

# **Greenwood Consulting** <sup>P/L</sup>

Address: 172 Ridge Road, Mount Dandenong 3767  
Phone: (03) 5968 6626  
Fax: (03) 8669 4302  
Mobile: 0477 569 486  
Email: [jason.b@rgc.net.au](mailto:jason.b@rgc.net.au)  
A.B.N. 54 170 171 876  
Web: [www.rgc.net.au](http://www.rgc.net.au)



For

## **McIlldowie Partners**

Site location

## **Penola Catholic College**

Report type

# **Arboricultural Construction Impact Assessment**

Prepared by

**Jason Burland**

Diploma of Arboriculture  
QTRA Certified

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**Ref: 7514 230619 CIR McIlldowie Gibson Broadmeadows 29 St**

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## 1. Summary

This report was commissioned by McIlldowie Partners to assess the condition of Seventy one (71) trees located on or adjacent to Penola Catholic College (29 Gibson Street, Broadmeadows) and to evaluate the impacts on these trees arising from the proposed development on this site.

1. Seventy (70) trees were assessed within the subject site:
  - a. Twenty two (22) trees are proposed to be removed on the plans provided:
    - i. Trees 26 & 37 are of very low retention value.
    - ii. Trees 19, 41, 63, & 64 are of medium retention value.
    - iii. Trees 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 38, 39, 42, 43, 66, & 68 are of low retention value.
  - b. Three (3) trees (Trees 40, 62, & 65) will incur a moderate impact from the proposed development and will likely remain viable within the proposed development provided that the recommendations of this report are adopted and effectively implemented.
  - c. Two (2) trees (Trees 2, & 3) will incur a low impact from the proposed development and will likely remain viable within the proposed development.
  - d. Forty four (44) trees (Trees 1, 4-11, 14-18, 20-25, 45-61, 67-71) are unlikely to be impacted by the proposed development.
2. One (1) was assessed on the adjoining property:
  - a. Tree 12 is unlikely to be impacted by the proposed development.



## 2. Document control

File reference	File type	Modifications	Date
7514 230619	CIR	Original document. Construction impact assessment for 71 trees.	22/06/2023

## 3. Introduction

This report was commissioned by McIldowie Partners to assess the condition of 71 trees located on or adjacent to Penola Catholic College (29 Gibson Street, Broadmeadows) and to evaluate the impacts on these trees arising from the proposed development on this site.

Specifically the report addresses the following issues:

- The health and structural condition of the trees.
- The suitability of these trees for retention on the site in light of the proposed development.
- The impact of the development on these trees.
- Recommendations for the protection of these trees.

This report is based, in part, on the plans provided and the accuracy of these plans is assumed. Inaccuracies in the plans provided may invalidate all or parts of this report.

The location of services within the site is not known and the possible impact of any services installation on the retained trees at this site is not included within this report.

The site was inspected by Jason Burland of this office on 16/06/2023.

## 4. Documents reviewed

The following documents were reviewed in the preparation of this report.

Date	Title	Author	Company
09/05/2023	Site Plan Campus (Job No. 3211)	N/A	McIldowie Partners

## 5. Scope

All of those trees that are considered significant to the site and that are located either on the site or within four metres of the site boundaries are addressed in this report.

Significant trees are generally those that are greater than five metres in height and/or with a Diameter at Breast Height (DBH) of greater than 15 cm.

## 6. Site context

This site is located within a GRZ Zone within the municipal area of Hume.

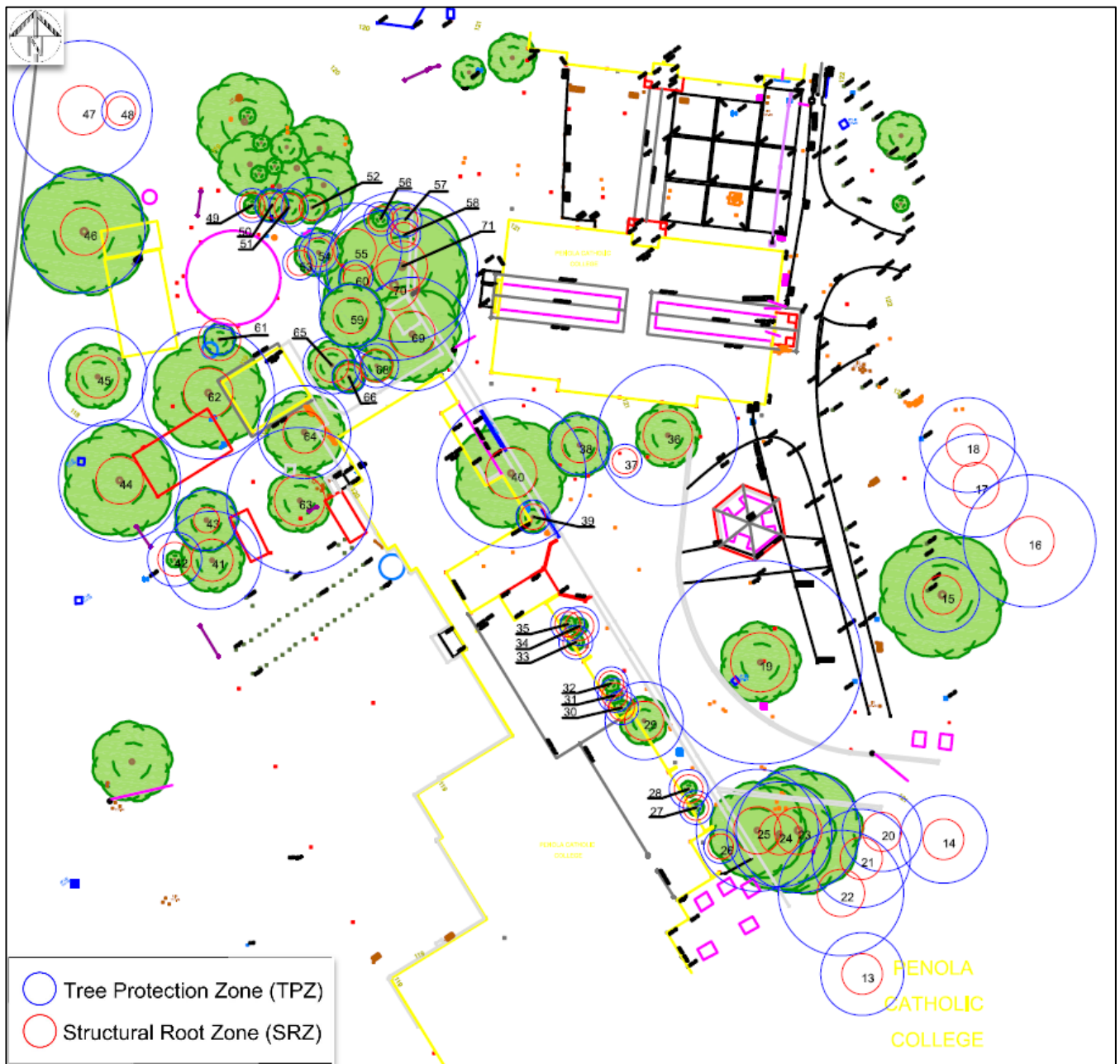
The following town planning overlays are applicable to this site:

1. *Melbourne Airport Environs Overlay (MAEO).*

## 7. Notes

1. The column label “ID” is used in all the tables throughout this report. This refers to the tree identification number and to the tree numbering found on the “Site plan”. This number is the same as the “Tree ID” found in the “Tree data” section of the report.
2. Trees 4, 13, 14, 16, 17, 18, 20, 21, 22, 26, 37, 47, 48, 55, 58, 59, & 60. were not shown on the survey provided.
  - a. These trees have been added to the enclosed site plans based on a visual estimation of their location.
  - b. The location of these trees and the estimation of construction impact for these trees are approximate only.

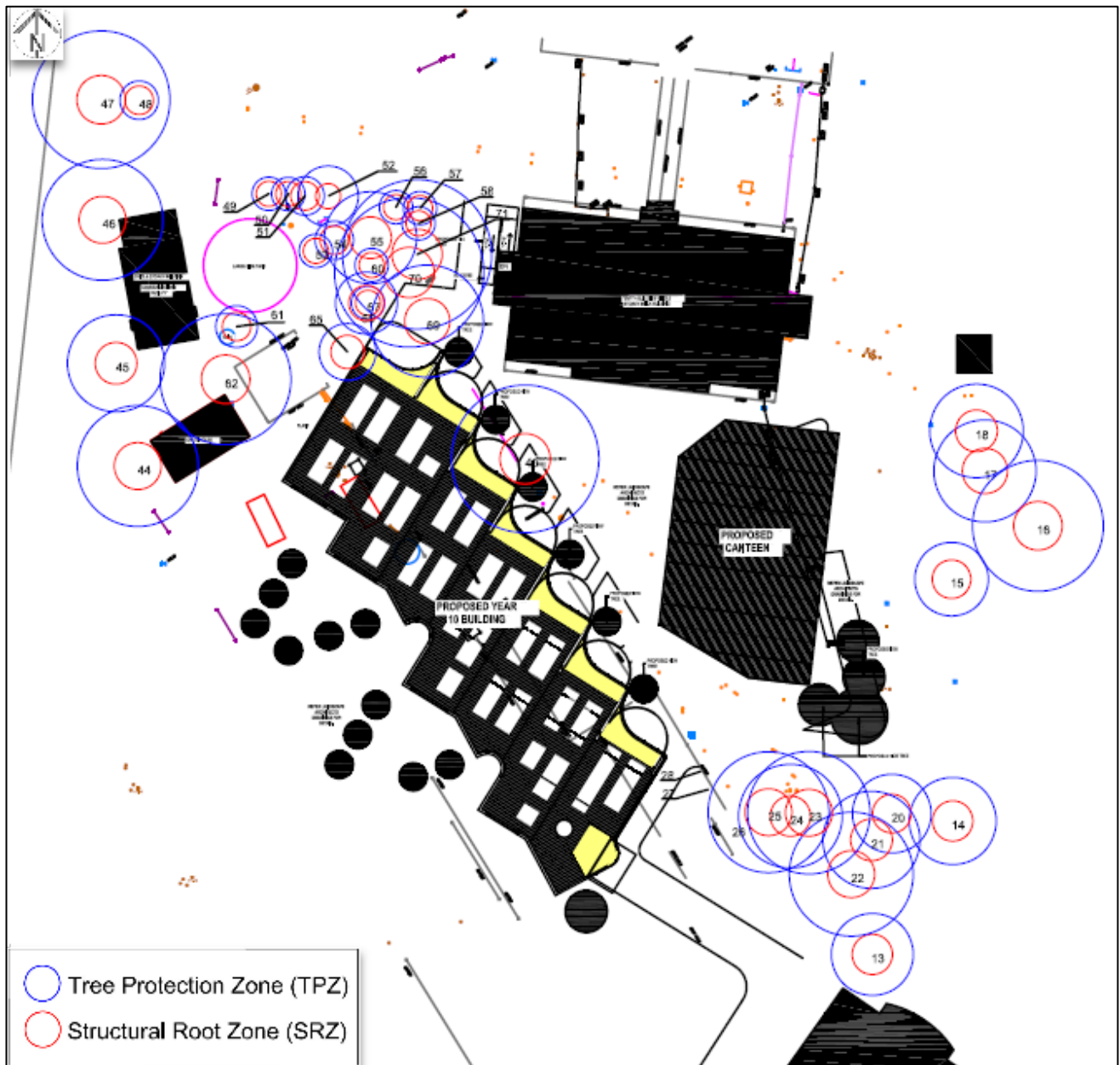
## 8. Existing site plan (Area 1)



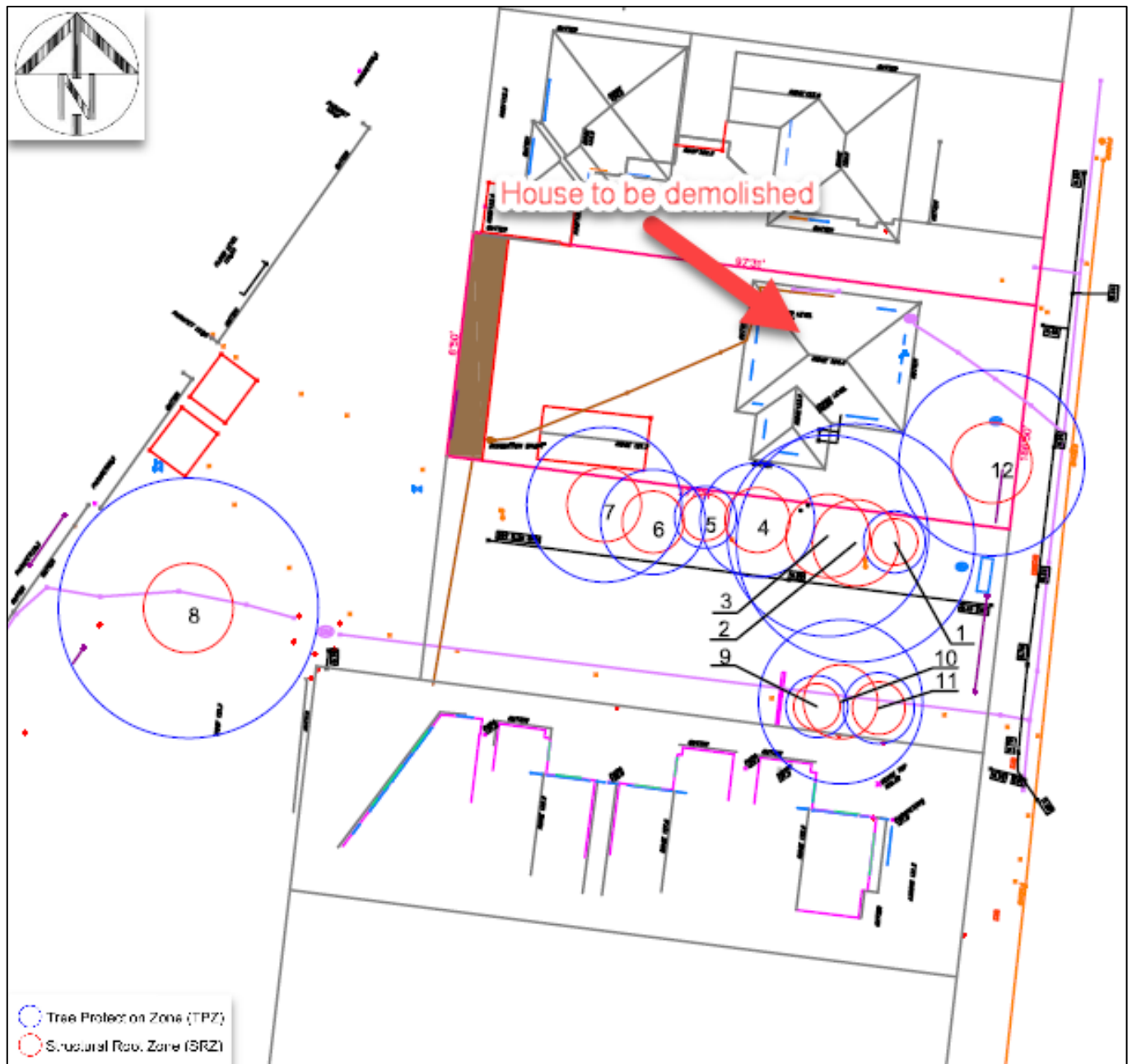
9. Existing site plan (Area 2)



## 10. Proposed site plan (Area 1)



## 11. Proposed site plan (Area 2)





## 12. Tree summary data

This table contains a summary of data pertaining to all trees shown and numbered on the enclosed feature and levels survey.

