

Native Vegetation Clearance

Rugby Pitch and Clubrooms Development Magnolia Road, Tanunda

Data Report

Clearance under the *Native Vegetation Regulations 2017*

1 February 2022

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1. Application information

Application Details

Applicant:	Barossa Council		
Key contact:	Rick Schloithe Senior Technical Project Manager E: [REDACTED] [REDACTED]		
Landowner:	Barossa Council		
Site Address:	Magnolia Road, Tanunda, adjacent Rex Barossa Aquatic and Fitness Centre		
Local Government Area:	Barossa Council	Hundred:	Moorooro
Title ID:	CT/6078/775	Parcel ID	Sec H160600 S44

Summary of proposed clearance

Purpose of clearance	Clearance required to facilitate development of new rugby pitch, clubrooms and associated infrastructure
Native Vegetation Regulation	Regulation 12, Clause 34, Infrastructure
Description of the vegetation under application	<u>Size, type and general condition</u> - 61 (including 4 groups) of juvenile to mature River Red Gum (<i>Eucalyptus camaldulensis</i>); 3 medium to large White Cypress Pine (<i>Callitris gracilis</i>) and 1 young Swamp Wattle (<i>Acacia retinodes</i>) in fair to good condition.
Total proposed clearance - area (ha) and number of trees	18 individual and 4 groups of scattered trees, total 65 trees.
Level of clearance	Level 4
Overlay (P and D Code)	Native Vegetation Overlay

Map of proposed clearance area



Mitigation hierarchy	Review of several options resulted in the most effective, least impact option selected
SEB Offset proposal	Payment of \$45,580.38 (see further information at Part 6 – SEB)

2. Purpose of clearance

2.1 Description

The Barossa Council (Council) intends to construct a new rugby pitch, clubrooms and associated infrastructure at the site off Magnolia Road, Tanunda. A number of remnant River Red Gum, Native Cypress Pine and Swamp Wattle scattered trees occur within or in proximity to the development site and will be impacted either directly, or indirectly by associated infrastructure and earthworks.

The land subject to the application lies on the north-west corner of the junction of Magnolia Road and Research Road, adjacent the Rex Barossa Aquatic and Fitness Centre and Tanunda Primary School (see Figure 1).



Figure 1. Location of the development site

2.2 Background

The development site is currently an open paddock fringed with remnant and planted trees, to the east of the Recreation Centre and south of the school. Immediately adjacent are vineyards to the east, grazing land to the south, and a creek (un-named stream order 4) which divides the lower third of the site. The area is currently used for passive recreation and occasionally short term parking of commercial or private vehicles, and access to and from Research Road.

There are no anticipated future stages at this point; it is understood the development will include all associated infrastructure required to service the pitch and clubrooms.

