JS Ayre & Associates
PO Box 123
EDWARDSTOWN SA 5039
M: 0416 151 234
E: ayrej@ihug.com.au
ABN 68 501 409 165

Native Vegetation Clearance

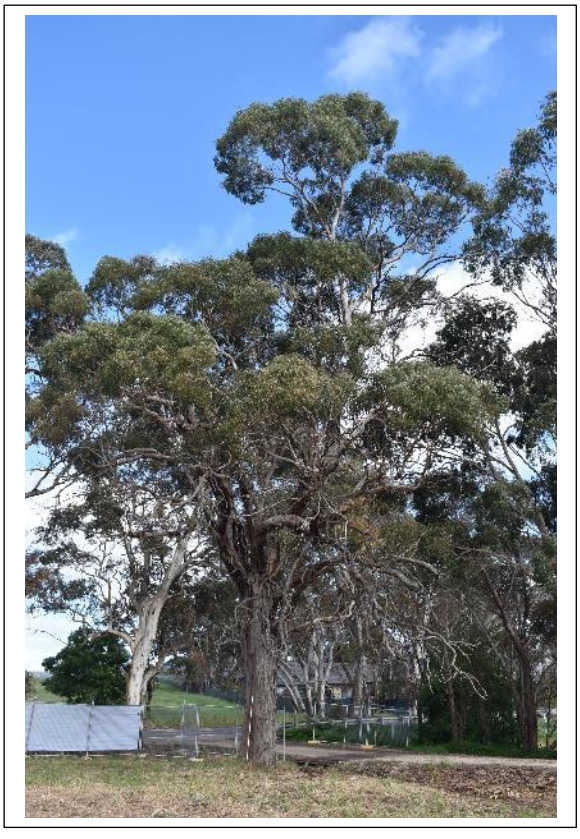
Mt Barker Woolworths Development
Wellington Road
Mt Barker

Data Report

Clearance under the *Native Vegetation Regulations 2017*

31 December 2021

Prepared by Jackie Ayre, JS Ayre & Associates



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1. Application information

Application Details

Applicant:	Maylock Holdings		
Key contact:	Greg Vincent Masterplan T: 8193 5600 M:0413 832 603 E: GregV@masterplan.com.au		
Landowner:	Graham and Emily Lovelock (written permission to be provided with application)		
Site Address:	239 Wellington Road, Mount Barker		
Local Government Area:	Mount Barker	Hundred:	Macclesfield
Title ID:	CT/5974/333	Parcel ID	DP D17656 A31

Summary of proposed clearance

Purpose of clearance	Clearance required for construction of a Woolworths Supermarket and associated infrastructure including parking, access and landscaping.
Native Vegetation Regulation	Regulation 12, Schedule 1; clause 34, Infrastructure
Description of the vegetation under application	Size, type and general condition – 27 juvenile to mature *Eucalyptus leucoxylon ssp leucoxylon, Eucalyptus viminalis ssp cygnetensis* and *Eucalyptus camaldulensis* scattered trees in poor to good condition.
Total proposed clearance - area (ha) and number of trees	27 scattered trees are proposed to be cleared.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay
Map of proposed clearance area 	
Mitigation hierarchy	A large Blue Gum is to be incorporated into landscaping. Few other feasible options for reducing impact are available.
SEB Offset proposal	Payment of **$22,164.54**

2. Purpose of clearance

2.1 Description

The proposed development incorporates a supermarket, retail tenancies, and associated carparking, access, service areas, signs and landscaping. The site addresses Heysen Boulevard (proposed) with its principal vehicular access here, and on the western side of the property, off Wellington Road. Parking is proposed at ground level.

2.2 Background

Mt Barker is a rapidly developing district with significant and growing demand for services. Population growth was 3.20% in 2020, more than double the greater Adelaide rate of 1.19%. A number of large scale residential and commercial/retail developments have been undertaken, or are in progress, in the area surrounding the assessment site, and this is likely to continue as more land is released for development. This has implications for remnant vegetation, particularly scattered trees, which define the landscape character of the area.

The current landscape is of small farms primarily used for grazing and small scale crop production, or rural living and hobby farms. As the urban fringe creeps closer, more landholders are realising the rewards of increased land values and accepting offers to develop.

The facility will service these developing communities which are not adequately provided for in the main commercial/retail precinct of Mount Barker. Achievement of the development requires removal of native vegetation, consisting of three clusters of trees totalling 18 trees, and 9 individuals.

Figure 1. The site outlined in blue, relative to Mt Barker township

Figure 2. Assessment site

Figure 3. Site plan showing main features of the development

2.3 Details of the proposal

The proposed development incorporates construction of a single level retail facility with associated

- earthworks and retaining walls to achieve required levels;
- new vehicular access from the proposed extension of Heysen Boulevard, and from Wellington Road;
- construction of single level car parking;
- lighting, pylon signs and landscaping.