Underlined and italicised species names have not been assessed. Generally these trees are <5m tall, not found or stumps. The construction impact values are blank for these records.

1. **Retention value:** The retention value of the tree to the site.
  - a. Tree number and species name are **Bold** for High and Very high values trees.
2. **Retained?:** Indicates whether the tree is proposed to be retained on the site.
3. **Construction impact:** Indicates the impact of the proposed development on the tree.
  - a. **None:** Works do not intrude onto the tree's TPZ.
  - b. **Low:** Construction intrusion is less than 10% of TPZ and contiguous area exists to compensate for any loss.
  - c. **Moderate:** Construction intrusion exceeds 10% of TPZ but construction methods or other factors make tree retention possible.
  - d. **High:** Construction intrusion is excessive and tree retention is generally considered not possible within the development as currently proposed.
  - e. **Blank:** The tree has not been assessed.
4. **Location:** Whether the tree is located on the site or adjacent to the site.
  - a. **Site:** the tree is located on the site.
  - b. **Off site:** the tree is located on land adjoining the site.
    - i. Trees in this category should generally be preserved without significant impact.

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
1	Grevillea robusta	Low	Retained	None	Site	1.6	2	8/50
2	Eucalyptus nicholii	Moderate	Retained	Low	Site	2.8	7.7	13/201
3	Schinus sp.	Moderate	Retained	Low	Site	2.7	6.5	9/170
4	Prunus cerasifera	Very low	Retained	None	Site	2.1	3.7	5/97
5	Prunus cerasifera	Low	Retained	None	Site	1.6	2	5/41
6	Prunus cerasifera	Low	Retained	None	Site	2	3.4	4/88
7	Prunus cerasifera	Low	Retained	None	Site	2.4	5	5/132
8	Hesperocyparis macrocarpa	Moderate	Retained	None	Site	2.9	8.4	9/220
9	Hesperocyparis macrocarpa	Low	Retained	None	Site	1.6	2	3/41
10	Hesperocyparis macrocarpa	Moderate	Retained	None	Site	2.4	5.3	9/138
11	Hesperocyparis macrocarpa	Low	Retained	None	Site	1.7	2.3	4/60
12	Grevillea robusta	Moderate	Retained	None	Off site	2.6	6	13/157
13	Corymbia maculata	Moderate	Retained	None	Site	2.4	4.9	16/129
14	Eucalyptus sideroxylon	Moderate	Retained	None	Site	2.4	5.2	15/135
15	Corymbia maculata	Moderate	Retained	None	Site	2.3	4.4	15/116

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
16	<b>Corymbia maculata</b>	High	Retained	None	Site	2.9	7.8	19/204
17	Corymbia maculata	Moderate	Retained	None	Site	2.6	6.1	14/160
18	Corymbia maculata	Moderate	Retained	None	Site	2.5	5.6	18/148
19	Ficus macrophylla	Moderate	Removed	High	Site	3.5	12	9/314
20	Corymbia maculata	Moderate	Retained	None	Site	2.3	4.7	16/123
21	<b>Corymbia maculata</b>	High	Retained	None	Site	2.5	5.8	18/151
22	<b>Corymbia maculata</b>	High	Retained	None	Site	2.8	7.4	19/195
23	<b>Corymbia maculata</b>	High	Retained	None	Site	2.8	7.3	18/192
24	<b>Corymbia maculata</b>	High	Retained	None	Site	2.6	6.2	18/163
25	Corymbia maculata	Moderate	Retained	None	Site	2.8	7.2	14/189
26	Prunus sp.	Very low	Removed	High	Site	1.6	2	3/25
27	Callistemon citrinus	Low	Removed	High	Site	1.6	2	4/50
28	Callistemon citrinus	Low	Removed	High	Site	1.7	2.3	4/60
29	Callistemon salignus	Low	Removed	High	Site	2.3	4.6	7/119
30	Callistemon viminalis	Low	Removed	High	Site	1.7	2	4/53
31	Callistemon viminalis	Low	Removed	High	Site	1.7	2	4/53
32	Callistemon viminalis	Low	Removed	High	Site	1.6	2	4/47
33	Callistemon viminalis	Low	Removed	High	Site	1.6	2	4/38
34	Callistemon viminalis	Low	Removed	High	Site	1.7	2.3	4/60
35	Callistemon viminalis	Low	Removed	High	Site	1.7	2	4/53
36	Pyrus ussuriensis	Low	Removed	High	Site	2.9	8.3	5/217
37	Pyrus ussuriensis	Very low	Removed	High	Site	1.6	2	3/13
38	Cedrus deodara	Low	Removed	High	Site	2.1	3.5	7/91
39	Melaleuca armillaris	Low	Removed	High	Site	1.6	2	5/50
40	Eucalyptus sideroxylon	Moderate	Retained	Moderate	Site	3	8.8	14/229
41	Eucalyptus leucoxylon	Moderate	Removed	High	Site	2.5	5.8	13/151
42	Melaleuca styphelioides	Low	Removed	High	Site	2	3.2	6/85
43	Eucalyptus lehmannii	Low	Removed	High	Site	2.1	3.6	13/94
44	<b>Corymbia maculata</b>	High	Retained	None	Site	2.8	7.2	18/189
45	Eucalyptus lehmannii	Low	Retained	None	Site	2.5	5.8	10/151
46	<b>Eucalyptus saligna</b>	High	Retained	None	Site	2.8	7.2	16/189
47	Corymbia maculata	Moderate	Retained	None	Site	2.9	8.2	17/214
48	Corymbia maculata	Low	Retained	None	Site	1.7	2.3	8/60
49	Fraxinus angustifolia	Very low	Retained	None	Site	1.6	2	5/28
50	Fraxinus angustifolia	Very low	Retained	None	Site	1.6	2	6/28
51	Acacia mearnsii	Low	Retained	None	Site	1.7	2.3	10/60
52	Eucalyptus viminalis	Low	Retained	None	Site	2.1	3.6	9/94
53	Acacia mearnsii	Low	Retained	None	Site	1.6	2	7/31
54	Acacia implexa	Low	Retained	None	Site	1.7	2.3	9/60



ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:	Height (m) / Trunk circ (cm):
55	Eucalyptus leucoxylon	Low	Retained	None	Site	2.5	5.5	8/145
56	Eucalyptus cladocalyx	Low	Retained	None	Site	1.6	2	4/47
57	Acacia cognata	Very low	Retained	None	Site	1.6	2	2/31
58	Acacia cognata	Very low	Retained	None	Site	1.6	2	2/31
59	Eucalyptus viminalis	Low	Retained	None	Site	2.1	3.7	10/97
60	Fraxinus angustifolia	Very low	Retained	None	Site	1.6	2	6/31
61	Eucalyptus sideroxylon	Low	Retained	None	Site	1.8	2.5	8/66
<b>62</b>	<b>Eucalyptus sideroxylon</b>	High	Retained	Moderate	Site	2.9	7.8	16/204
63	Eucalyptus botryoides	Moderate	Removed	High	Site	3	8.6	10/226
64	Eucalyptus viminalis	Moderate	Removed	High	Site	2.5	5.5	12/145
65	Eucalyptus leucoxylon	Low	Retained	Moderate	Site	2	3.4	8/88
66	Eucalyptus sideroxylon	Low	Removed	High	Site	1.6	2	7/47
67	Eucalyptus leucoxylon	Low	Retained	None	Site	2.5	5.4	8/141
68	Melaleuca armillaris	Low	Removed	None	Site	1.9	2.6	7/69
69	Eucalyptus tereticornis	Moderate	Retained	None	Site	2.7	6.7	12/176
70	Cedrus deodara	Moderate	Retained	None	Site	3	8.6	8/226
71	Eucalyptus botryoides	Moderate	Retained	None	Site	3	8.9	9/233

Total number of tree/s referred to in this report(Total): 71

## 13. Construction impact

The following trees are regarded as being suitable for retention and are located within close proximity to elements of the proposed development. The successful retention of those trees that are proposed to be retained may require additional care and the adoption of the following recommendations.

Note: **Construction Proximity** of 0.1 indicates construction over or immediately adjacent to the tree.

### 13.1. Tree 2

Tree 2 is a mature *Eucalyptus nicholii* (Willow Leaf Peppermint) located within the subject site. This tree exhibits good health and fair structure with a useful life expectancy (ULE) of 15-30 years. This tree is of moderate retention value.

The proposed demolition of the dwelling at 17 Gibson Street, Broadmeadows is to be located 6.1m to the North of Tree 2, resulting in a TPZ encroachment of 2.7% with an encroachment. This is classified as a minor encroachment as per AS4970-2009.

This tree is unlikely to be significantly impacted by the proposed development.

**This tree is unlikely to be significantly impacted by the proposed development.**

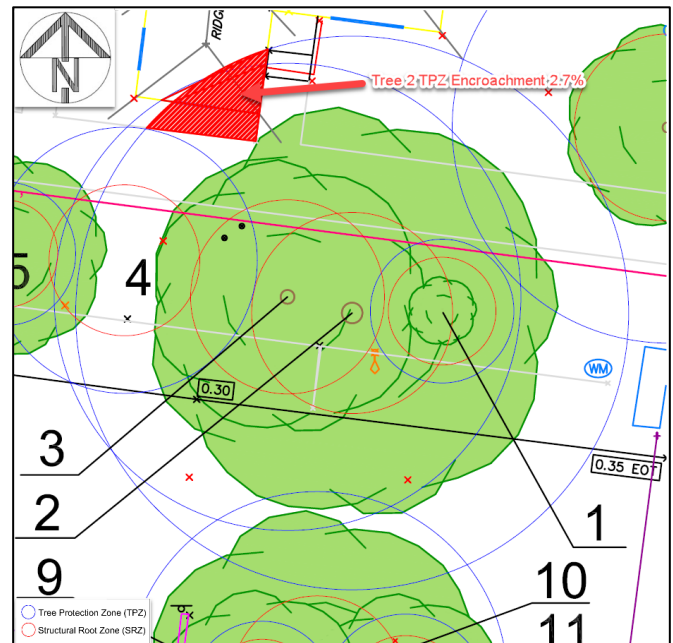


Figure 1 Tree 2 TPZ Encroachment

### 13.2. Tree 3

Tree 3 is a mature *Schinus sp.* (Peppercorn) located within the subject site. This tree exhibits good health and good structure with a useful life expectancy (ULE) of 30-60 years. This tree is of moderate retention value.

The proposed demolition of the dwelling at 17 Gibson Street, Broadmeadows is to be located 5.1m to the North of Tree 3, resulting in a TPZ encroachment of 1.7% with an encroachment. This is classified as a minor encroachment as per AS4970-2009.

This tree is unlikely to be significantly impacted by the proposed development.

**This tree is unlikely to be significantly impacted by the proposed development.**

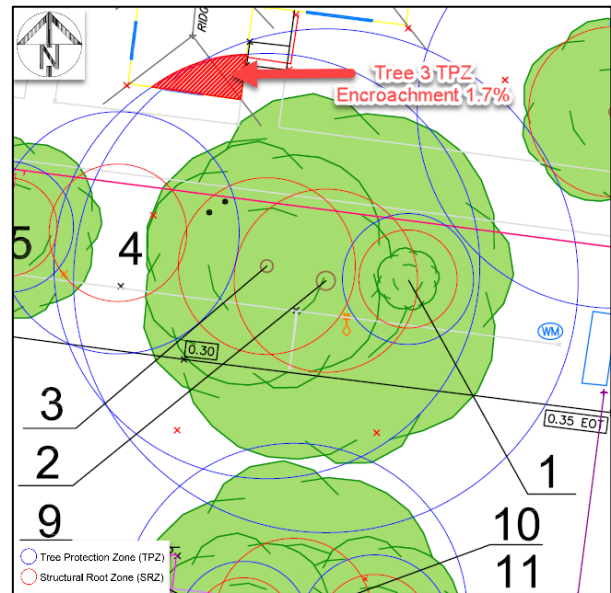


Figure 2 Tree 3 TPZ Encroachment

### 13.3. Tree 40

Tree 40 is a mature *Eucalyptus sideroxylon* (Red Ironbark) located within the subject site. This tree exhibits good health and good structure with a useful life expectancy (ULE) of 30-60 years. This tree is of moderate retention value.

The proposed building is to be located 1m to the Southwest of Tree 40, resulting in a TPZ encroachment of 31.3% with an encroachment also within the SRZ (Figure 3). This is classified as a major encroachment as per AS4970-2009.

Tree 40 is likely to be retained provided the impact is minimised by following the recommendations below.

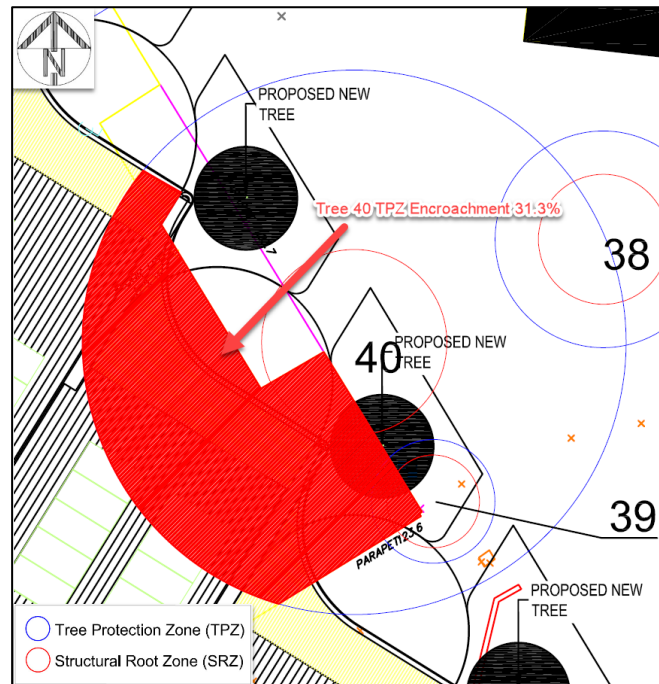


Figure 3 Tree 40 TPZ Encroachment

- 1) The existing concrete footprint within the TPZ of Tree 40 should be removed with care and under the supervision of a suitably qualified arborist (minimum AQF level 5)
  - a) The concrete may be removed with use of a small excavator positioned atop the existing concrete while taking care to not significantly disrupt the soil below.
  - b) Excavation of the concrete footprint subbase should not exceed 100mm below existing grade.
  - c) Any excavation required within the TPZ of Tree 40 should be under the supervision of a suitably qualified arborist (minimum AQF level 5).
    - i) Tree roots that are exposed during excavation should be retained if possible, or alternatively pruned by the arborist with a sharp and sterile pruning tool.

