

Arboricultural Impact Assessment

Proposed Manufactured Home Estate 16 Denton Close and 10 River Road, Windella, NSW 2320



Prepared for: Mavid Development Pty Ltd
14 December 2023

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Disclaimer

Direct observations are relevant only to the trees identified within this report. This report utilizes a rapid assessment of tree health and condition to inform retention value. This assessment of tree health and condition is based on non-destructive visual observations from ground level. Thus, it is not possible to identify all structural faults at high levels in the tree, internal structural faults or within the root system. Observations about Tree Health, Structure, Safe Useful Life Expectancy (SULE) and other characteristics have been made at the time of assessment and these characteristics may change over time due to natural growth of the tree as a living organism or due to unforeseen events. As such the observations that are supplied within are relevant for a period of 12 months from the time of assessment, after which re-assessment may be required for the trees assessed within this report. The recommendations and methodologies for Tree Protection within this report are relevant only to the Trees assessed within this report. The author is not responsible for tree damage related to failure to apply these recommendations or methodologies for Tree Protection in full within this report or for tree damage relating to works conducted by an unaffiliated person. No responsibility for damage to persons or property is accepted for damage by trees referred to within this report.



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1.0 Introduction

1.1 Background

At the request of the Mavid Development (the client), Anderson Environment & Planning (AEP) have prepared an Arborist Impact Assessment and Tree Protection Plan to address the potential arboricultural impacts from the proposed Manufactured Home Estate and associated civil infrastructure. The report assesses the impact of the proposal at 16 Denton Close and 10 River Road Windella, NSW.

This report considers the Biodiversity Development Assessment Report (BDAR) undertaken for this development (AEP, 2023).

1.2 Objectives

Further to the above the following objectives for this report have been assigned:

- Tree identification plan and schedule identifying tree species, size, canopy spread and the like;
- Assessment of all internal trees within Lot 9 DP 553872 and Lot 1 DP 245953 including, but not limited to, the health and vigour of the trees, structural integrity, life expectancy, retention value and landscape significance;
- Likely impact the proposed development will have on trees to be retained including TPZ and SRZ encroachments; and
- Tree protection plan and methodologies throughout the development for all impacted trees to be retained.

2.0 Site Description and Locality

Table 1 provide the site details for the Subject Site.

Table 1: Site Particulars

Detail	Comments
Client	Mavid Development Pty Ltd
Address	16 Denton Close and 10 River Road Windella, NSW
Title(s)	Lot 9 DP 553872 and Lot 1 DP 245953
Study Area	The Study Area includes a prominent cleared landscape with various mature exotic and native vegetation. <i>Eucalyptus moluccana, eucalyptus crebra</i> and <i>eucalyptus punctata</i> dominate the canopy cover. Two residential dwellings, sheds and a single dam is located within the study area along with several grazing farm animals. The site is Approx. 15 ha.
LGA	Maitland City Council
Zoning	RU2 - Rural Landscape:
Current Land Use	The site currently is used for animal grazing and residential home stay.



Detail	Comments
Surrounding Land Use	The study area is within a small locality of residential houses, bounded by the New England Highway in the southern portion of the lots, whilst the Royal Newcastle Aero Club and air strip is placed directly east of the site, residential housing is situated in the west and northern section.
Soil	The soil landscapes within the site are identified as the Branxton (10 Denton Close and part 10 River Road) and Lochinvar (10 River Road) Soil landscapes. The likely dominant topsoil types are likely either;
	 Brown sandy clay loam or silty clay loam (Lochinvar); or Brown loamy sand to fine sandy loam (Branxton).

3.0 Proposed Development

It is proposed to construct a Manufactured Home Estate with associated civil infrastructure within the site.

Figure 1 depicts the extent of the site overlain on an aerial photograph of the locality.

Figure 2 shows a concept plan for the proposed development.





Figure 1 - Site Location

Location: 16 Denton CI & 10 River Rd, Windella

Client: Mavid Group Pty Ltd

Date: Dec 2023

AEP Ref: 3154



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PROPOSED OVERALL SITE PLAN

Date. NOV 23 Drawn. AK Job No. 3239 Scale@A11:1250 C:(Users\Thomas\Documents\3239_TP CENTRAL_thomasAV6PE.rr



4.0 Methodology

The site inspection was undertaken on the 15th and 16th December 2022 and 23rd March 2023. Each tree observed within the Subject Site was assigned a unique tree number. Tree species were identified based on guidance from regional identification guides (Fairley and Moore 1989, Robinson 2003), and descriptions and records provided by the Royal Botanic Gardens (Plantnet 2022).

4.1 Visual Tree Assessment

A visual tree assessment to evaluate the health and condition of these trees in relation to the impacts of the proposed development was undertaken from ground level following the methodology described by Mattheck and Breloer (1994). Tree height was estimated following the guidance outlined in the Private Native Forestry Code of Practice (DECC 2007) and confirmed with a laser range finder. The Diameter at Breast Height (DBH) and Diameter Above Buttress (DAB) was determined using a DBH tape and methods of calculation for the Structural Root Zone (SRZ) and Tree Protection Zone (TPZ) applied as outlined in Australian Standard 4970-2009 *Protection of trees on development Sites* (AS 4970 – 2009) (Standards Australia 2009). Tree Total Canopy Area was estimated from the formula Pi x (average canopy spread)².

4.2 SULE

The SULE method (Safe Useful Life Expectancy) estimates the suitability of the tree in the urban landscape based on the species and age of the subject tree (Barrell 1996). The following ranges have been allocated to each assessed tree:

- Greater than 40 years (Long);
- Between 15 and 40 years (Medium);
- Between 5 and 15 years (Short);
- Dead, dying, suppressed, defective or damaged (Remove); and
- Less than 5m in height or 15years of age (Young or small tree).

A full explanation of SULE methodology is included in **Appendix B**.

4.3 Tree Retention Value

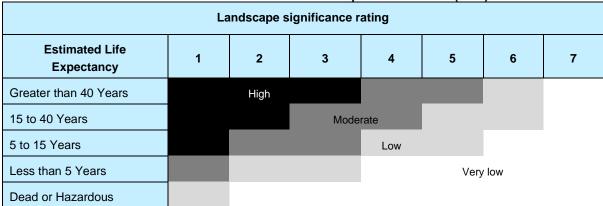
To determine tree Retention Value a Landscape Significance Rating (LSR) was assigned to each tree. The LSR value provides consideration of the trees amenity, environmental and heritage values (refer **Appendix B**). Trees are then assigned one of the following LSR categories:

- Significant (1);
- Very High (2);
- High (3);
- Moderate (4);
- Low (5);
- Very Low (6); and
- Insignificant (7).

Once the landscape significance value has been determined the following assessment matrix that utilises estimated life expectancy and landscape significance (**Table 2**) was applied to each tree.



Table 2: Tree Retention Status Matrix Assessment matrix adopted from Morton (2006).



4.4 Limitations

This report utilises a rapid assessment of tree health and condition to inform retention value. Should a detailed assessment of tree structural health and condition be required a tree risk assessment report should be commissioned.

This assessment of tree health and condition is based on non-destructive visual observations from ground level. Thus, it is not possible to identify all structural faults at high levels in the tree, internal structural faults or within the root system. Should a detailed assessment for structural faults be required a tree risk assessment report should be commissioned.

Weather conditions such as extreme wind, storm activity, lightning as well as other events or disturbances independent of the proposed activities are unpredictable. Unforeseeable damage to trees may occur as a result of unpredictable or unplanned weather events or disturbances.

Tree identifications are based on identifying features (fruit, inflorescence, etc.) found and made at ground level from within the subject site during December and March.

The total canopy area for each tree utilised within this report is an estimation based on field observation of canopy spread and the true amount of canopy area may differ.

Tree identified within by this plan are located to GPS accuracy and there may be some minor discrepancy in the true location.

Impact assessment was based to limited concept design confined to identification of the approximate proposal footprint at the time of preparation of this report. Variation of this concept design will alter some of the recommendations and this report should be updated to reflect these changes.



5.0 Tree Assessment Results

A total of 233 individual trees and 5 stands were identified within the site and neighbouring properties and assessed. Observations were made for each assessed tree (Appendix A). Tree locations are shown in Figures 3-7.

5.1 Summary of Tree Condition and Characteristics

Of the 233 trees and 5 stands assessed, 207 of these trees are located within the Subject Site.

The five (5) stands assessed are groups of *Casuarina glauca* (Swamp She-Oak) of similar age, size and characteristics.

All trees assessed within the site are native species. The condition of the assessed trees includes two (2) in poor or dead condition, 24 in fair condition, and 212 including five (5) stands in good condition.

Notable Trees within this grouping that are in poor or dead Structural and Health Condition including the following:

- Tree 62 *Eucalyptus tereticornis* (Forest Red Gum), indicating various cracking and twisting throughout as numerus root inclusions and mechanical damage have resulted in large amounts of deadwood % among this poor health condition tree.
- Tree 212 Eucalyptus crebra (Narrow- leaved Ironbark), is a standing dead tree.

5.2 Summary of Landscape Significance and Retention Value

The following landscape significance ratings (LSRs) have been applied to the assessed trees;

- Two (2) 'Significant' The tree is visually prominent in view from surrounding properties, with a very large crown size and is a representative of the original vegetation of the area;
- 13 'Very High' These trees have a very large live crown size exceeding 200m²; and as a representative of the original vegetation of the area;
- 223 (including 5 stands) 'High', due to their canopy size and good health and as representatives of the original vegetation of the area; and

With consideration of the estimated life expectancy for each tree, Retention Values were assigned to each tree within the site. This identified the following;

- 11 'High'; and
- 227 (including 5 stands) 'Moderate' Retention Value trees.

The following habitat features were observed;

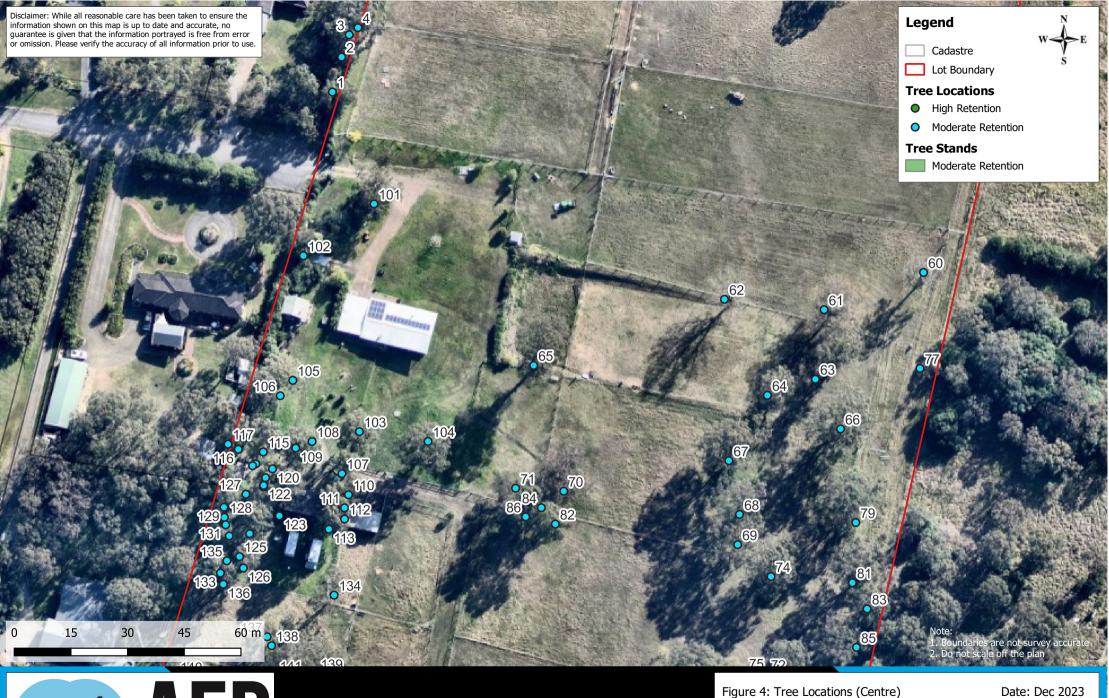
- Two stick nests were identified on Trees 46 and 157.
- Hollows, large and small were observed on Trees 58, 59, 63, 66, 93, 136, 137, 158, 193, 194, 195, 202, 213, 226, 227.