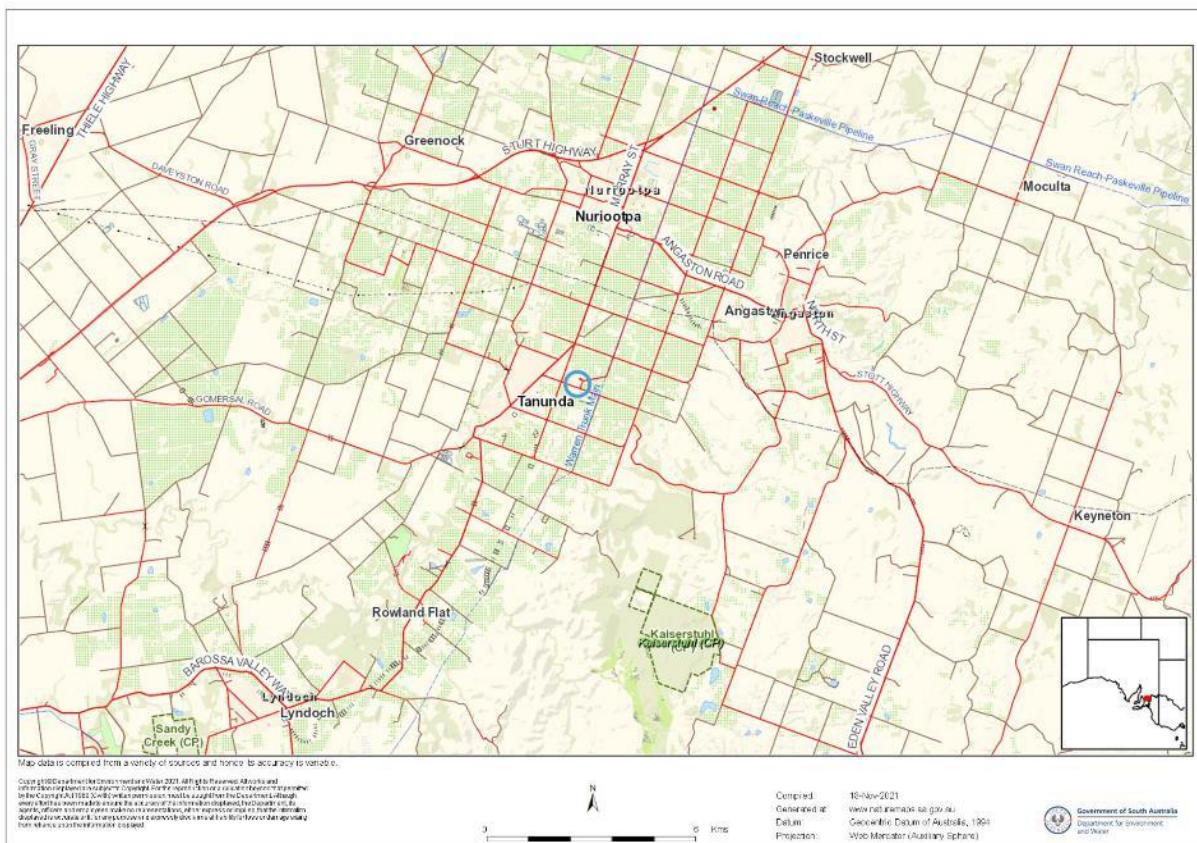


Figure 2. Location of the site

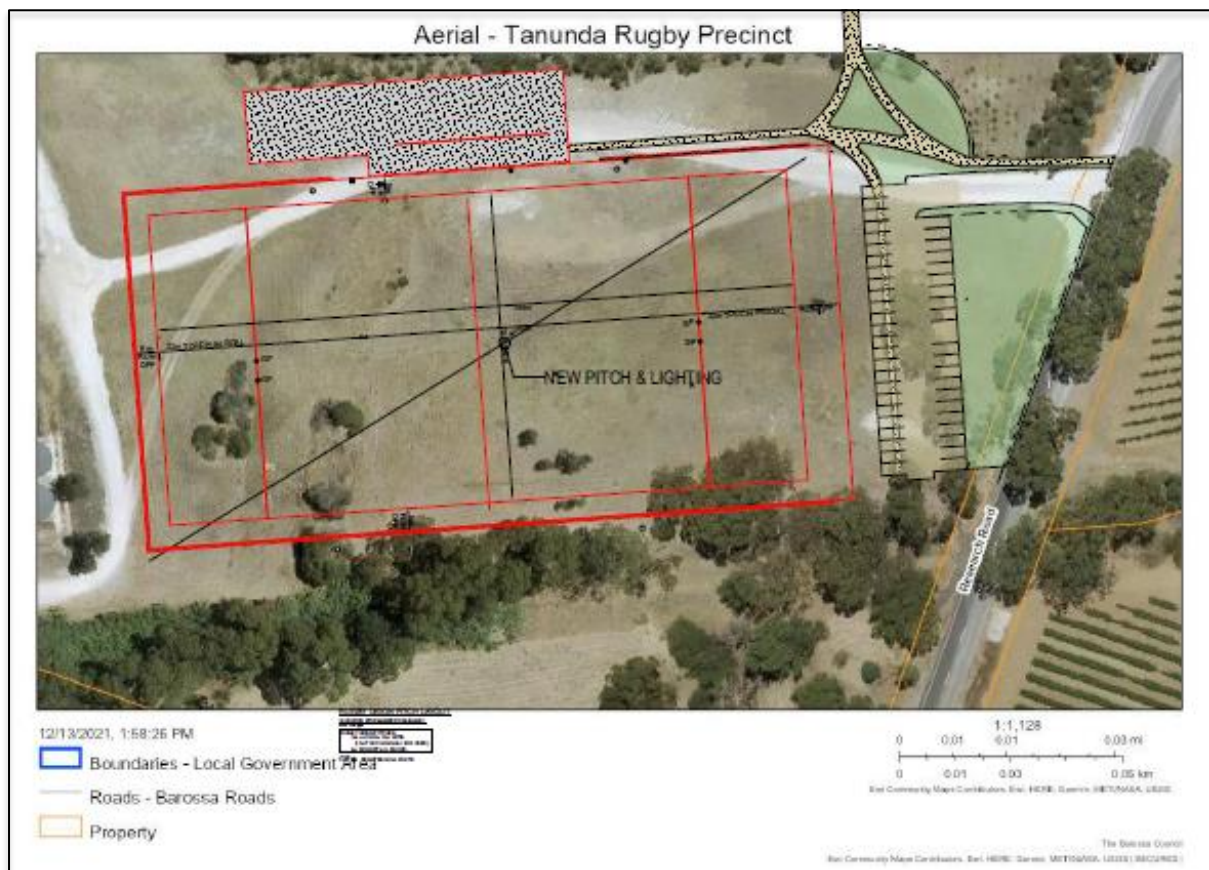


Figure 3. Concept plan showing vegetation within scope

2.3 Details of the proposal

The project includes the development of a new pitch, with clubrooms, car parking, access, lighting and tree planting. Concept plans (Figure 4) show the location of these features in relation to the vegetation. Native vegetation consisting of scattered River Red Gums, Cypress Pines and a Swamp Wattle are within or adjacent to the footprint of works and will require removal, or experience root disturbance or severance to facilitate the development. Other vegetation impacted include planted *Melaleuca armillaris* and exotics, not included in this report.

Existing vehicular access off Research Road will be retained, and pedestrian access through a plantation, from the school adjacent will be established.

Several iterations of the design have been assessed, with the final concept presented below, which was deemed to best meet the criteria for achieving the requirements of the development with as little impact to native vegetation as possible. Numerous replacement plantings will occur on the site to partially compensate for the loss of native vegetation, in addition to the SEB offset required.

Several trees discussed in this report have been included as removals (Loss factor 1.0) despite being identified for retention on the concept plan. This is because works are highly likely to impact within the Structural Root Zone (SRZ) or Tree Protection Zone (TPZ) and long term impacts need to be accounted for. Given that the extent of disturbance isn't quantifiable at this stage, the 'worst case scenario' has been assumed. Removal may be avoidable, but this cannot be accurately determined until construction works occur.

Trees in this category include those numbered 2, 3, 7 and 26.

Trees directly impacted by the works and proposed for removal include those numbered 1, 6, 8, 9, 10, 11, 12, 16, 18 and Groups A, B and C. The remainder (trees 4, 5, 19, 20, 23 and 24) are likely to suffer non-fatal root disturbance and their loss factors reflect this.



Figure 4. Concept plan of the development

2.4 Approvals required or obtained

- Native Vegetation Act 1991 - This report is in part fulfillment of the requirements of this Act
- Planning, Development and Infrastructure Act 2016 - (Development Application number to be provided)
- Aboriginal Heritage Act 1988 - work will be within previously disturbed land and is not considered to pose a high risk of encountering Aboriginal sites or objects. Should any Aboriginal objects, sites or remains be disturbed during construction, a stop work policy will be imposed and advice sought.

2.5 Native Vegetation Regulation

Regulation 12, Clause 34, Infrastructure

2.6 Development Application information (if applicable)

Zone - Community facilities

Overlays - Native Vegetation Overlay and State Significant Native Vegetation Overlay; Bushfire – Medium Risk overlay

3. Method

3.1 Flora assessment

The assessment was undertaken in accordance with the Scattered Tree Assessment Method (NVC, 2020a). Following a review of background information and literature, an initial assessment to establish the presence of remnant vegetation across the site was conducted on 12 October 2021. A follow-up detailed field survey was undertaken on 17 November 2021. The scope of works was outlined by the client prior to the site visit and informed by research using NatureMaps and Google Earth. The survey involved a general assessment of the site and scattered trees, 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. Thirteen threatened plant species were recorded in the database search. None were noted on site, and the degraded nature of the understorey vegetation indicates that none of the smaller species are likely to be found. No rated species are impacted by this proposal. Works are located mainly through an area of exotic grasses/herbs/forbs, regularly slashed; scattered trees impacted occur over exotic ground layer species fringing the creek.

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. Passive fauna survey was undertaken during the flora assessment, and during breaks to determine the presence of local and introduced fauna species. Any evidence of fauna species presence, including calls, tracks, scats, burrows, nests or hollows, were recorded.