**This tree will likely remain viable under the proposed development provided that the recommendations of this report are adopted and effectively implemented.**

### 13.4. Tree 62

Tree 62 is a mature *Eucalyptus sideroxylon* (Red Ironbark) located within the subject site. This tree exhibits good health and good structure with a useful life expectancy (ULE) of 30-60 years. This tree is of high retention value.

The proposed demolition of the portable building is to be located 1.8m to the South of Tree 62, resulting in a TPZ encroachment of 16.8% with an encroachment also within the SRZ (Figure 4). This is classified as a major encroachment as per AS4970-2009.

Tree 62 is likely to be retained provided the impact is minimised by following the recommendations below.

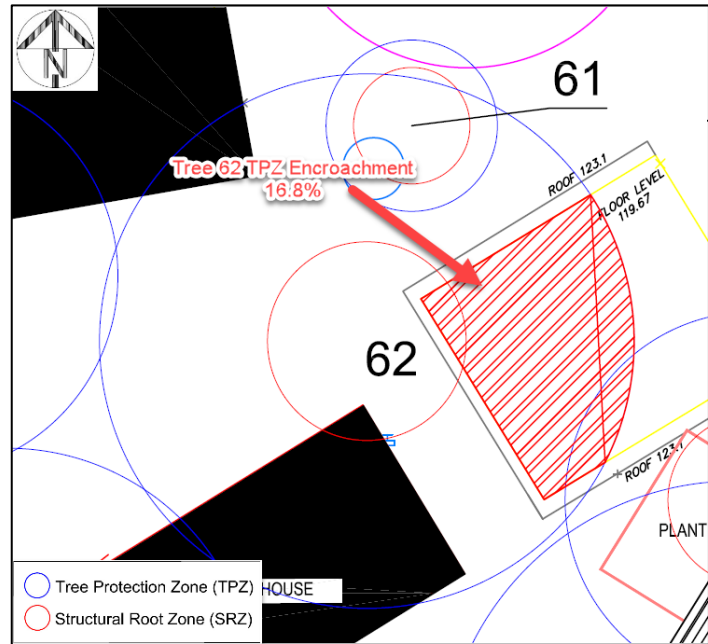


Figure 4 Tree 62 TPZ Encroachment

- 2) The existing concrete footprint within the TPZ of Tree 62 should be removed with care and under the supervision of a suitably qualified arborist (minimum AQF level 5)
  - a) The concrete may be removed with use of a small excavator positioned atop the existing concrete while taking care to not significantly disrupt the soil below.
  - b) Excavation of the concrete footprint subbase should not exceed 100mm below existing grade.
  - c) Any excavation required within the TPZ of Tree 62 should be under the supervision of a suitably qualified arborist (minimum AQF level 5).
    - i) Tree roots that are exposed during excavation should be retained if possible, or alternatively pruned by the arborist with a sharp and sterile pruning tool.

**This tree will likely remain viable under the proposed development provided that the recommendations of this report are adopted and effectively implemented.**

### 13.5. Tree 65

Tree 65 is a mature *Eucalyptus leucoxylon* (Yellow gum) located within the subject site. This tree exhibits good health and good structure with a useful life expectancy (ULE) of 30-60 years. This tree is of low retention value.

The proposed building is to be located 2m to the South of Tree 65, resulting in a TPZ encroachment of 14% with an encroachment also within the SRZ (Figure 5). This is classified as a major encroachment as per AS4970-2009.

Tree 65 is likely to be retained provided the impact is minimised by following the recommendations below.

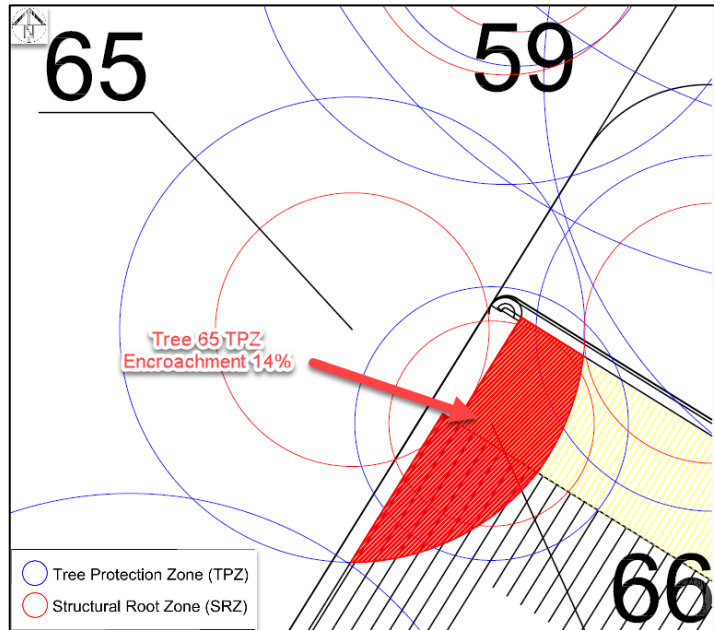


Figure 5 Tree 65 TPZ Encroachment

- 3) The existing concrete footprint within the TPZ of Tree 65 should be removed with care and under the supervision of a suitably qualified arborist (minimum AQF level 5)
  - a) The concrete may be removed with use of a small excavator positioned atop the existing concrete while taking care to not significantly disrupt the soil below.
  - b) Excavation of the concrete footprint subbase should not exceed 100mm below existing grade.
  - c) Any excavation required within the TPZ of Tree 65 should be under the supervision of a suitably qualified arborist (minimum AQF level 5).
    - i) Tree roots that are exposed during excavation should be retained if possible, or alternatively pruned by the arborist with a sharp and sterile pruning tool.

**This tree will likely remain viable under the proposed development provided that the recommendations of this report are adopted and effectively implemented.**

### 13.6. Tree 68

Tree 68 is a immature *Melaleuca armillaris* (Giant Honey Myrtle) located within the subject site. This tree exhibits fair health and fair structure with a useful life expectancy (ULE) of 15-30 years. This tree is of low retention value.

The proposed building building is to be located 1.1m to the South of Tree 68, resulting in a TPZ encroachment of 20.3% with an encroachment also within the SRZ (Figure 6). This is classified as a major encroachment as per AS4970-2009.

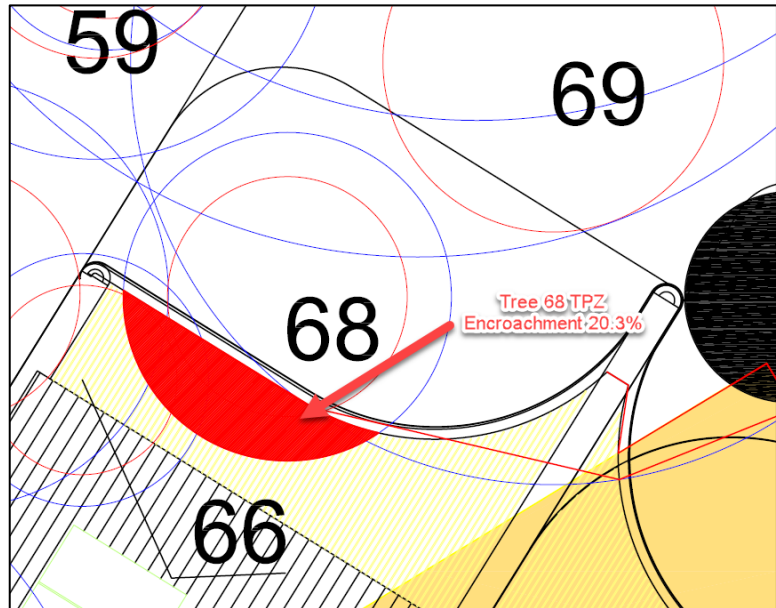


Figure 6 Tree 68 TPZ Encroachment

Tree 68 is likely to be retained provided the impact is minimised by following the recommendations below.

- 4) The existing concrete footprint within the TPZ of Tree 68 should be removed with care and under the supervision of a suitably qualified arborist (minimum AQF level 5)
  - a) The concrete may be removed with use of a small excavator positioned atop the existing concrete while taking care to not significantly disrupt the soil below.
  - b) Excavation of the concrete footprint subbase should not exceed 100mm below existing grade.
  - c) Any excavation required within the TPZ of Tree 68 should be under the supervision of a suitably qualified arborist (minimum AQF level 5).
    - i) Tree roots that are exposed during excavation should be retained if possible, or alternatively pruned by the arborist with a sharp and sterile pruning tool.

**This tree will likely remain viable under the proposed development provided that the recommendations of this report are adopted and effectively implemented.**



### 13.7. Tree 69

Tree 69 is a mature *Eucalyptus tetricornis* (Forest Red Gum) located within the subject site. This tree exhibits good health and good structure with a useful life expectancy (ULE) of 30-60 years. This tree is of moderate retention value.

The proposed dwelling at 17 Gibson Street, Broadmeadows is to be located 8.5m to the South of Tree 69, resulting in a TPZ encroachment of 3.9% (Figure 7). This is classified as a minor encroachment as per AS4970-2009.

This tree is unlikely to be significantly impacted by the proposed development.

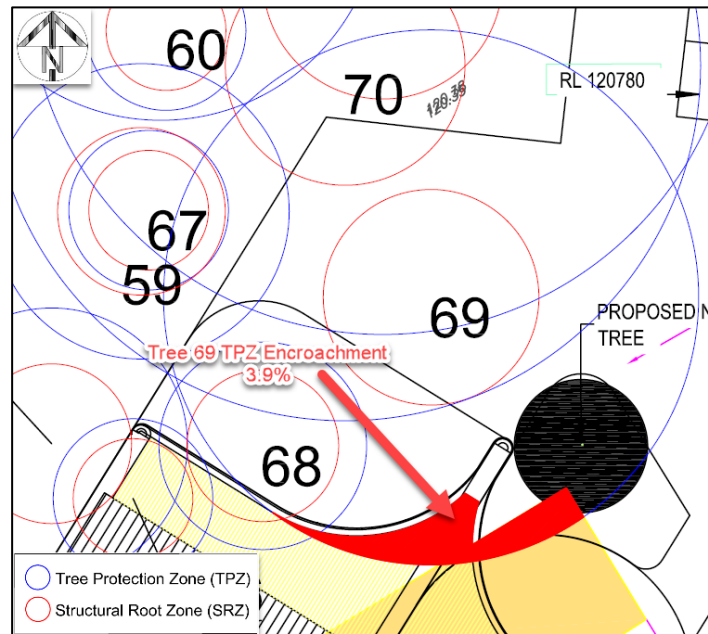


Figure 7 Tree 69 TPZ Encroachment

**This tree is unlikely to be significantly impacted by the proposed development.**

## 14. Recommendations

The following recommendations should be adopted to ensure the successful retention of those trees that are proposed to be retained.

1. A services plan should be created for this site and this construction impact report should be revised as required to ensure that services installation impacts on retained trees are avoided.
2. A Tree Management Plan should be created for this site to inform tree management guide construction within the Tree Protection Zones for retained trees.
3. The existing concrete footprint within the TPZ of Tree 40, 62, 65, & 68 should be removed with care and under the supervision of a suitably qualified arborist (minimum AQF level 5)
  - a. The concrete may be removed with use of a small excavator positioned atop the existing concrete while taking care to not significantly disrupt the soil below.
  - b. Excavation of the concrete footprint subbase should not exceed 100mm below existing grade.
  - c. Any excavation required within the TPZ of Tree 40, 62, 65, & 68 should be under the supervision of a suitably qualified arborist (minimum AQF level 5).
    - i. Tree roots that are exposed during excavation should be retained if possible, or alternatively pruned by the arborist with a sharp and sterile pruning tool.



## 15. Construction – no impact

The following trees are regarded as being suitable for retention and are unlikely to suffer any significant impact from the proposed development.

While significant care may be required to successfully retain these trees, no modification of the plans or special precautions are likely to be required to ensure this outcome. If these trees are to be retained then they should be protected during construction as outlined in Section 22 - Tree Protection Guidelines.