Location: 16 Denton Cl & 10 River Rd, Windella

Client: Mavid Development Pty Ltd AEP ref: 3154





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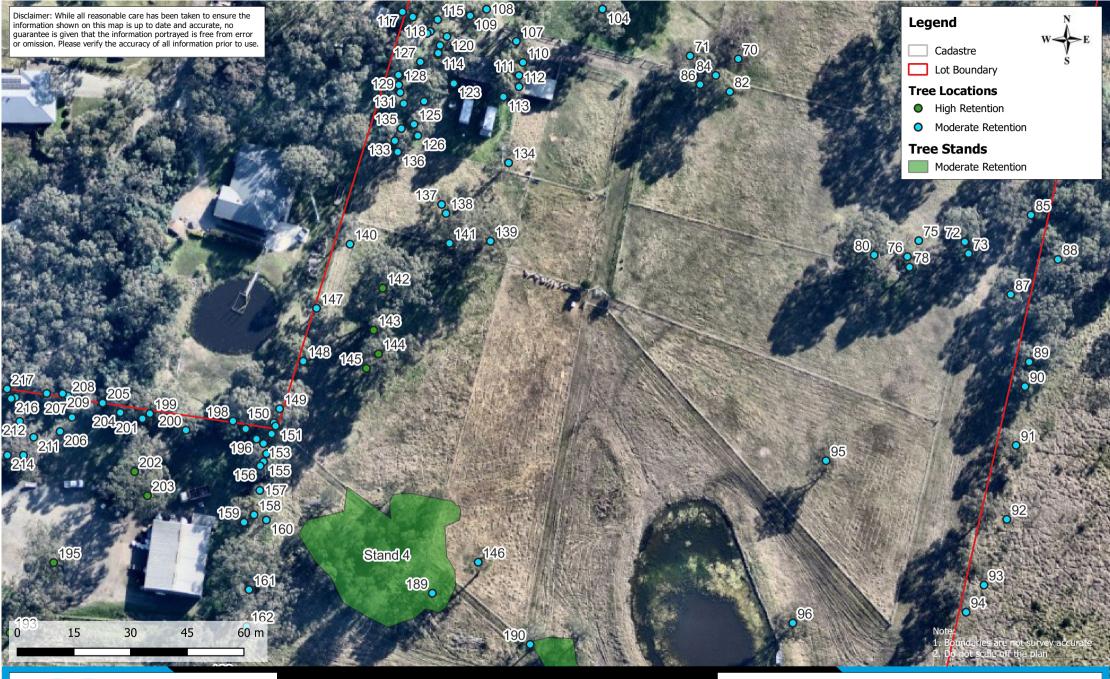
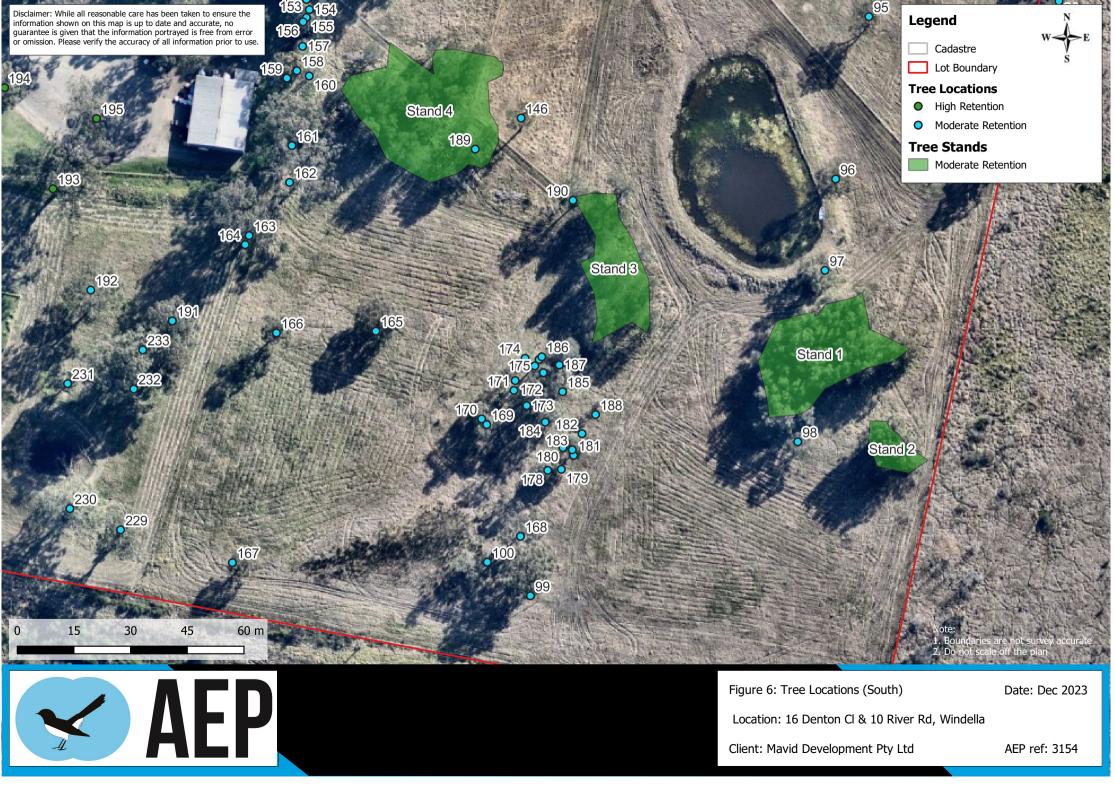




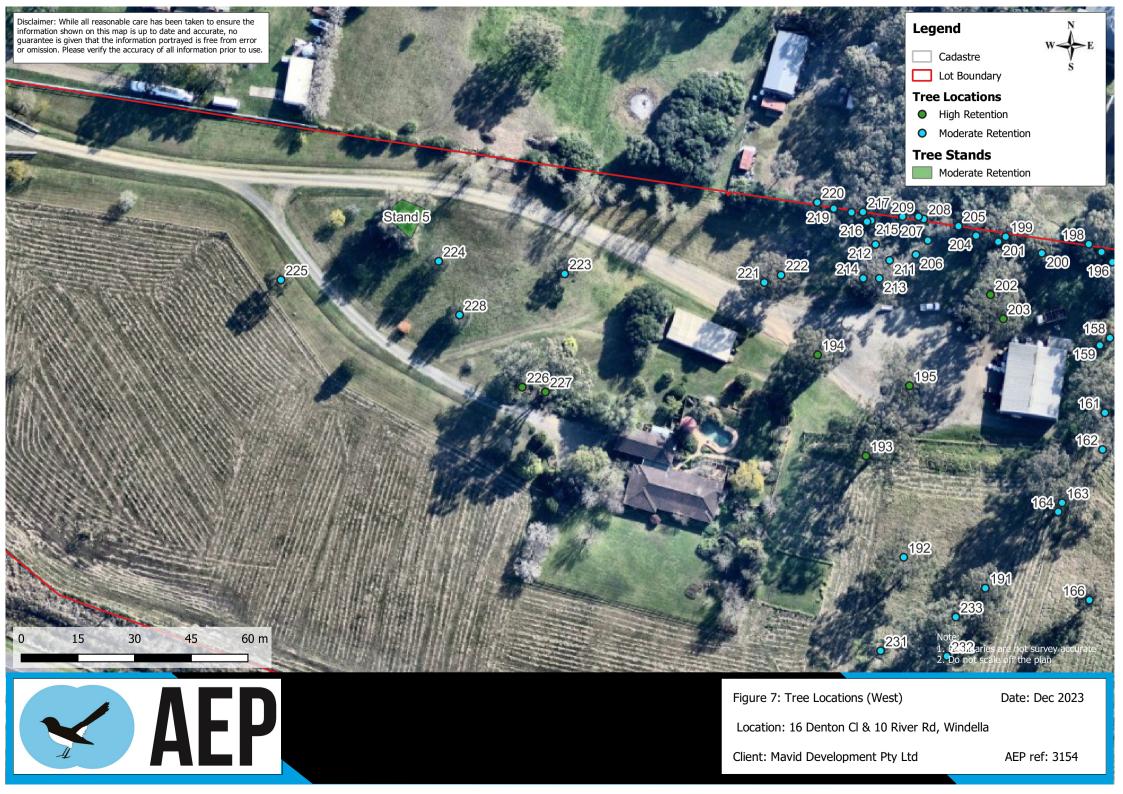
Figure 5: Tree Locations (Centre) Date: Dec 2023

Location: 16 Denton Cl & 10 River Rd, Windella

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6.0 Tree Impact Assessment

6.1 Proposal Impacts

Upon review of the supplied proposal footprint, 84 Trees including five (5) stands will require removal as they are located within the development footprint These include:

- Six (6) High Retention Value Trees (Trees 145, 193-195 and 226-227); and
- 78 Moderate Retention Value Trees (Trees 19, 29-38, 55-80, 82-87, 95-98, 101, 104, 134, 19, 146, 161-166, 190-192, 211, 213-214, 221-225, 228, 231-233 and Stands 1, 2, 3, 4, 5).

These trees will require removal to facilitate the development. Impacts are unlikely to be mitigated through tree protection measures without major design changes, and tree stability and viability cannot be guaranteed.

13 trees will require removal as these trees will be impacted by predicted structural root zone encroachment. These include:

• 13 Moderate Retention Value Trees (Trees 17-17, 22-23, 26, 28, 39, 81, 94, 103 and 110-112).

A further tree (212) will require removal as it is dead.

These trees will require removal to facilitate the development. Impacts are unlikely to be mitigated through tree protection measures without major design changes, and tree stability and viability cannot be guaranteed.

Impacts upon the local environment by tree removal within this report have already been considered in a Biodiversity Development Assessment Report (BDAR) for this site (AEP, 2023).

Upon review of the supplied proposal footprint, 113 trees can be retained as they are located outside of the development footprint. These include:

- One (1) High Retention Value Tree (Trees 142)
- 112 Moderate Retention Value Trees (Trees 1-14, 25, 42-47, 49-53, 88, 91-93, 99-100, 102, 105-109, 114-133, 135-138, 140-141, 147, 153-158, 167-186, 189, 196-201, 204-210, 215-220 and 229-230).