Bird species were recorded when heard or observed within, adjacent to, or flying over the site. If hollows were found, closer inspection with binoculars was undertaken. Twelve listed species were recorded within 5km since 1995. One rated at ssp level (Grey Currawong) and four requiring habitat not present at the site were discounted from the assessment. 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


Provide a general description of the site including the following;


- *Landform, geography and soils*
Thick sandy alluvial surface soil overlying red or brown weakly structured sandy clay. Gentle slopes and flats.
- *Landform feature of significance*
There are no significant landforms in the area – the Barossa Valley wine growing region includes large areas of picturesque vineyards on flat to gently sloping rises. A small stream (stream order 4), a tributary of the North Para River, crosses from east to west, located to the immediate south of the site. The vegetation assessed sits on or near the northern bank.
- *General overview of the vegetation under application as a whole*
One vegetation association was noted – *Eucalyptus camaldulensis* var *camaldulensis* Woodland, consisting of scattered trees over exotic herbs/forbs, which are regularly cut. Three remnant tree species were observed and included in the assessment.
- *General description of the vegetation relating to type and condition*
The vegetation present is homogenous and represented by scattered trees over exotic herbs/forbs. The trees fringe a small stream which retains a narrow band of tree cover for about 600m up and downstream until it either enters more urban area, or vineyards.
- *Provide a description of the landscape context for the vegetation*
The site contains vegetation which is isolated to some degree as the only connection with other vegetation is the stream described above. A 5.6ha remnant (HA 1112) occurs to the northwest of the site, within 150m, but the links to this are not significant. Kaiser Stuhl Conservation Park is approximately 5.5km to the southeast.


Details of the scattered trees proposed to be impacted


Tree ID – 1	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 18	
Hollows – 3 small	
Diameter (cm) – 90	
Canopy dieback (%) – 10	
Total Biodiversity Score – 4.83	
<p>Photo 1. Looking east. This tree could have been planted - it sits in a row of three, of similar age, however given the difficulty in establishing its provenance, and the presence of remnant vegetation close by, it was assessed as remnant for the purpose of this report. The hollows provide potential habitat for small hollow-nesting birds, such as Pardalotes, or for bats or invertebrates. The tree is in good condition with a life expectancy of over 100 years. Removal is required to accommodate car parking. Loss factor 1.0 GPS 314806/6178547</p>	

Tree ID – 2	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 60	
Canopy dieback (%) – 15	
Total Biodiversity Score – 2.23	
<p>Photo 2. Looking east. As per tree 1, this tree may have been planted, but given the difficulty in establishing its provenance, and presence of remnant vegetation close by, it was assessed as remnant. It has no hollows but may provide roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Despite being noted as a retention on the concept plan, removal is expected due to significant disturbance within the SRZ. Loss factor 1.0 GPS 314810/6178538</p>	

Tree ID – 3	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 12	
Hollows – 0	
Diameter (cm) – 80	
Canopy dieback (%) – 5	
Total Biodiversity Score – 3.31	
<p>Photo 3. Looking east. As per tree 1 and 2, this tree may have been planted, but given the difficulty in establishing its provenance, and presence of remnant vegetation close by, it was assessed as remnant. It has no hollows but may provide roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Despite being noted as a retention on the concept plan, removal is expected due to significant disturbance within the SRZ. Loss factor 1.0 GPS 314815/6178525</p>	

Tree ID – 4	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 16	
Hollows – 0	
Diameter (cm) – 80	
Canopy dieback (%) – 10	
Total Biodiversity Score – 3.78	
<p>Photo 4. Facing southeast. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Impact is from car park construction within SRZ. Loss factor 0.8 GPS 314818/6178510</p>	

Tree ID – 5	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 57	
Canopy dieback (%) – 15	
Total Biodiversity Score – 3.48	
<p>Photo 5. Facing southeast. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Impact is from car park/pitch construction within TPZ/SRZ. Loss factor 0.8. GPS 314805/6178506</p>	

Tree ID – 6	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 57	
Canopy dieback (%) – 15	
Total Biodiversity Score – 2.17	
<p>Photo 6. Facing southeast. A remnant mature Red Gum near the bank of the creek. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Removal is anticipated due to significant works within the SRZ. Loss factor 1.0 GPS 314805/6178506</p>	






Tree ID – 7	
<i>Acacia retinodes</i>	
Number of trees – 1	
Height (m) – 4	
Hollows – 0	
Diameter (cm) – 5	
Canopy dieback (%) – 0	
Total Biodiversity Score – 0.48	


Photo 7. Looking south. A juvenile Swamp Wattle, with no hollows, and limited roosting, nesting, or feeding habitat for threatened species. The tree is in good condition. Removal is required to accommodate the rugby pitch. Loss factor 1.0 GPS 314797/6178504


Tree ID – 8	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 16	
Hollows – 0	
Diameter (cm) – 110	
Canopy dieback (%) – 20	
Total Biodiversity Score – 4.03	
<p>Photo 8. Looking south. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314788/6178500</p>	


Tree ID – 9	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 16	
Hollows – 0	
Diameter (cm) – 65	
Canopy dieback (%) – 10	
Total Biodiversity Score – 3.31	
<p>Photo 9. Looking south. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314773/6178511</p>	


Tree ID – 10	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 15	
Hollows – 0	
Diameter (cm) – 110	
Canopy dieback (%) – 10	
Total Biodiversity Score – 4.13	
<p>Photo 10. Looking southeast. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314774/6178500</p>	


Tree ID – 11	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 70	
Canopy dieback (%) – 20	
Total Biodiversity Score – 2.37	
<p>Photo 11. Looking south. A remnant mature Red Gum. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314762/6178507</p>	


Tree ID – Group A	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 3	
Height (m) – 7	
Hollows – 0	
Diameter (cm) – 15	
Canopy dieback (%) – 60	
Total Biodiversity Score – 0.59	
<p>Photo 12. Looking southwest. Three juvenile Red Gums with no hollows, but potential roosting, nesting, or feeding habitat for threatened species. The trees are in poor condition due to suppression. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314769/6178507</p>	


Tree ID – 12	
<i>Callitris gracilis</i>	
Number of trees – 1	
Height (m) – 5	
Hollows – 0	
Diameter (cm) – 20	
Canopy dieback (%) – 50	
Total Biodiversity Score – 0.33	
<p>Photo 13. Looking south. A young Cypress Pine, with no hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in poor condition with a life expectancy of less than 10 years. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314754/6178499</p>	


Tree ID – Group B	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 2	
Height (m) – 5	
Hollows – 0	
Diameter (cm) – 8	
Canopy dieback (%) – 5	
Total Biodiversity Score – 0.53	
<p>Photo 14. Looking south. Two juvenile Red Gums with limited potential roosting, nesting, or feeding habitat for threatened species. In good condition with fair structure. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314729/6178503</p>	