Significant earthworks are required to achieve required levels. Almost 50% of the site will be excavated to design levels, creating fill material which will be used on the remainder of the site. Figure 3 shows the layout of the proposed facility.

The development is on proposed Allotment 31 in Plan of Division 17656, CT 5974/333, 239 Wellington Road, Mount Barker, (as shown in Figure 2 above) contained in Development Application 580/617/15. The site has an area of approximately 7.70 hectares. The proposed development has frontage to the northern side of Heysen Boulevard, which is a proposed and approved public road.

A substantial tree with high aesthetic and ecological value is located near the (proposed) Heysen Boulevard/Wellington Road Roundabout. This tree was identified by Mount Barker Council as worthy of retention, and significant alternative treatments were investigated to reduce impact from the roundabout development (separate to this development). Figure 4 shows the potential impact of cut batters for car parking for the development.

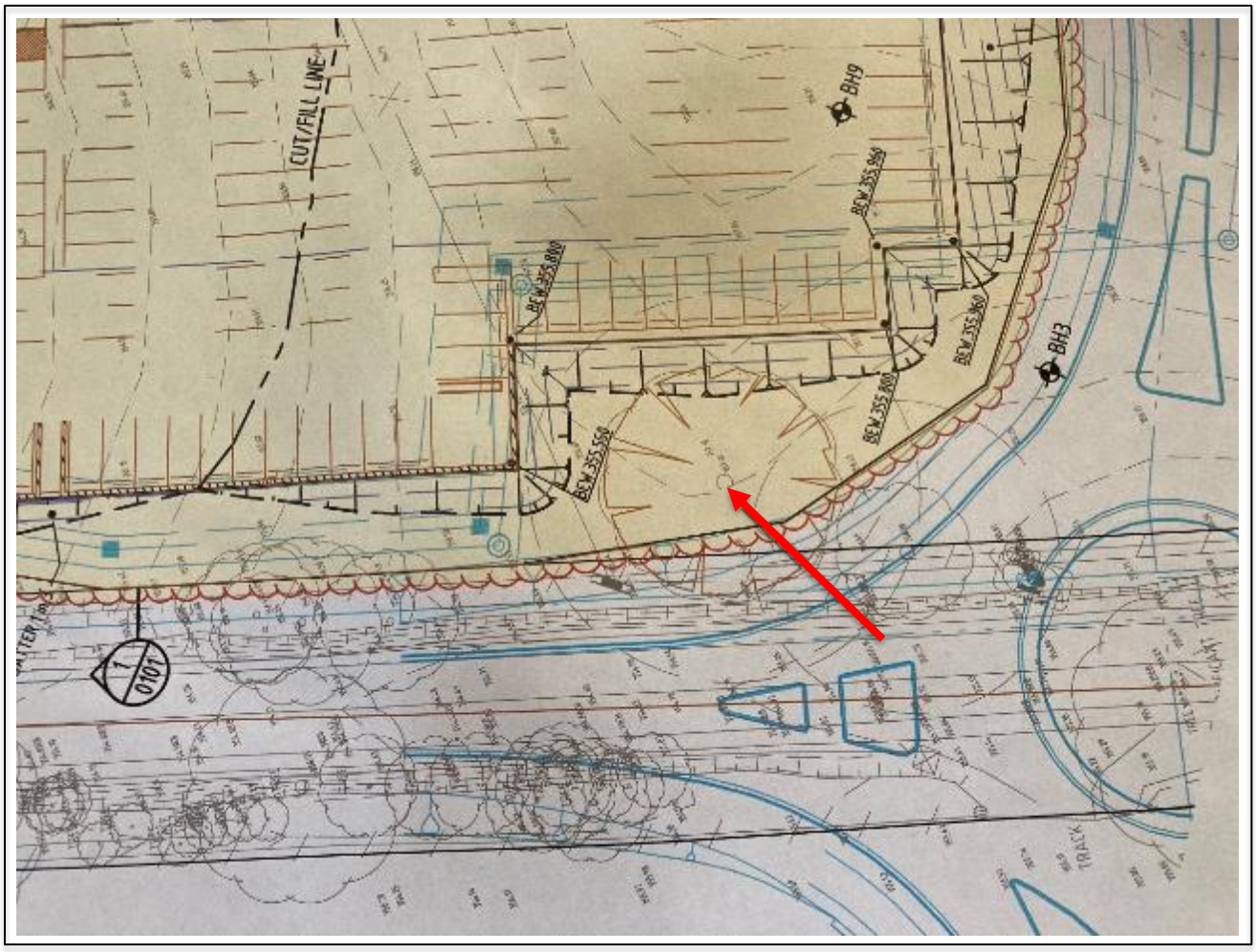

Figure 4. Partial site plan showing potential impact within TPZ of tree 1 (arrowed), located adjacent Heysen Blvd/Wellington Road intersection