ID	Genus / species	DBH	SRZ	TPZ:	mTPZ	ConP	Ret Value	Retained
<b>The following 2 tree/s are shown as Removed on the plans provided.</b>								
41	<i>Eucalyptus leucoxylon</i>	48	2.5	5.8	= TPZ	10	Moderate	Removed
68	<i>Melaleuca armillaris</i>	22	1.9	2.6	= TPZ	3.1	Low	Removed
<b>The following 43 tree/s are shown as Retained on the plans provided.</b>								
1	<i>Grevillea robusta</i>	16	1.6	2.0	= TPZ	7.5	Low	Retained
4	<i>Prunus cerasifera</i>	31	2.1	3.7	= TPZ	4.5	Very low	Retained
5	<i>Prunus cerasifera</i>	13	1.6	2.0	= TPZ	5.5	Low	Retained
6	<i>Prunus cerasifera</i>	28	2	3.4	= TPZ	8.4	Low	Retained
7	<i>Prunus cerasifera</i>	42	2.4	5.0	= TPZ	10.7	Low	Retained
8	<i>Hesperocyparis macrocarpa</i>	70	2.9	8.4	= TPZ	15	Moderate	Retained
9	<i>Hesperocyparis macrocarpa</i>	13	1.6	2.0	= TPZ	15	Low	Retained
10	<i>Hesperocyparis macrocarpa</i>	44	2.4	5.3	= TPZ	15	Moderate	Retained
11	<i>Hesperocyparis macrocarpa</i>	19	1.7	2.3	= TPZ	15	Low	Retained
12	<i>Grevillea robusta</i>	50	2.6	6.0	= TPZ	6.7	Moderate	Retained
13	<i>Corymbia maculata</i>	41	2.4	4.9	= TPZ	15	Moderate	Retained
14	<i>Eucalyptus sideroxylon</i>	43	2.4	5.2	= TPZ	15	Moderate	Retained
15	<i>Corymbia maculata</i>	37	2.3	4.4	= TPZ	15	Moderate	Retained
16	<i>Corymbia maculata</i>	65	2.9	7.8	= TPZ	15	High	Retained
17	<i>Corymbia maculata</i>	51	2.6	6.1	= TPZ	15	Moderate	Retained
18	<i>Corymbia maculata</i>	47	2.5	5.6	= TPZ	15	Moderate	Retained
20	<i>Corymbia maculata</i>	39	2.3	4.7	= TPZ	15	Moderate	Retained
21	<i>Corymbia maculata</i>	48	2.5	5.8	= TPZ	15	High	Retained
22	<i>Corymbia maculata</i>	62	2.8	7.4	= TPZ	15	High	Retained
23	<i>Corymbia maculata</i>	61	2.8	7.3	= TPZ	15	High	Retained
24	<i>Corymbia maculata</i>	52	2.6	6.2	= TPZ	15	High	Retained
25	<i>Corymbia maculata</i>	60	2.8	7.2	= TPZ	15	Moderate	Retained
44	<i>Corymbia maculata</i>	60	2.8	7.2	= TPZ	15	High	Retained
45	<i>Eucalyptus lehmannii</i>	48	2.5	5.8	= TPZ	15	Low	Retained
46	<i>Eucalyptus saligna</i>	60	2.8	7.2	= TPZ	15	High	Retained
47	<i>Corymbia maculata</i>	68	2.9	8.2	= TPZ	15	Moderate	Retained
48	<i>Corymbia maculata</i>	19	1.7	2.3	= TPZ	15	Low	Retained
49	<i>Fraxinus angustifolia</i>	9	1.6	2.0	= TPZ	15	Very low	Retained
50	<i>Fraxinus angustifolia</i>	9	1.6	2.0	= TPZ	15	Very low	Retained
51	<i>Acacia mearnsii</i>	19	1.7	2.3	= TPZ	15	Low	Retained
52	<i>Eucalyptus viminalis</i>	30	2.1	3.6	= TPZ	15	Low	Retained
53	<i>Acacia mearnsii</i>	10	1.6	2.0	= TPZ	15	Low	Retained
54	<i>Acacia implexa</i>	19	1.7	2.3	= TPZ	15	Low	Retained
55	<i>Eucalyptus leucoxylon</i>	46	2.5	5.5	= TPZ	15	Low	Retained
56	<i>Eucalyptus cladocalyx</i>	15	1.6	2.0	= TPZ	15	Low	Retained
57	<i>Acacia cognata</i>	10	1.6	2.0	= TPZ	15	Very low	Retained
58	<i>Acacia cognata</i>	10	1.6	2.0	= TPZ	15	Very low	Retained
59	<i>Eucalyptus viminalis</i>	31	2.1	3.7	= TPZ	5.8	Low	Retained
60	<i>Fraxinus angustifolia</i>	10	1.6	2.0	= TPZ	15	Very low	Retained
61	<i>Eucalyptus sideroxylon</i>	21	1.8	2.5	= TPZ	14.3	Low	Retained

<b>ID</b>	<b>Genus / species</b>	<b>DBH</b>	<b>SRZ</b>	<b>TPZ:</b>	<b>mTPZ</b>	<b>ConP</b>	<b>Ret Value</b>	<b>Retained</b>
69	<i>Eucalyptus tereticornis</i>	56	2.7	6.7	= TPZ	8.5	Moderate	Retained
70	<i>Cedrus deodara</i>	72	3	8.6	= TPZ	10.5	Moderate	Retained
71	<i>Eucalyptus botryoides</i>	74	3	8.9	= TPZ	12.9	Moderate	Retained
SRZ: Structural Root Zone. TPZ: Tree Protection Zone. mTPZ: Tree Protection Zone.(Canopy) ConP: Construction Proximity.								
Number of trees in this section Total):		45						

## 16. Trees shown as removed

The following trees are shown as removed on the plans provided.

ID	Genus / species	Common name	ULE	Ret value
<b>The retention value for the following 16 tree/s is Low</b>				
27	<i>Callistemon citrinus</i>	Crimson Bottle Brush	15 - 30	Low
28	<i>Callistemon citrinus</i>	Crimson Bottle Brush	15 - 30	Low
29	<i>Callistemon salignus</i>	Willow Bottle Brush	15 - 30	Low
30	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
31	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
32	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
33	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
34	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
35	<i>Callistemon viminalis</i>	Weeping Bottle Brush	15 - 30	Low
36	<i>Pyrus ussuriensis</i>	Manchurian Pear	15 - 30	Low
38	<i>Cedrus deodara</i>	Deodar Cedar	30 - 60	Low
39	<i>Melaleuca armillaris</i>	Giant Honey Myrtle	5 - 15	Low
42	<i>Melaleuca styphelioides</i>	Prickly Paperbark	5 - 15	Low
43	<i>Eucalyptus lehmannii</i>	Mallee	5 - 15	Low
66	<i>Eucalyptus sideroxylon</i>	Red Ironbark	15 - 30	Low
68	<i>Melaleuca armillaris</i>	Giant Honey Myrtle	15 - 30	Low
<b>The retention value for the following 4 tree/s is Moderate</b>				
19	<i>Ficus macrophylla</i>	Moreton Bay Fig	30 - 60	Moderate
41	<i>Eucalyptus leucoxylon</i>	Yellow Gum	30 - 60	Moderate
63	<i>Eucalyptus botryoides</i>	Southern Mahogany	15 - 30	Moderate
64	<i>Eucalyptus viminalis</i>	Manna Gum	30 - 60	Moderate
<b>The retention value for the following 2 tree/s is Very low</b>				
26	<i>Prunus</i> sp.	Plum	5 - 15	Very low
37	<i>Pyrus ussuriensis</i>	Manchurian Pear	15 - 30	Very low
Number of tree/s in this section (Total): 22				

## 17. Weed species

The following trees are regarded by authorities as being environmental weeds (Muyt, 2001) (Yarra Ranges, 2004). Consideration should be given to the removal of these trees on the basis of their potential to contribute to environmental weed problems within the local area.

Trees located on adjoining properties are not included in this list.

ID	Genus / species	Common name	ULE	Ret value
4	<i>Prunus cerasifera</i>	Cherry Plum	1 - 5	Very low
5	<i>Prunus cerasifera</i>	Cherry Plum	5 - 15	Low
6	<i>Prunus cerasifera</i>	Cherry Plum	5 - 15	Low
7	<i>Prunus cerasifera</i>	Cherry Plum	5 - 15	Low
39	<i>Melaleuca armillaris</i>	Giant Honey Myrtle	5 - 15	Low
56	<i>Eucalyptus cladocalyx</i>	Sugar Gum	15 - 30	Low
68	<i>Melaleuca armillaris</i>	Giant Honey Myrtle	15 - 30	Low
Number of tree/s in this section (Total): 7				

## 18. References

- Coder, K.D 1996, Construction Damage Assessments, University of Georgia.  
<http://www.forestry.uga.edu/warnell/service/library/for96-039a/index.html>
- Harris, R.W., Clark, J.R. & Matheny, N.P. 2004, *Arboriculture: Integrated management of landscape trees, shrubs and vines*, 4<sup>th</sup> edn., Prentice Hall, New Jersey, USA.
- Hitchmough, J. D. 1994, *Urban Landscape Management*, Inkata Press, Chatswood, NSW.
- Society for Growing Australian Plants Maroondah, 1991, *Flora of Melbourne, a guide to the indigenous plants of the greater Melbourne area*, Society for Growing Australian Plants, Maroondah.
- Mattheck, C., Bethge, K. & Weber, K., 2015, *The body language of trees*, Karlsruhe Institute of Technology – Campus North, KS Druck GmbH, Germany.
- Standards Australia, 2009, *AS 4970 - 2009 Protection of trees on development sites*, Standards Australia, Sydney.

## 19. Appendix 1 - Tree protection guidelines

The following tree protection guidelines should be observed as appropriate. Where it is not possible to comply with these recommendations alternative arrangements should be decided with a qualified arborist.

1. A site specific Tree Protection Report should be commissioned prior to the commencement of construction to guide construction activity around any retained trees on or adjacent to the site.
2. Clearly marked as being retained on the site to avoid confusion during the tree removal phase.
3. The stumps of removed trees should be ground out rather than pulled to avoid injury to adjacent trees.
4. Construction specifications should include the plan location of those trees that are to be retained.
5. Penalties should be included in the construction specifications for damage to trees that are to be retained.
6. The trees to be retained should be enclosed with a 1.8 meter high chain link fence supported on steel posts driven 0.6 meters into the ground.
  - 6.1. Tree protection fencing should be established as shown.
    - 6.1.1. If tree protection fencing is not detailed in the report it should enclose, at a minimum, the entire **Structural Root Zone** and as much of the **Tree Protection Zone** as possible.
  - 6.2. Access should be provided by a single gate that should be kept locked at all times except when required for tree inspection or maintenance.
  - 6.3. Tree protection fencing should be installed following the removal of trees and prior to any other works being commenced.
  - 6.4. The area inside the fence should be mulched to a depth of 0.15 meters with general arboricultural wood chip mulch or similar.

7. Where construction clearance is required and areas of the Tree Protection Zone cannot be fenced the ground in these areas should be protected from compaction with **Ground Protection**.
  - 7.1. **Ground Protection** can consist of any constructed platform that prevents point loads on the soil within the **Tree Protection Zone**. These could include:
    - 7.1.1. Industrial pallets joined together to form a platform.
    - 7.1.2. 12 mm plywood joined together to form a platform.
    - 7.1.3. Planks of timber joined together to form a platform.
  - 7.2. **Ground Protection** should be constructed with sufficient strength to allow it to survive the entire construction process.
  - 7.3. **Ground Protection** should be installed following the removal of trees and prior to any other works being commenced.
8. Excavation within the **Structural Root Zone** should be avoided unless absolutely necessary.
  - 8.1. Any excavation within the **Structural Root Zone** should be performed by hand.
  - 8.2. Any excavation within or tunnelling under the **Structural Root Zone** should be supervised by a qualified arborist.
  - 8.3. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.
  - 8.4. Before any roots are pruned the effect of such pruning on the health and structural stability of the tree should be evaluated by a qualified arborist.
9. Excavation within the **Tree Protection Zone** should be avoided where possible.
  - 9.1. Any excavation within the **Tree Protection Zone** should be performed carefully to minimise root injury.
  - 9.2. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.
  - 9.3. Before any excavation occurs the effect of such excavation on the health and structural stability of the tree should be evaluated by a qualified arborist.
10. Concrete and other washout or waste disposal areas should be kept well away from trees to be retained.
11. Where automatic irrigation systems are installed the amount of irrigation that is applied should be checked against the requirements of the existing trees on the site.
12. Any pruning works that are required to facilitate construction should be performed by a qualified arborist.

Adapted from Harris, Clark and Matheny (2004)

## 20. Appendix 2 - Tree data

Note: Where **Retention value** = "Remove" only the arboricultural attributes of the tree (i.e. health, structure and ULE) are considered. Other factors that may affect the decision to retain or remove the tree are not considered.

- Where the 'Construction Proximity' is larger than the 'Tree Protection Zone (TPZ)' it is probable that the development will have **no significant impact on the health and longevity** of the tree.
- Where the 'Construction Proximity' is larger than the 'Structural Root Zone (SRZ)' it is probable that the development will have **no significant impact on the stability** of the tree.
- The following information should be read in conjunction with the 'Explanation of Terms' and the 'Glossary / Notes' sections found later in this report.

<b>SRZ (m):</b>	AS 4970-2009 Protection of trees on development sites. (Radius)	Total Number of trees
<b>TPZ (m):</b>	AS 4970-2009 Protection of trees on development sites (Radius)	71
<b>mTPZ (m):</b>	Modification to TPZ as required to protect canopy	
<b>Construction Proximity:</b>	0.1 indicates construction over or immediately adjacent to the tree	

### **Tree ID:** 1

**Genus / species:** *Grevillea robusta*

Evergreen Silky Oak

**Height (m):** 8 **Structure:** Good  
**Width (m):** 3 **Health:** Good  
**DBH (cm):** 16 Measured **Maturity:** Immature  
**Origin:** Australian **ULE (years):** 30 - 60  
**Retained?:** Retained **Form:** Fair  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 1.6 **Works priority:** N/A  
**TPZ (m):** 2.0 **Construction Proximity:** 7.5  
**mTPZ (m):** = TPZ



### **Tree ID:** 2

**Genus / species:** *Eucalyptus nicholii*

Evergreen Willow Leaf Peppermint

**Height (m):** 13 **Structure:** Fair  
**Width (m):** 9 **Health:** Good  
**DBH (cm):** 64 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Good  
**Retention Value:** Moderate  
**Removal / retention reason:** N/A.  
**Amenity value:** Moderate  
**Works Required:** N/A.

**SRZ (m):** 2.8 **Works priority:** N/A  
**TPZ (m):** 7.7 **Construction Proximity:** 6.1  
**mTPZ (m):** = TPZ



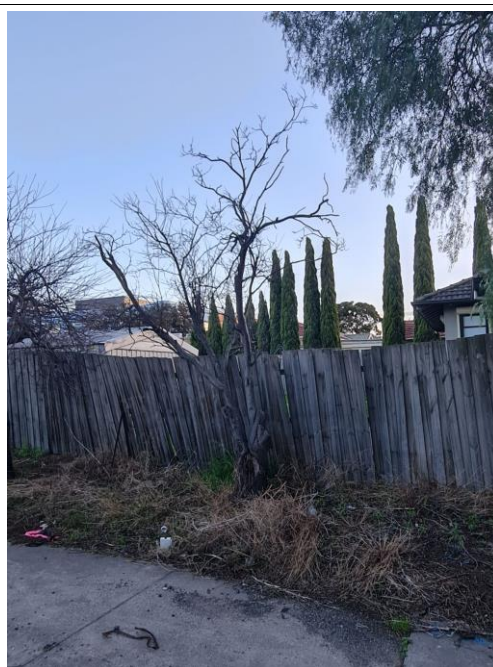


**Tree ID: 3****Genus / species:** *Schinus sp.*

Evergreen      Peppercorn

**Height (m):** 9      **Structure:** Good**Width (m):** 7      **Health:** Good**DBH (cm):** 54      Measured **Maturity:** Mature**Origin:** Exotic      **ULE (years):** 30 - 60**Retained?:** Retained      **Form:** Fair**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.7      **Works priority:** N/A**TPZ (m):** 6.5      **Construction Proximity:** 5.1**mTPZ (m):** = TPZ**Tree ID: 4****Genus / species:** *Prunus cerasifera*

Deciduous      Cherry Plum

**Height (m):** 5      **Structure:** Poor**Width (m):** 3      **Health:** Poor**DBH (cm):** 31      Measured **Maturity:** Over mature**Origin:** Exotic      **ULE (years):** 1 - 5**Retained?:** Retained      **Form:** Poor**Retention Value:** Very low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2.1      **Works priority:** N/A**TPZ (m):** 3.7      **Construction Proximity:** 4.5**mTPZ (m):** = TPZ**Tree ID: 5****Genus / species:** *Prunus cerasifera*

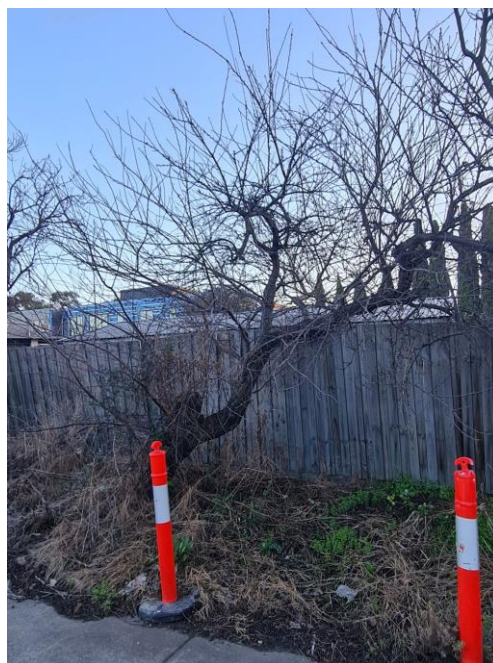
Deciduous      Cherry Plum

**Height (m):** 5      **Structure:** Poor**Width (m):** 2      **Health:** Good**DBH (cm):** 13      Measured **Maturity:** Over mature**Origin:** Exotic      **ULE (years):** 5 - 15**Retained?:** Retained      **Form:** Poor**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.6      **Works priority:** N/A**TPZ (m):** 2.0      **Construction Proximity:** 5.5**mTPZ (m):** = TPZ

**Tree ID: 6****Genus / species:** *Prunus cerasifera*

Deciduous Cherry Plum

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 28 Measured **Maturity:** Mature  
**Origin:** Exotic      **ULE (years):** 5 - 15  
**Retained?:** Retained      **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2      **Works priority:** N/A**TPZ (m):** 3.4      **Construction Proximity:** 8.4**mTPZ (m):** = TPZ**Tree ID: 7****Genus / species:** *Prunus cerasifera*

Deciduous Cherry Plum

**Height (m):** 5      **Structure:** Poor  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 42 Measured **Maturity:** Mature  
**Origin:** Exotic      **ULE (years):** 5 - 15  
**Retained?:** Retained      **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2.4      **Works priority:** N/A**TPZ (m):** 5.0      **Construction Proximity:** 10.7**mTPZ (m):** = TPZ**Tree ID: 8****Genus / species:** *Hesperocyparis macrocarpa*

Evergreen Monterey Cypress

**Height (m):** 9      **Structure:** Fair  
**Width (m):** 8      **Health:** Good  
**DBH (cm):** 70 Measured **Maturity:** Mature  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Good

**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.9      **Works priority:** N/A**TPZ (m):** 8.4      **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 9****Genus / species:** *Hesperocyparis macrocarpa*

Evergreen Monterey Cypress

**Height (m):** 3      **Structure:** Fair  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 13 Measured **Maturity:** Immature  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 10****Genus / species:** *Hesperocyparis macrocarpa*

Evergreen Monterey Cypress

**Height (m):** 9      **Structure:** Fair  
**Width (m):** 5      **Health:** Good  
**DBH (cm):** 44 Measured **Maturity:** Mature  
**Origin:** Exotic      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Fair

**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.

**SRZ (m):** 2.4      **Works priority:** N/A  
**TPZ (m):** 5.3      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

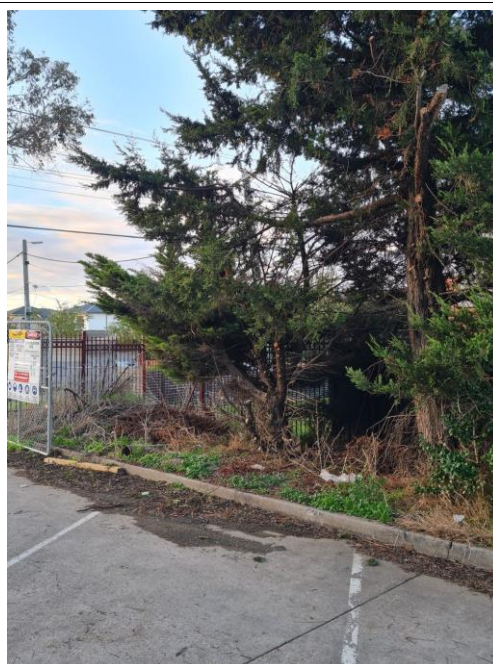
**Tree ID: 11****Genus / species:** *Hesperocyparis macrocarpa*

Evergreen Monterey Cypress

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 4      **Health:** Poor  
**DBH (cm):** 19 Measured **Maturity:** Immature  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.7      **Works priority:** N/A  
**TPZ (m):** 2.3      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ





**Tree ID: 12****Genus / species:** *Grevillea robusta*

Evergreen Silky Oak

**Height (m):** 13      **Structure:** Good  
**Width (m):** 7      **Health:** Good  
**DBH (cm):** 50      **Estimated Maturity:** Mature  
**Origin:** Australian      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Moderate  
**Removal / retention reason:** Adjoining property.  
**Amenity value:** Moderate  
**Works Required:** N/A.

**SRZ (m):** 2.6      **Works priority:** N/A  
**TPZ (m):** 6.0      **Construction Proximity:** 6.7  
**mTPZ (m):** = TPZ

**Tree ID: 13****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 16      **Structure:** Default  
**Width (m):** 10      **Health:** Good  
**DBH (cm):** 41      **Measured Maturity:** Mature  
**Origin:** Victorian      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Good  
**Retention Value:** Moderate  
**Removal / retention reason:** N/A.  
**Amenity value:** Moderate  
**Works Required:** N/A.

**SRZ (m):** 2.4      **Works priority:** N/A  
**TPZ (m):** 4.9      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 14****Genus / species:** *Eucalyptus sideroxylon*

Evergreen Red Ironbark

**Height (m):** 15      **Structure:** Good  
**Width (m):** 9      **Health:** Good  
**DBH (cm):** 43      **Measured Maturity:** Mature  
**Origin:** Victorian      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Good  
**Retention Value:** Moderate  
**Removal / retention reason:** N/A.  
**Amenity value:** Moderate  
**Works Required:** N/A.

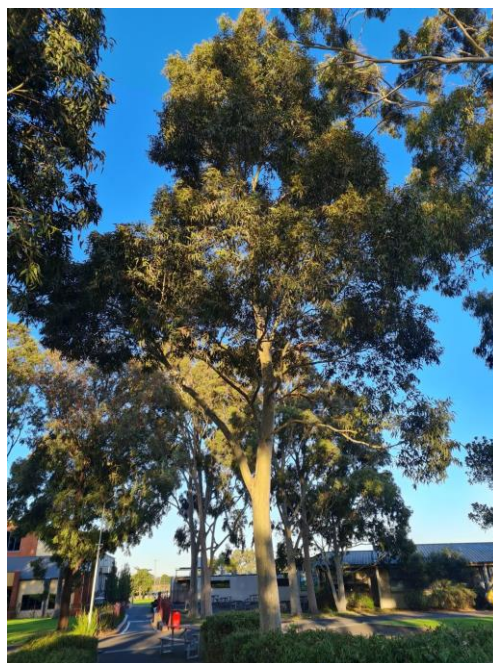
**SRZ (m):** 2.4      **Works priority:** N/A  
**TPZ (m):** 5.2      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ





**Tree ID: 15****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 15 **Structure:** Good**Width (m):** 8 **Health:** Good**DBH (cm):** 37 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.3 **Works priority:** N/A**TPZ (m):** 4.4 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 16****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 19 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 65 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.9 **Works priority:** N/A**TPZ (m):** 7.8 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 17****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 14 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 51 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.6 **Works priority:** N/A**TPZ (m):** 6.1 **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 18****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 18 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 47 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.5 **Works priority:** N/A**TPZ (m):** 5.6 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 19****Genus / species:** *Ficus macrophylla*

Evergreen Moreton Bay Fig

**Height (m):** 9 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 100 Measured **Maturity:** Mature**Origin:** Australian **ULE (years):** 30 - 60**Retained?:** Removed **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 3.5 **Works priority:** N/A**TPZ (m):** 12.0 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 20****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 16 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 39 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.3 **Works priority:** N/A**TPZ (m):** 4.7 **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 21****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 18 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 48 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.5 **Works priority:** N/A**TPZ (m):** 5.8 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 22****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 19 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 62 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.8 **Works priority:** N/A**TPZ (m):** 7.4 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 23****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 18 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 61 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.8 **Works priority:** N/A**TPZ (m):** 7.3 **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 24****Genus / species:** *Corymbia maculata*

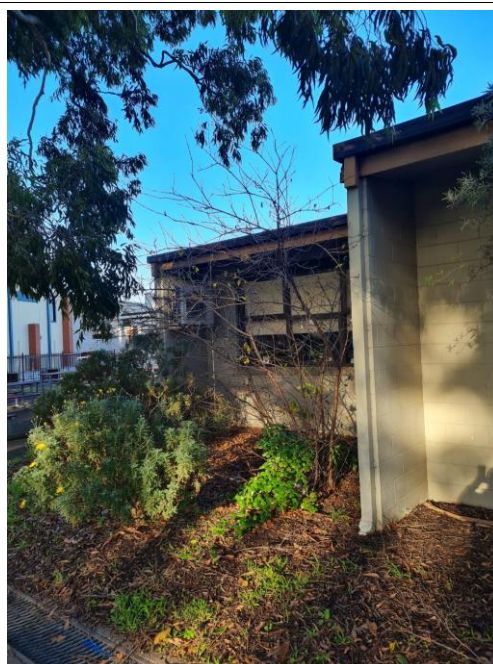
Evergreen Spotted Gum

**Height (m):** 18 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 52 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.6 **Works priority:** N/A**TPZ (m):** 6.2 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 25****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 14 **Structure:** Good**Width (m):** 12 **Health:** Good**DBH (cm):** 60 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Fair**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.8 **Works priority:** N/A**TPZ (m):** 7.2 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 26****Genus / species:** *Prunus sp.*

Deciduous Plum

**Height (m):** 3 **Structure:** Good**Width (m):** 3 **Health:** Good**DBH (cm):** 8 Estimated **Maturity:** Immature**Origin:** Exotic **ULE (years):** 5 - 15**Retained?:** Removed **Form:** Poor**Retention Value:** Very low**Removal / retention reason:** N/A.**Amenity value:** Very low**Works Required:** N/A.**SRZ (m):** 1.6 **Works priority:** N/A**TPZ (m):** 2.0 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ



**Tree ID: 27****Genus / species:** *Callistemon citrinus*

Evergreen Crimson Bottle Brush

**Height (m):** 4 **Structure:** Good**Width (m):** 3 **Health:** Good**DBH (cm):** 16 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 15 - 30**Retained?:** Removed **Form:** Fair**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.6 **Works priority:** N/A**TPZ (m):** 2.0 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 28****Genus / species:** *Callistemon citrinus*

Evergreen Crimson Bottle Brush

**Height (m):** 4 **Structure:** Good**Width (m):** 3 **Health:** Good**DBH (cm):** 19 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 15 - 30**Retained?:** Removed **Form:** Fair**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.7 **Works priority:** N/A**TPZ (m):** 2.3 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 29****Genus / species:** *Callistemon salignus*

Evergreen Willow Bottle Brush

**Height (m):** 7 **Structure:** Fair**Width (m):** 5 **Health:** Good**DBH (cm):** 38 Measured **Maturity:** Mature**Origin:** Australian **ULE (years):** 15 - 30**Retained?:** Removed **Form:** Fair**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2.3 **Works priority:** N/A**TPZ (m):** 4.6 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ



**Tree ID: 30****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 17 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.7      **Works priority:** N/A**TPZ (m):** 2.0      **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 31****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 17 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.7      **Works priority:** N/A**TPZ (m):** 2.0      **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 32****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 15 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.6      **Works priority:** N/A**TPZ (m):** 2.0      **Construction Proximity:** 0.1**mTPZ (m):** = TPZ



**Tree ID: 33****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 12 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 34****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 19 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.7      **Works priority:** N/A  
**TPZ (m):** 2.3      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

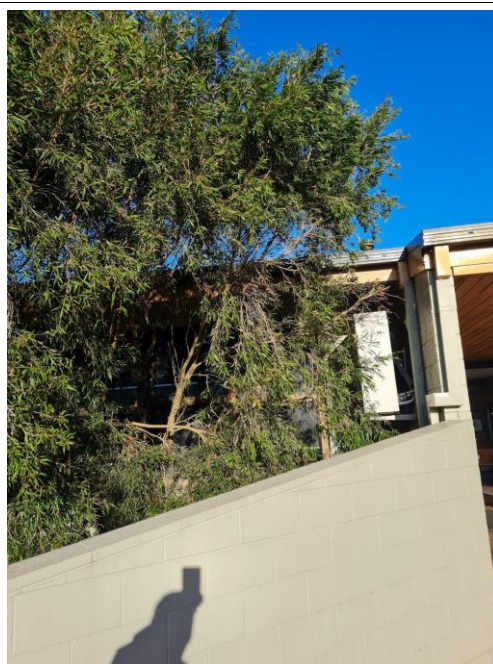
**Tree ID: 35****Genus / species:** *Callistemon viminalis*

Evergreen Weeping Bottle Brush

**Height (m):** 4      **Structure:** Fair  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 17 Measured **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.7      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ



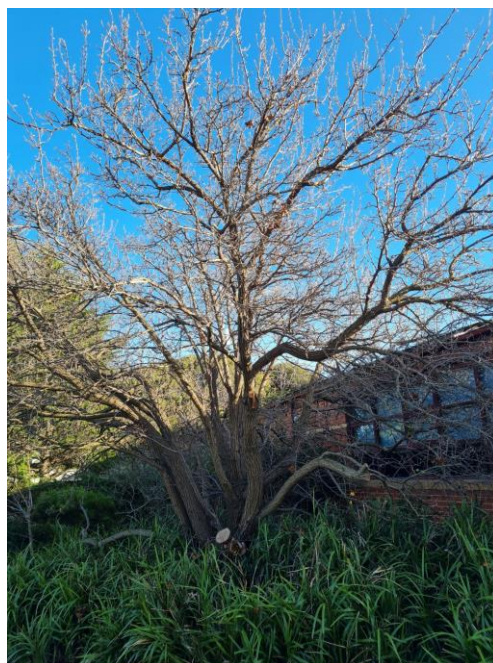


**Tree ID: 36****Genus / species:** *Pyrus ussuriensis*

Deciduous Manchurian Pear

**Height (m):** 5      **Structure:** Fair  
**Width (m):** 8      **Health:** Good  
**DBH (cm):** 69 Measured **Maturity:** Default  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Removed      **Form:** Good  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 2.9      **Works priority:** N/A  
**TPZ (m):** 8.3      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 37****Genus / species:** *Pyrus ussuriensis*