Tree ID – 16	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 5	
Hollows – 0	
Diameter (cm) – 8	
Canopy dieback (%) – 5	
Total Biodiversity Score – 0.26	
<p>Photo 15. Looking south. A young Red Gum with no hollows, and limited potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314724/6178510</p>	


Tree ID – Group C	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 40	
Height (m) – 6	
Hollows – 0	
Diameter (cm) – 5	
Canopy dieback (%) – 5	
Total Biodiversity Score – 10.38	
<p>Photo 16. Looking south. Regeneration of many juvenile Red Gums with limited potential roosting, nesting, or feeding habitat for threatened species. In good condition but likely to naturally 'thin' and reduce in number as some begin to dominate. Removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314729/6178512</p>	


Tree ID – 18	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 6	
Hollows – 0	
Diameter (cm) – 10	
Canopy dieback (%) – 0	
Total Biodiversity Score – 0.32	
<p>Photo 17. Looking southeast. A young Red Gum with limited potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition, removal is required to accommodate the proposed rugby pitch. Loss factor 1.0 GPS 314720/6178517</p>	

Tree ID – 19	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 16	
Hollows – 0	
Diameter (cm) – 110	
Canopy dieback (%) – 10	
Total Biodiversity Score – 4.29	
<p>Photo 18. Looking southwest. A large mature Red Gum near the bank of the creek. No hollows, but potential roosting, nesting, or feeding habitat for threatened species. The tree is in good condition with a life expectancy of over 100 years. Impact is potential canopy pruning for construction of the proposed rugby pitch. Loss factor 0.4 GPS 314727/6178494</p>	

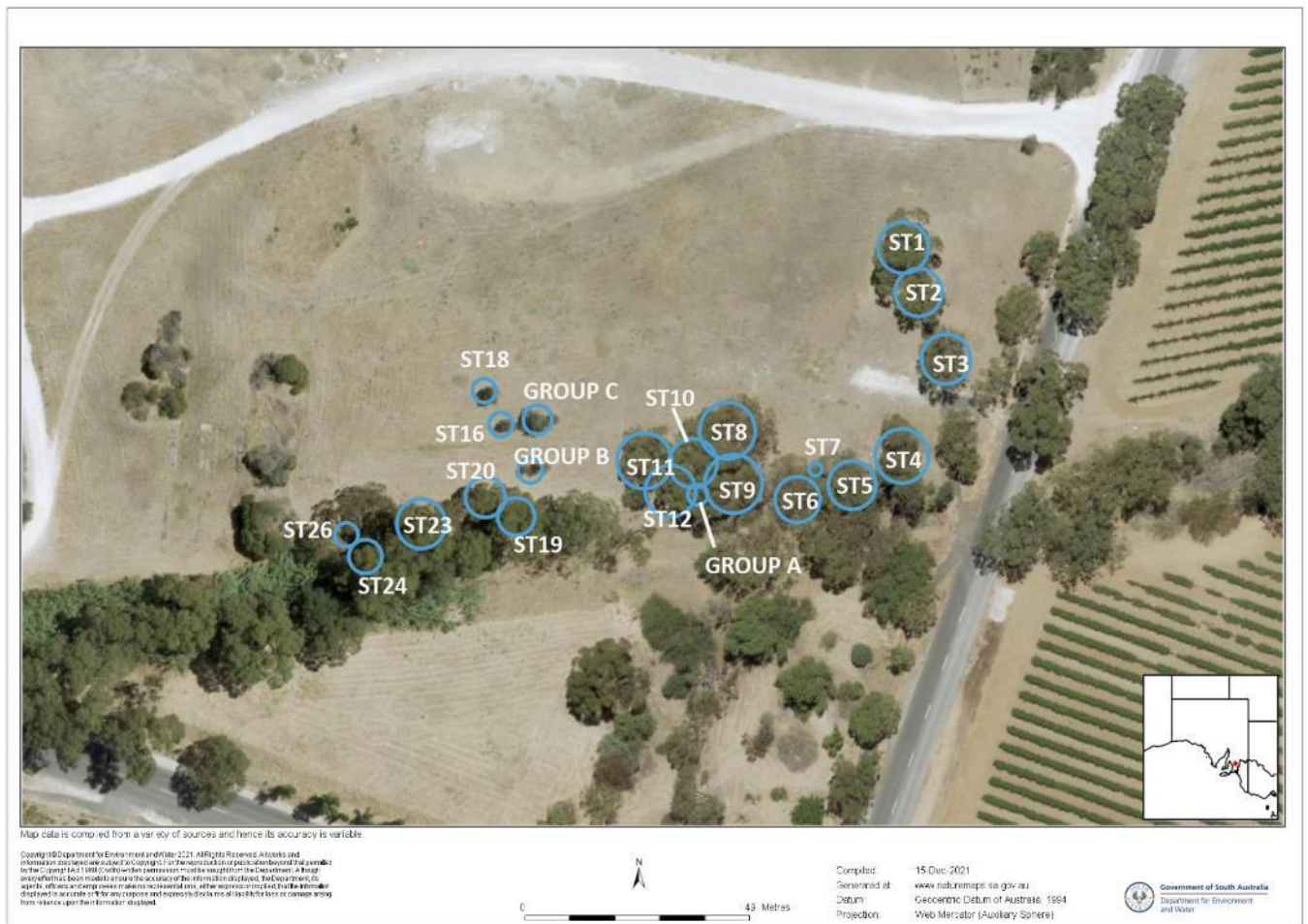
Tree ID – 20	
<i>Callitris gracilis</i>	
Number of trees – 1	
Height (m) – 6	
Hollows – 0	
Diameter (cm) – 25	
Canopy dieback (%) – 40	
Total Biodiversity Score – 0.47	
<p>Photo 19. Looking south. A mature Cypress Pine with some potential roosting, nesting, or feeding habitat for threatened species. In fair good condition with poor structure - suppressed by the Red Gum adjacent (tree 19). Impacted by construction within TPZ. Loss factor 0.6 GPS 314720/6178496</p>	

Tree ID – 23	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 1	
Height (m) – 22	
Hollows – 2 small, 1 medium	
Diameter (cm) – 80	
Canopy dieback (%) – 10	
Total Biodiversity Score – 7.24	
<p>Photo 20. Looking southwest. A mature Red Gum with 2 small and one medium hollow, potential roosting, nesting, or feeding habitat for threatened species. In good condition. Impacted by construction within TPZ. Loss factor 0.6 GPS 314707/6178489</p>	