Currently the site is grazing/cropping land. Numerous amenity planted trees occurred on the site at the time of assessment – these are not included in this assessment. Additionally, a number of trees on the eastern side of Wellington Road are located where the slip lane is proposed (see figure 5). The assessment concluded that the majority were planted (determined by age class, equal spacings of around 3m between trees, lack of species diversity, and the linear nature of the group). These were not included in the assessment. Eight scattered remnant trees occurring on the road reserve were assessed, and these are subject to this clearance application.

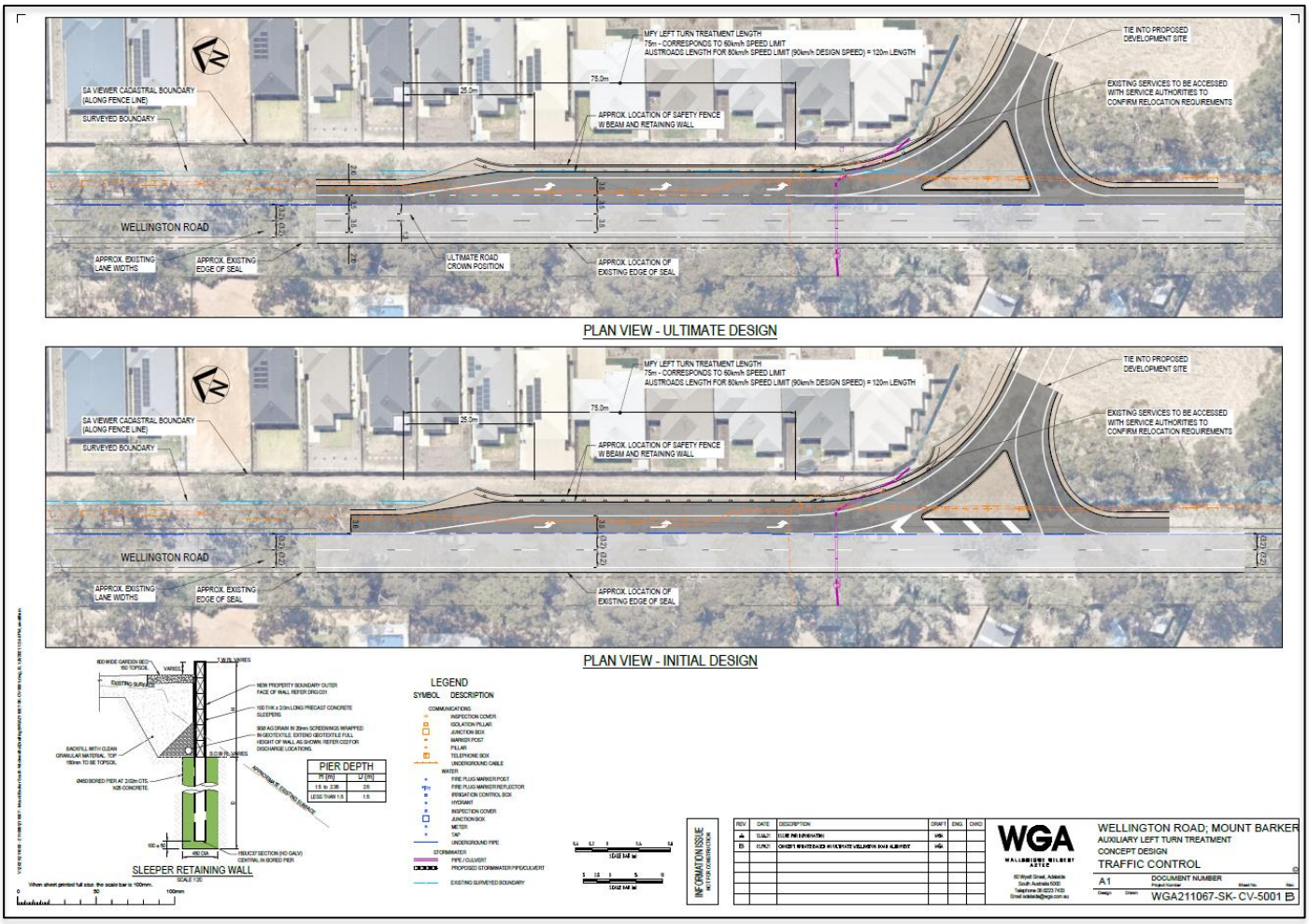

Figure 5. Site plan of the proposed slip lane

2.4 Approvals <u>required</u> *or* <u>obtained</u>

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 under this Act
- Planning, Development and Infrastructure Act 2016 – Development Application No. 580/617/15
- Water Resources Act 1997 – N/A
- Environment Protection and Biodiversity Conservation Act 1999 – N/A
- National Parks and Wildlife Act 1972 – N/A
- Landscapes SA – N/A
- Aboriginal Heritage Act 1988 – the site is within previously cleared and heavily disturbed farmland and not considered to pose a high risk of encountering Aboriginal sites or objects. If any objects, sites or remains are disturbed during construction, works will cease until relevant advice and approval is obtained.