A further 27 trees can be retained with specific tree protection fencing displayed in **Figure 8-12 and Appendix D**, as they are situated within close proximity to the development footprint. The following relates to tree protection for these trees;

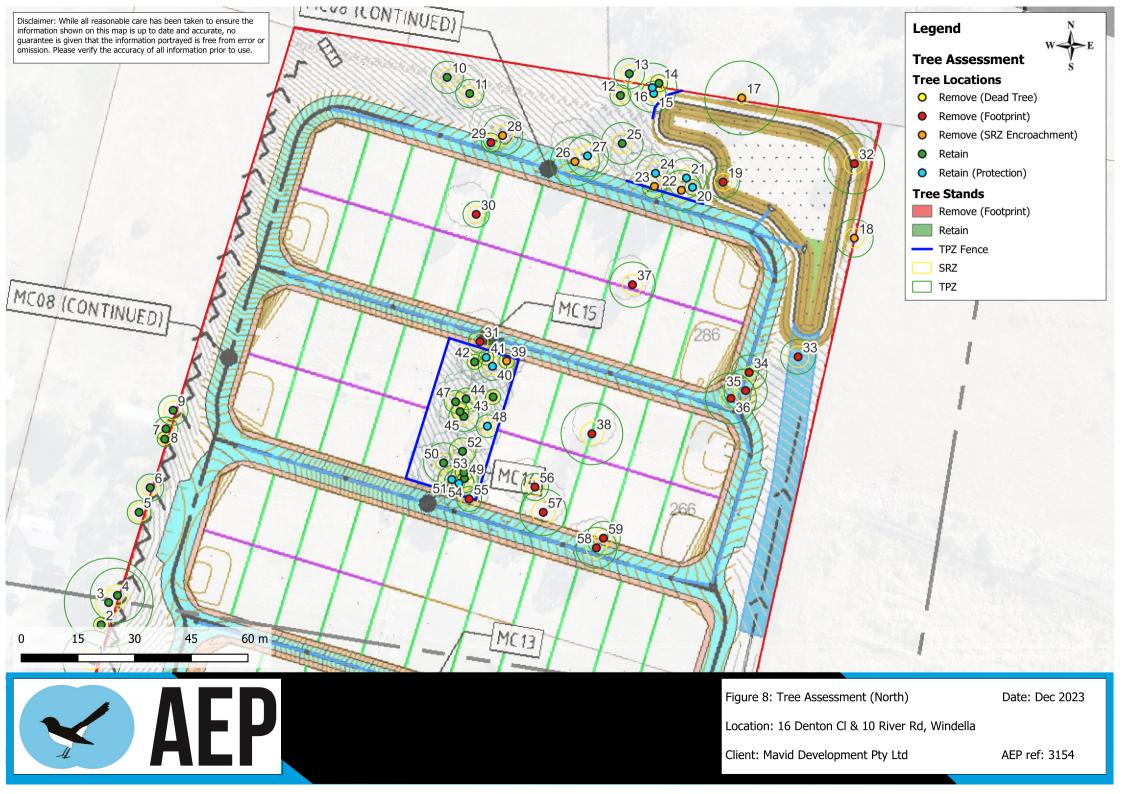
- Four (4) High Retention Value Tree (Trees 143-144 and 202-203)
- 23 Moderate Retention Value Trees (Trees 15-16, 20-21, 24, 27, 40-41, 48 51, 54, 89-90, 113, 148-152, 159-160 and 187-188).

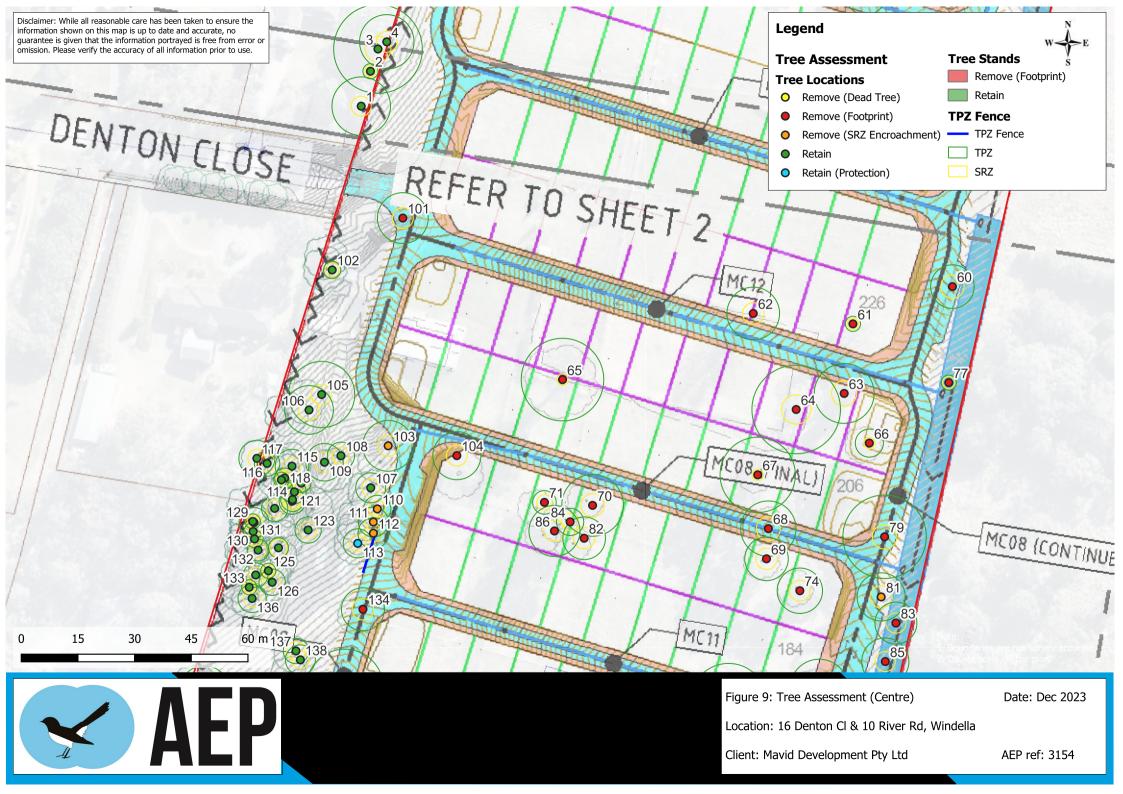


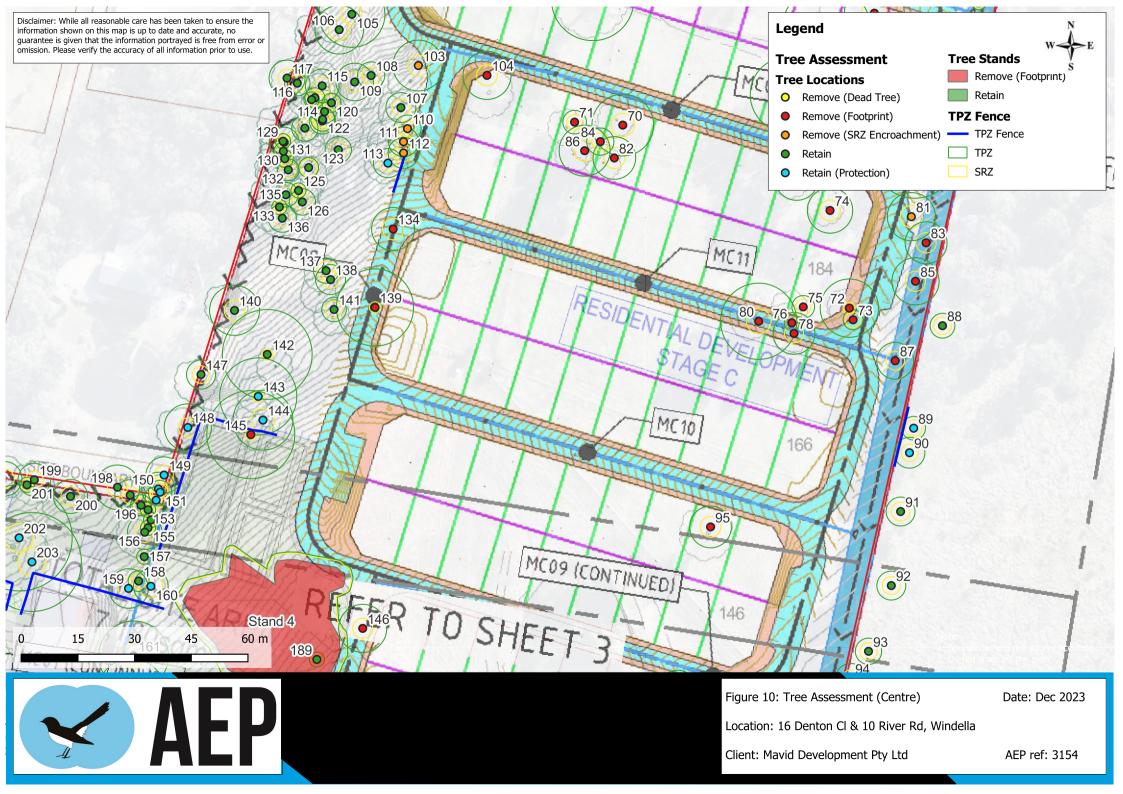
 Table 3 provides a summary of impact assessment.