Tree ID – 24	
<i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i>	
Number of trees – 2	
Height (m) – 22	
Hollows – 1 medium	
Diameter (cm) – 110	
Canopy dieback (%) – 10	
Total Biodiversity Score – 13.68	
<p>Photo 21. Looking south. Two mature Red Gums, one with a medium hollow and potential roosting, nesting, or feeding habitat for threatened species. In good condition with a life expectancy of over 100 years. Impact is potential canopy pruning and root impacts within the TPZ. Loss factor 0.6 GPS 314696/6178484</p>	

Tree ID – 26	
<i>Callitris gracilis</i>	
Number of trees – 1	
Height (m) – 6	
Hollows – 0	
Diameter (cm) – 40	
Canopy dieback (%) – 20	
Total Biodiversity Score – 1.20	
<p>Photo 22. Looking south. A Cypress Pine suppressed by the adjacent Red Gum. No hollows, and limited potential roosting, nesting, or feeding habitat for threatened species. The tree is in fair condition. Impact is due to the proximity of the proposed rugby pitch with potential for significant root disturbance. Worst case is Loss factor 1.0 GPS 314691/6178488</p>	

Site map showing areas of proposed impact



4.2 Threatened Species assessment

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>Actitis hypoleucos</i> Common Sandpiper	R		3	2006	Estuaries, deltas, on riverbanks, lakes, pools, billabongs, reservoirs, dams and claypans. The muddy margins utilised by the species are often narrow and may be steep.	Possible – limited suitable habitat for this species exists near the site
<i>Botaurus poiciloptilus</i> Australasian Bittern		EN	5		Favours permanent freshwater wetlands with tall, dense vegetation, particularly bullrushes and spike rushes	Recorded in the EPBC protected matters search tool, but within 5km of the site. Nearest record on naturemaps is 2007 at Salisbury North. Unlikely
<i>Corcorax melanorhamphos</i> White-winged Chough	R		3	2019	Found in open forests and woodlands, tend to prefer wetter areas, with lots of leaf-litter, for feeding, and available mud for nest building	Highly likely, recorded nearby and suitable habitat exists
<i>Falco peregrinus macropus</i> Peregrine Falcon	R		3	2018	Found in most habitats and at most altitudes, from the coast to alpine areas. Requires abundant prey and secure nest sites. Prefers coastal and inland cliffs or open woodlands near water, and may be found nesting on high city buildings.	Highly likely, recorded nearby and suitable habitat exists
<i>Falcunculus frontatus frontatus</i> Eastern Shrike-tit	R		3	2006	Found in eucalypt forests and woodlands, forested gullies and along rivers in drier areas, also rainforests, sometimes seen in parks and gardens, on farms with scattered trees, and on pine plantations.	Possible – limited suitable habitat for this species exists near the site

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>Lophoictinia isura</i> Square-tailed Kite	E		3	2008	Mainly open eucalypt forests and woodlands, often where there is a broken canopy; also ranges into nearby open habitats, often dominated by stringybarks, Manna Gum, Messmate, River Red Gums, cypress-pines and casuarinas. Also along the edges of dense forest and road verges with remnant or planted trees, and in clearings within forest or in areas of regrowth, or open or cultivated farmland near remnant woodland.	Possible – limited suitable habitat for this species exists near the site
<i>Trichosurus vulpecula</i> Common Brushtail Possum	R		3	2018	Found in Eucalyptus and Sheoak woodlands. Nest in tree hollows or other dark confined spaces. Adapted to life in the suburbs. Some make dens in roof spaces	Highly likely. Wide habitat preference and known from sites near the project.
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.

Describe all the sources of likely impact on native vegetation that have been considered and addressed as part of this application and the expected extent and severity of those impacts.

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.),*
The application considers all impacts directly required, as determinable from the concept design, including construction of the pitch, car parks and access. Although details such as service locations are not shown on plans, all service/irrigation runs will be located in already disturbed areas. The potential impact of irrigation proposed for the turfed areas is included in the assessment.
- *subsequent clearance that will be permitted or required (e.g. 10m around a building, 20m around a dwelling, clearance for fire protection),*
This is not anticipated to be required. Fire hazard across the site is probably not a significant concern given the regularly mown landscape and proposal for irrigation of new turfed areas.
- *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),*
There is potential for future issues regarding tree roots spreading underneath the turf seeking water from irrigation and impacting turf condition. Council has anticipated this and will install root barrier where there is potential for this to occur, circumventing any future problems. This impact is included in the assessment.
- *future stages or associated components of a development*
No future stages are anticipated at this time, nor likely given the constraints of the site.

4.4 Address the Mitigation Hierarchy

Sufficient detail must be provided to demonstrate specifically how the applicant has considered alternatives that would avoid and minimize clearance or associated impacts on the matters listed above. It is not acceptable to simply state that they have, without providing supporting detail and relevant evidence.

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

The location of the proposed facility is the most suitable and based on access, available cleared land, surrounding land use, and demand for the facility. Alternate sites meeting the criteria are not readily available. A number of concept stages were assessed in order to achieve the most effective design with the least impact. Adjustments to the location were assessed. Reducing the scale or size is not feasible. The concept presented includes pitch dimensions and minimum facilities in accordance with Rugby SA minimum facility guidelines and grant funding is linked to the implementation of these minimum requirements.

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).

Five iterations of the concept were presented, all attempting to reduce impact on native vegetation whilst maximizing the function of the facility. This included considered moving the pitch and clubrooms further north or west; changing the angle of the pitch alignment; and relocating the car park, however these options either

identified other constraints – such as remnant and planted vegetation in the corridor between Tanunda Primary School and the proposed rugby facility – or did not significantly reduce impact to remnant vegetation or didn't meet minimum facility guidelines. See Appendix 3 for details.

Achievable amendments included reducing the number of car parks which allowed (potential) retention of tree 3, 4 and 5.

- 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.**

Clearance is permanent, however there is scope to undertake planting on the site for both amenity and ecological purposes. Potential plantings are noted on the concept plans. The use of local native species and provenance is recommended, to better enhance local ecological values.

- 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.**

Council is willing to consider a formal arrangement for the protection, management and enhancement of the vegetation between the Primary School and the pitch facility. Further planting is also proposed for around the pitch and clubrooms.

In addition, Council is investigating the potential of establishing a new SEB offset site on land owned by them, in order to meet the full SEB obligation for this assessment. If the proposed site is deemed suitable, the information required at Part 6 below – *SEB for on-ground works* – will be provided for the NVC's consideration. Council will pursue the *payment into the native vegetation fund* option until site suitability is determined.