2.5 Native Vegetation Regulation

Regulation 12 (34) - Infrastructure.

2.6 Development Application information (if applicable)

Zone – Master Planned Neighbourhood
Subzone – Emerging Activity Centre
Overlay – Native Vegetation Overlay

3. Method

3.1 Flora assessment

A 2.0 hour field survey followed a literature review and was undertaken on 4 November 2021, and a further visit to assess trees impacted by the proposed access off Wellington Road, on 13th December, by Jackie Ayre. The scope of works was outlined in documents provided by the client prior to the field surveys and informed by research using Naturemaps. The survey involved an assessment of several scattered trees subject to the works, and a general assessment of the site including identification of possible habitat for species of conservation significance.

The online search of the Environment Protection and Biodiversity Conservation (EPBC) Act "Matters of Environmental Significance", Atlas of Living Australia (AoLA) and the BDBSA databases was completed as background to the field assessment. Ten threatened plant species were recorded within the search criteria, including eight State Rare, and two Endangered (no EPBC rated species were recorded). No threatened flora species were noted on site, and their presence is not considered likely as the site is highly disturbed, having been cultivated or slashed for many years.

3.2 Fauna assessment

A review of databases was undertaken prior to the site visit to establish fauna species known, or considered likely, to occur at the site. Fourteen of the twenty-three species listed as threatened, and recorded within the search criteria, are reliant on wetland or aquatic habitats and were considered unlikely to find habitat in the vegetation assessed. Another two – the Grey Currawong and Short-beaked Echidna ssp.– are considered to be subspecies not occurring in this region. These are not listed under the Threatened Species Assessment at 4.2 but can be found in Appendix 1. Seven threatened species – two EPBC listed, five State listed, are recorded as potentially using habitat provided by the vegetation in the area to be developed.

The days of the site visit were breezy and fine. Evidence of the presence of fauna was 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. A pair of Yellow-tailed Black cockatoos was noted during the site visit.

4. Assessment Outcomes

4.1 Vegetation Assessment

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

- *Landform, geography and soils* – soils are described as red brown loam over well-structured clay, moderately well drained with high natural fertility; and landform as slopes of the central Mt Lofty Ranges exhibiting moderately steep rises.
- *Landform feature of significance* - several streams ranging from stream order 1 to 3 occur within 1-2km of the site to the east and west. Gullies divide the hillslopes. No rocky outcrops or other significant features noted.
- *General overview of the vegetation under application as a whole* – one plant association was found - *Eucalyptus leucoxylon ssp leucoxylon/Eucalyptus viminalis ssp cygnetensis* Open Woodland over exotic pasture, represented by scattered trees in paddocks and on roadsides.
- *General description of the vegetation relating to type and condition* – the trees assessed and present in the surroundings were exhibited a range of age classes, in varying condition from very healthy to dead, and with some regeneration noted, and occurring mainly on road reserve or near boundaries.
- *Provide a description of the landscape context for the vegetation* – the trees assessed were representative of the general landscape, consisting of scattered trees varying in density but mostly sparse and restricted to roadsides, creeklines and small patches on farmland yet to be developed. The closest protected areas are Totness Recreation Park, 4.5km to the northwest, and a Heritage Agreement located 5km west of the site.

Details of the scattered trees proposed to be impacted

Tree ID – Tree 1	
Tree spp. *Eucalyptus leucoxylon ssp leucoxylon*	
Number of trees – 1	
Height (m) – 21	
Hollows – 3 large, 4 medium 2 small	
Diameter (cm) – 132	
Canopy dieback (%) – 20	
Total Biodiversity Score – 8.63	
Photo 1. Looking south. This tree healthy with good foliage colour and density, and with 9 visible hollows. It has significant potential to provide habitat for threatened species. GPS 306323/6114919. Potential **loss factor 0.6** from root severance for car park construction.	