Deciduous Manchurian Pear

**Height (m):** 3      **Structure:** Good  
**Width (m):** 2      **Health:** Good  
**DBH (cm):** 4 Measured **Maturity:** Young  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Removed      **Form:** Good  
**Retention Value:** Very low  
**Removal / retention reason:** N/A.  
**Amenity value:** Very low  
**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 38****Genus / species:** *Cedrus deodara*

Evergreen Deodar Cedar

**Height (m):** 7      **Structure:** Good  
**Width (m):** 7      **Health:** Good  
**DBH (cm):** 29 Measured **Maturity:** Immature  
**Origin:** Exotic      **ULE (years):** 30 - 60  
**Retained?:** Removed      **Form:** Good  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 2.1      **Works priority:** N/A  
**TPZ (m):** 3.5      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ





**Tree ID: 39****Genus / species:** *Melaleuca armillaris*

Evergreen Giant Honey Myrtle

**Height (m):** 5      **Structure:** Poor  
**Width (m):** 2      **Health:** Good  
**DBH (cm):** 16 Measured **Maturity:** Default  
**Origin:** Victorian **ULE (years):** 5 - 15  
**Retained?:** Removed **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 40****Genus / species:** *Eucalyptus sideroxylon*

Evergreen Red Ironbark

**Height (m):** 14      **Structure:** Good  
**Width (m):** 14      **Health:** Good  
**DBH (cm):** 73 Measured **Maturity:** Mature  
**Origin:** Victorian **ULE (years):** 30 - 60  
**Retained?:** Retained **Form:** Good

**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.

**SRZ (m):** 3      **Works priority:** N/A  
**TPZ (m):** 8.8      **Construction Proximity:** 1  
**mTPZ (m):** = TPZ

**Tree ID: 41****Genus / species:** *Eucalyptus leucoxylon*

Evergreen Yellow Gum

**Height (m):** 13      **Structure:** Fair  
**Width (m):** 10      **Health:** Good  
**DBH (cm):** 48 Measured **Maturity:** Mature  
**Origin:** Melbourne **ULE (years):** 30 - 60  
**Retained?:** Removed **Form:** Good

**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.

**SRZ (m):** 2.5      **Works priority:** N/A  
**TPZ (m):** 5.8      **Construction Proximity:** 10  
**mTPZ (m):** = TPZ





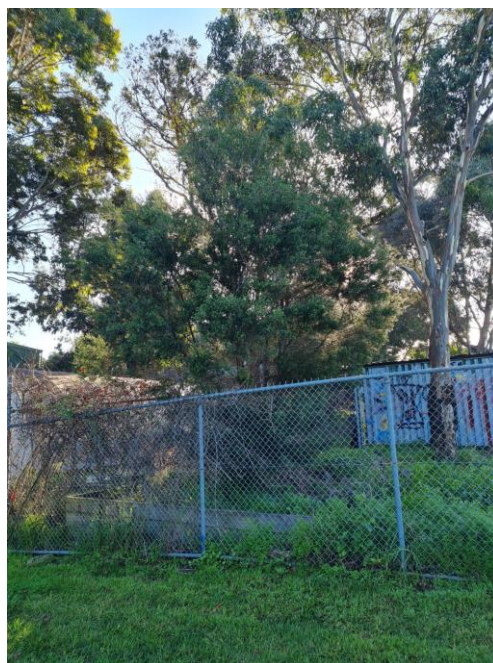
**Tree ID: 42****Genus / species:** *Melaleuca styphelioides*

Evergreen Prickly Paperbark

**Height (m):** 6      **Structure:** Poor  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 27 Measured **Maturity:** Immature  
**Origin:** Australian **ULE (years):** 5 - 15  
**Retained?:** Removed **Form:** Poor

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 2      **Works priority:** N/A  
**TPZ (m):** 3.2      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 43****Genus / species:** *Eucalyptus lehmannii*

Evergreen Mallee

**Height (m):** 13      **Structure:** Fair  
**Width (m):** 7      **Health:** Poor  
**DBH (cm):** 30 Estimated **Maturity:** Mature  
**Origin:** Australian **ULE (years):** 5 - 15  
**Retained?:** Removed **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 2.1      **Works priority:** N/A  
**TPZ (m):** 3.6      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

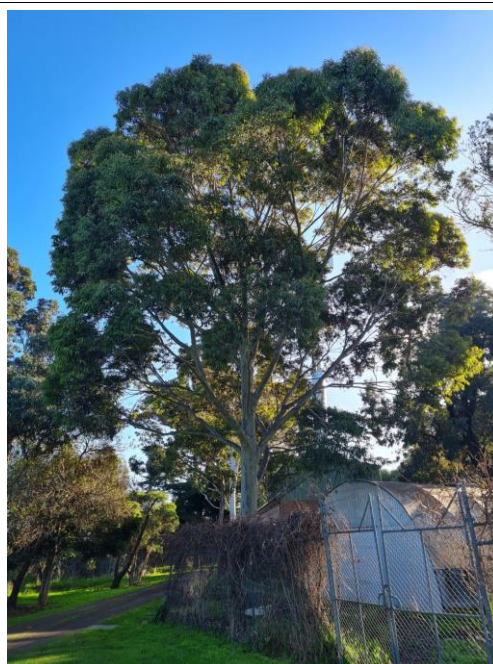
**Tree ID: 44****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 18      **Structure:** Good  
**Width (m):** 14      **Health:** Good  
**DBH (cm):** 60 Estimated **Maturity:** Mature  
**Origin:** Victorian **ULE (years):** 30 - 60  
**Retained?:** Retained **Form:** Fair

**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.

**SRZ (m):** 2.8      **Works priority:** N/A  
**TPZ (m):** 7.2      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ





**Tree ID: 45****Genus / species:** *Eucalyptus lehmannii*

Evergreen Mallee

**Height (m):** 10      **Structure:** Poor  
**Width (m):** 7      **Health:** Fair  
**DBH (cm):** 48 Measured **Maturity:** Mature  
**Origin:** Australian      **ULE (years):** 5 - 15  
**Retained?:** Retained      **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2.5      **Works priority:** N/A**TPZ (m):** 5.8      **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 46****Genus / species:** *Eucalyptus saligna*

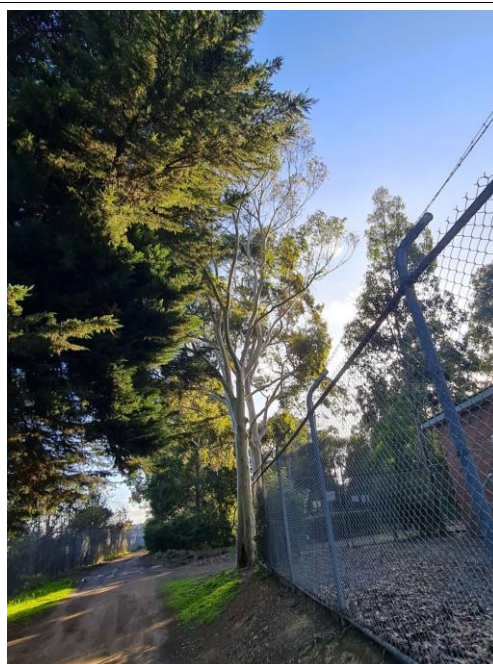
Evergreen Sydney Blue Gum

**Height (m):** 16      **Structure:** Fair  
**Width (m):** 10      **Health:** Good  
**DBH (cm):** 60 Measured **Maturity:** Mature  
**Origin:** Australian      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Good

**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.8      **Works priority:** N/A**TPZ (m):** 7.2      **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 47****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 17      **Structure:** Fair  
**Width (m):** 10      **Health:** Fair  
**DBH (cm):** 68 Measured **Maturity:** Mature  
**Origin:** Victorian      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Good

**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.9      **Works priority:** N/A**TPZ (m):** 8.2      **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 48****Genus / species:** *Corymbia maculata*

Evergreen Spotted Gum

**Height (m):** 8      **Structure:** Good  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 19      **Maturity:** Immature  
**Origin:** Victorian      **ULE (years):** 30 - 60  
**Retained?:** Retained      **Form:** Good  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 1.7      **Works priority:** N/A  
**TPZ (m):** 2.3      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 49****Genus / species:** *Fraxinus angustifolia*

Deciduous Narrow Leaf Ash

**Height (m):** 5      **Structure:** Good  
**Width (m):** 2      **Health:** Good  
**DBH (cm):** 9      **Maturity:** Immature  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Very low  
**Removal / retention reason:** N/A.  
**Amenity value:** Very low  
**Works Required:** N/A.

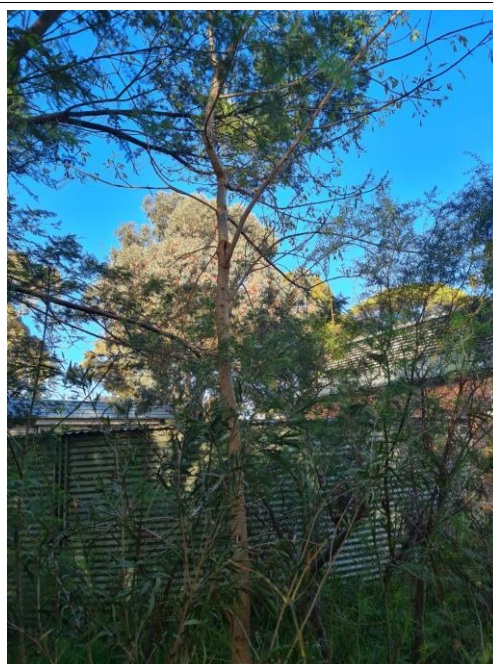
**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 50****Genus / species:** *Fraxinus angustifolia*

Deciduous Narrow Leaf Ash

**Height (m):** 6      **Structure:** Good  
**Width (m):** 2      **Health:** Good  
**DBH (cm):** 9      **Maturity:** Immature  
**Origin:** Exotic      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Very low  
**Removal / retention reason:** N/A.  
**Amenity value:** Very low  
**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ





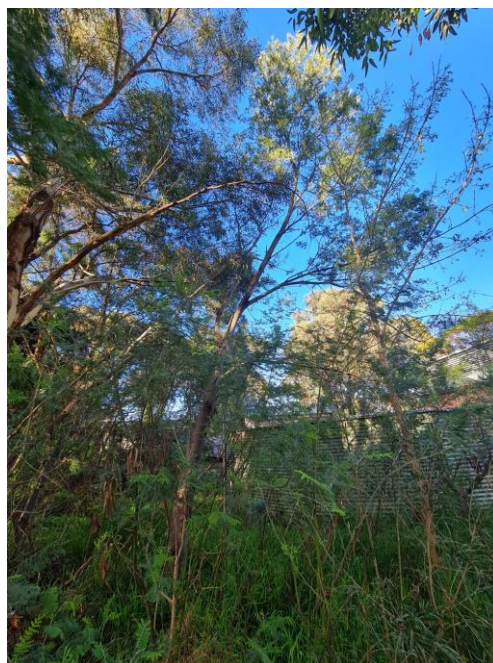
**Tree ID: 51****Genus / species:** *Acacia mearnsii*

Evergreen Black Wattle

**Height (m):** 10      **Structure:** Good  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 19 Measured **Maturity:** Mature  
**Origin:** Melbourne **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.7      **Works priority:** N/A  
**TPZ (m):** 2.3      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 52****Genus / species:** *Eucalyptus viminalis*

Evergreen Manna Gum

**Height (m):** 9      **Structure:** Poor  
**Width (m):** 8      **Health:** Good  
**DBH (cm):** 30 Measured **Maturity:** Immature  
**Origin:** Melbourne **ULE (years):** 5 - 15  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 2.1      **Works priority:** N/A  
**TPZ (m):** 3.6      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 53****Genus / species:** *Acacia mearnsii*

Evergreen Black Wattle

**Height (m):** 7      **Structure:** Good  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 10 Measured **Maturity:** Immature  
**Origin:** Melbourne **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ





**Tree ID: 54****Genus / species:** *Acacia implexa*

Evergreen Lightwood

**Height (m):** 9      **Structure:** Good  
**Width (m):** 5      **Health:** Good  
**DBH (cm):** 19 Measured **Maturity:** Mature  
**Origin:** Melbourne **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.7      **Works priority:** N/A**TPZ (m):** 2.3      **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 55****Genus / species:** *Eucalyptus leucoxylon*

Evergreen Yellow Gum

**Height (m):** 8      **Structure:** Poor  
**Width (m):** 8      **Health:** Good  
**DBH (cm):** 46 Measured **Maturity:** Mature  
**Origin:** Melbourne **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2.5      **Works priority:** N/A**TPZ (m):** 5.5      **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 56****Genus / species:** *Eucalyptus cladocalyx*

Evergreen Sugar Gum

**Height (m):** 4      **Structure:** Default  
**Width (m):** 4      **Health:** Good  
**DBH (cm):** 15 Measured **Maturity:** Immature  
**Origin:** Australian **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair

**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.6      **Works priority:** N/A**TPZ (m):** 2.0      **Construction Proximity:** 15**mTPZ (m):** = TPZ



**Tree ID: 57****Genus / species:** *Acacia cognata*

Evergreen River Wattle

**Height (m):** 2      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 10      Estimated **Maturity:** Immature  
**Origin:** Victorian      **ULE (years):** 5 - 15  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Very low  
**Removal / retention reason:** N/A.  
**Amenity value:** Very low  
**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 58****Genus / species:** *Acacia cognata*

Evergreen River Wattle

**Height (m):** 2      **Structure:** Fair  
**Width (m):** 3      **Health:** Good  
**DBH (cm):** 10      Estimated **Maturity:** Immature  
**Origin:** Victorian      **ULE (years):** 5 - 15  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Very low  
**Removal / retention reason:** N/A.  
**Amenity value:** Very low  
**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 15  
**mTPZ (m):** = TPZ

**Tree ID: 59****Genus / species:** *Eucalyptus viminalis*

Evergreen Manna Gum

**Height (m):** 10      **Structure:** Default  
**Width (m):** 8      **Health:** Good  
**DBH (cm):** 31      Measured **Maturity:** Mature  
**Origin:** Melbourne      **ULE (years):** 15 - 30  
**Retained?:** Retained      **Form:** Fair  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 2.1      **Works priority:** N/A  
**TPZ (m):** 3.7      **Construction Proximity:** 5.8  
**mTPZ (m):** = TPZ





**Tree ID: 60****Genus / species:** *Fraxinus angustifolia*

Deciduous Narrow Leaf Ash

**Height (m):** 6 **Structure:** Good**Width (m):** 2 **Health:** Good**DBH (cm):** 10 Measured **Maturity:** Young**Origin:** Exotic **ULE (years):** 15 - 30**Retained?:** Retained **Form:** Fair**Retention Value:** Very low**Removal / retention reason:** N/A.**Amenity value:** Very low**Works Required:** N/A.**SRZ (m):** 1.6 **Works priority:** N/A**TPZ (m):** 2.0 **Construction Proximity:** 15**mTPZ (m):** = TPZ**Tree ID: 61****Genus / species:** *Eucalyptus sideroxylon*

Evergreen Red Ironbark

**Height (m):** 8 **Structure:** Good**Width (m):** 4 **Health:** Good**DBH (cm):** 21 Measured **Maturity:** Immature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 1.8 **Works priority:** N/A**TPZ (m):** 2.5 **Construction Proximity:** 14.3**mTPZ (m):** = TPZ**Tree ID: 62****Genus / species:** *Eucalyptus sideroxylon*

Evergreen Red Ironbark

**Height (m):** 16 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 65 Estimated **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** High**Removal / retention reason:** N/A.**Amenity value:** High**Works Required:** N/A.**SRZ (m):** 2.9 **Works priority:** N/A**TPZ (m):** 7.8 **Construction Proximity:** 1.8**mTPZ (m):** = TPZ



**Tree ID: 63****Genus / species:** *Eucalyptus botryoides*

Evergreen Southern Mahogany

**Height (m):** 10 **Structure:** Poor**Width (m):** 8 **Health:** Good**DBH (cm):** 72 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 15 - 30**Retained?:** Removed **Form:** Fair**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 3 **Works priority:** N/A**TPZ (m):** 8.6 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 64****Genus / species:** *Eucalyptus viminalis*

Evergreen Manna Gum

**Height (m):** 12 **Structure:** Good**Width (m):** 10 **Health:** Good**DBH (cm):** 46 Measured **Maturity:** Mature**Origin:** Melbourne **ULE (years):** 30 - 60**Retained?:** Removed **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.5 **Works priority:** N/A**TPZ (m):** 5.5 **Construction Proximity:** 0.1**mTPZ (m):** = TPZ**Tree ID: 65****Genus / species:** *Eucalyptus leucoxylon*

Evergreen Yellow Gum

**Height (m):** 8 **Structure:** Good**Width (m):** 6 **Health:** Good**DBH (cm):** 28 Measured **Maturity:** Mature**Origin:** Melbourne **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Fair**Retention Value:** Low**Removal / retention reason:** N/A.**Amenity value:** Low**Works Required:** N/A.**SRZ (m):** 2 **Works priority:** N/A**TPZ (m):** 3.4 **Construction Proximity:** 2**mTPZ (m):** = TPZ



**Tree ID: 66****Genus / species:** *Eucalyptus sideroxylon*

Evergreen Red Ironbark

**Height (m):** 7      **Structure:** Good  
**Width (m):** 3      **Health:** Fair  
**DBH (cm):** 15 Measured **Maturity:** Immature  
**Origin:** Victorian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Fair  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 1.6      **Works priority:** N/A  
**TPZ (m):** 2.0      **Construction Proximity:** 0.2  
**mTPZ (m):** = TPZ

**Tree ID: 67****Genus / species:** *Eucalyptus leucoxylon*

Evergreen Yellow Gum

**Height (m):** 8      **Structure:** Fair  
**Width (m):** 6      **Health:** Good  
**DBH (cm):** 45 Measured **Maturity:** Mature  
**Origin:** Melbourne **ULE (years):** 15 - 30  
**Retained?:** Retained **Form:** Fair  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 2.5      **Works priority:** N/A  
**TPZ (m):** 5.4      **Construction Proximity:** 0.1  
**mTPZ (m):** = TPZ

**Tree ID: 68****Genus / species:** *Melaleuca armillaris*

Evergreen Giant Honey Myrtle

**Height (m):** 7      **Structure:** Fair  
**Width (m):** 4      **Health:** Fair  
**DBH (cm):** 22 Measured **Maturity:** Immature  
**Origin:** Victorian **ULE (years):** 15 - 30  
**Retained?:** Removed **Form:** Fair  
**Retention Value:** Low  
**Removal / retention reason:** N/A.  
**Amenity value:** Low  
**Works Required:** N/A.

**SRZ (m):** 1.9      **Works priority:** N/A  
**TPZ (m):** 2.6      **Construction Proximity:** 3.1  
**mTPZ (m):** = TPZ





**Tree ID: 69****Genus / species:** *Eucalyptus tereticornis*

Evergreen Forest Red Gum

**Height (m):** 12 **Structure:** Good**Width (m):** 8 **Health:** Good**DBH (cm):** 56 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 2.7 **Works priority:** N/A**TPZ (m):** 6.7 **Construction Proximity:** 8.5**mTPZ (m):** = TPZ**Tree ID: 70****Genus / species:** *Cedrus deodara*

Evergreen Deodar Cedar

**Height (m):** 8 **Structure:** Poor**Width (m):** 8 **Health:** Good**DBH (cm):** 72 Measured **Maturity:** Mature**Origin:** Exotic **ULE (years):** 15 - 30**Retained?:** Retained **Form:** Good**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 3 **Works priority:** N/A**TPZ (m):** 8.6 **Construction Proximity:** 10.5**mTPZ (m):** = TPZ**Tree ID: 71****Genus / species:** *Eucalyptus botryoides*

Evergreen Southern Mahogany

**Height (m):** 9 **Structure:** Fair**Width (m):** 8 **Health:** Good**DBH (cm):** 74 Measured **Maturity:** Mature**Origin:** Victorian **ULE (years):** 30 - 60**Retained?:** Retained **Form:** Fair**Retention Value:** Moderate**Removal / retention reason:** N/A.**Amenity value:** Moderate**Works Required:** N/A.**SRZ (m):** 3 **Works priority:** N/A**TPZ (m):** 8.9 **Construction Proximity:** 12.9**mTPZ (m):** = TPZ

## **21. Appendix 3 – Arboricultural information**

The following sections are presented to provide an introduction to the process of tree root system protection. A tree's root system is the critical element to be protected during the development process and if the tree's roots are adequately protected then the rest of the tree will generally survive without significant injury.

### **21.1. Root plate estimation**

One of the primary purposes of this report is to estimate the impact of the development on the trees on this site. This is mainly achieved by estimating the extent of the root plate area of the trees that are proposed to be retained and the proportion of this area that is likely to be excised or affected during the construction process.

In this report two elements of the tree root area are described. These are:

#### **21.1.1. Structural Root Zone**

This is an estimate of the radius that is likely to encompass the major scaffold roots of the tree. These roots are critical to anchoring the tree and damage to these roots will increase the risk of entire tree failure (i.e. uprooting). This radius is based on AS 4970-2009.

#### **21.1.2. Tree Protection Zone**

This is an estimate of the radius that is likely to encompass enough of the smaller absorbing roots to allow the tree to obtain sufficient nutrients and water to allow it to survive in the long term. This radius is based on AS 4970-2009 and is based on the size of the tree.

Estimation of the likely root plate radius for both methods are based on the DBH (Diameter at Breast Height) of each tree. This is usually measured but where the tree is inaccessible or has numerous trunks a visual estimation may be used. Whether the DBH is estimated or measured is noted within the "Tree Data" section of the report.

The two elements of each tree's root zone is transposed over the site survey and building footprint and the degree of root injury is calculated from this.

### **21.2. Tree rooting patterns**

Contrary to common belief, trees usually have a broad flat plate of roots that may extend 1.5 – 3 times the radius of the canopy (Harris, Matheny & Clark, 1999; Coder, 1996; Hitchmough, 1994). Relatively few trees have deep roots and Harris, Matheny and Clark (2004) note that most tree roots will be found in the top 1.0 metre of the soil profile.

While the models used to approximate the size of tree root plates assume a uniformly radial root system, in highly disturbed urban soils root systems often develop in a highly asymmetric manner (Matheny & Clarke, 2004). This may require the modification of the models used where it is likely that the root system is asymmetric.

### **21.3. Construction impacts**

Construction in the vicinity of trees can have several negative impacts on their health, longevity and structural stability. Harris, Matheny and Clark (2004) note that some level of tree root injury or root zone change is almost inevitable during construction around trees and maintain that the goal of tree preservation is to reduce the injury or change to a level that will enable the long term preservation of the retained trees.

Negative impacts can include:

- Root severance from trenching and grading activities. Damage to the transport and absorbing root system may deprive the tree of the ability to absorb nutrients and water and damage to the structural scaffold roots that support the tree may result in instability and uprooting. Depending on the percentage of the root plate affected and proximity to the tree, the affects can range from minor degradation of health through to total root plate failure (i.e. uprooting).
- Compaction and root injury. Most trees require a well aerated and friable soil to allow normal physiological processes to occur and to allow root growth. Soil compaction from pedestrian or vehicular traffic can result in direct injury to the roots, indirect injury through soil drainage changes, reduced soil aeration or decreased soil penetrability. If severe enough soil compaction can lead to a rapid decline in many tree species and may eventually result in instability and uprooting.
- Changes in drainage patterns. Changes in drainage patterns may result from hard surfacing, trenching, land shaping and other construction activities. These can result in either drought stress or waterlogging, both of which can cause a rapid decline in trees and may result in instability and uprooting.

## 22. Appendix 4 - AS 4970 -2009

This report generally conforms to *AS 4970 – 2009 Protection of Trees on Development Sites* except in the following areas.

1. AS 4970 notes that the project arborist should verify the accuracy of feature survey for the subject site.
  - a. This is generally not feasible and the feature survey is taken as being an accurate representation of the features of the site.
  - b. However if trees are found on the site that are not represented in the feature survey then these trees will be added to the report plans based on a visual estimation of their location.
    - i. Accordingly the location of these trees may not be sufficiently accurate for the purposes of the report.
    - ii. The location of these trees should be verified by a qualified surveyor where appropriate.
2. *AS 4970-2009 Protection of Trees on Development Sites* makes no differentiation between the Tree Protection Zone (TPZ) derived from the trees DBH and the modified TPZ derived from the trees canopy where it extends past the DBH derived TPZ. As the two forms of TPZ are independent a differentiation between the two forms of TPZ needs to be made. In this report:
  - a. “TPZ” refers to the DBH derived Tree Protection Zone (12 x DBH) and “mTPZ” pertains to the TPZ where it is modified to account for a canopy that extends beyond the DBH derived TPZ.
  - b. The modified Tree Protection Zone (mTPZ) for all trees is taken as being identical to the Tree Protection Zone (TPZ) except where the canopy of the tree extends beyond the TPZ. Where this is the case the TPZ is shown on the site plans and any tree canopy impacts are addressed as required within the report. Otherwise the mTPZ is recorded within this report as “= TPZ”.

## 23. Appendix 5 - Explanation of terms

The assessment of Health, Structure, Condition, U.L.E. (Useful Life Expectancy), Origin, Maturity, Form and Retention value are based on the following definitions. In the case of health and structure these definitions encompass only the more common indicators for these assessments. Other indicators not included in these definitions may lead to the ascribing of a particular health or structure category.

### 23.1. Origin

The notation of “Origin” is based on the following categories.

➤ <b>Category</b>	Description
➤ <b>Melbourne</b>	Native to the greater Melbourne metropolitan area as defined by Flora of Melbourne (S. G. A. P. M., 1991).
➤ <b>Victorian</b>	Native to Victoria but not the greater Melbourne Metropolitan area.
➤ <b>Australian</b>	Native to Australia but not Victoria.
➤ <b>Exotic</b>	Not native to Australia.

### 23.2. Maturity

The notation of “Maturity” is based on the following categories.

➤ <b>Category</b>	Description
➤ <b>Immature</b>	Less than 20% of the life expectancy for that tree.
➤ <b>Mature</b>	20 – 80% of the life expectancy for that tree.
➤ <b>Over mature</b>	> 80% of the life expectancy for that tree.

### 23.3. Works required

The works required listed in this report are of a general nature only and should be reviewed following the completion of any works on the site.

Where a tree is recommended for removal (Recommendation) it is not listed in the Works required section of the report.

## 23.4. Priority

The priority accorded particular works is based on a projected increased site usage following the completion of a development on the site. The priority is of a general nature only and should be reviewed following the completion of any works on the site.

“Priority” is based on the following categories.

<b><u>Category</u></b>	<b><u>Description</u></b>
➤ <b>N/A.</b>	No tree works are required
➤ <b>Very low</b>	Tree works are optional and could be performed at any time..
➤ <b>Low</b>	Works should be performed within five years.
➤ <b>Moderate</b>	Works should be performed within 3 years.
➤ <b>High</b>	Works should be performed within 12 months.
➤ <b>Urgent</b>	Works should be performed immediately.

## 23.5. Retention value (RV)

The Retention value ascribed to each tree in this report is not definitive and should be used as a guide only. Many factors influence the comparative value of a tree and a number of these factors are outside the scope of arboricultural assessment. These factors cannot therefore be addressed in a single rating system.

Retention value is comprised of two parts. These are the Amenity Value of the tree rated as Very Low to Very high and the Useful Life Expectancy (ULE) of the tree.

The Amenity Value of the tree relates to the contribution of the tree to the aesthetic amenity of the area. The primary determinants of amenity value are tree health, size and form. Amenity value is, to some extent relative and is dependant on the size of the surrounding vegetation. For example a 16 metre tree in suburban Melbourne that exhibits good health would usually be ascribed an amenity value of high while the same tree, in a forest of 50 metre trees, might be ascribed an amenity value of moderate or even low.

The Amenity Value is then modified by the ULE of the tree with short ULE values reducing the RV of the tree and long ULE values increasing the RV of the tree.

Trees that are listed on a register of heritage or significant trees are not accommodated within this rating system as these values are often independent from the arboricultural attributes of the tree. Heritage and significant trees may be ascribed a very low retention value despite their listing on any register. Where known, any heritage or significant register listing it will be noted in the report.

RV is assessed on each tree as a single entity. The value of a group of trees is not considered in this context and each tree within the group will be assessed as an individual.



Amenity value is based on the following categories and is ascribed an Amenity Value (AVV) ranging from 2 - 10.

<u>Category</u>	<u>Example</u>	<u>AVV</u>
➤ <b>Very high</b>	Generally a very large tree that exhibits excellent health and/or form or a tree that is listed on a heritage or significant tree register.  Usually more than 15 metres tall.	10
➤ <b>High</b>	Generally a large tree that exhibits good health and/or form.  If the tree exhibits good health and structure then generally more than 15 metres tall.	8
➤ <b>Medium</b>	Generally a medium tree that exhibits good health and/or form.  May be a large tree that exhibits fair health and/or form.  If the tree exhibits good health and structure then generally between 10 & 15 metres tall.	6
➤ <b>Low</b>	Generally a small tree that exhibits good health and/or form.  May be a large or medium tree that exhibits fair or poor health and/or form.  If the tree exhibits good health and structure then generally between 5 & 10 metres tall.	4
➤ <b>Very low</b>	Generally a small tree that exhibits poor health and/or form.  May be a large or medium tree that exhibits poor, or worse, health and/or form.  If the tree exhibits good health and structure then generally a tree less than 5 metres tall.	2

U.L.E. is based on the following categories each of which have a modifier (ULEM) ranging from 0 – 12.

<u>Category</u>	<u>Example</u>	<u>ULEM</u>
➤ <b>0</b>	The tree is dead or almost dead or constitutes an immediate and unacceptable hazard.	0
➤ <b>0 – 5</b>	The tree is unlikely to provide useful amenity for longer than 5 years.  The tree is in serious decline, poses an unacceptable hazard that is not correctable with reasonable maintenance.	4

➤ <b>5 – 15</b>	The tree is unlikely to provide useful amenity for longer than 15 years.  The tree may be in serious decline or a very short lived species.	7
➤ <b>15 – 30</b>	The tree is unlikely to provide useful amenity for longer than 30 years.  The tree may be in moderate decline or a short lived species.	10
➤ <b>30 – 60</b>	The tree is likely to provide useful amenity for up to 60 years.  The tree may be in fair to good condition and has a moderate life-span.	11
➤ <b>&gt; 60</b>	The tree is likely to provide useful amenity for greater than 60 years.  The tree may be in good to excellent condition and a long lived species.	12

RV is then derived from the multiplication of AVV by ULEM and the resulting score is categorised as Very high to Very low.

<b><u>Category</u></b>	<b><u>Example</u></b>	<b><u>RV value</u></b>
➤ <b>Very high</b>	Every effort should be made to preserve trees in this category	96 - 120
➤ <b>High</b>	These trees should be retained if at all possible	72 - 95
➤ <b>Moderate</b>	These trees should be retained if they do not overly constrain development on the site.	48 - 71
➤ <b>Low</b>	These trees should not create a material constraint on development of the site. These trees should be removed where they conflict with development of the site.	24 - 47
➤ <b>Very low</b>	Generally a very small tree or a tree that exhibits poor health, structure and form.  May be a large or medium tree that exhibits poor, or worse, health and/or form.  These trees should generally be removed.	1 – 23
➤ <b>Remove</b>	These trees are not suitable for retention within the site and are recommended to be removed.	0

## 23.6. Health

Pertains to the health and growth potential of the tree.

The notation of “Health” is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ <b>Good</b>	<p>Crown full, with good foliage density. Foliage is entire with average colour, minimal or no pathogen damage. Above average growth indicators such as extension growth, leaf size and canopy density. Little or no canopy die-back. Generally no dead wood on the perimeter of the canopy. Good wound wood development.</p> <p><b>Tree exhibits above average health and no works are required.</b></p>
➤ <b>Fair</b>	<p>Tree may have more than 30% dead wood, or may have minor canopy dieback. Foliage density may be slightly below average for the species. Foliage colour may be slightly lower than average and some discolouration may be present. Typical growth indicators, e.g. extension growth, leaf size, canopy density for species in location. Average wound wood development.</p> <p><b>The tree exhibits below average health and remedial works may be employed to improve health.</b></p>
➤ <b>Poor</b>	<p>Tree may have more than 30% dead wood and canopy die back may be present. Leaves may be discoloured and/or distorted, often small, and excessive epicormic growth may be present. Pathogens and/or stress agents may be present that could lead, or are leading to, the decline of tree. Poor wound wood development.</p> <p><b>The tree exhibits low health and remedial works or removal may be required.</b></p>
➤ <b>Very poor</b>	<p>The tree has more than 30% dead wood. Extensive canopy die back is present. Canopy is very sparse. Pathogens and/or stress agents are present that are leading to the decline of the tree. Very poor wound wood development.</p> <p><b>The tree exhibits very low health and remedial works or removal are required.</b></p>
➤ <b>Dead</b>	<p><b>Tree is dead and generally should be removed.</b></p>

## 23.7. Structure

Pertains to the physical structure of the tree including the main scaffold branches and roots. Structure includes those attributes that may influence the probability of major trunk, root or limb failure.

The notation of "Structure" is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ <b>Good</b>	<p>The tree has a well-defined and balanced crown. Branch unions appear to be strong with no defects evident in the trunk or the branches. The tree is unlikely to suffer trunk or branch failure under normal conditions.</p> <p><b>The tree is considered a good example of the species with a well-developed form.</b></p>
➤ <b>Fair</b>	<p>The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance and some branch unions may exhibit minor structural faults or have the potential to create faults. If the tree is single trunked, this may be on a slight lean or be exhibiting minor defects.</p> <p><b>These defects are not likely to result in catastrophic trunk or branch failure although some branch failure may occur under normal conditions.</b></p>
➤ <b>Poor</b>	<p>The tree has significant problems in the structure of the scaffold limbs or trunk. It may be lop-sided or have few branches on one side or have large gaps in the crown. Large branches may be rubbing or crossing over. Branch unions may be poor, and faults at the point of attachment or along the branches may be evident. The tree may have a substantial lean. The tree may have suffered significant root damage. The tree may have some degree of basal or trunk damage.</p> <p><b>These defects may predispose the tree to major trunk or branch failure.</b></p>
➤ <b>Very poor</b>	<p>The tree has some very significant problems in the structure of the crown. It may be lop-sided or have few branches on one side or have large gaps in the crown. Branches may be rubbing or crossing over and causing damage to each other. Branch unions may be poor, and faults at the point of attachment or along the branches may be evident. The tree may have a substantial lean. The tree may have suffered major root damage. The tree may have extensive basal or trunk damage.</p> <p><b>These defects are likely to predispose the tree to trunk or scaffold limb failure.</b></p>



### 23.8. U.L.E. (Useful Life Expectancy)

U.L.E. pertains to the span of time that the tree might reasonably be expected to provide useful amenity value with an acceptable level of safety at an acceptable cost. Depending on the situation, available financial resources and other factors, two identical trees may be accorded different longevity ratings.

The notation of U.L.E. is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ 0	<p>The tree is dead or almost dead or constitutes an immediate and unacceptable hazard.</p> <p><b>The tree should generally be removed unless other considerations require its' retention.</b></p>
➤ 0 – 5	<p>The tree is unlikely to provide useful amenity for longer than 5 years.</p> <p>The tree is in serious decline, poses an unacceptable hazard and/or requires a level of maintenance disproportionate with its' value.</p> <p><b>The tree should generally be removed unless other considerations require its' retention.</b></p>
➤ 5 – 15	<p>The tree is unlikely to provide useful amenity for longer than 15 years.</p> <p>The tree may be in serious decline, be a very short lived species, present a moderately elevated hazard and/or require high levels of maintenance.</p> <p><b>The tree could be retained or removed depending on the situation.</b></p>
➤ 15 – 25	<p>The tree is unlikely to provide useful amenity for longer than 25 years.</p> <p>The tree may be in moderate decline, be a short lived species, present a slightly elevated hazard and/or require moderate levels of maintenance.</p> <p><b>The tree should generally be retained unless other factors dictate its' removal.</b></p>
➤ 25 – 50	<p>The tree is likely to provide useful amenity for up to 50 years.</p> <p>The tree may be in fair to good condition, have a moderate life-span, present a low to moderate level of hazard and/or require moderate levels of maintenance.</p> <p><b>The tree should generally be retained unless other factors dictate its' removal.</b></p>
➤ > 50	<p>The tree is likely to provide useful amenity for greater than 50 years.</p> <p>The tree may be in good to excellent condition, a long lived species, present a low level of hazard and/or require low levels of maintenance.</p> <p><b>The tree should generally be retained unless other factors dictate its' removal.</b></p>

## 24. Form

The notation of “Form” pertains to the aesthetic qualities of the trees live canopy. Generally good form is indicative of a symmetrical, well-balanced canopy although this is dependent on the particular species. Some species naturally develop an asymmetric canopy and in this case a highly irregular canopy might be described as good.

The form of a tree is considered assuming that the tree stands in isolation from any surrounding trees. This may mean that a group of trees that exhibit good form as a group, may be described as having poor form as individuals.

The notation of “Form” is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ <b>Very good</b>	<p>An outstanding specimen of that species.</p> <p>Generally a very evenly balanced and symmetrical canopy with no deformation.</p> <p>If the development of that species is naturally irregular then an outstanding specimen of that species.</p>
➤ <b>Good</b>	<p>A good specimen of that species.</p> <p>Generally a well balanced and symmetrical canopy with minor deformation.</p> <p>If the development of that species is naturally irregular then a good specimen of that species.</p>
➤ <b>Fair</b>	<p>An average specimen of that species.</p> <p>Generally a balanced canopy with some minor to moderate asymmetry.</p> <p>If the development of that species is naturally irregular then an average specimen of that species.</p>
➤ <b>Poor</b>	<p>A below average specimen of that species.</p> <p>Generally a moderate to high degree of asymmetry.</p> <p>If the development of that species is naturally irregular then a poor specimen of that species.</p>
➤ <b>Very poor</b>	<p>A very poor specimen of that species.</p> <p>Generally a high to extreme degree of asymmetry.</p> <p>If the development of that species is naturally irregular then a very poor specimen of that species.</p>

## 25. Glossary / notes

<b><u>Tree Protection Zone (TPZ)</u></b>	Is based on AS 4970-2009 <i>Protection of trees on development sites</i> and defines the soil volume that is likely to be required to encompass enough of the trees absorbing root system to ensure the long term survival of the tree. The radius specified as the TPZ is an estimate of the minimum distance from the tree that excavation or other activities that might result in root damage should occur to avoid negative impacts on the health and longevity of the tree. AS 4970 states that intrusion of up to 10% of the surface area of the TPZ may occur without further assessment or analysis.
<b><u>Structural Root Zone (SRZ)</u></b>	<p>Is based on AS 4970-2009 (Protection of trees on development sites) and defines the likely spread of the trees scaffold root system. These roots are the primary anchoring roots for the tree and damage to these roots may render the tree liable to uprooting.</p> <p>SRZ is based on measurement of the trunk above the root flair (AS 4970) However in this report SRZ is based on the measured or estimated DBH and there should be taken as an estimate only. Additional measurement may be required if construction near the SRZ is expected to occur.</p>
<b><u>Modified Tree Protection Zone (mTPZ)</u></b>	Is based on the TPZ and includes any requirement to protect the above ground parts of the tree that project beyond the TPZ. However generally the mTPZ will be equal to the TPZ. TPZ extension beyond the TPZ to protect the tree canopy will be shown on the site plan but will not be reflected in the TPZ radius measurements quoted in this report.
<b>DBH (Diameter at Breast Height)</b>	Is the diameter of the tree at approximately 1.4 meters above ground level. Where a trunk is divided at or near 1.4 meters above ground the DBH is generally measured at the narrowest point of the trunk between ground level and 1.4 meters. Alternatively, where a higher level of accuracy is required with multi stemmed trees, DBH is derived from the combined cross sectional area of all trunks. The DBH of all accessible trees is measured unless otherwise stated in the Tree Data section of this report. The DBH of trees on adjoining properties is measured where access can be readily gained to the property, otherwise it is estimated.
<b>Measured</b>	Indicates whether the DBH has been measured or estimated. DBH may be estimated for small low value multi stem trees or trees that are inaccessible.
<b>Retained?</b>	Indicates whether the tree is shown as being removed or retained on the plans provided. This is generally derived from the site plans provided but the removal or retention of trees might be communicated by other means.



<b>Recommendation reason</b>	Pertains to the reason that removal or retention or other works are recommended. Other than trees on adjoining properties or road reserves a reason for retention is usually not given. In this case N/A is used.
<b>Height &amp; width</b>	Tree height is generally measured for moderate, high and very high value trees and is measured with an Impulse Laser infrared range finder. The height of low and very low value trees is usually estimated. Canopy width is estimated unless otherwise stated.
<b>Genus / species</b>	The identification of trees is based on accessible visual characteristics and given that key identifying features are often not available at the time of assessment the accuracy of identification is not guaranteed. Where the species of any tree is not known, <b>sp.</b> is used.

## **26. Practice Note VCAT 2 — Expert Evidence**

### **26.1. Name & company**

Jason Burland of Greenwood Consulting.

### **26.2. Qualifications & experience**

Jason Burland has the following qualifications and experience:

- Diploma of Arboriculture (AHC50520).
- QTRA (Quantified Tree Risk Assessment) Certified
- 16 years industry experience
  - 3 years as a Chipper/EWP/Climber contractor. Experience with transplanting and relocation of mature trees.
  - 10 years' experience pruning and managing ELC (Electrical Line Clearance) for local governments across Victoria.
  - 3 years as an Inspection Arborist within local government.

### **26.3. Area of expertise**

Jason Burland provides specialist technical advice in the field of arboriculture. This includes the provision of technical expertise relating to problem diagnosis, management programs, tree appraisal and valuation and the relationship between trees and the built environment.

### **26.4. Expertise to report**

Jason Burland has, by training, education, experience and research, considerable knowledge relating to the care, maintenance and management of trees in a wide variety of contexts.

Significant areas of operation and expertise include the provision of tree and built structure conflict reports, hazard assessment, tree condition appraisal and broad scale tree inventories.

Considerable effort is expended in research to remain current with the latest advances in all areas relating to tree care.

### **26.5. Declaration**

"I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Tribunal."

## 27. Assumptions & limiting conditions

1. R. Greenwood Consulting Pty Ltd (herein after referred to as Greenwood Consulting) contracts with you on the basis that you promise that all legal information which you provide, including land title and ownership of other property, are correct. Greenwood Consulting is not responsible for verifying or ascertaining any of these issues.
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5. Alteration of this report invalidates the entire report.
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7. The contents of this report represent the professional opinion of the consultant. Greenwood Consulting's consultancy fee for the preparation of this report is in no way contingent upon the consultant reporting a particular conclusion of fact, nor upon the occurrence of a subsequent event.
8. Sketches, diagrams, graphs and photographs in this report are intended as visual aids, are not to scale unless stated to be so, and must not be construed as engineering or architectural reports or as surveys.
9. Unless expressly stated otherwise:
  - 9.1. The information in this report covers only those items which were examined and reflects the condition of those items at the time of the inspection.
  - 9.2. Our inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, express or implied, that even if they were not present during our inspection, problems or defects in plants or property examined may not arise in the future.
10. This agreement supersedes all prior discussions and representations between Greenwood Consulting and the client on the subject, and is the entire agreement and understanding between us.

Yours sincerely,



Jason Burland

Dip. Arb.