4.5 Principles of Clearance (Schedule 1, Native Vegetation Act 1991)

Principle of clearance	Considerations
Principle 1a - it comprises a high level of diversity of plant species	<u>Relevant information</u> N/A – the assessment concerned scattered trees of only three species – <i>Eucalyptus camaldulensis</i> var <i>camaldulensis</i> , <i>Callitris gracilis</i> , and <i>Acacia retinodes</i>
	<u>Assessment against the principles</u> <u>Seriously at Variance</u> – N/A <u>At Variance</u> – N/A
	<u>Moderating factors that may be considered by the NVC</u> – N/A
Principle 1b - significance as a habitat for wildlife	<u>Relevant information</u> See part 4.2 and Appendix 1 for threatened species recorded or observed. Of 7 listed species recorded, (excluding 5 which are aquatic or listed at ssp level) the following assessment is made regarding likely use of the habitat provided: Highly likely – 3 Likely – 0 Possible – 3, and Unlikely – 1 The site is not considered to support a high diversity of fauna species due to the degraded nature of the vegetation, with an understorey of mainly exotic weed species, with management regimes likely to reduce diversity. The vegetation does provide a short refuge and potentially a

	<p>corridor for movement but this function tapers out less than 1km in either direction. The scattered trees may provide short term roosting or feeding resources for translocating individuals.</p> <p>Trees; Fauna Habitat Score – all trees scored 1.8 Biodiversity Score - ranging from 0.20 (Clump A) to 7.24 (tree 23)</p> <p><u>Assessment against the principles</u> <u>Seriously at Variance</u> – All scattered trees/clumps assessed are SAV; <u>At Variance</u> – N/A</p> <p><u>Moderating factors that may be considered by the NVC</u> – Impact significance(not all trees are to be removed); non-essential habitat</p>
Principle 1c - plants of a rare, vulnerable or endangered species	<p><u>Relevant information</u> See part 4.2 and Appendix 1 for threatened species recorded or observed. Of thirteen species, three are orchids, ten are shrubs, grasses or ground layer species, and one tree; none were observed or considered likely to be present in the degraded environment. Threatened Flora Score(s) – all trees scored 0</p> <p><u>Assessment against the principles</u> <u>Seriously at Variance</u> – N/A <u>At Variance</u> – N/A</p> <p><u>Moderating factors that may be considered by the NVC</u> – N/A</p>
Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:	<p><u>Relevant information</u> The following threatened communities were listed as 'may occur' in the searches:</p> <ul style="list-style-type: none"> • Peppermint Box Grassy woodland • Iron-grass natural temperate grassland <p>No threatened ecosystems were present at or near the site. Threatened Community Score – N/A</p> <p><u>Assessment against the principles</u> <u>Seriously at Variance</u> – N/A</p> <p><u>Moderating factors that may be considered by the NVC</u> – N/A</p>
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	<p><u>Relevant information</u> IBRA Association (Barossa) remnancy figure - 7% IBRA Subregion (Mt Lofty Ranges) remnancy - 77% The scattered trees are typical of heavily cleared and developed sites – in this case for agriculture, viticulture and housing – in that they occur on land that is unsuitable for these activities and thus have not yet been cleared. The few and small remaining patches of vegetation nearby exhibit greater density and better health, more like that expected of an intact remnant, but the trees remaining in the area are unlikely to contribute to regeneration pressure for residential development increases.</p> <p>Total Biodiversity Score – 73.39</p> <p><u>Assessment against the principles</u> <u>Seriously at Variance</u> – at the local (IBRA REGION) Level, the clearance of all trees is SAV <u>At Variance</u> – N/A</p> <p><u>Moderating factors that may be considered by the NVC</u> – Impact significance; quality of remnant</p>

Principle 1f - it is growing in, or in association with, a wetland environment.	<u>Relevant information</u> The vegetation is located on the northern bank of a stream order 4 tributary of the North Para River.
	<u>Assessment against the principles</u> <u>Seriously at Variance</u> – Trees numbered 4, 5, 6, 12, 19, 23, and 24 are located close to the stream bank, however some are not prosed for removal, but for medium term root impacts (trees 4, 5, 19 and 23). <u>At Variance</u> – N/A
	<u>Moderating factors that may be considered by the NVC</u> Quality of wetland – the creek is degraded with very limited diversity and infiltrated by weed species.
Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.	<u>Relevant information</u> The site is adjacent a school and recreational facility; however the site is not frequently used nor accessed from where the trees are most visible. The size of some of the trees impacted is such that they contribute to landscape character and removal is likely to reduce this to an extent. They represent a feature that is slowly reducing in the Barossa area, and given the high volume of tourist visitation, further reduction in the landscape aesthetic cannot be considered idea, especially when replacement at this scale is not possible in the short term.
	N/A
	<u>Moderating factors that may be considered by the NVC</u> – N/A

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	65
	Area (ha)	-
	Total biodiversity Score	73.39
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

5. Clearance summary

Scattered trees Summary table

Insert table from the Summary Clearance Table for **scattered trees** assessed using the Scattered Tree Assessment Method

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment incl admin
1	1	1.8	0	4.83	1.0	5.07	\$3,602.42
2	1	1.8	0	2.23	1.0	2.34	\$1,665.31
3	1	1.8	0	3.31	1.0	3.47	\$2,466.46
4	1	1.8	0	3.78	0.8	3.17	\$2,254.92
5	1	1.8	0	3.48	0.8	2.92	\$2,075.90
6	1	1.8	0	2.17	1.0	2.28	\$1,617.67
7	1	1.8	0	0.48	1.0	0.51	\$359.00
8	1	1.8	0	4.03	1.0	4.23	\$3,006.67
9	1	1.8	0	3.31	1.0	3.47	\$2,466.46
10	1	1.8	0	4.13	1.0	4.33	\$3,079.28
11	1	1.8	0	2.37	1.0	2.49	\$1,767.55
A	3	1.8	0	0.59	1.0	0.62	\$442.70
12	1	1.8	0	0.33	1.0	0.34	\$242.67
B	2	1.8	0	0.53	1.0	0.56	\$395.11
16	1	1.8	0	0.26	1.0	0.28	\$197.56
C	40	1.8	0	10.38	1.0	10.90	\$7,742.02
18	1	1.8	0	0.32	1.0	0.34	\$238.29
19	1	1.8	0	4.29	0.4	1.80	\$1,281.15
20	1	1.8	0	0.47	0.6	0.30	\$210.14
23	1	1.8	0	7.24	0.6	4.56	\$3,238.91
24	2	1.8	0	13.68	0.6	8.62	\$6,122.70
26	1	1.8	0	1.20	1.0	1.25	\$891.48
Total	65			73.79		63.85	\$45,580.38

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	73.79	63.85	\$43,204.15	\$2,376.23	\$45,580.38

Economies of Scale Factor	0.5
Rainfall (mm)	513

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

NOTE - see 4.4 (d) above. Council is seeking to establish an SEB offset site to meet the obligation under this assessment, however whilst the proposed site is assessed for suitability, *payment into the fund* is the selected option. Discussion with NV branch staff have indicated that the 'payment' invoice will be raised within 3 months of the decision date. Prior to the issue of the invoice, and if the proposed offset site has been assessed as suitable, Barossa Council will submit an application for an on-ground SEB, and link the two applications to allow an amendment to the SEB achievement method.