Tree ID – Tree 8	
Tree spp. *Eucalyptus viminalis ssp cygnetensis*	
Number of trees – 1	
Height (m) – 22	
Hollows – 2 small, 1 medium	
Diameter (cm) – 100	
Canopy dieback (%) – 30	
Total Biodiversity Score – 8.16	Photo 8. Looking northwest, this large over mature tree is beginning to senesce and previous failures are evident. Some of these have exposed hollows and the tree continues to provide potential nesting, feeding, and roosting sites for threatened species. Potential **loss factor 1.0**

Photo 9. (View in 'landscape)'. The tree is in fair good condition with three visible hollows. This crack in a broken scaffold branch is counted as one of the small hollows. GPS 306213/6114984.

Tree ID – Tree (cluster) 9 Tree spp. *Eucalyptus camaldulensis* Number of trees – 10 Height (m) – 14 Hollows – 0 Diameter (cm) – 20 Canopy dieback (%) – 60 Total Biodiversity Score – 3.79	

Photo 10. Viewed looking north. A group of regenerated saplings and young trees, densely spaced and fighting for dominance. They are in good condition generally, with several dead (not counted) and without hollows, but with potential to provide perching and feeding habitat for threatened species. GPS 306203/6114999. Potential **loss factor 1.0**

Tree ID – Tree (cluster) 10	
Tree spp. *Eucalyptus leucoxylon ssp leucoxylon*	
Number of trees – 6	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 15	
Canopy dieback (%) – 25	
Total Biodiversity Score – 3.10	

Photo 11. View in 'landscape'. Viewed looking north. A group of regenerated saplings and young trees, densely spaced and fighting for dominance. In good condition generally, with several dead (not counted) and without hollows, but with potential to provide perching and feeding habitat for threatened species. GPS 306203/6114999. Potential **loss factor 1.0**

Tree ID – Tree 11 Tree spp. *Eucalyptus leucoxylon ssp leucoxylon* Number of trees – 1 Height (m) – 8 Hollows – 0 Diameter (cm) – 15 Canopy dieback (%) – 30 Total Biodiversity Score – 0.32	

Photo 12. Viewed looking north. The tree is in fair - poor good condition without hollows, but with potential to provide perching and feeding habitat for threatened species. GPS 306172/6115044. Potential **loss factor 1.0**

Tree ID – Tree 12	
Tree spp. *Eucalyptus camaldulensis*	
Number of trees – 2	
Height (m) – 14	
Hollows – 0	
Diameter (cm) – 50	
Canopy dieback (%) – 60	
Total Biodiversity Score – 2.12	

Photo 13. Looking south-east. The trees are in poor condition without hollows, but with potential to provide perching and feeding habitat for threatened species. GPS306171/6115047. Potential **loss factor 1.0**

Tree ID – Tree 13 Tree spp. *Eucalyptus camaldulensis* Number of trees – 1 Height (m) – 10 Hollows – 0 Diameter (cm) – 45 Canopy dieback (%) – 30 Total Biodiversity Score – 1.04	

Photo 14. Looking north. The tree is in fair condition without hollows, but with potential to provide perching and feeding habitat for threatened species. GPS 306160/6115087. Potential **loss factor 1.0**

Tree ID – Tree 14 Tree spp. *Eucalyptus leucoxylon ssp leucoxylon* Number of trees – 1 Height (m) – 10 Hollows – 0 Diameter (cm) – 32 Canopy dieback (%) – 20 Total Biodiversity Score – 0.63	

Photo 15. Looking northwest. The tree is in fair condition without hollows, with limited potential habitat for threatened species. GPS 306160/6115079. Potential **loss factor 1.0**

Tree ID – Tree 15 Tree spp. *Eucalyptus camaldulensis* Number of trees – 1 Height (m) – 8 Hollows – 0 Diameter (cm) – 10 Canopy dieback (%) – 70 Total Biodiversity Score – 0.16	
Photo 16. Looking northwest. The tree is in poor condition without hollows, with limited potential habitat for threatened species. GPS 306161/6115079. Potential **loss factor 1.0**	

Tree ID – Tree 16 Tree spp. *Eucalyptus leucoxylon ssp leucoxylon* Number of trees – 1 Height (m) – 12 Hollows – 0 Diameter (cm) – 33 Canopy dieback (%) – 40 Total Biodiversity Score – 0.61	

Photo 17. Looking northwest. The tree is in fair condition without hollows, but with some potential to provide perching and feeding habitat for threatened species. GPS 306162/6115074. Potential **loss factor 1.0**

Tree ID – Tree 17 Tree spp. *Eucalyptus leucoxylon ssp leucoxylon* Number of trees – 1 Height (m) – 10 Hollows – 0 Diameter (cm) – 16 Canopy dieback (%) – 30 Total Biodiversity Score – 0.38	
Photo 18. Looking northwest. The tree is in fair condition without hollows, and limited potential to provide perching and feeding habitat for threatened species. GPS 306162/6115074. Potential **loss factor 1.0**	