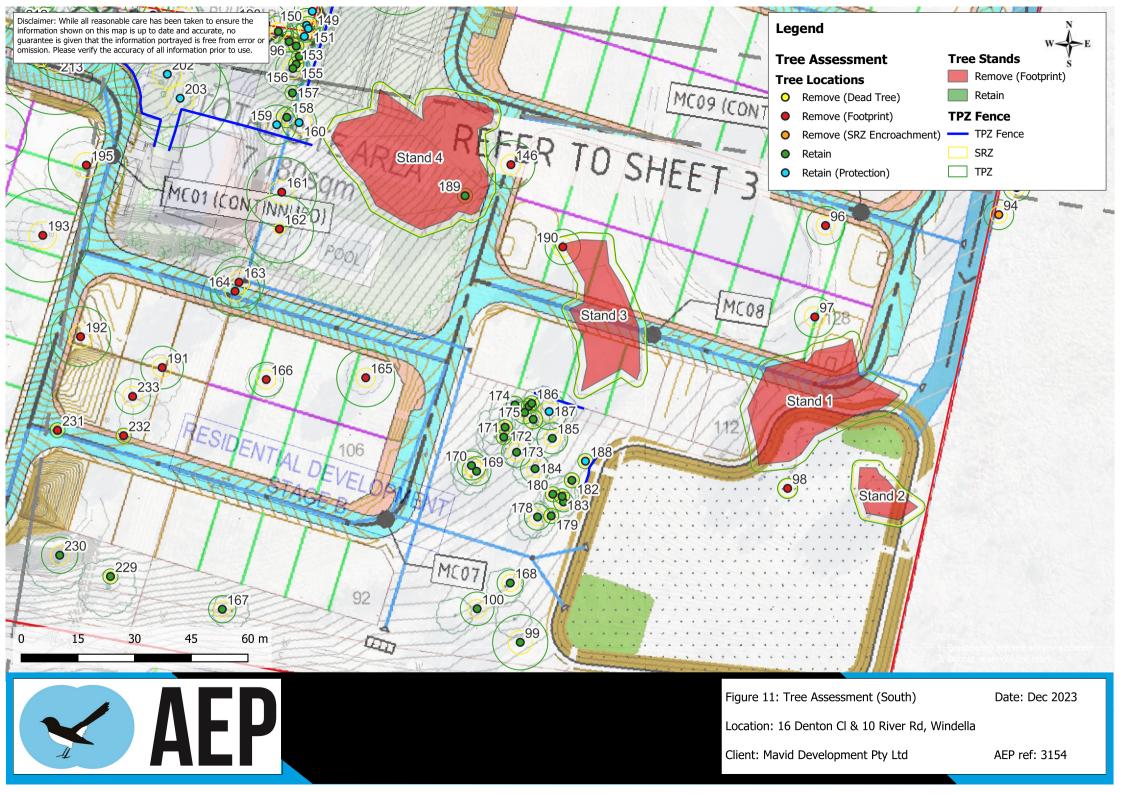
Table 3 Summary of Impact Assessment

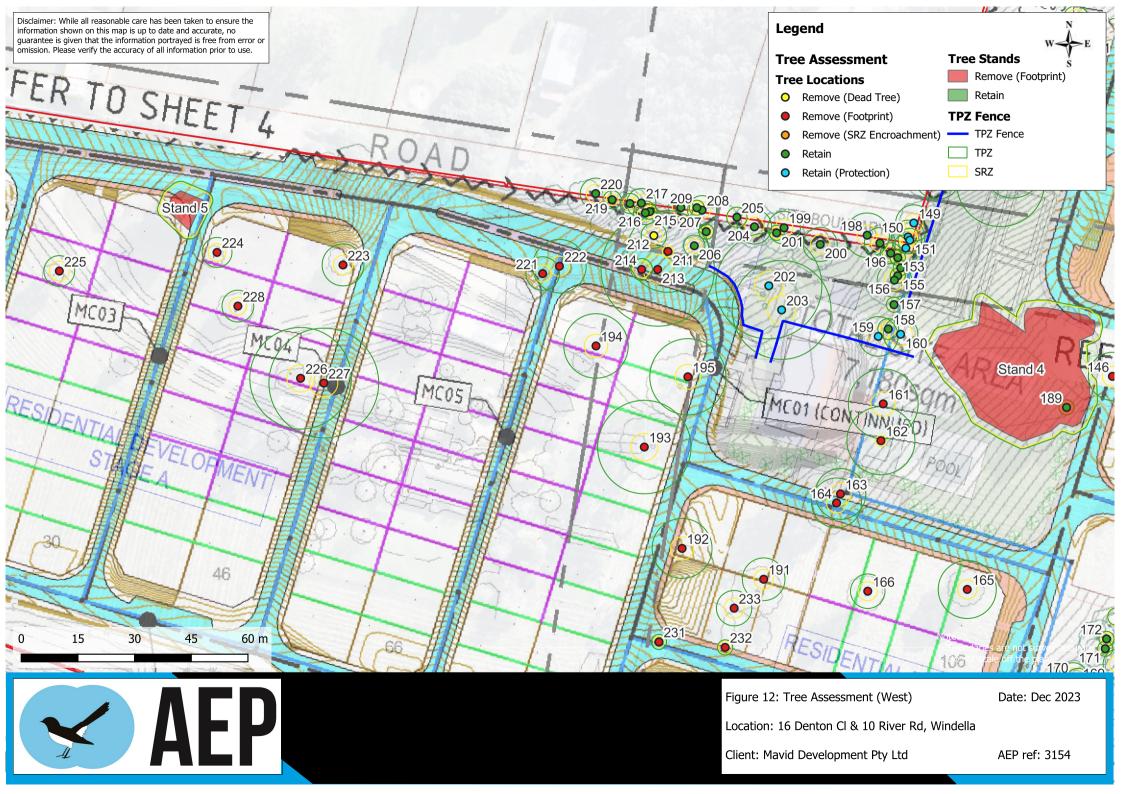
_	F	Retention Value (Tree No	p)	T
Tree Assessment	High	Moderate	Low	Total
Remove (TPZ/SRZ Encroachment)		Trees 17-17, 22-23, 26, 28, 39, 81, 94, 103 and 110-112		13
Remove (Development Footprint)	Trees 145, 193-195 and 226-227	Trees 19, 29-38, 55-80, 82-87, 95-98, 101, 104, 134, 19, 146, 161-166, 190-192, 211, 213-214, 221-225, 228, 231-233 and Stands 1, 2, 3, 4, 5		84
Remove (Dead/Dying)		Tree 212		1
Total Tree Removal	6 Trees	92 Trees and 5 Stands		103
Retain (No fencing)	Trees 142	Trees 1-14, 25, 42-47, 49-53, 88, 91-93, 99- 100, 102, 105-109, 114-133, 135-138, 140-141, 147, 153- 158, 167-186, 189, 196-201, 204-210, 215-220 and 229-230		113
Retain (Protection fencing)	Trees 143-144 and 202-203	Trees 15-16, 20-21, 24, 27, 40-41, 48 51, 54, 89-90, 113, 148- 152, 159-160 and 187-188		27
Total Tree Retention	5 Trees	135 Trees		140













7.0 Recommendations

7.1 Tree Retention and Removal

- Trees designated for removal within this report as outlined in Section 6 should be removed by a qualified tree worker with appropriate professional liability insurance, and removed in a manner to prevent damage to retained trees.
- Trees designated for retention within this report as outlined in **Section 6** to the development footprint should be retained with Tree Protection Measures.

7.2 Tree Protection Measures

- All tree maintenance and pruning works should be carried out by a qualified tree worker in accordance with AS4373 –2007 Pruning of Amenity Trees.
- A continuous TPZ fence should be installed for retained trees in Figure 4. The TPZ shall be
 delineated by a 1.8m interlocking chain wire fence located around trees designated to be
 retained within close proximity to the Works, in accordance with AS 4687. Appendix D details
 tree protection fencing that should be implemented.
- TPZ fencing must be installed before the commencement of any Works. The fencing should not be removed or altered until after the completion of works.
- All Contractors working in close proximity to the TPZ of Trees to be retained should be briefed
 as to the requirements of the Tree Protection Zone.
- The TPZ fencing and zone should be certified by the project arborist before construction commences.
- Tree health and condition should be monitored by the project arborist at regular stages during construction, at practical completion of construction, and after completion.
- The following activities should be avoided within the TPZ of trees to be retained where practicable:
 - Machine excavation of soil including trenching;
 - Operation of heavy equipment;
 - Stockpiling of soils;
 - Storage of heavy or other equipment;
 - Parking of vehicles;
 - Wash down and cleaning of equipment;
 - Excavation for silt fencing;
 - Dumping of waste;
 - o Change of soil level or gradient; and
 - o Covering with concrete, impermeable, or compacted surfaces.
- Where works are required that encroach into TPZ of trees to be retained, additional protection measures, which include trunk and low branch guards, and ground protection measures should be implemented following guidance in Australian standard AS 4970 2009 Protection of trees on development Sites (Appendix D). These works should only be conducted under supervision of the project arborist. The use of "soft" construction methods including manual and vacuum removal of soils is recommended for works conducted within the TPZ of Trees to be retained.



7.3 Other Recommendations

- Clothing, equipment and boots should be clean and sanitised prior to each site visit to prevent onsite introduction of plant pests and diseases such as Myrtle rust.
- Vehicles and construction equipment should utilise designated entry and egress points to avoid potential of impacts on Trees to be retained.

8.0 Conclusion

The recommendations for tree retention and removal have been made with consideration of minimising Arboricultural impacts.

Based on the tree retention and removal proposed above the current proposal footprint will require the direct removal of 98 of the assessed trees and 5 stands, while 140 assessed trees can be retained within the site, with 27 requiring Tree Protection Measures including tree protection fencing.

Please note that assessment of tree removal and retention has been made with regards to a limited concept plan. These recommendations may be subject to change once further design and engineering detail has been prepared and this report will require updating in accordance with these changes.

The implementation of a detailed Tree Protection Plan and Tree Protection measures will be an essential part of the Construction Environment Management Plan to avoid further loss of trees in close proximity to the construction footprint.

We trust this meets your requirements. Should you require further details or clarification, please do not hesitate to contact the undersigned or Natalie Black Senior Environmental Manager (0431 249 360).

Yours faithfully,

Warwick Muir

Ecologist / Arborist

BSc AQF5

0448 689 698



9.0 References

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Standards Australia (2018) AS 4419 :2018 Soils for Landscape use. Standards Australia Limited, NSW



Appendix A – Tree Schedule



Append	dix A- Asse	ssed Tree	Sched	lule	1																
Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	N	Canopy S	Spread (m)	w	Canopy Spread Average (m)	Estimated Total Canopy Area (m²)	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
	Eucalyptus	0	0.04	0.50							40	Moderate	Matana	Octob	0 1	LPak	45.40	Madazata	7.7	0.0	Datain
1	punctata Eucalyptus	Grey Gum	0.64	0.58	3	4	3	2	3	28	12	(15-40)	Mature Juvenil	Good	Good	High	15-40	Moderate	7.7	2.6	Retain
2	punctata Eucalyptus	Grey Gum	0.09	0.13	1	1	2	1	1.25	5	8	High (40+) Moderate	е	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
3	punctata	Grey Gum	0.98	1.08	6	7	9	5	6.75	143	14	(15-40)	Mature	Good	Good	High	15-40	Moderate	11.7	3.4	Retain
4	Eucalyptus punctata	Grey Gum	0.60	0.65	5	4	1	5	3.75	44	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.2	2.8	Retain
5	Eucalyptus tereticornis	Forest Red Gum	0.26	0.48	4	5	3	3	3.75	44	9	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	3.1	2.4	Retain
6	Eucalyptus punctata	Grey Gum	0.30	0.40	5	4	1	1	2.75	24	7	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.3	Retain
7	Eucalyptus canaliculata	Large Fruited Grey Gum	0.06	0.10	1	1	1	1	1	3	7	High (40+)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
8	Eucalyptus punctata	Grey Gum	0.26	0.31	5	4	6	8	5.75	104	19	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	3.1	2.0	Retain
9	Eucalyptus tereticornis	Forest Red Gum	0.33	0.51	1	1	1	1	1	3	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.9	2.5	Retain
10	Eucalyptus crebra	Narrow- leaved Ironbark	0.35	0.50	3	2	4	3	3	28	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.3	2.5	Retain
11	Eucalyptus moluccana	Grey Box	0.31	0.36	4	5	3	3	3.75	44	8	Short (5-15)	Mature	Fair	Fair	High	15-40	Moderate	3.7	2.2	Retain
12	Eucalyptus moluccana	Grey Box	0.23	0.28	3	1	1	1	1.5	7	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.8	1.9	Retain
13	Eucalyptus moluccana	Grey Box	0.34	0.45	1	2	1	2	1.5	7	10.5	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.4	Retain
14	Eucalyptus moluccana	Grey Box	0.19	0.27	1	1	1	1	1	3	8	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	1.9	Retain
15	Eucalyptus moluccana	Grey Box	0.27	0.33	1	2	1	2	1.5	7	8	High (40+)	Mature	Good	Good	High	15-40	Moderate	3.2	2.1	Retain (Protection)
16	Eucalyptus moluccana	Grey Box	0.54	0.62	5	4	2	3	3.5	38	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.5	2.7	Retain (Protection)
17	Eucalyptus crebra	Narrow- leaved Ironbark	0.81	0.20	1	1	1	1	1	3	7	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	9.8	1.7	Remove (SRZ Encroachment)
18	Eucalyptus moluccana	Grey Box	0.42	0.55	3	2	3	1	2.25	16	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.0	2.6	Remove (SRZ Encroachment)
19	Eucalyptus moluccana	Grey Box	0.36	0.42	3	3	2	4	3	28	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.3	2.3	Remove (Footprint)
20	Eucalyptus moluccana	Grey Box	0.17	0.32	2	4	3	3	3	28	8	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	2.1	Retain (Protection)
21	Eucalyptus moluccana	Grey Box	0.44	0.60	8	3	6	7	6	113	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.3	2.7	Retain (Protection)
22	Eucalyptus moluccana	Grey Box	0.44	0.70	3	6	7	5	5.25	87	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.3	2.8	Remove (SRZ Encroachment)
23	Eucalyptus moluccana	Grey Box	0.27	0.54	2	3	4	3	3	28	13	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.2	2.6	Remove (SRZ Encroachment)
24	Eucalyptus moluccana	Grey Box	0.41	0.78	5	6	6	6	5.75	104	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.0	3.0	Retain (Protection)
25	Eucalyptus moluccana	Grey Box	0.46	0.60	5	4	6	7	5.5	95	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.5	2.7	Retain
26	Eucalyptus moluccana	Grey Box	0.54	0.97	6	7	8	7	7	154	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.4	3.3	Remove (SRZ Encroachment)