- ☒ Establish a new SEB Area on land owned by the proponent (information to be provided if Council's chosen site is assessed as suitable)
- ☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____
- ☐ Apply to have SEB Credit assigned from another person or body. The [application form](#) needs to be submitted with this Data Report.
- ☐ Apply to have an SEB to be delivered by a Third Party. The [application form](#) needs to be submitted with this Data Report.
- ☒ Pay into the Native Vegetation Fund. Provide details below.

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) **\$45,580.38**

ON-GROUND SEB

(information to be provided if Council's proposed offset site is assessed as suitable)

7. Appendices

Appendix 1. Flora and Fauna Species List

FAMILY NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING	DATE OF LAST RECORD	
AMARANTHACEAE	<i>Ptilotus erubescens</i>	Hairy-tails		R	31-Mar-2013	
CHENOPODIACEAE	<i>Maireana rohrlachii</i>	Rohrlach's Bluebush		R	21-Mar-2002	
COMPOSITAE	<i>Olearia pannosa</i> ssp. <i>pannosa</i>	Silver Daisy-bush	VU	V	21-Mar-2002	
GRAMINEAE	<i>Austrostipa densiflora</i>	Fox-tail Spear-grass		R		
GRAMINEAE	<i>Austrostipa tenuifolia</i>			R	30-Nov-2005	
GRAMINEAE	<i>Echinopogon ovatus</i>	Rough-beard Grass		R	31-Mar-2013	
LABIATAE	<i>Mentha satereioides</i>	Native Pennyroyal		R	03-Mar-2007	
LILIACEAE	<i>Dianella longifolia</i> var. <i>grandis</i>	Pale Flax-lily		R	31-Mar-2013	
MYRTACEAE	<i>Eucalyptus behriana</i>	Broad-leaf Box		R	30-Nov-2005	
RUTACEAE	<i>Correa aemula</i>	Hairy Correa		R	05-Mar-2017	
ORCHIDACEAE	<i>Caladenia argocalla</i>	White-beauty Spider-orchid	EN			
ORCHIDACEAE	<i>Prasophyllum pallidum</i>	Pale Leek-orchid	VU			
ORCHIDACEAE	<i>Prasophyllum pruinosum</i>	Plum Leek-orchid	EN			

CLASS NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING	DATE OF LAST RECORD	
AVES	<i>Actitis hypoleucos</i>	Common Sandpiper		R	05-Feb-2006	
	<i>Botaurus poiciloptilus</i>	Australasian Bittern	EN			
AVES	<i>Biziura lobata menziesi</i>	Musk Duck		R	21-Nov-2015	
AVES	<i>Corcorax melanorhamphos</i>	White-winged Chough		R	18-Oct-2019	
AVES	<i>Falco peregrinus macropus</i>	Peregrine Falcon		R	14-Jan-2018	
AVES	<i>Falcunculus frontatus frontatus</i>	Eastern Shrike-tit		R	12-Mar-2006	
AVES	<i>Lophoictinia isura</i>	Square-tailed Kite		E	29-Dec-2008	
AVES	<i>Oxyura australis</i>	Blue-billed Duck		R	21-Nov-2013	
AVES	<i>Spatula rhynchotis</i>	Australasian Shoveler		R	21-Nov-2015	
AVES	<i>Stictonetta naevosa</i>	Freckled Duck		V	21-Nov-2013	
AVES	<i>Strepera versicolor</i>	Grey Currawong		ssp	14-Jan-2018	
MAMMAL	<i>Trichosurus vulpecula</i>	Common Brushtail Possum		R	29-Aug-2018	
	Highlighted = discounted due to habitat not present					

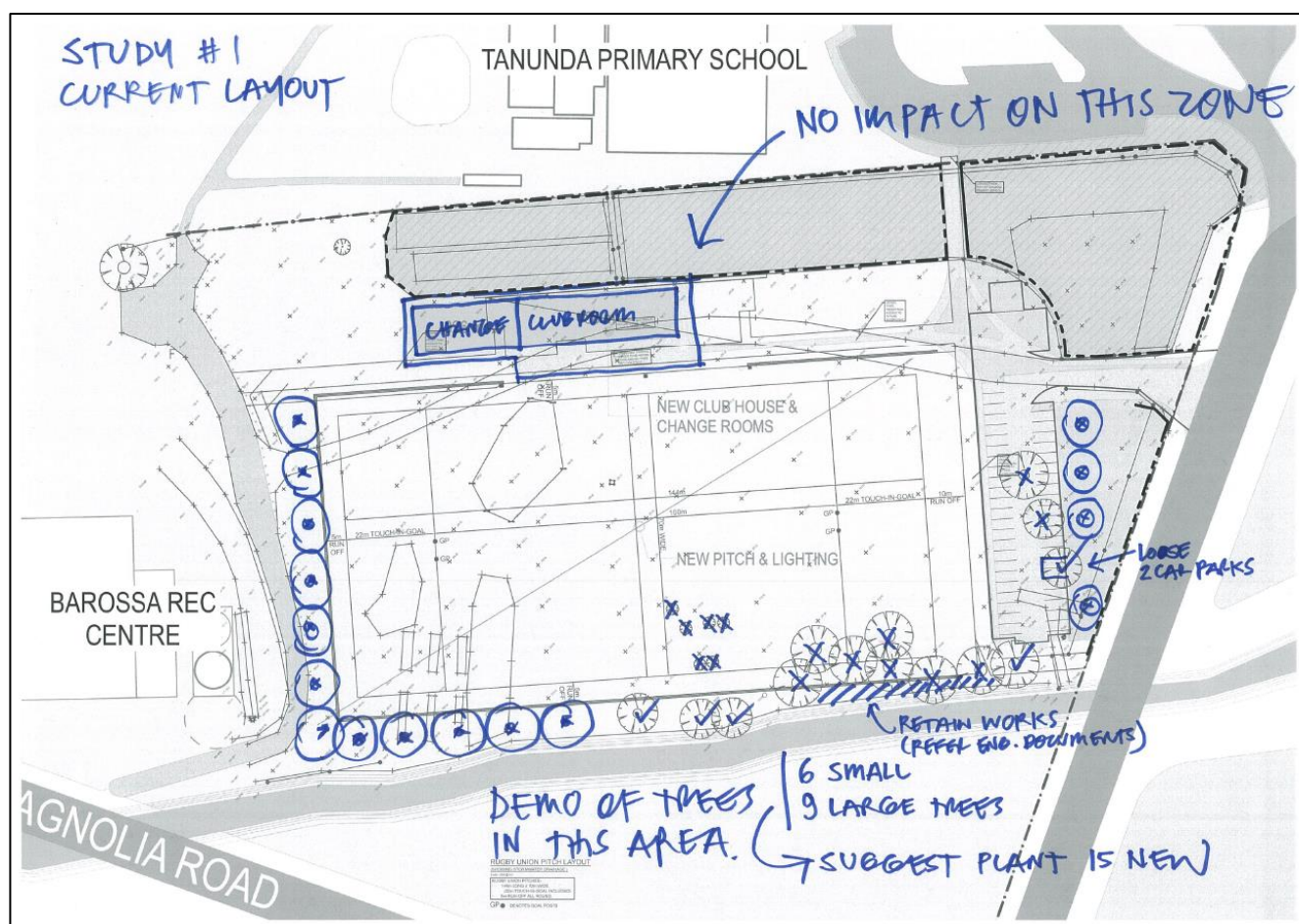
Appendix 2. Scattered Tree Vegetation Assessment Scoresheet