Tree ID – Tree 18 Tree spp. *Eucalyptus leucoxylon ssp leucoxylon* Number of trees – 1 Height (m) – 1.5 Hollows – 0 Diameter (cm) – 2 Canopy dieback (%) – 0 Total Biodiversity Score – 0.18	
Photo 19. Looking south-east. The tree is a juvenile and species is uncertain. In good condition, but with limited habitat for threatened species. GPS306170/6115065. Potential **loss factor 1.0**	

Site map showing scattered trees impacted

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
Coturnix ypsilophora australis Brown Quail	V	-	4	2012	Prefers dense grasslands, often on the edges of open forests, and bracken. May sometimes be seen alongside roads.	Possible – exotic grassland habitat available but not on the edge of dense forests
Falcunculus frontatus frontatus Eastern Shriketit	R	-	4	2020	Found in eucalypt forests, woodlands, forested gullies and along rivers in drier areas. Sometimes seen in parks and gardens, on farms with scattered trees, and pine plantations.	Likely – suitable habitat present on and around the site
Falco peregrinus macropus Peregrine Falcon	R	-	3	2018	Found in most habitats, from rainforests to the arid zone, from the coast to alpine areas. Requires abundant prey and secure nest sites, prefers coastal and inland cliffs or open woodlands near water. May nest on high city buildings.	Highly likely. Suitable habitat for roosting/perching and observing prey exists.
Hieraaetus morphnoides Little Eagle	V	-	4	2012	Seen over woodland and forests, open country, extending into the arid zone. Tends to avoid heavy forest.	Likely – suitable habitat present on and around the site
Neophema elegans elegans Elegant Parrot	R	-	4	2020	Found in a wide variety of habitats, including grasslands, shrublands, mallee, woodlands and thickets, bluebush plains, heathlands, saltmarsh and farmland.	Likely – suitable habitat present on and around 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
Pteropus poliocephalus Grey-headed Flying-fox	R	VU	5	2020	Will feed in remnant native vegetation patches as well as urban areas. Also take the fruits of cultivated trees, especially when preferred food resources are limited	Likely – suitable habitat present on and around the site
Tachyglossus aculeatus Short-beaked Echidna	ssp	ssp	5	2020	Usually found in open heathland, forests, woodlands, scrublands and grasslands, among vegetation or in hollow logs.	Possible – site provides limited habitat for this species
Trichosurus vulpecula Common Brushtail Possum	R	-	4	2021	Eucalyptus and Sheoak woodlands. Nest in tree hollows or hollow logs, or crevices. Have adapted to suburbs, some nest in roof spaces	Highly likely – suitable habitat exist on and near the site
Zanda funerea whiteae Yellow-tailed Black Cockatoo	V	-	4	2017	A variety of habitat types, but favours eucalypt woodland and pine plantations	Known – observed on site during the assessment
Zoothera lunulata halmaturina SA Bassian Thrush	-	VU	5	2005 (outside 5km zone)	Damp, densely forested areas and gullies, usually with a thick canopy overhead and leaf-litter below.	Unlikely. Most recent record was in Totness recreation Park where more suitable habitat exists
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

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*
  Clearance is associated with construction of the supermarket, retail tenancies and ancillary infrastructure such as site compounds, car parking and access. Given the slope of the site, significant earthworks are required to achieve the scale of development. Many of the trees are on road reserve, except trees numbered 1, 8, 9 and 10. Impact to road reserve trees is from the slip lane into the development.
- *subsequent clearance that will be permitted or required (e.g. 10m around a building, 20m around a dwelling, clearance for fire protection)*
  This is unlikely to be required. One tree on the southern corner of the property, tree 1, is the subject of a Council requirement to retain without impact. This tree will be protected within landscaping (visible on the site plant at Figure 3).
- *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)*
  This type of impact has been included in the assessment. Vegetation on adjacent properties may suffer from dust impact during construction but it is anticipated that mitigation measures will be employed, such as the use of water carts.
- *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).*
  The district is experiencing significant growth, with a number of developers pursuing opportunities to meet demand with numerous residential and commercial/retail developments in progress, or in the planning stages, in the surrounding area. This will continue as suitable land is released. The impact on remnant vegetation is unquantifiable at this stage but likely to be significant.

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***
Options for retention of trees are limited given the scale of the development. A highly valuable Blue Gum, (tree 1) located on the southern corner of the site, is to be retained and incorporated into landscaping. Significant effort was made to retain this tree, including amending the size and layout of carparking; incorporating landscaping in the vicinity of the tree, and reducing level changes within the root zone. There may be some scope for alternative treatments to the cut batter proposed within the TPZ of this tree, which would reduce impact further.

Avoidance of all the scattered trees on and adjacent the development site is not possible if the form of development anticipated is to be achieved.

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).
Given the scale of earthworks, minimising impact is difficult, with the exception of Tree 1, were amendments to the design have bene made.

