023

Amendment 1 – Scope Reduction

28 February 2024

Prepared by JS Ayre & Associates

Table of contents

1. Application information
2. Purpose of clearance
 - 2.1 Description
 - 2.2 Background
 - 2.3 General location map
 - 2.4 Details of the proposal
 - 2.5 Approvals required or obtained
 - 2.6 Native Vegetation Regulation
3. Method
 - 3.1 Flora assessment
 - 3.2 Fauna assessment
4. Assessment outcomes
 - 4.1 Vegetation assessment
 - 4.2 Threatened Species assessment
 - 4.3 Cumulative impacts
 - 4.4 Addressing the Mitigation hierarchy
 - 4.5 Principles of clearance
 - 4.6 Risk Assessment
5. Clearance summary
6. Significant environmental benefit
7. Appendices

1. Application information

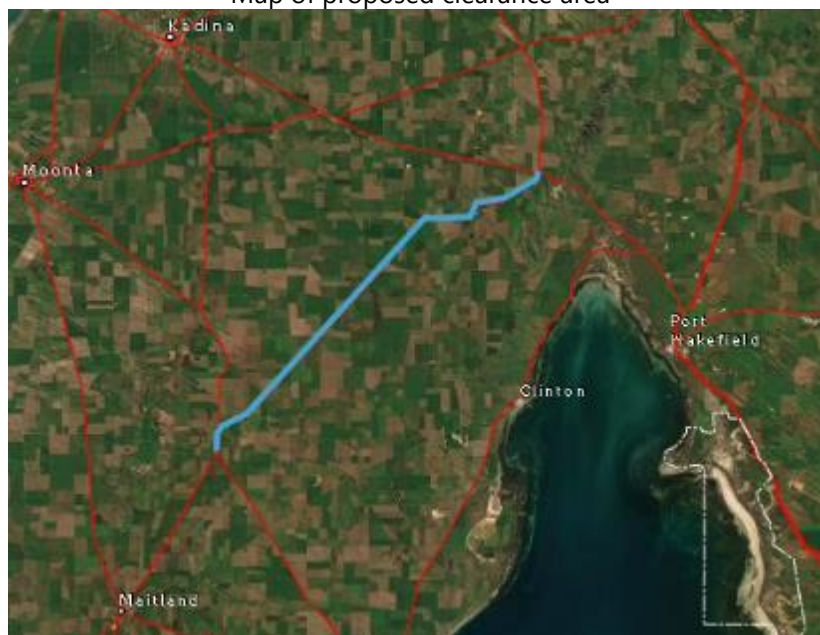
Application Details

Applicant:	LWC/Department for Infrastructure and Transport		
Key contact:	[REDACTED]		
Landowner:	The Crown		
Site Address:	Upper Yorke Road, MM 0.50 to 36.00 (Kulpara to Arthurton)		
Local Government Area:	Barunga West Council Yorke Peninsula Council	Hundred:	Kulpara, Clinton, Tiparra
Title ID:	N/A Road reserve	Parcel ID	N/A Road reserve

Summary of proposed clearance

Purpose of clearance	Clearance required to accommodate the road upgrade including shoulder sealing, culvert extensions and safety barrier installation.
Native Vegetation Regulation	Regulation 12, Schedule 1; clause 32, Works on behalf of Commissioner of Highways
Description of the vegetation under application	<u>Size, type and general condition</u> – 0.205 ha of (VA1) <i>Eucalyptus porosa</i> / <i>E. brachycalyx</i> woodland, in fair to good condition 0.04 ha of (VA2) <i>Callitris gracilis</i> woodland, in fair condition 0.7495 ha of (VA3) <i>Eucalyptus leptophylla</i> / <i>E. socialis</i> mallee woodland, in fair to good condition 0.1375 ha of (VA4) <i>E. gracilis</i> , <i>E. oleosa</i> , <i>E. leptophylla</i> mallee, fair-good condition
Total proposed clearance - area (ha) and number of trees	1.1320 ha is likely to be impacted.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay

Map of proposed clearance area



Mitigation hierarchy	A significant scope review resulted in reduced impacts from 2.1565ha to 1.132ha
SEB Offset proposal	Payment of \$39,839.95

2. Purpose of clearance

2.1 Description

Under the Government's Road Safety Program, the Upper Yorke Road from Kulpara to Arthurton is to be upgraded. Included in the scope of works is shoulder sealing; widening, reseal and rehabilitation of the carriageway at strategic locations; culvert extensions; safety barrier installation and sealing of side road aprons. Some of the works will impact vegetation within the road reserve.

2.2 Background

The road carries 140vpd and traverses agricultural land with grazing and cropping farms. The township of Kulpara lies at the northern end of the site, and Arthurton at the southern end. The carriageway and shoulder width is substandard, and the upgrade is required to meet current safety standards. Numerous local roads intersect, some with up to 7 roads converging, and there have been 4 road accidents since 2018.

Concurrent with this project is the Upper Yorke Road upgrade from Bute to Port Broughton, 23km north of this project, and which is the subject of a separate clearance application.

2.3 General location maps

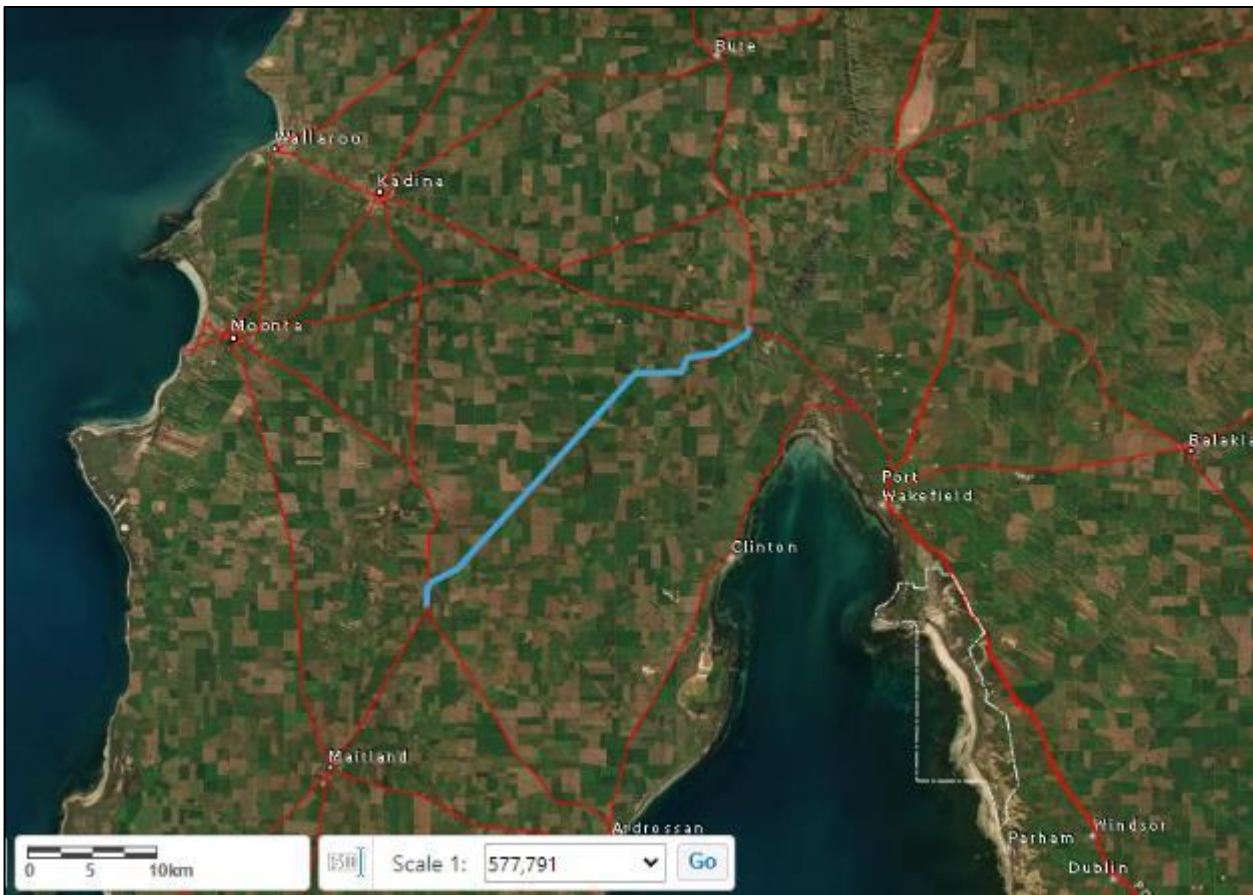


Figure 1 Site map

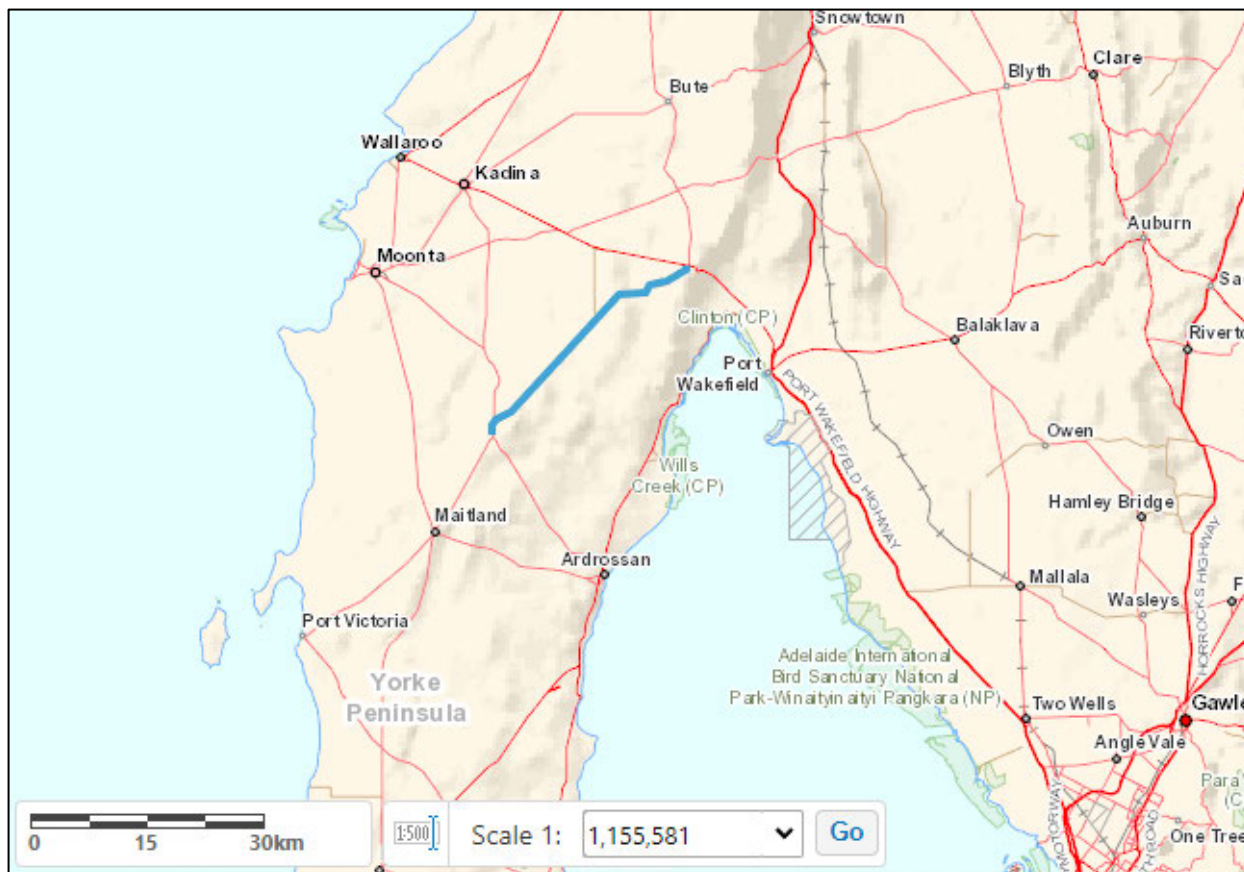


Figure 2 Location map

2.4 Details of the proposal

The proposed works include culvert extensions in fifteen places (seven culverts both sides, one, RHS only); safety barrier and additional pavement widths around curve/drop-offs at nine locations; shoulder sealing, pavement rehabilitation and ATLM across the entire project site. Shoulder sealing will include boxing out up to 300mm depth and sealing to accommodate a 2m shoulder width. Safety barrier is required to reduce the hazard presented by a drop-off or non-frangible vegetation.

The project scope called for the assessment of:

- 12m total width for shoulder sealing at 6m from centreline (original scope called for 7m from centreline) – impacts at numerous sites were noted
- 10m x 10m around culverts to be extended – impact at thirteen sites
- 8m from centreline around curve/drop-offs to be widened or safety barrier installed (original scope called for 9m) – impact at nine curves
- 30m length x 2m width either side of side roads for proposed aprons – no impact

A general assessment of four potential stack sites was undertaken, with no impact at any site. These have since been excluded from the scope of works.

Several vegetation associations were present across the 35.5km site. Calculating overall impact for numerous curve, culvert and shoulder sealing impact sites over a wide range of associations presented challenges. In accordance with the NVC Bushland Assessment Manual, multiple sites were aggregated within similar vegetation types in order to simplify the resulting information for both the proponent and the Native Vegetation clearance assessment process.

The vegetation condition, extent and density varied across the linear sites; it was not practical to stop/start each time this occurred, and so the width of impact is averaged across the sites to take account of this, and of side roads, property accesses etc. In addition, while the scope requested assessment of impact for up to 6m from the centreline

(CL) on straight sections, and 8m on curves, this does not mean that the amount included in this assessment will be ultimately impacted, but it is considered the worst case scenario. Impacts are mainly to root zones. The assessment did not include the Maintenance Activity Zone (MAZ).

The following table identifies impact across the sites.

SITE #	MM'S	SIDE OF ROAD	IMPACT AREA M ²	VEG ASSN
Shoulder sealing				
1	5.35 – 5.75	RHS	440	VA3
2	5.5 – 5.7	LHS	150	VA3
3	6.2 -6.3	LHS	50	VA1
4	6.3 -6.65, 6.8 – 7.2	RHS	450	VA1
5	6.7 -7.2	LHS	300	VA1
6	7.4 – 7.55	LHS	300	VA2
7	7.4 – 7.55	RHS	100	VA2
8	7.55 – 7.8	LHS	100	VA3
9	7.55 – 7.8	RHS	0	VA3
10	8.0 – 8.9	LHS	675	VA4
11	8.0 – 8.9	RHS	350	VA4
12	10.15 – 10.22	LHS	350	VA3
13	10.89 – 10.95	LHS	0	VA3
14	11.25 – 11.26	RHS	0	VA1
15	11.35 – 11.65	RHS	150	VA3
16	11.5 – 11.7	LHS	50	VA3
17	11.35 – 12.80	LHS	0	VA3
18	12.4 – 12.7	RHS	150	VA3
19	13.2 – 13.9	RHS	175	VA3
20	13.25 – 13.3	LHS	0	VA3
21	14.3 – 14.9	RHS	150	VA3
22	15.9 – 16.55	RHS	250	VA4
23	16.8 – 19.8	LHS	100	VA4
24	16.8 – 19.9	RHS	50	VA3
25	20.05 – 20.3	LHS	75	VA3
26	20.05 – 20.3	RHS	75	VA3
27	20.755 – 20.8	RHS	0	VA3
28	21.05 – 22.0	LHS	550	VA3
29	21.05 – 22.0	RHS	550	VA3
30	22.15 – 23.45	LHS	100	VA3
31	22.15 – 23.45	RHS	100	VA3
32	23.7 – 28.0	LHS	100	VA3
33	23.7 – 28.0	RHS	100	VA3
34	29.3 – 32.1	LHS	700	VA3
35	29.3 – 32.0	RHS	700	VA3
36	32.1 – 33.0	LHS	225	VA3
37	32.3 – 33.0	RHS	400	VA3
38	33.2 – 34.2	LHS	175	VA3
39	33.2 – 34.2	RHS	175	VA3
TOTAL SHOULDER SEALING IMPACT			8365 m ²	

SITE #	MM's	SIDE OF ROAD	IMPACT AREA M ²	VEG ASSN
Culverts				
A	10.085	RHS	0	N/A
B	25.381	LHS	80	VA3
C	25.381	RHS	100	VA3
D	26.892	LHS	100	VA3
E	26.892	RHS	100	VA3
F	28.805	LHS	20	VA3
G	28.805	RHS	100	VA3
H	30.860	LHS	20	VA3
I	30.860	RHS	100	VA3
J	31.265	LHS	100	VA3
K	31.265	RHS	20	VA3
L	33.680	LHS	10	VA3
M	33.680	RHS	0	N/A
N	34.941	LHS	25	VA3
O	34.941	RHS	5	VA3
TOTAL CULVERT IMPACT			780 m ²	
Curves/drop offs/safety barrier				
1	5.70 – 5.90	RHS	50	VA3
2	6.270 – 6.480	RHS	100	VA1
3	7.00 – 7.330	LHS	450	VA1
4	10.856 – 10.984	RHS	175	VA3
5	11.240 – 11.600	LHS	700	VA1
6	12.050 – 12.270	RHS	50	VA3
7	12.650 – 12.820	LHS	250	VA3
8	32.265 – 32.418	LHS	150	VA3
9	34.208 – 34.445	RHS	250	VA3
TOTAL CURVES/SROP OFFS/SAFETY BARRIER IMPACT			2175 m ²	
Side road aprons				
-	No impact at any side road aprons	-	-	-
Stack sites				
-	No impact at any stack sites	-	-	-

2.5 Approvals required or obtained

Provide details of the following approvals or applications under the follow legislation, where relevant:

- *Native Vegetation Act 1991* – this report is in part fulfillment of the requirements of this Act
- *Planning, Development and Infrastructure Act 2016* – N/A
- *Environment Protection and Biodiversity Conservation Act 1999* (impacts on MNES) – N/A
- *National Parks and Wildlife Act 1972* (e.g. flora collection permit) – N/A
- *Landscapes SA Act 2019* (e.g. water affecting activity permit) – N/A
- *Aboriginal Heritage Act 1988* – N/A

2.6 Native Vegetation Regulation

Regulation 12, Schedule 1; clause 32, Works on behalf of Commissioner of Highways.

3. Method

3.1 Flora assessment

A site assessment was undertaken on 6-7 December 2023 by Jackie Ayre of JS Ayre & Associates. The scope of works was outlined by the client prior to the field survey and informed by research using NatureMaps and Google Earth street view. The survey involved a general assessment of vegetation on the site, including identification of possible habitat for species of conservation significance.

An online search was undertaken for Environment Protection and Biodiversity Conservation (EPBC) Act “Matters of Environmental Significance” and an interrogation of the Atlas of Living Australia (AoLA) and the BDBSA databases was completed as background to the field assessment. Seven threatened plant species were recorded within 5km since 1995. None were found on site nor are likely to be present.

3.2 Fauna assessment

A review of databases including the EPBC Act “Matters of Environmental Significance”, AoLA and BDBSA was undertaken prior to the site visit to establish fauna species known, or considered likely, to occur at the site. All observations, calls and evidence of presence were recorded as field notes. Bird species were recorded when heard calling, or when observed within, adjacent to, or flying over the site. Evidence of fauna species presence was searched for and recorded when observed. If hollows were found, closer inspection with binoculars was undertaken.

Three listed species were recorded within the search criteria, but none were observed during the survey.

See Part 4.2 and Appendix 1 for further details.


4. Assessment Outcomes


4.1 Vegetation Assessment


General description of the vegetation, the site and matters of significance


- *Landform, geography and soils*
Described as rises and plains with mainly calcareous soils in the northeast transitioning to loamy texture contrast or gradational soils in the southwest. These soils are formed on calcrete, soft rubbly calcareous sediments and unconsolidated sediments/deeply weathered rock.
- *Landform feature of significance (rivers, creeks, rocky outcrops, etc.)*
There are no streams featured within the project site, nor other significant landscape features.
- *General overview of the vegetation under application as a whole*
The site contains remnants of Eucalyptus Woodland and Mallee; and Callitris Woodland associations . Five vegetation associations were noted See Scoresheets for details.
- *General description of the vegetation relating to type and condition*
The vegetation across all associations ranges from fair to good condition, depending on (largely) the distance from the road edge and nature of adjacent land. All were disturbed by weed infiltration, including Bridal Creeper, Aleppo Pine and the odd Boxthorn.
- *Description of the landscape context for the vegetation*
The vegetation is largely confined to road reserves across the landscape, with historic clearance being significant and only a few small to medium sized patches persisting outside of road reserves. There are no NPWS reserves or Heritage Agreements within 5 km.

Details of the vegetation associations proposed to be impacted

Vegetation Association	Vegetation Association 1; <i>Eucalyptus porosa</i> +/- <i>E. brachycalyx</i> , <i>E. socialis</i> Woodland.				
					
Photo 1. Looking south between MM 6.7 – 7.2, LHS					
General description	Dominance is shared by <i>E. porosa</i> and mallee species including (more or less equally) <i>E. brachycalyx</i> , <i>E. leptophylla</i> , <i>E. gracilis</i> and <i>E. socialis</i> . Patch condition varied across multiple sites - the photograph shows one of the better condition sites adjacent a small patch of remnant vegetation on private property. Weeds were present in varying densities.				
Threatened species or community	No threatened flora or fauna species were noted on site. No listed communities were recorded.				
Landscape context score	1.14	Vegetation Condition Score	43.20	Conservation significance score	1.10
Unit biodiversity Score	54.17	Area (ha)	0.205	Total biodiversity Score	11.11

Vegetation Association	Vegetation Association 2; <i>Eucalyptus porosa</i> +/- <i>E. brachycalyx</i> , <i>E. socialis</i> Woodland.				
					
Photo 2. Looking west between MM 7.4 – 7.55 both sides					
General description	<i>Callitris gracilis</i> dominates this small patch of woodland, with mallee Eucalypts emerging before the association reverts to a Mallee Woodland/Mallee community. Patch condition was fair, with more species diversity in the adjacent patch on private property. Environmental weeds were present.				
Threatened species or community	No threatened flora or fauna species were noted on site. No listed communities were recorded.				
Landscape context score	1.16	Vegetation Condition Score	28.03	Conservation significance score	1.10
Unit biodiversity Score	35.77	Area (ha)	0.040	Total biodiversity Score	1.43

Vegetation Association	Vegetation Association 3; <i>Eucalyptus brachycalyx</i> , <i>E. leptophylla</i> , <i>E. gracilis</i> , <i>E. socialis</i> , <i>E. phenax</i> mallee woodland.				
					
Photo 3. Looking south between MM 22.1- 23.45 LHS with a mostly sclerophyll shrub understorey					
General description	<p>This association was the most common across the site. It straddles the Boor Plain and Arthurton IBRA associations thus is presented in two scoresheets.</p> <p>Given the distance covered by this association, the following mallee eucalypts occur with varying dominance: <i>E. brachycalyx</i>, <i>E. leptophylla</i>, <i>E. gracilis</i>, <i>E. socialis</i>, <i>E. phenax</i>. Understorey included both sclerophyll shrub species and chenopods, often one type was more dominant than other. Small occurrences of suckering <i>Eremophila longifolia</i> were aggregated into this association as they were too small to constitute a separate association. Patch condition varied across multiple sites. Weeds were present in varying densities including Bridal Creeper and Boxthorn (few).</p>				
Threatened species or community	No threatened flora or fauna species were noted on site. No listed communities were recorded.				
Boor Plain IBRA Assn					
Landscape context score	1.17	Vegetation Condition Score	38.43	Conservation significance score	1.10
Unit biodiversity Score	49.45	Area (ha)	0.2440	Total biodiversity Score	12.07
Arthurton IBRA Assn					
Landscape context score	1.15	Vegetation Condition Score	43.43	Conservation significance score	1.10
Unit biodiversity Score	54.94	Area (ha)	0.5055	Total biodiversity Score	27.77

Vegetation Association	Vegetation Association 4; <i>Eucalyptus brachycalyx</i> , <i>E. leptophylla</i> , <i>E. oleosa</i> Mallee over chenopods.				
					
Photo 4. Looking south between MM 15.9-16.55, RHS, showing chenopod understorey					
General description	<i>E. brachycalyx</i> is dominant with <i>E. leptophylla</i> , <i>E. oleosa</i> and <i>E. socialis</i> also occurring. Patch condition varied across multiple sites. Weeds were present in varying densities.				
Threatened species or community	No threatened flora or fauna species were noted on site. No listed communities were recorded.				
Landscape context score	1.13	Vegetation Condition Score	43.20	Conservation significance score	1.10
Unit biodiversity Score	53.70	Area (ha)	0.1375	Total biodiversity Score	7.38

Site maps showing areas of proposed impact – culverts and curves

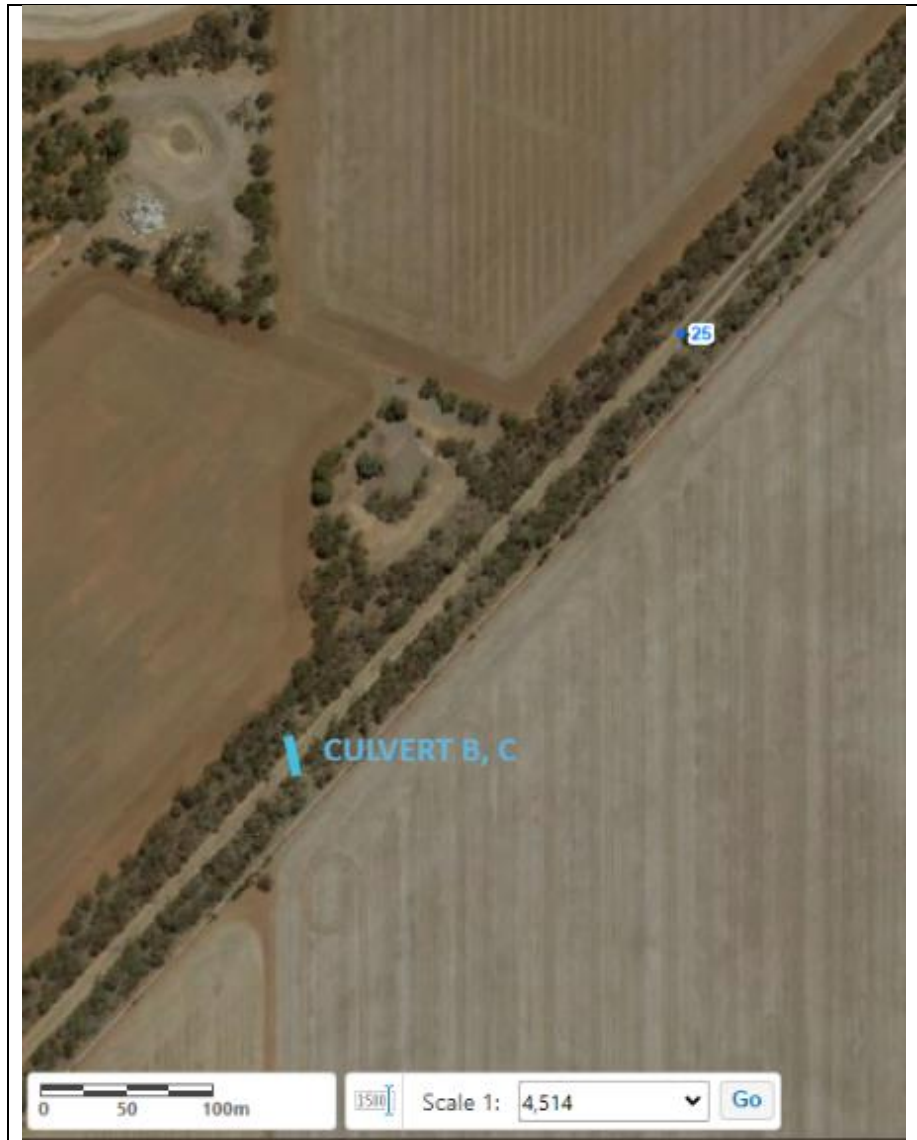


Figure 3 Culvert extension sites B, C



Figure 4 Culvert extension sites D, E



Figure 5 Culvert extension sites F, G



Figure 6 Culvert extension sites H, I and J, K



Figure 7 Culvert extension sites L, M (no impact at M)



Figure 8 Culvert extension sites N, O



Figure 9 Curve/drop-off 1 and 2

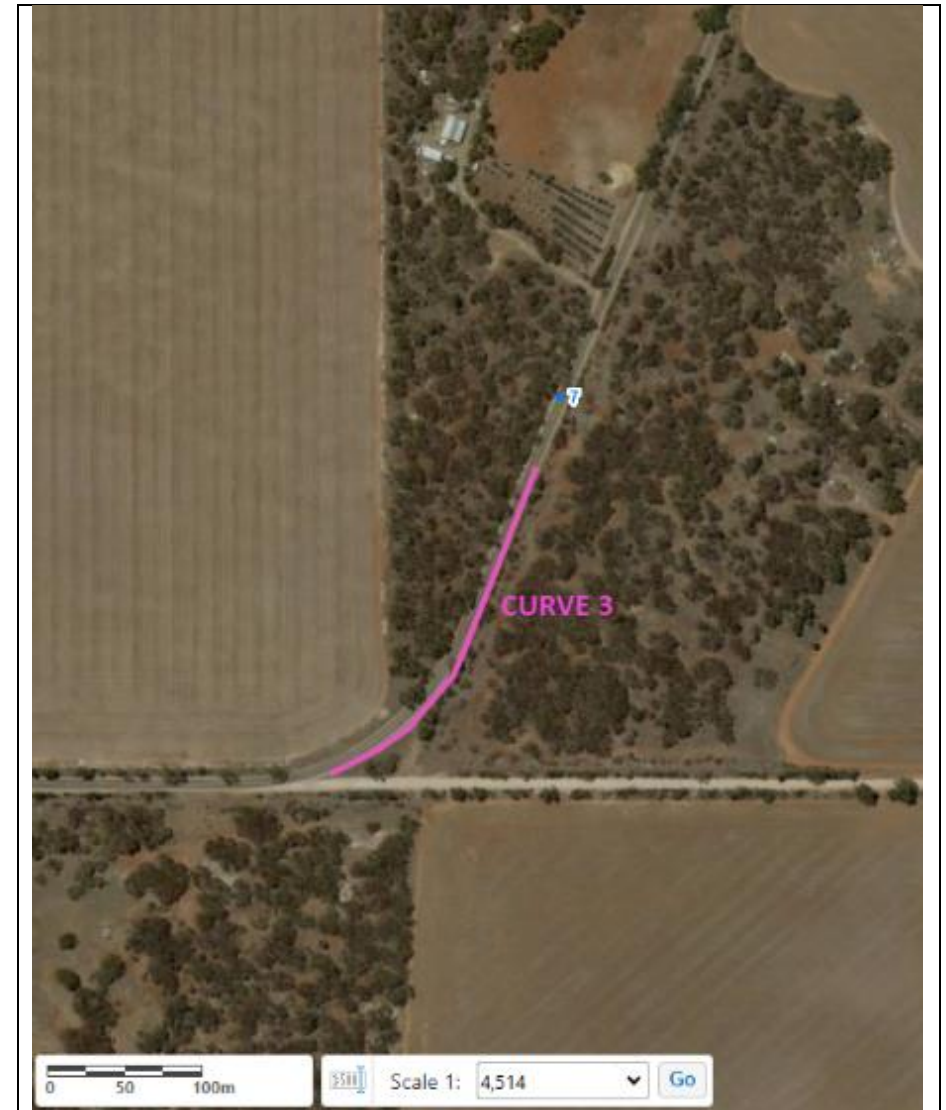


Figure 10 Curve/drop-off 3



Figure 11 Curve/drop-off 4 and 5

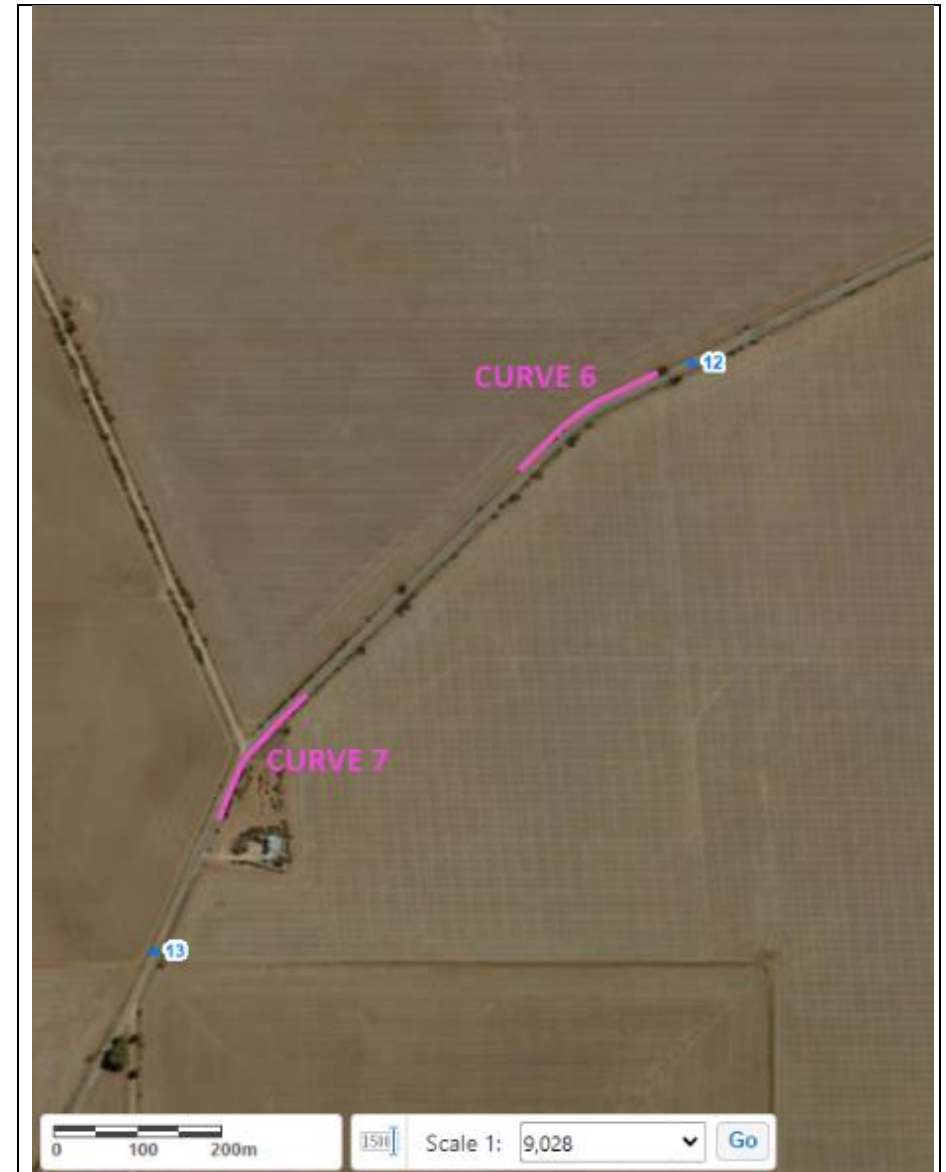


Figure 12 Curve/drop-off 6 and 7



Figure 13 Curve/drop-off 8 and 9

Site maps showing areas of proposed impact - shoulder sealing



Figure 14 Shoulder sealing sites 1 and 2



Figure 15 Shoulder sealing site 3



Figure 16 Shoulder sealing sites 4 and 5



Figure 17 Shoulder sealing sites 6, 7, 8 and 9 (no impact at 9)

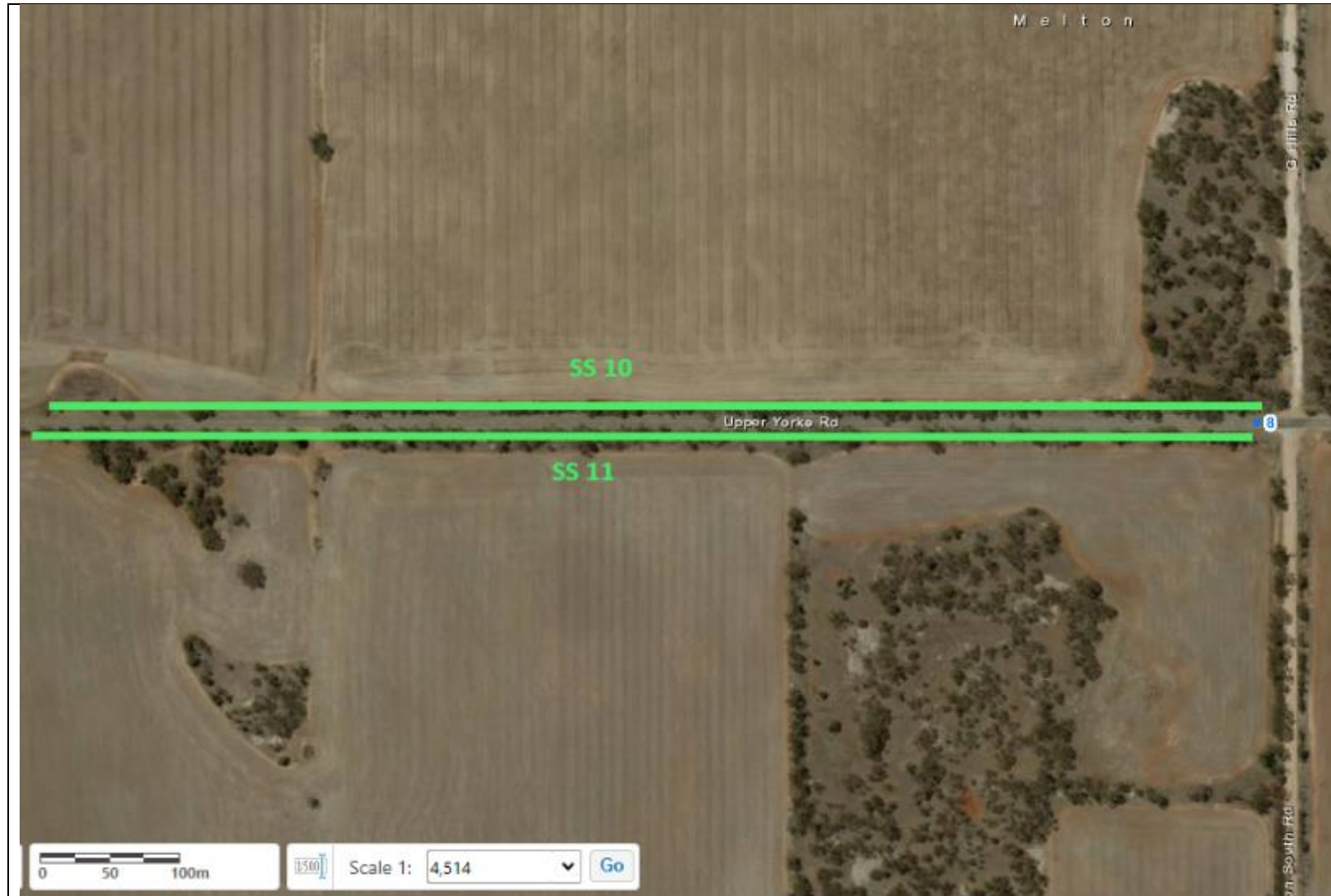


Figure 18 Shoulder sealing sites 10 and 11



Figure 19 Shoulder sealing site 12

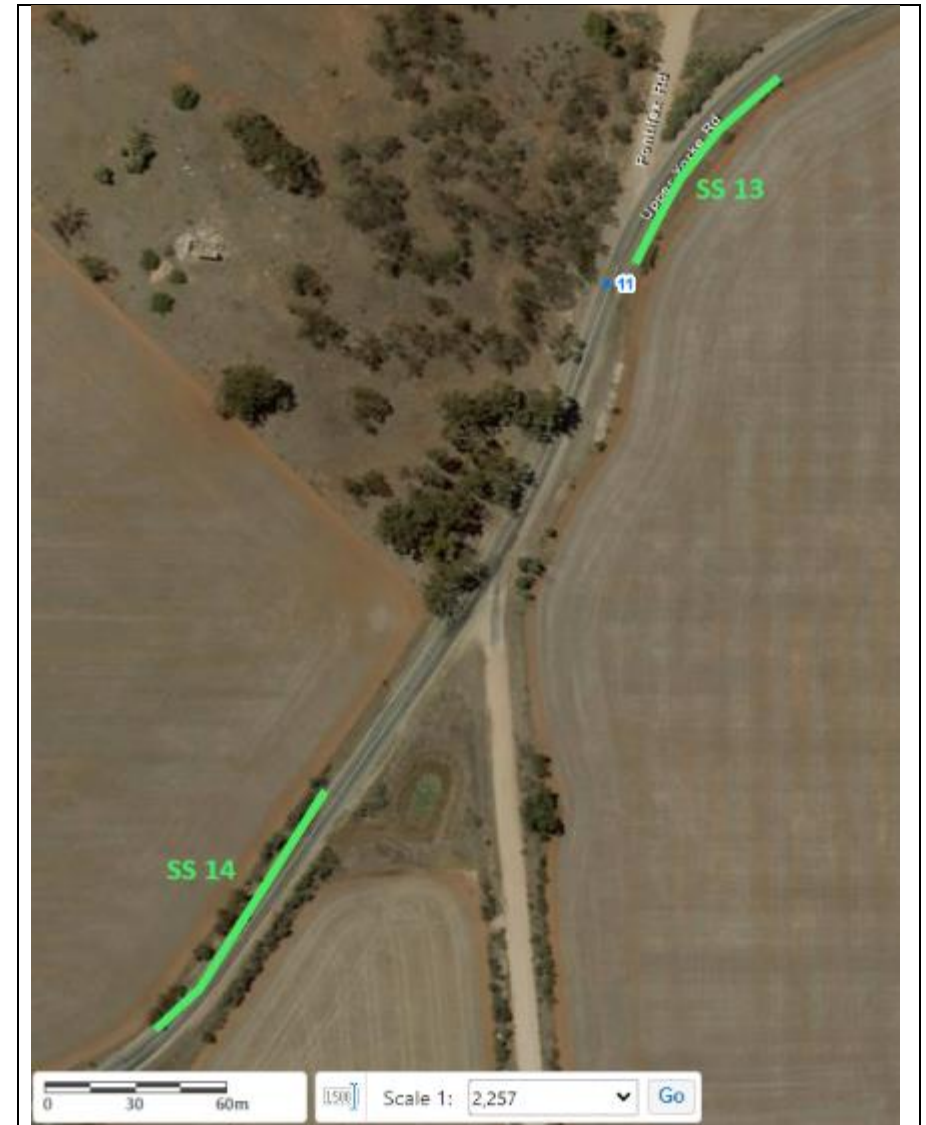


Figure 20 Shoulder sealing sites 13 and 14 (no impact at these sites)



Figure 21 Shoulder sealing sites 15 and 16



Figure 22 Shoulder sealing sites 17 (no impact) and 18



Figure 23 Shoulder sealing sites 19 and 20



Figure 24 Shoulder sealing site 21



Figure 25 Shoulder sealing site 22



Figure 26 Shoulder sealing sites 23 and 24

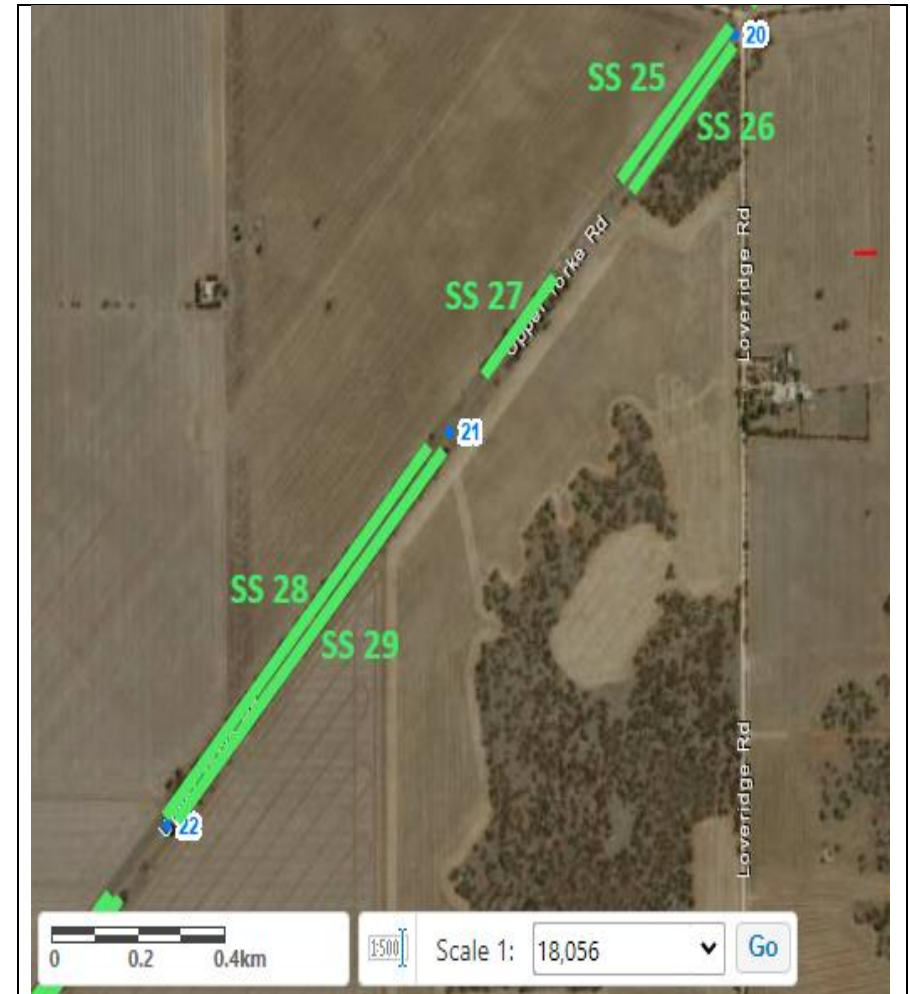


Figure 27 Shoulder sealing sites 25, 26, 27 (no impact), 28 and 29



Figure 28 Shoulder sealing sites 30 and 31



Figure 29 Shoulder sealing sites 32 and 33



Figure 30 Shoulder sealing sites 34 and 35



Figure 31 Shoulder sealing sites 36, 37, 38 and 39

4.2 Threatened Species assessment

Flora

The searches identified 7 threatened flora species within the search criteria. None were observed on site on site nor are likely to occur given the given the lack of diversity across the area of impact.

Fauna

Database searches identified 3 threatened species recorded within 5km of the proposed impact site since 1995 (excluding pelagic, marine or aquatic dependent species). The total includes (EPBC Act) VU – 1; EN – 2. See Appendix 1 for the full list of threatened species recorded.

The likelihood of the listed fauna finding habitat at the site is as follows:

Likelihood of Occurrence	No. of Species
Highly likely/known	0
Likely	1
Possible	1
Unlikely	1

Species observed on site, or recorded within 5km of the application area since 1995, or the vegetation is considered to provide suitable habitat

Species (common name)	NP&W Act	EPBC Act	Data source	Date of last record	Species known habitat preferences	Likelihood of use for habitat – Comments
<i>Falco hypoleucos</i> Grey Falcon	-	VU	5	-	Shrubland, grassland and wooded watercourses	Possible. No watercourses in the vicinity but suitable hunting habitat available. No records on Naturemaps in the vicinity of the site but listed in the PMST search tool
<i>Melanodryas cucullata cucullata</i> SE Hooded Robin	EN		5	-	Prefers open eucalypt woodlands, acacia scrub and mallee, with tall native grasses, often near clearings or open areas	Likely – suitable habitat exists on and around the site
<i>Tiliqua adelaidensis</i> Pygmy Blue-tongue	EN		5	-	Found in a variety of habitats, from highly degraded grasslands dominated by exotics to grasslands with high biodiversity. Vegetation cover ranges from moderate to sparse or light	Unlikely - nearest record is over 9km from the site in 2004
Source; 1- BDBSA, 2 - AoLA, 3 – NatureMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others NP&W Act; E= Endangered, V = Vulnerable, R= Rare EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable						

Criteria for the likelihood of occurrence of species within the Study 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 provide 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 provide 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.

4.3 Cumulative impact

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.

The cumulative impacts must consider all the clearance that is likely to result from the application, including the following;

- *clearance directly required for the development (e.g. access, building footprints, associated infrastructure – power and water, etc.):* all associated clearance including shoulder sealing, curve/drop-off widening or guard rail, culvert extension and side road apron impact, plus the CAZ has been included in the impact tally. The MAZ is not included in the impact assessment.
- *subsequent clearance that will be permitted or required (e.g. 10m around a building, 20m around a dwelling, clearance for fire protection):* not applicable in this case, no buildings or fences are proposed.
- *indirect clearance that may occur as a result of the development (e.g. dust generation smoothing vegetation, altered hydrology inundating or drying vegetation, impacting on tree root zones (the application of fill) impacting on tree health):* all associated and indirect impacts have been included in the tally.
- *future stages or associated components of a development (noting, the clearance for future stages of a development does not need to be assessed as part of this application, only discussed to provide the NVC with the full context of the proposed clearance):* There are no future stages proposed, however another upgrade on the Upper Yorke Road north of this site (Bute to Port Broughton) has been assessed separately.

4.4 Address 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 NP&W Act.

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

- There are no options to relocate the project. The project scope has been reviewed in light of the impact. Stack site locations have been removed from the scope, and a review of the required distance from CL for shoulder sealing and curves has resulted in a reduction of impacts from 2.1565ha to 1.132ha.

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).

A review of the scale of works has significantly reduced impacts and these have been incorporated into this data report.

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.

Rehabilitation is not feasible at the site – the offset payment will be made to compensate for the loss of biodiversity.

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 full SEB offset required will be met via payment into the NV fund.

4.5 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*.

Principle of clearance	Relevant information	Assessment against the principles	Moderating factors that may be considered by the NVC
Principle 1b - significance as a habitat for wildlife	No threatened species were noted, and one (Hooded Robin) is considered likely to find suitable habitat amongst the vegetation assessed. Patches; Threatened Fauna Score – 0.1 (all VA's) UBS (total) 248.03 TBS (total) 59.76	<u>Seriously at Variance</u> all Vegetation Associations <u>At Variance</u> – N/A	Impact Significance – impact is confined to the narrow strip of vegetation on the edge of remnant patches and is mostly to root systems. The works is unlikely to negatively affect the long term viability of threatened species populations.
Principle 1c - plants of a rare, vulnerable or endangered species	No listed flora were observed – there is potential for more cryptic plant species to be present in the better patches and in spring, but if present are unlikely to be impacted by the narrow band of works on the edge of the road shoulder.	<u>Seriously at Variance</u> N/A <u>At Variance</u> – N/A	Impact significance - the project is unlikely to impact the threatened species, individuals of which are located outside the works footprint.

	Threatened Flora Score(s) All VA's - 0		
Principle 1d - vegetation of a that is Rare, Vulnerable or Endangered plant community	No threatened communities under the EPBC Act or threatened ecosystems under the DEW Provisional list of threatened ecosystems were observed on site. Threatened Community Score 1 (all)	<u>Seriously at Variance</u> N/A	

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	N/A
	Area (ha)	1.1320
	Total biodiversity Score	59.76
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

5. Clearance summary

Clearance Area(s) Summary table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
VA1	Aggr.	21	1	0	0.1	54.17	0.205	11.11	1			11.66	6,787.40	373.31
VA2	Aggr.	12	1	0	0.1	35.77	0.040	1.43	1			1.50	838.55	46.12
VA3	Aggr.	28	1	0	0.1	49.45	0.244	12.07	1			12.67	7,563.90	416.01
VA3	Aggr.	28	1	0	0.1	54.94	0.5055	27.77	1			29.16	18,106.82	995.88
VA4	Aggr.	21	1	0	0.1	53.70	0.1375	7.38	1			7.75	4,466.31	245.65
						Total	1.132	59.76				62.74	\$37,762.98	\$2,076.97

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	59.76	62.74	\$37,762.98	\$2,076.97	\$39,839.95

Economies of Scale Factor	0.5
Rainfall (mm, averaged)	393

6. Significant Environmental Benefit

A Significant Environmental Benefit (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:

☒ 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 required (including admin. fee) **\$39,839.95**

7. Appendices

Appendix 1. Flora and Fauna Species List

FAMILY NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING	DATE OF LAST RECORD
ASPARAGACEAE	<i>Thysanotus tenellus</i>	Grassy Fringe-lily		R	10-Sep-2004
ASTERACEAE	<i>Olearia pannosa ssp. pannosa</i>	Silver Daisy-bush	VU	V	25-Mar-2009
ASTERACEAE	<i>Podolepis decipiens</i>			R*	16-Dec-2003
ORCHIDACEAE	<i>Caladenia brumalis</i>	Winter Spider-orchid	VU		PMST
ORCHIDACEAE	<i>Caladenia tensa</i>	Greencomb Spider-orchid	EN		PMST
POACEAE	<i>Austrostipa multispiculis</i>	Many-flowered Spear-grass		R	19-Nov-2018
POACEAE	<i>Bothriochloa macra</i>	Red-leg Grass		R	26-Jan-1998

CLASS NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING	DATE OF LAST RECORD
AVES	<i>Falco hypoleucos</i>	Grey Falcon	VU		PMST
AVES	<i>Melanodryas cucullata</i>	SE Hooded Robin	EN		PMST
REPTILIA	<i>Tiliqua adelaidensis</i>	Pygmy Blue-tongue	EN		PMST

Note: the above tables are combined data from BDBSA and EPBC PMST search results. Buffer is 5km.

Listed Threatened Species						[Resource Information]	
Species ID	Scientific Name	Common Name	Class	Simple Presence	Presence Text	Threatened Category	Buffer Status
1270	<i>Tiliqua adelaidensis</i>	Pygmy Blue-tongue	Reptile	Known	Species or species	Endangered	In feature area
67093	<i>Melanodryas cucullata</i>	South-eastern Hooded	Bird	Known	Species or species	Endangered	In feature area
24390	<i>Caladenia tensa</i>	Greencomb Spider-	Plant	Known	Species or species	Endangered	In feature area
12348	<i>Olearia pannosa</i>	Silver Daisy-bush,	Plant	Known	Species or species	Vulnerable	In feature area
929	<i>Falco hypoleucos</i>	Grey Falcon	Bird	Known	Species or species	Vulnerable	In feature area
54993	<i>Caladenia brumalis</i>	Winter Spider-orchid	Plant	Known	Species or species	Vulnerable	In feature area


PMST search results snipped from excel report

Appendix 2. Bushland Scoresheets

Bushland Scoresheet VA1

Vegetation Condition Scores		Conservation Significance Score	
SITE: VA1 SS Sites 3,4,5; Curves 2,3,5 aggregated		Is the vegetation association considered a Threatened Ecological community or Ecosystem?	
VEGETATION ASSOCIATION DESCRIPTION: VA1 E. porosa +/- E. brachycalyx, E. socialis Woodland over shrubs		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
SIZE OF SITE (Ha): 0.205		State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
Native Plant species diversity		State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state)		Nationally (EPBC Act) Vulnerable community (0.35 pts)	
Regeneration		Contains a Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
No regeneration present (0 Points)		Note: all sites will score a minimum Conservation Significance Score of 1	
Very low regeneration, consisting of highly scattered juvenile plants of a limited number of species (3 points)		Threatened Community Score: 1	
Regeneration present, consisting of multiple individual juvenile plants but a limited number of species (8 points)		Number of Threatened Flora Species recorded for the site (within the site)	
Multiple species regenerating, but low numbers of juvenile plants (8 points)		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
Multiple species regenerating with multiple individual juveniles present with varying age classes (12 points)		State Rare species recorded (1 pt each)	
Regeneration Score (Max 12)		State Vulnerable species recorded (2.5 pt each)	
Native Plant species diversity score (max score of 30): 21		State Endangered recorded (5 pts each)	
Weed Scores		Nationally Vulnerable species recorded (10 pts each)	
Does the site contain plant species declared under the NRM Act 2004 (1.5 points)		Nationally Endangered or Critically endangered species recorded (20 pts each)	
Cover rating for all declared weeds (max of 6)		0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	
Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point)		Threatened Flora Score: 0	
Cover rating for all environmental weeds (max of 6)		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	
Weed Score (max score of 15): 11.5		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
Is the community naturally treeless?		State Rare species observed or locally recorded (1 pt each)	
Mature Tree Score (max 8): 4		State Vulnerable species observed or locally recorded (2.5 pt each)	
Fallen timber/debris (max 5): 3		State Endangered species observed or locally recorded (5 pt each)	
Hollow-bearing trees Score (max 5): 2		Nationally Vulnerable species observed or locally recorded (10 pts each)	
Tree Canopy Cover Score (max 5): 3		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	
Native exotic Understorey biomass score (max 5): 4		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.06 pts; 10 - <20 = 0.08 pts; 20 or > = 0.1 pts	
Native Plant life form score (max 20): 12		Threatened Fauna Score: 0.1	
Vegetation Condition Score calculation		CONSERVATION SIGNIFICANCE SCORE: 1.1	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees		Total Scores for the Site	
If the community is naturally treeless this score is multiplied by 1.24		Score	
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score) x 2/2)		LANDSCAPE CONTEXT SCORE: 1.14	
VEGETATION CONDITION SCORE (Positive veg attributes x ((Negative vegetation attributes + 60) / 80))		VEGETATION CONDITION SCORE: 43.20	
48.00		CONSERVATION SIGNIFICANCE SCORE: 1.10	
8.00		Vegetation Condition x Landscape Context x Conservation Significance = UNIT BIODIVERSITY SCORE: 54.17	
43.20		Total Biodiversity Score (Biodiversity Score x hectares): 11.11	
Low Medium High		Photo Point and Vegetation Survey Location	
Native Plant Species Diversity		Direction of the Photo	
Weed Score		South	
Native Plant Life Forms		GPS Reference	
Regeneration		Datum: WGS84	
Native exotic Understorey Biomass		Zone (62, 53 or 54): 54	
Tree Canopy Cover Score		Easting (6 digits): 221171	
Mature Tree Score		Northing (7 digits): 6223860	
Tree Hollows		Description	
Fallen timber		E. porosa woodland over shrubs and chenopods	
Vegetation Condition Score		Assessment for Clearance	
		Approximate hectares required: 1.46	
		Loss Factor: 1.0	
		Economies of Scale factor: 0.50	
		Loadings for clearance of protected areas	
		Mean Annual rainfall for the site (mm): 390	
		Reductions for rehabilitation of impact site	
		Payment into the fund (GST Exclusive): \$6,787.40	
		SEB Points required: 11.66	
		Administration fee (GST Inclusive): \$373.31	

Bushland Scoresheet VA2

Vegetation Condition Scores		Conservation Significance Score	
SITE: VA 2 YP3.3 Aggregated SS sites 6, 7		Is the vegetation association considered a Threatened Ecological community or Ecosystem?	
VEGETATION ASSOCIATION DESCRIPTION: VA2 Callitris gracilis Woodland		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
SIZE OF SITE (Ha): 0.04		State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
		State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
		Nationally (EPBC Act) Vulnerable community (0.35 pts)	
		Contains a Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
Native Plant species diversity		Note: all sites will score a minimum Conservation Significance Score of 1	
Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state)		Threatened Community Score	
<input type="checkbox"/> <5% (3 Points) <input type="checkbox"/> 5-10% (8 Points) <input type="checkbox"/> 11 - 20% (9 Points) <input checked="" type="checkbox"/> 21 - 30% (12 Points) <input type="checkbox"/> 31 - 40 % (15 Points) <input type="checkbox"/> 41 - 50% (18 Points) <input type="checkbox"/> 51 - 60% (21 Points) <input type="checkbox"/> 61 - 70% (24 Points) <input type="checkbox"/> 71 - 80% (27 Points) <input type="checkbox"/> >80% (30 Points)		Number of Threatened Flora Species recorded for the site (within the site)	
Native Plant species diversity score (max score of 30)		Number	
12		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
		State Rare species recorded (1 pt each)	
		State Vulnerable species recorded (2.5 pt each)	
		State Endangered species recorded (5 pts each)	
		Nationally Vulnerable species recorded (10 pts each)	
		Nationally Endangered or Critically endangered species recorded (20 pts each)	
		0 = 0 pts; <2 = 0.04 pts; 2 = <5 = 0.08 pts; 5 = <10 = 0.12 pts; 10 = <20 = 0.16pts; 20 or > = 0.2 pts	
		Threatened Flora Score	
		0	
Weed Scores		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	
Does the site contain plant species declared under the NRM Act 2004 (1.5 points)		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
Cover rating for all declared weeds (max of 6)		State Rare species observed or locally recorded (1 pt each)	
Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point)		State Vulnerable species observed or locally recorded (2.5 pt each)	
Cover rating for all environmental weeds (max of 6)		State Endangered species observed or locally recorded (5 pt each)	
3		Nationally Vulnerable species observed or locally recorded (10 pts each)	
Weed Score (max score of 15)		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	
12		0 = 0 pts; <2 = 0.02 pts; 2 = <5 = 0.04 pts; 5 = <10 = 0.06 pts; 10 = <20 = 0.08pts; 20 or > = 0.1 pts	
Is the community naturally treeless?		Threatened Fauna Score	
No		0.1	
Mature Tree Score (max 8)		CONSERVATION SIGNIFICANCE SCORE	
2		1.1	
Fallen timber/debris (max 5)		Total Scores for the Site	
0.5		Score	
Hollow-bearing trees Score (max 5)		LANDSCAPE CONTEXT SCORE	
0		1.16	
Tree Canopy Cover Score (max 5)		VEGETATION CONDITION SCORE	
3		28.03	
		CONSERVATION SIGNIFICANCE SCORE	
		1.10	
Native:exotic Understorey biomass score (max 5)		Vegetation Condition x Landscape Context x Conservation Significance =	
3		UNIT BIODIVERSITY SCORE	
		35.77	
		Total Biodiversity Score	
		(Biodiversity Score x hectares)	
		1.43	
Vegetation Condition Score calculation		Photo Point and Vegetation Survey Location	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees		Direction of the Photo	
If the community is naturally treeless this score is multiplied by 1.24		West	
32.50		GPS Reference	
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)		Datum WGS84	
11.00		Zone (52, 53 or 54) 54	
VEGETATION CONDITION SCORE (Positive veg attributes x (Negative vegetation attributes + 60) / 80)		Easting (8 digits) 220811	
28.03		Northing (7 digits) 6223393	
		Description	
		C. gracilis woodland over sparse shrubs	
<div> <div>Low</div> <div>Medium</div> <div>High</div> </div> <div> <div>Native Plant Species Diversity</div> <div>Weed Score</div> <div>Native Plant Life Forms</div> <div>Regeneration</div> <div>Native:exotic Understorey Biomass</div> <div>Tree Canopy Cover Score</div> <div>Mature Tree Score</div> <div>Tree Hollows</div> <div>Fallen timber</div> <div>Vegetation Condition Score</div> </div>			
		Assessment for Clearance	
		Approximate hectares required	
		0.19	
		Economies of Scale factor	
		0.50	
		Loadings for clearance of protected areas	
		374	
		Reductions for rehabilitation of impact site	
		\$838.55	
		SEB Points required	
		1.50	
		Administration fee (GST Inclusive)	
		\$46.12	

Bushland Scoresheet VA3 Boor Plain IBRA

Vegetation Condition Scores				Conservation Significance Score	
SITE:		VA 3 Aggregated shldr seal, curve and culvert sites		Is the vegetation association considered a Threatened Ecological community or Ecosystem?	
BCM COMMUNITY		YP 4 Mallee with a Sclerophyll Shrub Understorey with Broombush and/or Mallee Honey myrtle		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)	
VEGETATION ASSOCIATION DESCRIPTION		Eucalyptus leptophylla/E. socialis Mallee Woodland over shrubs		State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)	
SIZE OF SITE (Ha)		0.244		State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)	
				Nationally (EPBC Act) Vulnerable community (0.35 pts)	
				Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)	
Benchmarked attributes (Scores determined by comparing to a Benchmark community)		Native Plant Life Forms		Note: all sites will score a minimum Conservation Significance Score of 1	
		Cover rating		Threatened Community Score	
Number of Native Species (Minus herbaceous annuals for spring Sunneys)		Trees > 15m		Number of Threatened Flora Species recorded for the site (within the site)	
54		Trees 5 - 15 m		Number	
Native Plant Species Diversity Score (max 30) from benchmark score weighted by a factor of 2		Trees < 5m		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
28.0		Mallee > 5m		State Rare species recorded (1 pt each)	
		Mallee < 5m		State Vulnerable species recorded (2.5 pt each)	
Number of regenerating native species		Shrubs > 2m		State Endangered recorded (5 pts each)	
6		Shrubs 0.5 - 2m		Nationally Vulnerable species recorded (10 pts each)	
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5		Shrubs < 0.5		Nationally Endangered or Critically endangered species recorded (20 pts each)	
7.5		Forbs		0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts	
		Mat Plants		Threatened Flora Score	
Weed species (Top 5 Cover x Invasiveness)		Grasses > 0.2m			
Cover (max 6)	Weed Threat Rating (max 5)	Grasses < 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)	
2	5	Sedges > 1m		Number	
Asparagus asparagoides forma	1	Sedges < 1m		If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.	
Lycium ferocissimum	4	Vines, scramblers		State Rare species observed or locally recorded (1 pt each)	
Marrubium vulgare	3	Mistletoe		State Vulnerable species observed or locally recorded (2.5 pt each)	
Pinus halepensis	3	Ferns		State Endangered species observed or locally recorded (5 pt each)	
Acacia saligna	3	Grass-tree		Nationally Vulnerable species observed or locally recorded (10 pts each)	
Cover x Threat	23	Total		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)	
Weed Score (max 15) from benchmark community	1	14		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.08 pts; 10 - <20 = 0.12 pts; 20 or > = 0.16 pts	
		12.0		Threatened Fauna Score	
Native Plant Life Forms (max 20) from benchmark score weighted by a factor of 2				0.1	
				CONSERVATION SIGNIFICANCE SCORE	
				1.1	
Non-Benchmarked Attributes (Scores determined from direct field observations)		Is the community naturally treeless?		Total Scores for the Site	
Native exotic Understorey biomass Score (max 5)		3		Score	
		Fallen Timber/Debris (max 5)		LANDSCAPE CONTEXT SCORE	
		1.5		1.17	
		Hollow-bearing trees Score (max 5)		VEGETATION CONDITION SCORE	
		2		38.43	
		Mature Tree Score (max 8)		CONSERVATION SIGNIFICANCE SCORE	
		2		1.10	
		Tree Canopy Cover Score (max 5)		Vegetation Condition x Landscape Context x Conservation Significance = UNIT BIODIVERSITY SCORE	
		3		49.45	
				Total Biodiversity Score (Biodiversity Score x hectares)	
				12.07	
Vegetation Condition Score calculation				Photo Point and Vegetation Survey Location	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms				Direction of the Photo	
Fallen timber/debris + Hollow-bearing trees				South	
- If the community Score is Not Benchmarkd (SNB) for regeneration this score is multiplied 1.24				GPS Reference	
53.00				Datum WGS84	
- If the community is naturally treeless this score is multiplied by 1.29				Zone (52, 53 or 54)	
22.00				Easting (6 digits)	
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2)				Northing (7 digits)	
22.00				6214044	
VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80))				Description	
38.43				Mallee over sclerophyll shrubs	
				What is the purpose of Assessment?	
				Clearance	
				SEB Area	
				Other	
				Assessment for Clearance	
				Approximate hectares required	
				1.58	
				Loss Factor	
				1.0	
				Economies of Scale Factor	
				0.5	
				Loadings for clearance of protected areas	
				Mean Annual rainfall for the site (mm)	
				400	
				Reductions for rehabilitation of impact site	
				Payment into the fund (GST Exclusive)	
				\$7,563.90	
				SEB Points required	
				12.67	
				Administration fee (GST Inclusive)	
				\$416.01	


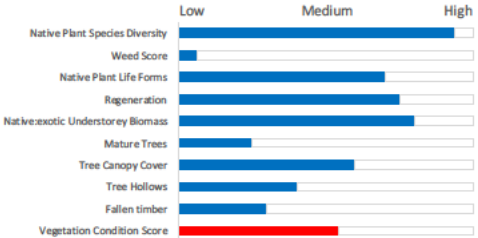
Bushland Scoresheet VA3 Arthurton IBRA

Vegetation Condition Scores


Conservation Significance Score

SITE:		VA3 Aggregated SS sites 28-30, all culverts and curves 8.9		Is the vegetation association considered a Threatened Ecological community or Ecosystem?		Yes/No
BCM COMMUNITY		YP 4 Mallee with a Sclerophyll Shrub Understorey with Broombush and/or Mallee Honey myrtle		State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt)		<input type="checkbox"/>
VEGETATION ASSOCIATION DESCRIPTION		Eucalyptus leptophylla/ E. socialis Mallee Woodland over shrubs		State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts)		<input type="checkbox"/>
SIZE OF SITE (Ha)		0.8065		State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts)		<input type="checkbox"/>
				Nationally (EPBC Act) Vulnerable community (0.35 pts)		<input type="checkbox"/>
				Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts)		<input type="checkbox"/>
Benchmarked attributes (Scores determined by comparing to a Benchmark community)		Native Plant Life Forms		Note: all sites will score a minimum Conservation Significance Score of 1		Threatened Community Score
Number of Native Species (Minus herbaceous annuals for spring Sunneys)		Tress > 15m		Number of Threatened Flora Species recorded for the site (within the site)		Number
Native Plant Species Diversity Score (max 30) from benchmark score weighted by a factor of 2		Tress 5 - 15 m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
28.0		Tress < 5m		State Rare species recorded (1 pt each)		0
		Mallee > 5m		State Vulnerable species recorded (2.5 pt each)		0
		Mallee < 5m		State Endangered recorded (5 pts each)		0
Number of regenerating native species		Shrubs > 2m		Nationally Vulnerable species recorded (10 pts each)		0
Regeneration Score (max 12) from benchmark community weighted by a factor of 1.5		Shrubs 0.5 - 2m		Nationally Endangered or Critically endangered species recorded (20 pts each)		0
9		Shrubs < 0.5		0 = 0 pts; <2 = 0.04 pts; 2 - <5 = 0.08 pts; 5 - <10 = 0.12 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts		0
		Forbs		Threatened Flora Score		0
		Mat Plants				
Weed species (Top 5 Cover x Invasiveness)		Grasses > 0.2m		Potential habitat for Threatened Fauna Species (number observed or previously recorded)		Number
Cover (max 6) Weed Threat Rating (max 5) C x I		Grasses < 0.2m		*If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating.		
Asparagus asparagoides forma		Sedges > 1m		State Rare species observed or locally recorded (1 pt each)		0
1 5 5		Sedges < 1m		State Vulnerable species observed or locally recorded (2.5 pt each)		0
Lycium ferocissimum		Hummock grasses		State Endangered species observed or locally recorded (5 pt each)		0
1 4 4		Vines, scramblers		Nationally Vulnerable species observed or locally recorded (10 pts each)		1
Pinus halepensis		Mistletoe		Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each)		2
2 3 6		Ferns		0 = 0 pts; <2 = 0.02 pts; 2 - <5 = 0.04 pts; 5 - <10 = 0.08 pts; 10 - <20 = 0.16 pts; 20 or > = 0.2 pts		50
Acacia saligna		Grass-tree		Threatened Fauna Score		0.1
1 3 3		Total				
Asteriscus spinosus		17				
Cover x Threat		14.0		CONSERVATION SIGNIFICANCE SCORE		1.1
Weed Score (max 15) from benchmark community		1				
Native Plant Life Forms (max 20) from benchmark score weighted by a factor of 2		14.0				

Non-Benchmarked Attributes (Scores determined from direct field observations)		Is the community naturally treeless?		Total Scores for the Site		Vegetation Condition x Landscape Context x Conservation Significance = UNIT BIODIVERSITY SCORE	
Native:exotic Understorey biomass Score (max 5)		4		Score		54.94	
				LANDSCAPE CONTEXT SCORE		27.77	
				VEGETATION CONDITION SCORE			
				CONSERVATION SIGNIFICANCE SCORE			

Vegetation Condition Score calculation		Photo Point and Vegetation Survey Location		Direction of the Photo	
Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms				Northing (7 digits)	
Fallen timber/debris + Hollow-bearing trees				GPS Reference	
- If the community Score is Not Benchmarkd (SNB) for regeneration this score is multiplied 1.24				Datum WGS84	
- If the community is naturally treeless this score is multiplied by 1.29				Zone (52, 53 or 54) 54	
Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)/2)				Easting (6 digits) 212625	
56.50				Northing (7 digits) 6217575	
VEGETATION CONDITION SCORE (Positive veg attributes x ((80 - Negative vegetation attributes) / 80))				Description	
43.43				Mallee Woodland over sclerophyllous shrubs	
		What is the purpose of Assessment?		<input type="button" value="Clearance"/> <input type="button" value="SEB Area"/> <input type="button" value="Other"/>	
		Assessment for Clearance		Approximate hectares required	
		Loss Factor		3.65	
		Loadings for clearance of protected areas		Economies of Scale Factor	
		Reductions for rehabilitation of impact site		0.5	
		SEB Points required		Mean Annual rainfall for the site (mm)	
		29.16		416	
				Payment into the fund (GST Exclusive)	
				\$18,106.82	
				Administration fee (GST Inclusive)	
				\$995.88	

Bushland Scoresheet VA4

Vegetation Condition Scores		Conservation Significance Score																																													
SITE: VA4 YP5 Aggregated shoulder seal sites 10, 11, 22, 23 VEGETATION ASSOCIATION DESCRIPTION: E. gracilis/E. oleosa/E. leptophylla Mallee with chenopod understorey SIZE OF SITE (Ha): 0.1375		Is the vegetation association considered a Threatened Ecological community or Ecosystem? Yes/No State (Provisional List of Threatened Ecosystems of SA) Rare community (0.1 pt) <input type="checkbox"/> State (Provisional List of Threatened Ecosystems of SA) Vulnerable community (0.2 pts) <input type="checkbox"/> State (Provisional List of Threatened Ecosystems of SA) Endangered community (0.3 pts) <input type="checkbox"/> Nationally (EPBC Act) Vulnerable community (0.35 pts) <input type="checkbox"/> Contains a Nationally (EPBC Act) Endangered or Critically Endangered community (0.4 pts) <input type="checkbox"/> Note: all sites will score a minimum Conservation Significance Score of 1																																													
Native Plant species diversity Score the diversity of species present in the site as a proportion to what would be expected in a vegetation of that community in very good condition (approaching a pre-European state) <5% (3 Points) <input type="checkbox"/> 5-10% (8 Points) <input type="checkbox"/> 11 - 20% (9 Points) <input type="checkbox"/> 21 - 30% (12 Points) <input type="checkbox"/> 31 - 40 % (15 Points) <input type="checkbox"/> 41 - 50% (18 Points) <input type="checkbox"/> 51 - 60% (21 Points) <input checked="" type="checkbox"/> 61 - 70% (24 Points) <input type="checkbox"/> 71 - 80% (27 Points) <input type="checkbox"/> >80% (30 Points) <input type="checkbox"/> Native Plant species diversity score (max score of 30) 21		Regeneration No regeneration present (0 Points) <input type="checkbox"/> Very low regeneration, consisting of highly scattered juvenile plants of a limited number of species (3 points) <input type="checkbox"/> Regeneration present, consisting of multiple individual juvenile plants but a limited number of species (6 points) <input checked="" type="checkbox"/> Multiple species regenerating, but low numbers of juvenile plants (9 points) <input type="checkbox"/> Multiple species regenerating with multiple individual juveniles present with varying age classes (12 points) <input type="checkbox"/> Regeneration Score (Max 12) 6																																													
Weed Scores Does the site contain plant species declared under the NRM Act 2004 (1.5 points) <input checked="" type="checkbox"/> Cover rating for all declared weeds (max of 6) 1 Does the site contain environmental weeds (introduced plants with the capacity to invade and exclude native species from bushland. This typically includes species with a BCM weed threat rating of 3, 4 or 5). (1 Point) <input checked="" type="checkbox"/> Cover rating for all environmental weeds (max of 6) 2 Weed Score (max score of 15) 11.5		Native Plant life form All strata of vegetation heavily impacted and native vegetation represented by only scattered plants (4 points) <input type="checkbox"/> All strata of vegetation impacted with limited structural diversity, largely uniform age classes and reduced vegetation cover (8 points) <input type="checkbox"/> At least one strata of vegetation has been impacted, with reduced structural diversity, elements may be missing (such as plant species that provide specific structural features e.g. sedges or mid layer shrubs) and reduce vegetation cover (12 points) <input checked="" type="checkbox"/> Limited impacts on native vegetation, with a diversity of structural features and a varied age class, with only a minor loss in structurally diversity, vegetation cover or structural elements (16 points) <input type="checkbox"/> All strata of vegetation present, little or no sign of disturbance. A variety of life forms and associated age classes present. Vegetation cover near complete (20 points) <input type="checkbox"/> Native Plant life form score (max 20) 12																																													
Is the community naturally treeless? <input type="checkbox"/> Mature Tree Score (max 8) 4 Fallen timber/debris (max 5) 3 Hollow-bearing trees Score (max 5) 2 Tree Canopy Cover Score (max 5) 3		Potential habitat for Threatened Fauna Species (number observed or previously recorded) If a species has both a State (NP&W Act) and National (EPBC Act) rating, it's only recorded for its National rating. State Rare species observed or locally recorded (1 pt each) 0 State Vulnerable species observed or locally recorded (2.5 pt each) 0 State Endangered species observed or locally recorded (5 pt each) 0 Nationally Vulnerable species observed or locally recorded (10 pts each) 1 Nationally Endangered or Critically endangered species observed or locally recorded (20 pts each) 2 0 = 0 pts; <2 = 0.02 pts; 2 = <5 = 0.04 pts; 5 = <10 = 0.06 pts; 10 = <20 = 0.08pts; 20 or > = 0.1 pts Threatened Fauna Score 0.1																																													
Native:exotic Understorey biomass score (max 5) 4		CONSERVATION SIGNIFICANCE SCORE 1.1																																													
Vegetation Condition Score calculation Positive Vegetation Attributes Score = Native species diversity + Regeneration + Native Plant Life Forms + Mature Trees + Fallen timber/debris + Hollow-bearing trees If the community is naturally treeless this score is multiplied by 1.24 48.00 Negative Vegetation Attributes Score = (15 - Weeds) + ((10 - Biomass score - Tree Canopy Cover Score)exp2/2) 8.00 VEGETATION CONDITION SCORE (Positive veg attributes x (Negative vegetation attributes + 60) / 80) 43.20		Total Scores for the Site <table border="1"> <thead> <tr> <th></th> <th>Score</th> </tr> </thead> <tbody> <tr> <td>LANDSCAPE CONTEXT SCORE</td> <td>1.13</td> </tr> <tr> <td>VEGETATION CONDITION SCORE</td> <td>43.20</td> </tr> <tr> <td>CONSERVATION SIGNIFICANCE SCORE</td> <td>1.10</td> </tr> </tbody> </table> Vegetation Condition x Landscape Context x Conservation Significance = UNIT BIODIVERSITY SCORE 53.70 Total Biodiversity Score (Biodiversity Score x hectares) 7.38			Score	LANDSCAPE CONTEXT SCORE	1.13	VEGETATION CONDITION SCORE	43.20	CONSERVATION SIGNIFICANCE SCORE	1.10																																				
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Photo Point and Vegetation Survey Location 		Direction of the Photo south GPS Reference Datum WGS84 Zone (52, 53 or 54) 54 Easting (8 digits) 213978 Northing (7 digits) 6219157 Description Open mallee woodland over chenopods																																													
Assessment for Clearance Loss Factor 1.0 Loadings for clearance of protected areas Reductions for rehabilitation of impact site SEB Points required 7.75		Approximate hectares required 0.97 Economies of Scale factor 0.50 Mean Annual rainfall for the site (mm) 386 Payment into the fund (GST Exclusive) \$4,466.31 Administration fee (GST Inclusive) \$245.65																																													
Vegetation Condition Score calculation <table border="1"> <thead> <tr> <th></th> <th>Low</th> <th>Medium</th> <th>High</th> </tr> </thead> <tbody> <tr> <td>Native Plant Species Diversity</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Weed Score</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Native Plant Life Forms</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Regeneration</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Native:exotic Understorey Biomass</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tree Canopy Cover Score</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Mature Tree Score</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Tree Hollows</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Fallen timber</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Vegetation Condition Score</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Low	Medium	High	Native Plant Species Diversity				Weed Score				Native Plant Life Forms				Regeneration				Native:exotic Understorey Biomass				Tree Canopy Cover Score				Mature Tree Score				Tree Hollows				Fallen timber				Vegetation Condition Score					
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