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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)		T	Spread (m)	T	Spread Average	Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
07	Eucalyptus	Crow Day	0.40	0.00	N	E	S	W	(m)	(m²)	40	Moderate	Meture	Cood	Cood	LEab	45.40	Madausta		2.0	Datain (Dratastian)
27	moluccana Eucalyptus	Grey Box	0.46	0.69	3	2	5	4	3.5	38	10	(15-40) Moderate	Mature	Good	Good	High	15-40	Moderate	5.5	2.8	Retain (Protection) Remove (SRZ
28	moluccana	Grey Box Narrow-	0.44	0.67	4	4	3	3	3.5	38	11	(15-40)	Mature	Good	Good	High	15-40	Moderate	5.3	2.8	Encroachment)
29	Eucalyptus crebra	leaved Ironbark	0.21	0.31	2	1	3	3	2.25	16	8	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.5	2.0	Remove (Footprint)
30	Eucalyptus moluccana	Grey Box	0.29	0.37	3	3	4	5	3.75	44	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.2	Remove (Footprint)
31	Eucalyptus crebra	Narrow- leaved Ironbark	0.25	0.36	3	4	4	2	3.25	33	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.0	2.2	Remove (Footprint)
32	Eucalyptus moluccana	Grey Box	0.67	0.61	5	4	5	4	4.5	64	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.0	2.7	Remove (Footprint)
33	Eucalyptus moluccana	Grey Box	0.38	0.70	1	1	1	1	1	3	8	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	2.8	Remove (Footprint)
34	Eucalyptus moluccana	Grey Box	0.39	0.15	3	2	1	2	2	13	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	1.5	Remove (Footprint)
35	Eucalyptus moluccana	Grey Box	0.48	0.81	2	2	2	2	2	13	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.7	3.0	Remove (Footprint)
36	Eucalyptus moluccana	Grey Box	0.56	0.74	1	1	1	1	1	3	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.7	2.9	Remove (Footprint)
37	Eucalyptus moluccana	Grey Box	0.50	0.60	2	2	2	2	2	13	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.0	2.7	Remove (Footprint)
38	Eucalyptus crebra	Narrow- leaved Ironbark	0.68	0.82	4	3	1	2	2.5	20	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.2	3.0	Remove (Footprint)
39	Eucalyptus crebra	Narrow- leaved Ironbark	0.17	0.22	3	1	1	2	1.75	10	8	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.8	Remove (SRZ Encroachment)
40	Eucalyptus crebra	Narrow- leaved Ironbark	0.31	0.45	2	2	2	2	2	13	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.7	2.4	Retain (Protection)
41	Eucalyptus crebra	Narrow- leaved Ironbark	0.15	0.22	1	1	1	1	1	3	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain (Protection)
42	Eucalyptus crebra	Narrow- leaved Ironbark	0.16	0.22	2	2	2	2	2	13	8	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain
43	Eucalyptus crebra	Narrow- leaved Ironbark	0.11	0.15	1	1	1	1	1	3	7	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
44	Eucalyptus crebra	Narrow- leaved Ironbark	0.24	0.37	1	1	1	1	1	3	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.9	2.2	Retain
45	Eucalyptus crebra	Narrow- leaved Ironbark	0.33	0.46	5	5	2	2	3.5	38	12	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	4.0	2.4	Retain
46	Eucalyptus crebra	Narrow- leaved Ironbark	0.19	0.25	1	2	3	2	2	13	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	1.8	Retain
47	Eucalyptus crebra	Narrow- leaved Ironbark	0.25	0.39	1	2	4	2	2.25	16	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.0	2.2	Retain
48	Eucalyptus crebra	Narrow- leaved Ironbark	0.25	0.30	2	5	4	3	3.5	38	9	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	3.0	2.0	Retain (Protection)
49	Eucalyptus crebra	Narrow- leaved Ironbark	0.31	0.52	4	5	4	4	4.25	57	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.7	2.5	Retain
50	Eucalyptus crebra	Narrow- leaved Ironbark	0.44	0.46	5	3	5	5	4.5	64	10	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	5.3	2.4	Retain



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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)			Spread (m)		Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
		Narrow-			N	E	S	W	(m)	(m²)											
51	Eucalyptus crebra	leaved Ironbark	0.30	0.62	6	4	5	4	4.75	71	10	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	3.7	2.7	Retain (Protection)
52	Eucalyptus crebra	Narrow- leaved Ironbark	0.30	0.60	5	5	2	3	3.75	44	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.7	Retain
53	Eucalyptus crebra	Narrow- leaved Ironbark	0.19	0.30	3	1	2	1	1.75	10	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	2.0	Retain
54	Eucalyptus crebra	Narrow- leaved Ironbark	0.33	0.57	5	6	6	4	5.25	87	14	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	4.0	2.6	Retain (Protection)
55	Eucalyptus crebra	Narrow- leaved Ironbark	0.27	0.42	1	5	5	3	3.5	38	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.3	2.3	Remove (Footprint)
56	Eucalyptus crebra	Narrow- leaved Ironbark	0.30	0.42	2	2	3	2	2.25	16	13	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.3	Remove (Footprint)
57	Eucalyptus crebra	Narrow- leaved Ironbark	0.51	0.83	5	5	5	5	5	79	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.1	3.1	Remove (Footprint)
58	Eucalyptus crebra	Narrow- leaved	0.45	0.64	5	5	6	5	5.25	87	10	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	5.4	2.7	Remove (Footprint)
59	Eucalyptus crebra	Ironbark Narrow- leaved	0.37	0.47	5	5	3	2	3.75	44	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.4	2.4	Remove (Footprint)
60	Eucalyptus crebra	Ironbark Narrow- leaved	0.48	0.85	5	5	5	5	5	79	11	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	5.8	3.1	Remove (Footprint)
61	Eucalyptus crebra	Ironbark Narrow- leaved	0.11	0.15	7	7	2	2	4.5	64	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.5	Remove (Footprint)
62	Eucalyptus crebra	Ironbark Narrow- leaved Ironbark	0.58	0.69	6	4	7	6	5.75	104	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.0	2.8	Remove (Footprint)
63	Eucalyptus crebra	Narrow- leaved Ironbark	0.66	1.02	7	8	8	6	7.25	165	14	Short (5-15)	Mature	Fair	Fair	High	.5-15	Moderate	7.9	3.3	Remove (Footprint)
64	Eucalyptus tereticornis	Forest Red Gum	0.98	1.45	9	8	7	7	7.75	189	10	Short (5- 15),Remov e (<5)	Over- mature	Poor	Poor	High	<5,.5-15	Moderate	11.7	3.9	Remove (Footprint)
65	Eucalyptus punctata	Grey Gum	0.91	0.12	10	8	10	8	9	254	27	Moderate (15-40)	Mature	Good	Good	Significant	15-40	Moderate	10.9	1.5	Remove (Footprint)
66	Eucalyptus moluccana	Grey Box	0.31	0.14	7	6	5	6	6	113	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.7	1.5	Remove (Footprint)
67	Eucalyptus moluccana	Grey Box	0.83	0.14	10	8	7	6	7.75	189	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	10.0	1.5	Remove (Footprint)
68	Eucalyptus moluccana	Grey Box	0.61	0.90	5	8	3	4	5	79	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.3	3.2	Remove (Footprint)
69	Eucalyptus moluccana	Grey Box Narrow-	0.48	0.68	6	5	6	5	5.5	95	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.8	2.8	Remove (Footprint)
70	Eucalyptus crebra	leaved Ironbark Narrow-	0.68	0.85	8	5	4	2	4.75	71	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.2	3.1	Remove (Footprint)
71	Eucalyptus crebra	leaved Ironbark	0.26	0.32	4	5	5	4	4.5	64	8	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.1	2.1	Remove (Footprint)
72	Eucalyptus moluccana	Grey Box	0.64	0.12	8	4	5	4	5.25	87	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.7	1.5	Remove (Footprint)
73	Eucalyptus moluccana	Grey Box	0.22	0.32	2	2	2	2	2	13	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.6	2.1	Remove (Footprint)



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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)			Spread (m)		Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
	Eucalyptus				N	E	S	W	(m)	(m²)		Moderate									
74	moluccana	Grey Box	0.50	0.64	8	4	8	5	6.25	123	15	(15-40)	Mature	Good	Good	High	15-40	Moderate	6.0	2.7	Remove (Footprint)
75	Eucalyptus tereticornis	Forest Red Gum	0.25	0.32	2	1	2	1	1.5	7	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.0	2.1	Remove (Footprint)
76	Eucalyptus tereticornis	Forest Red Gum	0.16	0.27	1	2	1	2	1.5	7	12.5	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.9	Remove (Footprint)
77	Eucalyptus crebra	Narrow- leaved Ironbark	0.10	0.18	0.5	0.5	0.5	1	0.625	1	8	Moderate (15-40), Short (5-15)	Semi- mature	Fair	Fair	High	15-40	Moderate	2.0	1.6	Remove (Footprint)
78	Eucalyptus moluccana	Grey Box	0.46	0.52	2	2	2	2	2	13	13	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.5	2.5	Remove (Footprint)
79	Eucalyptus punctata	Grey Gum	0.92	0.96	9	12	11	8	10	314	14	Moderate (15-40)	Over- mature	Fair	Fair	Very High	15-40	Moderate	11.0	3.3	Remove (Footprint)
80	Eucalyptus moluccana	Grey Box	0.84	0.97	8	8	4	8	7	154	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	10.1	3.3	Remove (Footprint)
81	Eucalyptus moluccana	Grey Box	0.53	0.76	8	8	6	7	7.25	165	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.4	2.9	Remove (SRZ Encroachment)
82	Eucalyptus punctata	Grey Gum	0.47	0.67	2	2	2	2	2	13	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.6	2.8	Remove (Footprint)
83	Eucalyptus moluccana	Grey Box	0.46	0.60	5	8	7	5	6.25	123	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.5	2.7	Remove (Footprint)
84	Eucalyptus moluccana	Grey Box	0.30	0.41	2	2	2	2	2	13	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.3	Remove (Footprint)
85	Eucalyptus moluccana	Grey Box	0.52	0.59	6	5	6	8	6.25	123	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.2	2.7	Remove (Footprint)
86	Eucalyptus tereticornis	Forest Red Gum	0.56	0.69	2	2	2	2	2	13	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.7	2.8	Remove (Footprint)
87	Eucalyptus moluccana	Grey Box	0.41	0.50	6	4	5	5	5	79	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.9	2.5	Remove (Footprint)
88	Eucalyptus moluccana	Grey Box	0.27	0.43	4	3	3	5	3.75	44	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.3	2.3	Retain
89	Eucalyptus moluccana	Grey Box	0.26	0.40	3	1	4	4	3	28	12	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	3.1	2.3	Retain (Protection)
90	Eucalyptus moluccana	Grey Box	0.34	0.41	4	3	4	5	4	50	11	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	4.1	2.3	Retain (Protection)
91	Eucalyptus	Grey Box	0.32	0.51	4	2	4	3	3.25	33	9	Moderate	Mature	Good	Good	High	15-40	Moderate	3.8	2.5	Retain
92	moluccana Eucalyptus moluccana	Grey Box	0.32	0.46	5	3	7	6	5.25	87	14	(15-40) Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.4	Retain
93	Eucalyptus	Grey Box	0.29	0.41	4	5	5	6	5	79	13	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	3.5	2.3	Retain
94	Eucalyptus	Grey Box	0.33	0.39	4	5	5	5	4.75	71	16	Moderate	Mature	Good	Good	High	15-40	Moderate	4.0	2.2	Remove (SRZ
95	moluccana Eucalyptus	Grey Box	0.46	0.64	8	4	8	5	6.25	123	10	(15-40) Short (5-15)	Mature	Fair	Good	High	15-40	Moderate	5.5	2.7	Encroachment) Remove (Footprint)
96	moluccana Eucalyptus moluccana	Grey Box	0.42	0.49	4	6	5	4	4.75	71	12	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	5.0	2.5	Remove (Footprint)
97	Casuarina glauca	Swamp Oak	0.45	0.63	4	4	5	3	4	50	13	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	5.4	2.7	Remove (Footprint)
98	Eucalyptus	Grey Box	0.22	0.47	2	3	3	3	2.75	24	12	Moderate	Mature	Fair	Fair	High	40+	Moderate	2.7	2.4	Remove (Footprint)
99	moluccana Eucalyptus	Grey Box	0.61	0.90	7	5	7	4	5.75	104	14	(15-40) Moderate	Mature	Good	Good	High	15-40	Moderate	7.3	3.2	Retain
	moluccana	2.0, DOX	3.5	3.55	'			<u> </u>		,	,	(15-40)				19.1	10 10	540.410		J.L	



Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc	life	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
ı		Name	(11)	(111)	N	E	s	w	(m) (m²)			Ciass			e rating	expectancy	Value	(111)	(111)		
100	Casuarina glauca	Swamp Oak	0.37	0.48	2	2	2	2	2	13	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.4	2.4	Retain
101	Eucalyptus crebra	Narrow- leaved	0.56	0.65	5	5	5	4	4.75	71	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.7	2.8	Remove (Footprint)
102	Melaleuca spp.	Ironbark #N/A	0.19	0.23	3	3	2	2	2.5	20	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	1.8	Retain
103	Eucalyptus punctata	Grey Gum	0.56	0.65	5	4	3	4	4	50	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.7	2.8	Remove (SRZ Encroachment)
104	Eucalyptus moluccana	Grey Box	0.53	0.65	4	5	4	5	4.5	64	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.4	2.8	Remove (Footprint)
105	Eucalyptus tereticornis	Forest Red Gum	0.73	0.61	6	6	4	5	5.25	87	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.8	2.7	Retain
106	Eucalyptus moluccana	Grey Box	0.54	0.65	4	6	5	6	5.25	87	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.4	2.8	Retain
107	Eucalyptus moluccana	Grey Box	0.33	0.43	1	1	1	1	1	3	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.3	Retain
108	Eucalyptus moluccana	Grey Box	0.30	0.39	1	1	1	1	1	3	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.2	Retain
109	Eucalyptus moluccana	Grey Box	0.41	0.60	2	2	2	2	2	13	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.0	2.7	Retain
110	Eucalyptus moluccana	Grey Box	0.30	0.38	1	2	1	1	1.25	5	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.6	2.2	Remove (SRZ Encroachment)
111	Eucalyptus moluccana	Grey Box	0.33	0.38	3	2	3	2	2.5	20	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.2	Remove (SRZ Encroachment)
112	Eucalyptus moluccana	Grey Box	0.34	0.42	2	2	2	3	2.25	16	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.1	2.3	Remove (SRZ Encroachment)
113	Eucalyptus moluccana	Grey Box	0.32	0.38	3	3	2	2	2.5	20	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.2	Retain (Protection)
114	Eucalyptus moluccana	Grey Box	0.29	0.46	4	4	4	3	3.75	44	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.4	Retain
115	Eucalyptus moluccana	Grey Box	0.37	0.41	3	5	4	2	3.5	38	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.4	2.3	Retain
116	Eucalyptus moluccana	Grey Box	0.28	0.41	8	7	2	3	5	79	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.4	2.3	Retain
117	Eucalyptus moluccana	Grey Box	0.40	0.46	4	6	6	4	5	79	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.8	2.4	Retain
118	Eucalyptus moluccana	Grey Box	0.22	0.32	3	4	5	3	3.75	44	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.6	2.1	Retain
119	Eucalyptus moluccana	Grey Box	0.17	0.28	3	4	4	2	3.25	33	18	High (40+)	Mature	Good	Good	High	15-40	Moderate	2.0	1.9	Retain
120	Eucalyptus moluccana	Grey Box	0.21	0.28	3	7	2	5	4.25	57	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.5	1.9	Retain
121	Eucalyptus moluccana	Grey Box	0.26	0.33	5	6	3	5	4.75	71	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.1	2.1	Retain
122	Eucalyptus moluccana	Grey Box	0.26	0.38	3	7	5	5	5	79	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.1	2.2	Retain
123	Eucalyptus moluccana	Grey Box	0.29	0.40	4	6	6	4	5	79	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.3	Retain
124	Eucalyptus crebra	Narrow- leaved Ironbark	0.22	0.40	5	5	5	3	4.5	64	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.6	2.3	Retain
125	Eucalyptus moluccana	Grey Box	0.13	0.19	2	2	3	2	2.25	16	12	Short (5-15)	Mature	Good	Fair	High	15-40	Moderate	2.0	1.6	Retain
126	Eucalyptus moluccana	Grey Box	0.29	0.37	4	4	5	5	4.5	64	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.2	Retain



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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)		Canopy S	Spread (m)		Canopy Spread Average (m) (m²)	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain	
	Fire a homboo				N	E	S	W	(m)	(m²)		Madagata									
127	Eucalyptus moluccana	Grey Box	0.29	0.40	6	7	3	3	4.75	71	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.3	Retain
128	Eucalyptus moluccana	Grey Box	0.33	0.41	7	7	6	6	6.5	133	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.3	Retain
129	Eucalyptus punctata	Grey Gum	0.08	0.14	0.5	1	0.5	0.5	0.625	1	9	Short (5-15)	Semi- mature	Fair	Fair	High	15-40	Moderate	2.0	1.5	Retain
130	Eucalyptus punctata	Grey Gum	0.20	0.39	1	1	2	2	1.5	7	13	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.4	2.2	Retain
131	Eucalyptus moluccana	Grey Box	0.19	0.25	3	2	4	4	3.25	33	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	1.8	Retain
132	Eucalyptus moluccana	Grey Box	0.24	0.35	5	5	5	6	5.25	87	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.9	2.1	Retain
133	Eucalyptus punctata	Grey Gum	0.12	0.17	1	3	0	2	1.5	7	18	High (40+)	Semi- mature	Good	Good	High	40+	Moderate	2.0	1.6	Retain
134	Eucalyptus moluccana	Grey Box	0.47	0.69	4	4	3	3	3.5	38	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.7	2.8	Remove (Footprint)
135	Eucalyptus moluccana	Grey Box	0.27	0.32	4	3	4	3	3.5	38	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.2	2.1	Retain
136	Eucalyptus moluccana	Grey Box	0.31	0.41	1	2	1	0	1	3	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.7	2.3	Retain
137	Eucalyptus moluccana	Grey Box	0.28	0.49	4	4	4	4	4	50	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.4	2.5	Retain
138	Eucalyptus moluccana	Grey Box	0.33	0.42	3	3	3	3	3	28	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.3	Retain
139	Eucalyptus moluccana	Grey Box	0.85	0.11	10	10	7	10	9.25	269	22	Moderate (15- 40),High (40+)	Mature	Good	Good	High	15-40,40+	Moderate	10.2	1.5	Remove (Footprint)
140	Eucalyptus moluccana	Grey Box	0.55	0.63	3	3	3	3	3	28	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.6	2.7	Retain
141	Eucalyptus moluccana	Grey Box	0.27	0.38	3	3	3	3	3	28	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.2	2.2	Retain
142	Eucalyptus moluccana	Grey Box	0.99	0.13	12	8	3	10	8.25	214	25	Moderate (15- 40),High (40+)	Over- mature	Good	Good	Very High	15-40,40+	High	11.9	1.5	Retain
143	Eucalyptus moluccana	Grey Box	0.85	0.11	10	8	2	8	7	154	23	Moderate (15-40)	Mature	Good	Good	Very High	15-40,40+	High	10.2	1.5	Retain (Protection)
144	Eucalyptus moluccana	Grey Box	0.66	0.89	3	2	2	2	2.25	16	22	Moderate (15-40)	Mature	Good	Good	Very High	15-40	High	7.9	3.2	Retain (Protection)
145	Eucalyptus moluccana	Grey Box	0.97	0.11	10	10	15	3	9.5	284	25	Moderate (15-40)	Over- mature	Fair	Fair	Very High	15-40	High	11.6	1.5	Remove (Footprint)
146	Casuarina glauca	Swamp Oak	0.53	0.59	2	2	2	2	2	13	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.4	2.7	Remove (Footprint)
147	Eucalyptus moluccana	Grey Box	0.32	0.43	5	4	4	4	4.25	57	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.3	Retain
148	Eucalyptus moluccana	Grey Box	0.52	0.51	5	6	6	7	6	113	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.2	2.5	Retain (Protection)
149	Eucalyptus moluccana	Grey Box	0.40	0.49	6	6	4	6	5.5	95	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.8	2.5	Retain (Protection)
150	Eucalyptus moluccana	Grey Box	0.37	0.51	5	7	6	4	5.5	95	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.4	2.5	Retain (Protection)
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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)		T	Spread (m)		Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
151	Eucalyptus	Grey Box	0.26	0.33	N 6	E 5	S	W	(m) 5.25	(m²) 87	15	Moderate	Mature	Good	Good	High	15-40	Moderate	3.1	2.1	Retain (Protection)
152	moluccana Eucalyptus	Narrow- leaved	0.29	0.42	2	4	4	3	3.25	33	8	(15-40) Short (5-15)	Mature	Fair	Good	High	15-40	Moderate	3.5	2.3	Retain (Protection)
	crebra Casuarina	Ironbark Swamp										Moderate	Semi-			-					, ,
153	glauca Casuarina	Oak Swamp	0.11	0.21	2	2	1	1	1.5	7	9	(15-40) Moderate	mature Semi-	Good	Good	High	15-40	Moderate	2.0	1.7	Retain
154	glauca Casuarina	Oak Swamp	0.14	0.26	2	3	2	3	2.5	20	9	(15-40) Moderate	mature	Good	Good	High	15-40	Moderate	2.0	1.9	Retain
155	glauca Eucalyptus	Oak	0.14	0.20	1	3	2	3	2.25	16	9	(15-40) Moderate	Mature	Good	Good	High	15-40	Moderate	2.0	1.7	Retain
156	moluccana	Grey Box	0.38	0.61	5	6	8	4	5.75	104	18	(15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	2.7	Retain
157	Casuarina glauca	Swamp Oak	0.16	0.27	2	1	2	2	1.75	10	10	Moderate (15-40)	Mature	Fair	Fair	High	15-40	Moderate	2.0	1.9	Retain
158	Casuarina glauca	Swamp Oak	0.23	0.32	2	1	0.5	1	1.125	4	11	Short (5-15)	Mature	Fair	Fair	High	15-40	Moderate	2.8	2.1	Retain
159	Eucalyptus moluccana	Grey Box	0.44	0.64	3	3	5	8	4.75	71	14	Moderate (15-40)	Mature	Good	Fair	High	15-40	Moderate	5.2	2.7	Retain (Protection)
160	Casuarina glauca	Swamp Oak	0.38	0.86	2	2	3	23	7.5	177	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	3.1	Retain (Protection)
161	Eucalyptus moluccana	Grey Box	0.77	0.95	8	9	5	13	8.75	241	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	9.2	3.2	Remove (Footprint)
162	Eucalyptus moluccana	Grey Box	0.75	0.11	12	8	3	10	8.25	214	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	9.0	1.5	Remove (Footprint)
163	Eucalyptus moluccana	Grey Box	0.56	0.69	4	5	5	5	4.75	71	21	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.7	2.8	Remove (Footprint)
164	Eucalyptus moluccana	Grey Box	0.55	0.59	10	7	3	2	5.5	95	22	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	6.6	2.7	Remove (Footprint)
165	Eucalyptus moluccana	Grey Box	0.64	0.54	3	3	3	3	3	28	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.7	2.6	Remove (Footprint)
166	Eucalyptus moluccana	Grey Box	0.38	0.52	3	3	3	3	3	28	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	2.5	Remove (Footprint)
167	Eucalyptus moluccana	Grey Box	0.30	0.37	5	5	3	2	3.75	44	9	High (40+)	Mature	Good	Good	High	40+	Moderate	3.6	2.2	Retain
168	Eucalyptus moluccana	Grey Box	0.29	0.40	7	6	8	6	6.75	143	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.3	Retain
169	Casuarina glauca	Swamp Oak	0.32	0.49	2	3	3	2	2.5	20	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.5	Retain
170	Casuarina glauca	Swamp Oak	0.32	0.48	2	2	3	2	2.25	16	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.4	Retain
171	Eucalyptus punctata	Grey Gum	0.16	0.25	3	3	3	3	3	28	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain
172	Eucalyptus punctata	Grey Gum	0.16	0.18	1	1	1	1	1	3	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.6	Retain
173	Eucalyptus moluccana	Grey Box	0.33	0.45	8	5	5	3	5.25	87	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.4	Retain
174	Eucalyptus punctata	Grey Gum	0.19	0.47	2	2	2	2	2	13	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.3	2.4	Retain
175	Eucalyptus punctata	Grey Gum	0.25	0.33	2	2	2	2	2	13	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.0	2.1	Retain
176	Eucalyptus punctata	Grey Gum	0.12	0.19	1	1	0	0	0.5	1	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.6	Retain
177	Eucalyptus punctata	Grey Gum	0.21	0.35	0	0	1	1	0.5	1	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.5	2.1	Retain
	punciala											(13-40)									1



Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)		Canopy S	Spread (m)	read (m)		Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
					N	E	s	w	(m)	(m²)						o raining	охроскинсу				
178	Eucalyptus punctata	Grey Gum	0.29	0.42	4	2	5	3	3.5	38	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.5	2.3	Retain
179	Eucalyptus moluccana	Grey Box	0.15	0.24	1	2	1	3	1.75	10	9	Moderate (15-40)	Semi- mature	Fair	Good	High	15-40	Moderate	2.0	1.8	Retain
180	Eucalyptus punctata	Grey Gum	0.16	0.19	1	1	2	2	1.5	7	10	High (40+)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.6	Retain
181	Eucalyptus moluccana	Grey Box	0.22	0.28	3	3	3	2	2.75	24	12	High (40+)	Mature	Good	Great	High	40+	Moderate	2.6	1.9	Retain
182	Eucalyptus punctata	Grey Gum	0.15	0.22	2	1	2	3	2	13	11	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain
183	Eucalyptus punctata	Grey Gum	0.06	0.11	1	1	0.5	13	3.875	47	7	Short (5-15)	Mature	Good	Good	High	.5-15	Moderate	2.0	1.5	Retain
184	Eucalyptus punctata	Grey Gum	0.32	0.41	3	4	3	3	3.25	33	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.3	Retain
185	Eucalyptus punctata	Grey Gum	0.34	0.39	5	6	6	5	5.5	95	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.1	2.2	Retain
186	Eucalyptus punctata	Grey Gum	0.13	0.14	2	2	2	2	2	13	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
187	Casuarina glauca	Swamp Oak	0.40	0.52	5	6	6	7	6	113	10	Short (5-15)	Mature	Fair	Fair	High	.5-15	Moderate	4.8	2.5	Retain (Protection)
188	Eucalyptus punctata	Grey Gum	0.11	0.14	1	1	1	1	1	3	7	High (40+)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain (Protection)
189	Eucalyptus moluccana	Grey Box	0.15	0.22	3	3	3	3	3	28	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain
190	Casuarina glauca	Swamp Oak	0.39	0.59	3	3	3	3	3	28	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.7	2.7	Remove (Footprint)
191	Eucalyptus moluccana	Grey Box	0.47	0.56	8	9	5	7	7.25	165	25	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.6	2.6	Remove (Footprint)
192	Eucalyptus moluccana	Grey Box	0.66	0.82	9	11	6	6	8	201	14	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	7.9	3.0	Remove (Footprint)
193	Eucalyptus moluccana	Grey Box	1.03	1.24	11	11	13	10	11.25	398	26	Moderate (15-40)	Mature	Good	Good	Very High	15-40	High	12.4	3.6	Remove (Footprint)
194	Eucalyptus moluccana	Grey Box	0.71	0.86	9	10	9	9	9.25	269	26	Moderate (15-40)	Mature	Good	Fair	Very High	15-40	High	8.5	3.1	Remove (Footprint)
195	Eucalyptus moluccana	Grey Box	0.84	1.01	11	13	5	11	10	314	26	Moderate (15-40)	Mature	Good	Good	Very High	15-40	High	10.1	3.3	Remove (Footprint)
196	Eucalyptus moluccana	Grey Box	0.23	0.28	2	3	1	1	1.75	10	13	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.8	1.9	Retain
197	Eucalyptus moluccana	Grey Box	0.34	0.41	6	2	4	3	3.75	44	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.1	2.3	Retain
198	Eucalyptus moluccana	Grey Box	0.49	0.60	8	8	8	6	7.5	177	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.9	2.7	Retain
199	Eucalyptus moluccana	Grey Box	0.36	0.43	3	5	5	4	4.25	57	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.3	2.3	Retain
200	Eucalyptus moluccana	Grey Box	0.38	0.53	5	3	8	3	4.75	71	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.5	2.5	Retain
201	Eucalyptus moluccana	Grey Box	0.11	0.16	1	1	1	1	1	3	10	High (40+)	Mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
202	Eucalyptus moluccana	Grey Box	1.17	1.36	11	10	3	8	8	201	23	Moderate (15-40)	Mature	Good	Fair	Very High	15-40	High	14.0	3.8	Retain (Protection)
203	Eucalyptus moluccana	Grey Box	1.09	1.33	3	6	8	5	5.5	95	22	Moderate (15-40)	Mature	Good	Good	Significant	15-40	High	13.1	3.7	Retain (Protection)
204	Eucalyptus moluccana	Grey Box	0.38	0.53	3	5	7	7	5.5	95	21	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.6	2.5	Retain



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Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)			Spread (m)		Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
					N	Е	S	W	(m)	(m²)											
205	Eucalyptus crebra	Narrow- leaved Ironbark	0.22	0.54	2	3	3	3	2.75	24	15	Moderate (15-40)	Mature	Fair	Good	High	15-40	Moderate	2.7	2.6	Retain
206	Eucalyptus crebra	Narrow- leaved Ironbark	0.24	0.27	3	4	4	2	3.25	33	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.8	1.9	Retain
207	Eucalyptus moluccana	Grey Box	0.09	0.12	0	1	2	1	1	3	7	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.5	Retain
208	Eucalyptus moluccana	Grey Box	0.32	0.38	2	4	4	2	3	28	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.8	2.2	Retain
209	Eucalyptus moluccana	Grey Box	0.13	0.22	1	3	4	4	3	28	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Retain
210	Eucalyptus moluccana	Grey Box	0.27	0.41	3	5	4	4	4	50	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.2	2.3	Retain
211	Eucalyptus crebra	Narrow- leaved Ironbark	0.90	0.15	0.5	0.5	1	0.5	0.625	1	13	Short (5-15)	Mature	Fair	Fair	High	15-40	Moderate	10.8	1.5	Remove (Footprint)
212	Eucalyptus crebra	Narrow- leaved Ironbark	0.28	0.41	1	3	2	3	2.25	16	11	Moderate (15-40)	Over- mature	Dead	Dead	High	15-40	Moderate	3.4	2.3	Remove (Dead Tree)
213	Eucalyptus moluccana	Grey Box	1.25	1.43	10	8	8	9	8.75	241	21	Moderate (15-40)	Mature	Good	Good	Very High	15-40	Moderate	15.0	3.8	Remove (Footprint)
214	Eucalyptus moluccana	Grey Box	0.24	0.42	3	3	4	2	3	28	13	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.9	2.3	Remove (Footprint)
215	Eucalyptus moluccana	Grey Box	0.16	0.19	0	4	5	2	2.75	24	12	Short (5-15)	Mature	Good	Good	High	15-40	Moderate	2.0	1.6	Retain
216	Eucalyptus moluccana	Grey Box	0.26	0.34	1	3	2	3	2.25	16	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.1	2.1	Retain
217	Eucalyptus moluccana	Grey Box	0.32	0.48	4	2	5	3	3.5	38	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	3.9	2.4	Retain
218	Eucalyptus crebra	Narrow- leaved Ironbark	0.22	0.25	5	1	1	2	2.25	16	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.6	1.8	Retain
219	Eucalyptus moluccana	Grey Box	0.20	0.17	3	2	3	3	2.75	24	18	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.4	1.6	Retain
220	Eucalyptus moluccana	Grey Box	0.34	0.50	6	4	7	6	5.75	104	22	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.1	2.5	Retain
221	Eucalyptus moluccana	Grey Box	0.37	0.40	6	4	5	7	5.5	95	19	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.4	2.3	Remove (Footprint)
222	Eucalyptus moluccana	Grey Box	0.40	0.45	5	5	4	5	4.5	87	17	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.8	2.3	Remove (Footprint)
223	Eucalyptus crebra	Narrow- leaved Ironbark	0.46	0.54	5	6	5	5	5.3	87	8	High (40+)	Juvenil e	Good	Good	High	15-40	Moderate	5.5	2.6	Remove (Footprint)
224	Casuarina glauca	Swamp Oak	0.33	0.43	5	5	4	6	5.0	79	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.0	2.3	Remove (Footprint)
225	Eucalyptus canaliculata	Large Fruited Grey Gum	0.34	0.56	4	6	6	5	5.3	87	10	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.1	2.6	Remove (Footprint)
226	Eucalyptus punctata	Grey Gum	1.12	1.23	8	8	6	10	8.0	201	24	Moderate (15-40)	Mature	Good	Good	Very High	15-40	High	13.4	3.6	Remove (Footprint)
227	Eucalyptus punctata	Grey Gum	1.21	1.30	10	10	7	9	9.0	254	25	Moderate (15-40)	Mature	Good	Good	Very High	15-40	High	14.5	3.7	Remove (Footprint)
228	Casuarina glauca	Swamp Oak	0.35	0.42	4	5	5	4	4.5	64	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	4.2	2.3	Remove (Footprint)
229	Eucalyptus moluccana	Narrow- leaved Ironbark	0.45	0.54	7	8	9	10	8.5	227	16	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	5.4	2.6	Retain



Tree ID	Scientific Name	Common Name	DBH (m)	DAB (m)	Canopy Spread (m)				Canopy Spread Average	Estimated Total Canopy Area	Height (m)	SULE	Age Class	Health	Structure	Landscape significanc e rating	Estimated life expectancy	Retention Value	TPZ (m)	SRZ (m)	Remove/Retain
					N	E	S	W	(m)	(m²)											
230	Eucalyptus punctata	Narrow- leaved Ironbark	0.68	0.52	9	8	7	7	7.8	189	15	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	8.2	2.5	Retain
231	Eucalyptus moluccana	Narrow- leaved Ironbark	0.25	0.36	3	2	3	4	3.0	28	16	High (40+)	Mature	Good	Good	High	15-40	Moderate	3.0	2.2	Remove (Footprint)
232	Eucalyptus moluccana	Narrow- leaved Ironbark	1.09	1.25	9	10	10	9	9.5	284	24	Moderate (15-40)	Mature	Fair	Good	Very High	15-40	Moderate	13.1	3.6	Remove (Footprint)
233	Eucalyptus moluccana	Narrow- leaved Ironbark	0.75	0.98	13	8	6	6	8.3	214	20	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	9.0	3.3	Remove (Footprint)
Stand 1*	Casuarina glauca	Swamp Oak	0.13	0.26	2	2	2	2	2	13	10	Moderate (15-40)	Semi- mature	Good	Good	High	15-40	Moderate	2.0	1.9	Remove (Footprint)
Stand 2*	Casuarina glauca	Swamp Oak	0.14	0.19	2	2	2	2	2	13	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.6	Remove (Footprint)
Stand 3*	Casuarina glauca	Swamp Oak	0.17	0.25	2	2	2	2	2	13	11	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.8	Remove (Footprint)
Stand 4*	Casuarina glauca	Swamp Oak	0.14	0.20	2	2	2	2	2	13	9	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.0	1.7	Remove (Footprint)
Stand 5*	Casuarina glauca	Swamp Oak	0.21	0.34	4	3	2	2	2.75	24	12	Moderate (15-40)	Mature	Good	Good	High	15-40	Moderate	2.5	2.1	Remove (Footprint)

^{*} Measurements for stands are an estimated average. Stand heights are a maximum.

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Appendix B – SULE Methodology



SULE (Safe Useful Life Expectancy)

In planning context, the time a tree can expect to be usefully retained is the most important long- term consideration. SULE i.e., a system designed to classify trees into a number of categories so that information regarding tree retention can be concisely communicated in a non-technical manner. SULE categories are easily verifiable by experienced personnel without great disparity. A tree's SULE category is the life expectancy of the tree modified first by its age, health, condition, safety and location (to give safe life expectancy), then by economics (i.e., cost of maintenance: retaining trees at an excessive management cost is not normally acceptable), effect on better trees, and sustained amenity (i.e. establishing a range of age classes in a local population). SULE assessments are not static but may be modified as dictated by changes in tree health and environment. Trees with a short SULE may be at present by making a contribution to the landscape but their value to the local amenity will decrease rapidly towards the end of this period, prior to their being removed for safety or aesthetic reasons.

SULE Methodology

- **1. Long SULE** tree appeared retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance;
 - **A**. Structurally sound trees located in positions that can accommodate future growth.
 - B. Trees which could be made suitable for long term retention by remedial care
 - **C**. Trees of special significance which would warrant extraordinary efforts to secure their long-term retention.
- **2. Medium SULE-** tree appeared to be retainable at the time of assessment for 15 to 40 years with an acceptable degree of risk, assuming reasonable maintenance;
 - A. Trees which may only live from 15 to 40 years.
 - **B**. Trees which may live for more than 40 years but would be removed for safety or nuisance reasons.
 - **C**. Trees which may live for more than 40 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.
 - **D**. Trees which could be made suitable for retention in the medium term by remedial care.
- **3. Short SULE -** tree appeared to be retainable at the time of assessment for 5 to 15 years with an acceptable degree of risk, assuming reasonable maintenance:
 - A. Trees which may only live from 5 to 15 years.
 - **B**. Trees which may live for more than 15 years but would be removed for safety or nuisance reasons.
 - **C**. Trees which may live for more than 15 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.
 - **D**. Trees which require substantial remediation and are only suitable for retention in the short term.
- 4. Removal trees which should be removed within the next 5 years;
 - A. Dead, dying, suppressed or declining trees.
 - **B**. Dangerous trees through instability or recent loss of adjacent trees.
 - **C**. Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
 - D. Damaged trees that are clearly not safe to retain.