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.
There is scope for small scale revegetation on the site , however this is unlikely to be sufficient to adequately compensate for the loss of habitat resulting from the works, and appropriate ongoing maintenance cannot be assured. Payment of the offset into the fund is a more reliable method of achieving the habitat development or restoration.

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 SEB offset will be achieved via a payment into the fund of **$22,164.54**

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	**Considerations**
Principle 1a - it comprises a high level of diversity of plant species	Relevant information Five remnant species were found on the site., assessed as scattered trees. Patches; N/A Bushland Plant Diversity Score – N/A
	Assessment against the principles Seriously at Variance - List vegetation Associations - N/A At Variance – - List vegetation Associations - N/A
	Moderating factors that may be considered by the NVC N/A
Principle 1b - significance as a habitat for wildlife	Relevant information See Appendix 1 for full fauna species list. Seven species were assessed as likely to use the vegetation _ Brown Quail, Eastern Shriketit, Little Eagle, Elegant Parrot, Grey-headed Flying-fox, and Common Brushtail Possum. *Detail if the vegetation supports a high diversity of animal species, a corridor for movements between other areas of native vegetation, or a habitat refuge, especially in heavily cleared areas.* The vegetation is primarily along, or near, road reserve which in the past provided some connectivity to smaller patches. However, in the last decade or so, significant development has eroded the patches and almost totally severed any linkage. Trees; Fauna Habitat Score – 1.8 Biodiversity Score – Individual scores range from 0.16 (tree 15) to 8.63 (tree 1) TBS 20.50
	Assessment against the principles Seriously at Variance All scattered trees assessed exceed the 1.2 FHS and thus are SAV. At Variance – N/A
	Moderating factors that may be considered by the NVC Impact significance
Principle 1c - plants of a rare, vulnerable or endangered species	Relevant information *List threatened species that were recorded for the site or that may be present but undetectable at the time of assessment (e.g. orchids)* It's most unlikely any cryptic species would be present given the highly degraded (cropped, grazed) nature of the private block, and the weed invasion of the road reserve. No other listed species were observed on site. Identify the distribution of species within the area of impact – N/A What level of impact on the local population of the plant species? N/A

	Number of plants likely to be impacted in the clearance area - N/A Threatened Flora Score(s) – 0
	Assessment against the principles Seriously at Variance N/A At Variance – N/A
	Moderating factors that may be considered by the NVC N/A
***Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered*:**	Relevant information *Identify any threatened communities or threatened ecosystems present?* None found. Threatened Community Score – N/A
	Assessment against the principles Seriously at Variance N/A
	Moderating factors that may be considered by the NVC N/A
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	Relevant information *Provide remnancy figures for IBRA Association and IBRA Subregion* The Hahndorf IBRA Association has 8%, and the Mt Lofty Ranges Sub region has 15% remnant vegetation. Discuss the health and likely longevity of remnants. The scattered trees are in fair to good health but are sparsely scattered on the fringes of a rapidly developing landscape, close to a main road. Their longevity is not secure. Total Biodiversity Score – 20.50
	Assessment against the principles Seriously at Variance N/A At Variance All scattered trees assessed are at variance with this principle
	Moderating factors that may be considered by the NVC Impact significance Quality of the remnant
Principle 1f - it is growing in, or in association with, a wetland environment.	Relevant information The site is not associated with a wetland.
	Assessment against the principles Seriously at Variance N/A At Variance – N/A
	Moderating factors that may be considered by the NVC N/A
Principle 1g - it contributes significantly to the	Relevant information The trees are on, or adjacent a public road (Wellington Road) and as such can be seen by commuters on a frequent basis. Trees numbered 1 and 8 are of a significant size and condition and likely to be well known by locals.

amenity of the area in which it is growing or is situated.	*Provide details of cultural or historical values* - none evident *Discuss possible effect on landscape character* - this project alone will have limited impact on the visual character of the landscape, however, when considered along with clearance associated with other nearby developments, contributes to a greater impact overall.
	Assessment against the principles – NVC to determine.
	Moderating factors that may be considered by the NVC N/A

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	27
	Area (ha)	-
	Total biodiversity Score	20.50
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b), 1(e)
Risk assessment outcome		Level 4

5. Clearance summary

Scattered trees Summary table

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	8.63	0.6	5.44	$5,571.63
8	1	1.8	0	8.16	1.0	8.57	$8,781.89
9	10	1.8	0	3.79	1.0	3.98	$4,081.51
10	6	1.8	0	3.10	1.0	3.25	$3,333.61
11	1	1.8	0	0.32	1.0	0.34	$346.96
12	2	1.8	0	2.12	1.0	2.22	$2,278.34
13	1	1.8	0	1.04	1.0	1.10	$1,123.27
14	1	1.8	0	0.63	1.0	0.66	$681.02
15	1	1.8	0	0.16	1.0	0.16	$168.20
16	1	1.8	0	0.61	1.0	0.64	$660.76
17	1	1.8	0	0.38	1.0	0.40	$413.57
18	1	1.8	0	0.18	1.0	0.19	$190.35
Total	**42**			**20.50**		**21.52**	**$22,164.54**

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	0	0	$21,009.04	$1155.50	$22,164.54

Economies of Scale Factor	0.5
Rainfall (mm)	740

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) **$22,164.54**

7. Appendices

Appendix 1. Fauna and Flora Species Lists

CLASS NAME	SPECIES	COMNAME	ESACT STATUS CODE	NPWACT STATUS CODE	BIOREG STAT CODE
AVES	Actitis hypoleucos	Common Sandpiper		R	EN
AVES	Anhinga novaehollandiae novaehollandiae	Australasian Darter		R	VU
AVES	Ardea intermedia plumifera	Plumed Egret		R	
AVES	Biziura lobata menziesi	Musk Duck		R	
AVES	Coturnix ypsilophora australis	Brown Quail		V	
AVES	Egretta garzetta nigripes	Little Egret		R	VU
AVES	Falcunculus frontatus frontatus	Eastern Shriketit		R	EN
AVES	Gallinago hardwickii	Latham's Snipe		R	EN
AVES	Hieraaetus morphnoides	Little Eagle		V	EN
AVES	Lewin pectoralis pectoralis	Lewin's Rail		V	EN
AVES	Neophema elegans elegans	Elegant Parrot		R	VU
AVES	Oxyura australis	Blue-billed Duck		R	VU
AVES	Plegadis falcinellus	Glossy Ibis		R	RA
MAMMAL	Pteropus poliocephalus	Grey-headed Flying-fox	VU	R	RA
AVES	Spatula rhynchotis	Australasian Shoveler		R	RA
AVES	Stictonetta naevosa	Freckled Duck		V	VU
AVES	Strepera versicolor	Grey Currawong		ssp	LC
MAMMAL	Tachyglossus aculeatus	Short-beaked Echidna	ssp	ssp	NT
MAMMAL	Trichosurus vulpecula	Common Brushtail Possum		R	RA
AVES	Zapornia tabuensis	Spotless Crake		R	EN
AVES	Botaurus poiciloptilus	Australasian Bittern	EN		
AVES	Thinornis cucullatus cucullatus	Eastern Hooded Plover	VU		
AVES	Zoothera lunulata halmaturina	SA Bassian Thrush	VU		

Highlighted species are excluded from the assessment due to habitat specialisation

FAMILY NAME	SPECIES	COMNAME	ESACT STATUS CODE	NPWACT STATUS CODE
ORCHIDACEAE	Caladenia leptochila ssp. leptochila	Narrow-lip Spider-orchid		R
GRAMINEAE	Deyeuxia densa	Heath Bent-grass		R
GRAMINEAE	Echinopogon ovatus	Rough-beard Grass		R
MYRTACEAE	Eucalyptus fasciculosa	Pink Gum		R
MYRTACEAE	Eucalyptus viminalis ssp. viminalis	Manna Gum		R
AMARANTHACEAE	Ptilotus erubescens	Hairy-tails		R
COMPOSITAE	Senecio pinnatifolius var. pinnatifolius			R
ORCHIDACEAE	Thelymitra aristata	Great Sun-orchid		E*
ORCHIDACEAE	Thelymitra grandiflora	Great Sun-orchid		R
ORCHIDACEAE	Thelymitra ixioides	Spotted Sun-orchid		E*

Appendix 2. Scattered Tree Vegetation Assessment Scoresheet

SEB Required for Scattered Trees

(Version - 1 July 2020)

Landscapes Region	**H&F**	**Total Biodiversity Score**	20.50
Mean Annual Rainfall (mm)	**740**	**Total SEB Points required**	**21.52**
Economies of Scale factor	**0.5**	**Total SEB $ required**	**$22,164.54**

IBRA Association	**Hahndorf**

Tree Species	Number of Trees	Total SEB Points required	Payment in NV Fund (GST Exclusive)	Administration fee (GST Inclusive)	Total
Eucalyptus viminalis ssp cygnetensis	1	8.57	$8,363.70	$460.00	$8,823.71
Eucalyptus camaldulensis	4	7.47	$7,286.98	$400.78	$7,687.76
Eucalyptus leucoxylon ssp leucoxylon	6	5.49	$5,358.36	$294.71	$5,653.07
0	0	0.00	$0.00	$0.00	$0.00

Mt Barker
Woolworths Scatter

Appendix 3. Copies of associated approvals