SEB Required for Scattered Trees			(Version - 1 July 2020)		
Landscapes Region	N&Y		Total Biodiversity Score	73.39	
Mean Annual Rainfall (mm)	513		Total SEB Points required	63.85	
Economies of Scale factor	0.5		Total SEB \$ required	\$45,580.38	
IBRA Association	Barossa				
Tree Species	Number of Trees	Total SEB Points required	Payment in NV Fund (GST Exclusive)	Administration fee (GST Inclusive)	Total
Eucalyptus camaldulensis	18	61.45	\$41,581.97	\$2,287.01	\$43,868.98
Acacia retinodes	1	0.51	\$341.91	\$18.80	\$360.71
Callitris preissii	3	1.89	\$1,280.27	\$70.41	\$1,350.69
0	0	0.00	\$0.00	\$0.00	\$0.00



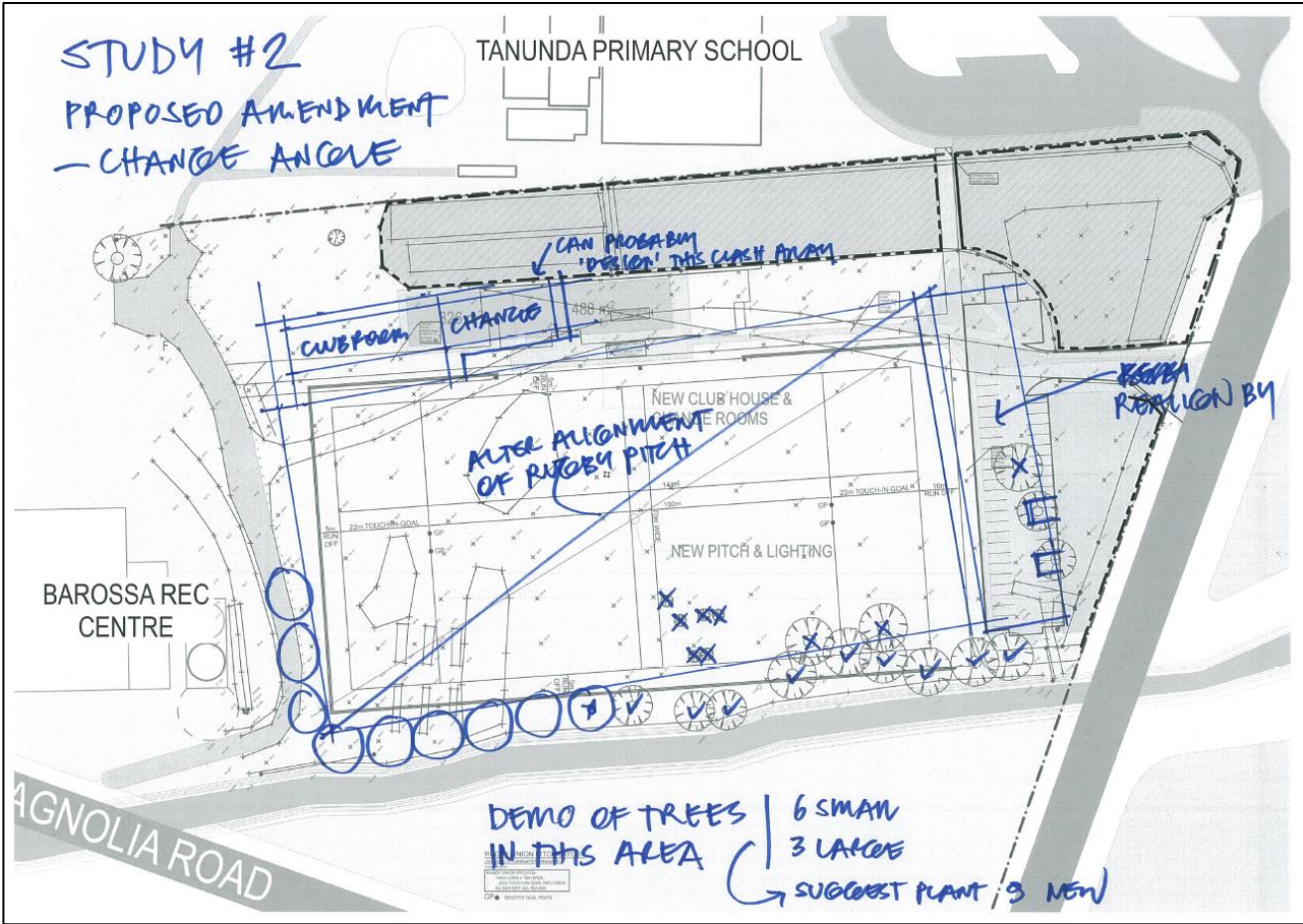
Scattered Tree Scoresheet V2.xlsx

Appendix 3. Design options to reduce impact



STUDY #2

PROPOSED AMENDMENT
— CHANGE ANGLE



STUDY #3

PROPOSED AMENDMENT
— SHIFT NORTH