- **E.** Trees which may live for more than 5 years but would be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **F**. Trees which are damaging or may cause damage to existing structures within the next 5 years.
- **G**. Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
- **H**. Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.
- **5. Small, young or regularly pruned** Trees that can be moved or replaced;
 - A. Small trees less than 5m in height.
 - B. Young trees less than 15 years old but over 3m in height.
 - **C**. Formal hedges and trees intended for regular pruning to artificially control growth.



GLOSSARY

Age Classes

- Juvenile refers to an immature tree.
- Semi-mature refers to a tree between immaturity and full size.
- Mature refers to a full-sized tree with some capacity for further growth.
- Over-mature refers to a tree already in decline.

Diameter at breast height (DBH)

Tree stem diameter at 1.4 meters above ground level.

Diameter at buttress (DAB)

Tree stem diameter as measured above the root buttress at ground level.

Tree Protection Zone (TPZ)

An indicative measure of the area necessary to protect for tree viability, encompassing the area necessary to protect both the crown and woody roots as calculated by the formula TPZ= DBH x 12

Structural Root Zone (SRZ)

An indicative measure of the spread of the primary woody and structural roots necessary for tree stability, as calculated by the formula SRZ= (DAB*50)^{0.42}x0.64

Visual Tree Assessment (VTA)

Visual inspection of tree only.

Co-dominant leaders

A tree where two or more stems are of similar diameter.

Included Bark Junctions

A junction where the angle of the union creates an area of ingrown bark. This can create a structural weakness, and is often found on co-dominant stems.

Crown

The portion of the tree consisting of branches and leaves and any part of the trunk from which branches arise.

Stem

The position of the tree consisting of branches and leaves and any part of the trunk from which branches arise. An organ which supports branches, leaves, flowers and fruits.

Epicormic Growth

Refers to shoots produced by dormant buds within the bark or stem of a tree as a result of stress, incorrect pruning or increased light.

Health Condition

Exceptional

- Visually complete crown with dense foliage throughout that indicates strong health and vigour.
- Leaf size and colour that is true to type for the species and free from pest (insect) and disease (pathogen) damage.
- Expected levels of primary growth or seasonal extension and internodal growth evident for the species.



No evidence of colonising saprophytes and no deadwood evident.

Good

- Visually complete crown, varying in foliage density throughout.
- Leaf size and colour that is true to type for the species with none or minor levels of pest (insect) and/or disease (pathogen) damage evident.
- Expected levels of primary growth or seasonal extension and internodal growth evident for the species.
- No evidence of colonising saprophytes and low levels of deadwood present and approximately 10mm or less in size.

Fair

- Sparse crown, varying in foliage density throughout.
- Reduced leaf size and atypical in colour for the species.
- Low to medium levels of pest (insect) and/or disease (pathogen) damage.
- Reduced, seasonal extension and internodal growth.
- Deadwood easily visible and less than approximately 30mm in size.
- Epicormic growth may be evident.

Poor

- Obvious signs of crown decline, exhibiting significant reduction in live crown volume and foliage density with reduced leaf size and atypical in colour for the species.
- Evidence of defoliation and/or dieback of branch tips.
- Medium to high levels of pest (insect) and disease (pathogen) damage.
- Presence of exudates (kino and resins) from wounds (open and/or weeping).
- Significant reduction in seasonal extension and internodal growth, with significant levels of epicormic growth evident.
- Deadwood easily visible, approximately 30mm to 100mm in size.

Dead

- No evidence of live foliage observed throughout the crown.
- Obvious signs of cracking and shrinking wood.
- Visible evidence of delaminating bark to stems and branches.

Structure Condition

Very Good

- Strong branch unions at attachment points with no acute angles (compression and tension forks) and good branch taper at unions.
- No visibly, defective tree parts or structural defects.
- No wounds to stems and branches, no crossing and rubbing of branches and no wounds to exposed roots.
- No fungal fruiting bodies present to stems, branches and roots indicating, a
 presence of fungal pathogens.

Good to Fair

• Developing inclusions at unions of leading, codominant stems and branches.



- Evidence of defective tree parts (low levels) including branch and stem inclusions and crossing and rubbing of branches.
- Evidence of mechanical damage to periderm of stems, branches and roots, exposing vascular tissues.
- Exposed wounds for surface, colonising pathogens and entry points for developing decay.
- Presence of fungal fruiting bodies.
- Some evidence of cavities or hollows. (Fair only)
- No evidence of soil upheaval surrounding base of tree.

Poor

- Obvious signs and evidence of included bark to basal unions of codominant, leading stems and branches.
- Advanced, structural defects evident with failure of tree parts determined within 5 years from time of inspection and assessment.
- Evidence of decay from open wounds with presence of exudates (kino and resins) and exposed and degraded woody tissues.
- Presence of fungal fruiting bodies.
- · Presence of cavities and hollows.
- Evidence of mechanical damage with advanced degradation of exposed roots.

a) Hazardous Tree

b) Immediate Removal

- Advanced, structural defects evident. Open cracks to codominant stem and branch unions evident.
- Previous branch and stem failures evident. Failure of remaining tree parts
 determined within 3 months 6 months, from time of inspection and assessment.
 Arboricultural works to be scheduled immediately to mitigate associated hazard
 and risk.
- Severed roots and soil upheaval evident indicating failure of root zone.
- Tree failure imminent within 12 months from time of inspection and assessment

Landscape Significance

Assesses a tree within the landscape and rates according to criteria taken from Morton (2006):

1. Significant

- The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance; or
- The subject tree forms part of the curtilage of a Heritage Item (building / structure /artifact as defined under the LEP) and has a known or documented association with that item; or
- The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event; or
- The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the or Biodiversity Conservation Act 2016 (NSW) or The Environmental Protection and Biodiversity Conservation Act 1999 (Federal); or



- The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species; or
- The subject tree is a Remnant Tree, being a tree in existence prior to development of the area; or
- The subject tree has a very large live crown size exceeding 300m² with normal to dense
 foliage cover, is located in a visually prominent in the landscape, exhibits very good
 form and habit typical of the species and makes a significant contribution to the amenity
 and visual character of the area by creating a sense of place or creating a sense of
 identity; or
- The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.

2. Very high

- The tree has a strong historical association with a heritage item (building/structure/artifact/garden etc) within or adjacent the property and/or
- Exemplifies a particular era or style of landscape design associated with the original development of the site; or
- The subject tree is listed on Council's Significant Tree Register; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link/ Wildlife Corridor or has known wildlife habitat value:
- The subject tree has a very large live crown size exceeding 200m²; a crown density exceeding 70% Crown Cover (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area.

3. High

- The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence; or
- The tree is a locally-indigenous species and representative of the original vegetation of the area; or
- The subject tree has a large live crown size exceeding 100m²; and
- The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (eg crown distortion/suppression) with a crown density of at least 70% Crown Cover (normal); and
- The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area.

4. Moderate

- The subject tree has a medium live crown size exceeding 40m²; and
- The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% Crown Cover (thinning to normal); and
- The tree makes a fair contribution to the visual character and amenity of the area; and
- The tree is visible from surrounding properties, but is not visually prominent view may be partially obscured by other vegetation or built forms.
- The tree has no known or suspected historical association



5. Low

- The subject tree has a small live crown size of less than 40m² and can be replaced within the short term with new tree planting; or
- The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% Crown Cover (sparse); and
- The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area.

6. Very low

- The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or a nuisance species.
- The subject tree is scheduled as exempt (not protected) under the provisions of the local Council's Tree Preservation Order due to its species, nuisance or position relative to buildings or other structures.

7. Insignificant

 The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993 or identified as a priority weed within the local region.



Appendix C – Site Photographs





Plate 1: Various small hollows within a mature eucalyptus punctata.

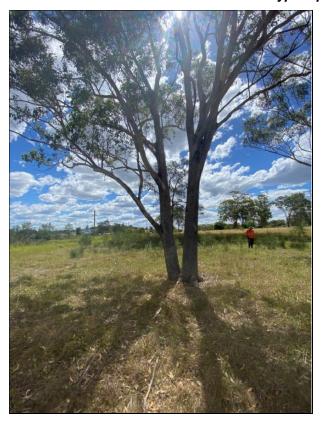


Plate 2: Co-dominant leaders providing good health to a mature eucalyptus moluccana.





Plate 3: One of the five casuarina glauca stands situated in the south of the site.



Plate 4: An abundance of eucalyptus cerebras in northern grazing paddock.



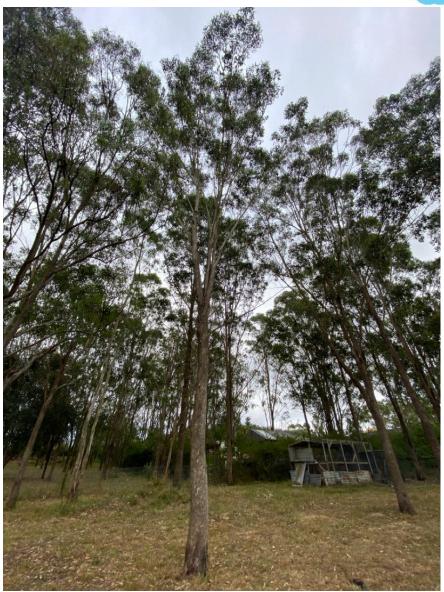


Plate 5 Above: Semi-mature eucalyptus moluccanas spread evenly throughout western grazing paddocks.

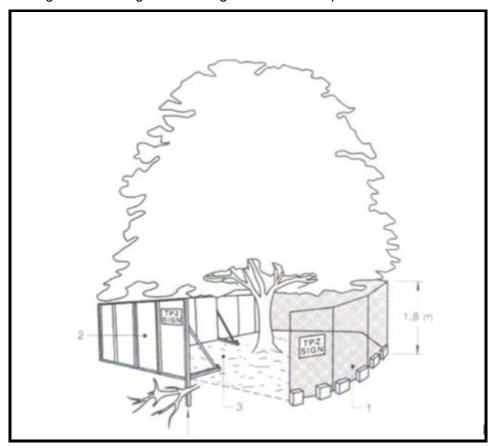


Appendix D –Tree Protection Fencing and Ground Protection



Example of tree protection fencing:

- 1. Fence off all trees noted for retention with 1.8m steel mesh fencing at the perimeter of the designated protection zone. Attach signs relating to the importance of tree protection and penalties for breaching tree protection orders to the fencing. If the area is large, install multiple signs.
- 2. Signs should state that this is a restricted area, no entry unless in the company of the arborist. Authorised access to the protected zone could be through a locked gate or via ladders
- 3. Mulching and semi-regular watering for established protection zones.

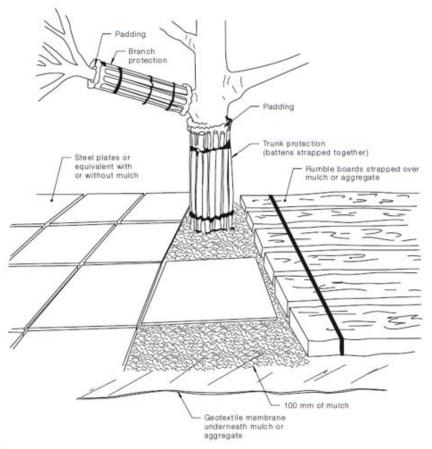




4.5.3 Ground protection

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards as per Figure 4.

These measures may be applied to root zones beyond the TPZ.



NOTES:

- 1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
- 2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION