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IRONBARK

Environmental Arboriculture

Arboricultural Impact Assessment

Belgrave Height Christian School
20 Wattle Valley Road
Belgrave VIC 3160

Prepared by



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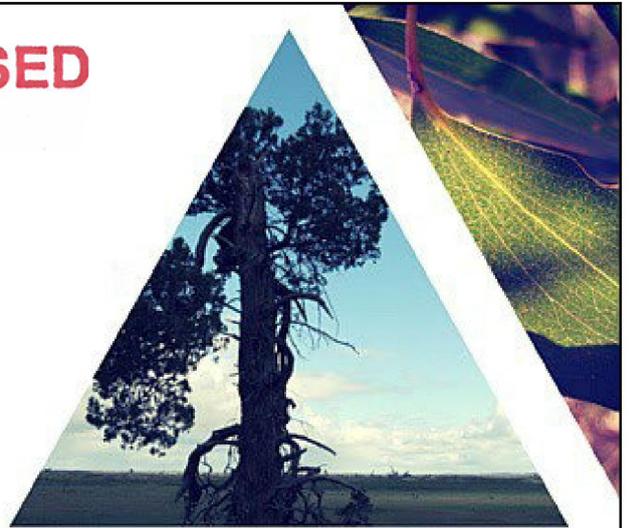
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Commissioned by

Millar Merrigan

November 2022

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Version Title	Action	Staff	Date
20 Wattle Valley Rd – Arboricultural Impact Assessment V1	Prepared	PD	17/11/2022
20 Wattle Valley Rd – Arboricultural Impact Assessment V2	Reviewed	GH	21/11/2022
20 Wattle Valley Rd – Arboricultural Impact Assessment FINAL	Checked	IF	22/11/2022

Introduction

Millar Merrigan has commissioned Ironbark Environmental Arboriculture (IEA) to provide an arboricultural impact assessment for two hundred and forty-six (246) trees located at the Belgrave Height Christian School at 20 Wattle Valley Rd, Belgrave

This report contains the following information:

- *Arboricultural impact assessment* prepared with reference to AS 4970-2009 Protection of Trees on Development Sites.

The subject trees were previously assessed by IEA (24/3/2022); tree data and photographs from this report are included in Appendix 4.

The findings of this report were as follows:

- Forty-two (42) trees have *high* retention values.
- Fifty-seven (57) trees have *medium* retention values.
- One hundred and forty-seven (147) trees have *low* retention values.

Arboricultural impacts are assessed with reference to the following documents:

- Final plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07

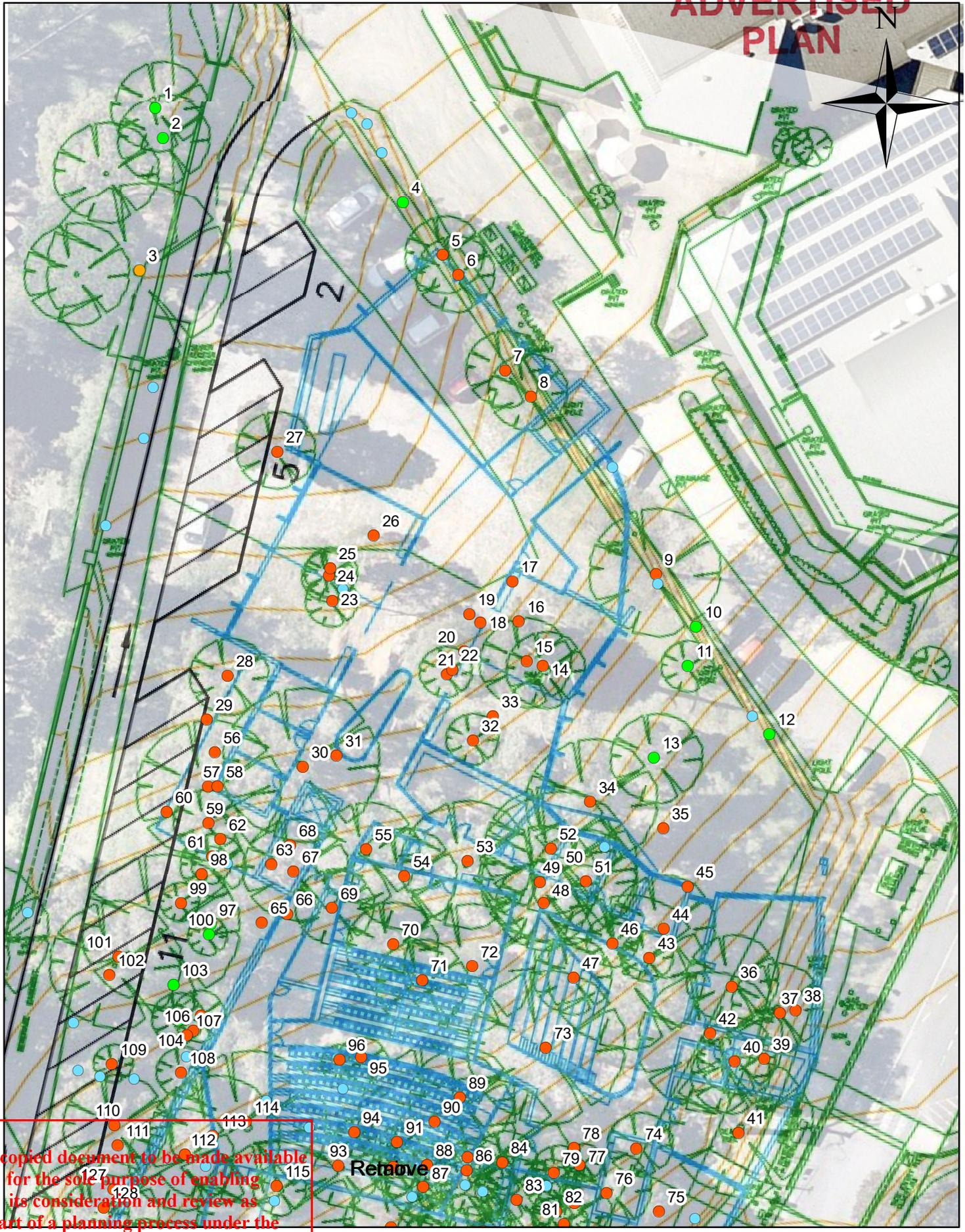
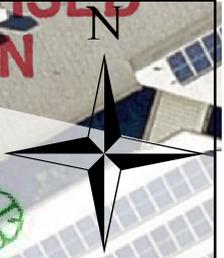
Planning Context

The site is within Yarra Ranges Shire and is zoned as *Low Density Residential Zone* (LDRZ); and is covered by the *Significant Landscape Overlay – Schedule 22* (SLO22).

The site is greater than 4,000m²; which would normally trigger assessment against Clause 52.17 *Native Vegetation*; however, under the Schedule to Clause 52.17 *Native Vegetation* (which relates to Clause 51.03) vegetation removal within LDRZ is exempt.

DELWP mapping (NatureKit 2.0) shows patches of *Herb Rich Foothill Forest* (EVC 23) present on site with *Eucalyptus radiata*, *obliqua* and *cypellocarpa* as being characteristic of the site.

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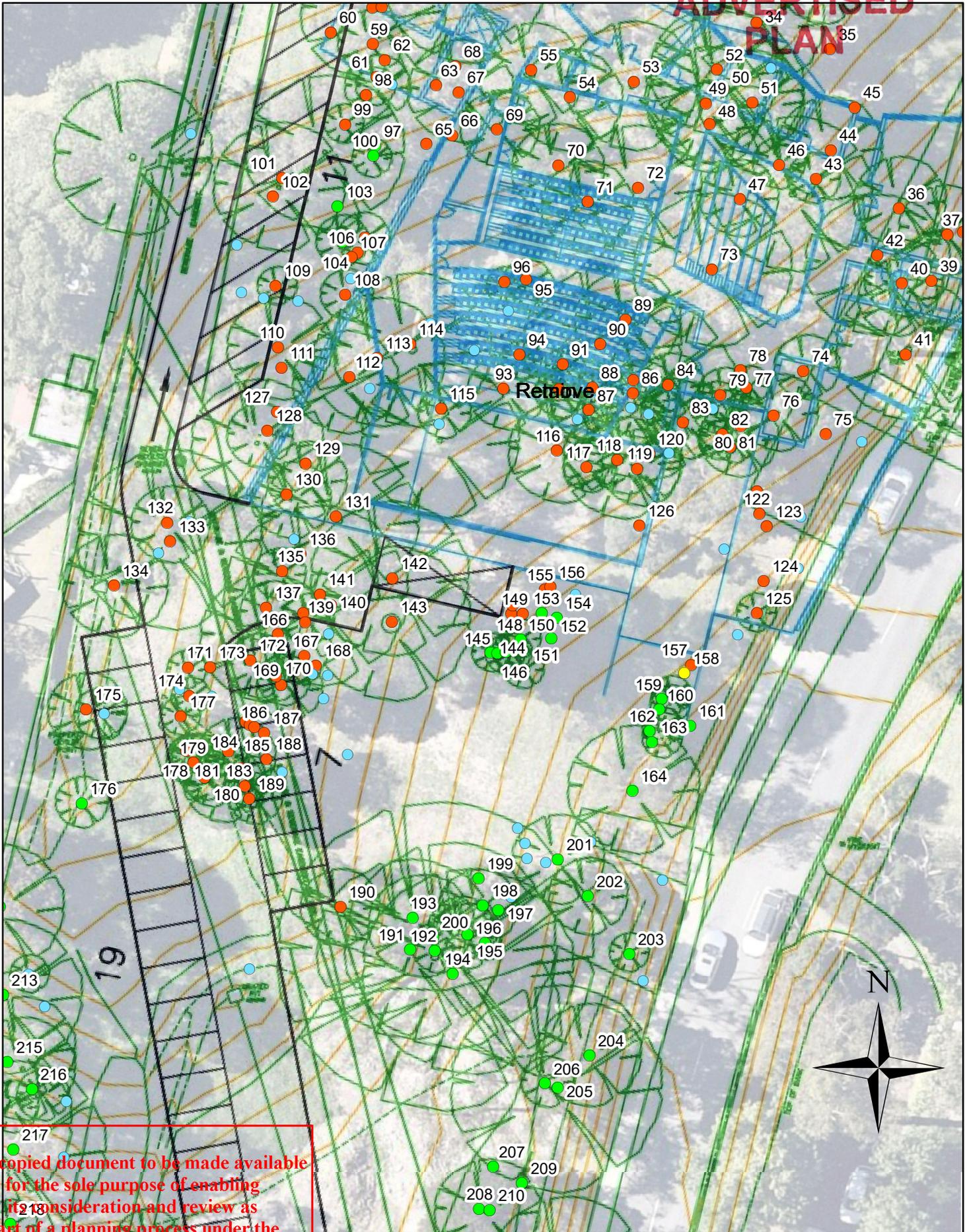
Tree Impact Map - North

Adapted from Final Plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07 and Nearmap aerial imagery.

Projection: GDA 94 / MGA Zone 55, georeferenced to cadastral boundaries.

Impact Assessment	
SRZ encroachment	●
> 10% TPZ encroachment	●
< 10% TPZ encroachment	●
No TPZ encroachment	●
Stump	●

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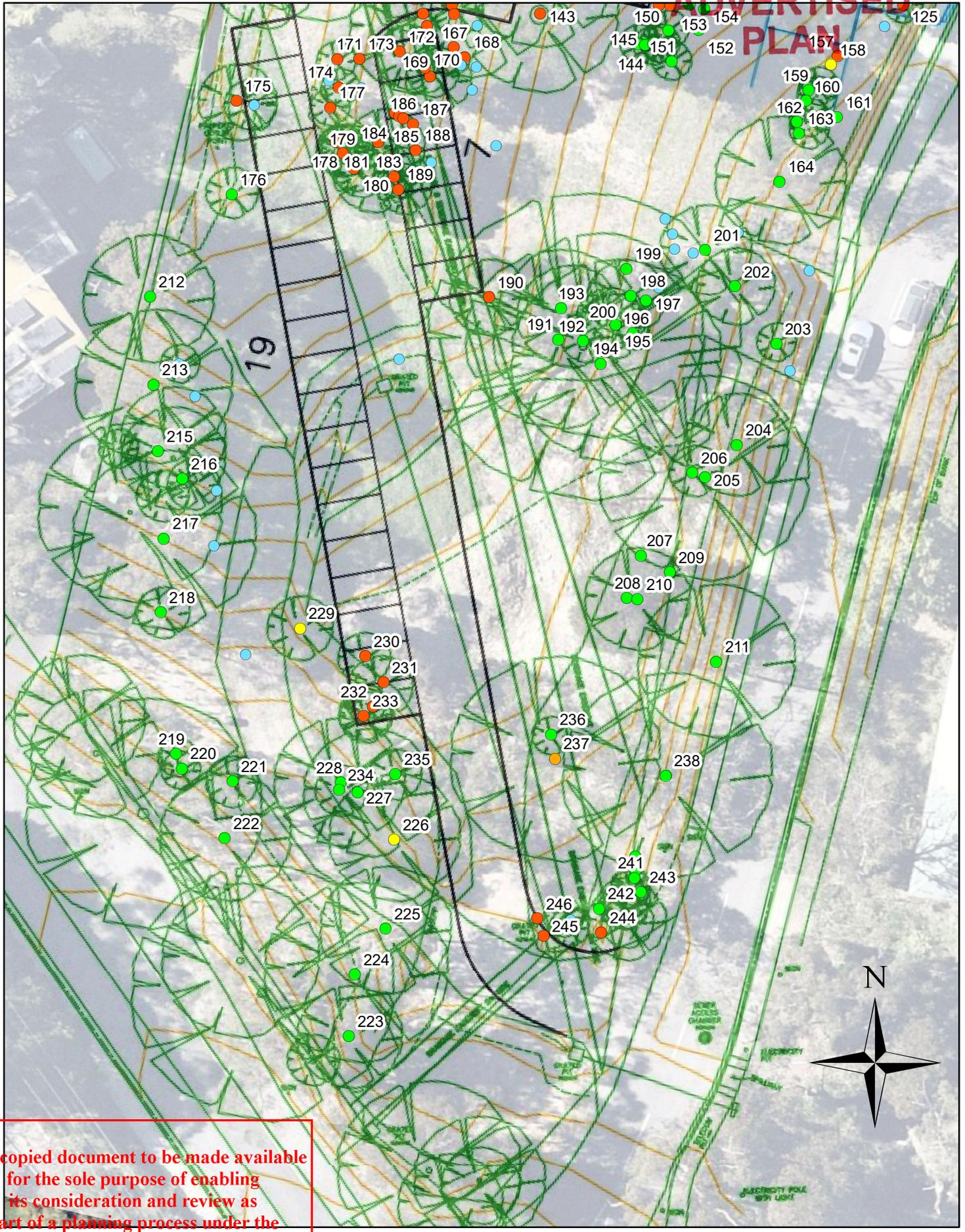
Tree Impact Map Centre

Adapted from Final plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07 and Nearmap aerial imagery.

Impact Assessment	
SRZ encroachment	●
> 10% TPZ encroachment	●
< 10% TPZ encroachment	●
No TPZ encroachment	●
Stump	●

Projection: GDA 94 / MGA Zone 55, georeferenced to cadastral boundaries.

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Tree Impact Map - South

Adapted from Final plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07 and Nearmap aerial imagery.

Projection: GDA 94 / MGA Zone 55, georeferenced to cadastral boundaries.

Impact Assessment	
SRZ encroachment	●
> 10% TPZ encroachment	●
< 10% TPZ encroachment	●
No TPZ encroachment	●
Stump	●

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Arboricultural Impact Assessment –SRZ Encroachment

- The trees within the table below are within the footprint of the proposed development and/or encroachment into the SRZ is proposed.
- Under the current proposal, the trees in the table below will not remain viable and require removal.

ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
5	Silver Wattle	<i>Acacia dealbata</i>	8	4	13	24	Good	Good	>10 years	Medium	Medium	2	1.8	Remove
6	Silver Wattle	<i>Acacia mearnsii</i>	8	5	17	26	Good	Good	>10 years	Medium	Medium	2	1.9	Remove
7	Swamp Gum	<i>ovata</i>	12	7	18	27	Good	Good	>10 years	High	High	2.2	1.9	Remove
8	Black Wattle	<i>Acacia mearnsii</i>	7	5	18	24	Fair	Good	>10 years	Medium	Low	2.2	1.8	Remove
9	Swamp Gum	<i>Eucalyptus ovata</i>	20	8	53	60	Fair	Fair	>3 to <10years	High	High	6.4	2.7	Remove
14	Dead gum	<i>Eucalyptus sp.</i>	18	4	115	130	Dead	Fair	< 3 years	High	High	13.8	3.7	Remove
15	Blackwood	<i>Acacia melanoxylon</i>	11	6	23	32	Good	Good	>10 years	Medium	Medium	2.8	2.1	Remove
16	Cassinia	<i>sp.</i>	3	4	3 5 3	14	Good	Fair	< 3 years	Low	Low	2	1.5	Remove
17	Swamp Gum	<i>Eucalyptus obliqua</i>	6	4	12	15	Poor	Good	>3 to <10years	Medium	Low	2	1.5	Remove
18	Bracelet Honey Myrtle	<i>Melaleuca armillaris</i>	6	2	10	12	Good	Good	>10 years	Low	Low	2	1.5	Remove
19	Swamp Gum	<i>Eucalyptus ovata</i>	6	3	9 5	13 8	Good	Good	>10 years	Low	Low	2	1.7	Remove
20	Swamp Gum	<i>Eucalyptus ovata</i>	10	4	15	24	Good	Good	>10 years	Medium	Medium	2	1.8	Remove
21	Blackwood	<i>Acacia melanoxylon</i>	4	1	6	7	Poor	Fair	< 3 years	Low	Low	2	1.5	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
22	Blackwood	<i>Acacia melanoxylon</i>	4	1	4	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
23	Messmate	<i>Eucalyptus obliqua</i>	10	4	20	27	Fair	Good	>10 years	Medium	Medium	2.4	1.9	Remove
24	Messmate	<i>Eucalyptus obliqua</i>	7	3	16	22	Good	Good	>10 years	Medium	Medium	2	1.8	Remove
25	Messmate	<i>Eucalyptus obliqua</i>	10	3	14	20	Good	Fair	>10 years	Medium	Medium	2	1.7	Remove
26	Blackwood	<i>Acacia melanoxylon</i>	4	3	9	15	Good	Fair	>10 years	Medium	Low	2	1.5	Remove
27	Blackwood	<i>Acacia melanoxylon</i>	8	6	25 14	42	Good	Good	>10 years	Medium	Medium	3.4	2.3	Remove
28	Messmate	<i>Eucalyptus obliqua</i>	11	6	26	33	Good	Poor	< 3 years	Medium	Low	3.1	2.1	Remove
29	Blackwood	<i>Acacia melanoxylon</i>	4	2	8	12	Good	Fair	>10 years	Low	Low	2	1.5	Remove
30	Messmate	<i>Eucalyptus obliqua</i>	25	16	70	90	Good	Good	>10 years	High	High	8.4	3.2	Remove
31	Messmate	<i>Eucalyptus obliqua</i>	14	10	33	40	Good	Fair	>10 years	High	High	4	2.3	Remove
32	Swamp Gum	<i>Eucalyptus ovata</i>	6	3	9	13	Good	Good	>10 years	Low	Low	2	1.5	Remove
33	Messmate	<i>Eucalyptus obliqua</i>	7	2	12	16	Good	Good	>10 years	Low	Low	2	1.5	Remove
34	Swamp Gum	<i>Eucalyptus ovata</i>	25	10	52	60	Good	Good	>10 years	High	High	6.2	2.7	Remove
35	Peppermint	<i>Eucalyptus radiata</i>	8	5	32	40	Good	Poor	< 3 years	Medium	Low	3.8	2.3	Remove
36	Blackwood	<i>Acacia melanoxylon</i>	6	5	14 14	23	Good	Fair	>10 years	Low	Low	2.4	1.8	Remove
37	Dead gum	<i>Eucalyptus sp.</i>	8	4	55	62	Dead	Good	>3 to <10years	Medium	High	6.6	2.7	Remove
38	Peppermint	<i>Eucalyptus radiata</i>	6	4	29 10	40	Fair	Fair	>3 to <10years	Medium	Medium	3.7	2.3	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
39	Blackwood	<i>Acacia melanoxylon</i>	8	5	19 12	36	Good	Fair	>10 years	Medium	Low	2.7	2.2	Remove
40	Blackwood	<i>Acacia melanoxylon</i>	8	3	12	15	Good	Good	>10 years	Low	Low	2	1.5	Remove
41	Dead gum	<i>Eucalyptus sp.</i>	10	6	52 28	92	Dead	Good	>3 to <10years	Medium	High	7.1	3.2	Remove
42	Swamp Gum	<i>Eucalyptus ovata</i>	11	10	66	90	Poor	Good	>3 to <10years	Medium	High	7.9	3.2	Remove
43	Messmate	<i>Eucalyptus obliqua</i>	18	11	51	63	Good	Good	>10 years	High	High	6.1	2.7	Remove
44	Blackwood	<i>Acacia melanoxylon</i>	7	3	13	15	Good	Fair	>10 years	Low	Low	2	1.5	Remove
45	Blackwood	<i>Acacia melanoxylon</i>	12	7	31	38	Good	Fair	>10 years	Medium	Medium	3.7	2.2	Remove
46	Blackwood	<i>Acacia melanoxylon</i>	8	4	14	17	Good	Good	>10 years	Low	Low	2	1.6	Remove
47	Blackwood	<i>Acacia melanoxylon</i>	10	5	17 16	25	Good	Fair	>10 years	Medium	Medium	2.8	1.9	Remove
48	Messmate	<i>Eucalyptus obliqua</i>	18	6	33	41	Fair	Good	>10 years	High	High	4	2.3	Remove
49	Messmate	<i>Eucalyptus obliqua</i>	25	10	52	77	Good	Good	>10 years	High	High	6.2	3.0	Remove
50	Messmate	<i>Eucalyptus obliqua</i>	25	18	67	86	Good	Good	>10 years	High	High	8	3.1	Remove
51	Blackwood	<i>Acacia melanoxylon</i>	14	8	27	34	Good	Good	>10 years	Medium	Medium	3.2	2.1	Remove
52	Messmate	<i>Eucalyptus obliqua</i>	16	8	32	40	Good	Good	>10 years	High	Medium	3.8	2.3	Remove
53	Messmate	<i>Eucalyptus obliqua</i>	18	10	45	58	Good	Good	>10 years	High	High	5.4	2.6	Remove
54	Messmate	<i>Eucalyptus obliqua</i>	14	8	24	33	Good	Good	>10 years	Medium	Medium	2.9	2.1	Remove
55	Messmate	<i>Eucalyptus ovata</i>	18	10	45	57	Good	Fair	>10 years	High	Medium	5.4	2.6	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
56	Blackwood	<i>Acacia melanoxylon</i>	6	2	11	14	Good	Fair	>10 years	Low	Low	2	1.5	Remove
57	Messmate	<i>Eucalyptus</i>	15	7	25	28	Good	Good	>10 years	Medium	Medium	3	1.9	Remove
58	Blackwood	<i>Acacia melanoxylon</i>	3	1	4 3	5	Good	Fair	>10 years	Low	Low	2	1.5	Remove
59	Blackwood	<i>Acacia melanoxylon</i>	7	3	15 5	24	Good	Good	>10 years	Medium	Medium	2	1.8	Remove
60	Blackwood	<i>Acacia melanoxylon</i>	5	2	11	13	Fair	Fair	>3 to <10years	Low	Low	2	1.5	Remove
61	Blackwood	<i>Acacia melanoxylon</i>	5	2	7 5	9	Good	Fair	>10 years	Low	Low	2	1.5	Remove
62	Swamp Gum	<i>Eucalyptus ovata</i>	9	4	13	21	Fair	Good	>10 years	Medium	Low	2	1.7	Remove
63	Blackwood	<i>Acacia melanoxylon</i>	3	1	4	6	Good	Good	>10 years	Low	Low	2	1.5	Remove
64	Blackwood	<i>Acacia melanoxylon</i>	4	1	4	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
65	Blackwood	<i>Acacia melanoxylon</i>	3	1	2	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
66	Blackwood	<i>Acacia melanoxylon</i>	4	1	5	7	Good	Good	>10 years	Low	Low	2	1.5	Remove
67	Blackwood	<i>Acacia melanoxylon</i>	3	1	4	5	Good	Fair	>10 years	Low	Low	2	1.5	Remove
68	Swamp Gum	<i>Eucalyptus ovata</i>	12	7	20	28	Fair	Good	>10 years	Medium	Medium	2.4	1.9	Remove
69	Blackwood	<i>Acacia melanoxylon</i>	5	3	7, 7, 6, 6	33	Good	Poor	< 3 years	Low	Low	2	2.1	Remove
70	Blackwood	<i>Acacia melanoxylon</i>	7	4	19 17	35	Good	Poor	< 3 years	Low	Low	3.1	2.1	Remove
71	Swamp Gum	<i>Eucalyptus ovata</i>	7	3	11 8 4	45	Good	Poor	< 3 years	Low	Low	2	2.4	Remove
72	Blackwood	<i>Acacia melanoxylon</i>	10	6	21	28	Fair	Good	>10 years	Medium	Medium	2.5	1.9	Remove

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73	Peppermint	<i>radiata</i>	18	12	53	69	Good	Good	>10 years	High	High	6.4	2.8	Remove
74	Blackwood	<i>Acacia melanoxylon</i>	6	4	20	22	Good	Poor	< 3 years	Low	Low	2.4	1.8	Remove
75	Blackwood	<i>Acacia melanoxylon</i>	8	5	20 10 6	32	Good	Good	>10 years	Medium	Medium	2.8	2.1	Remove
76	Blackwood	<i>Acacia melanoxylon</i>	8	4	17	22	Good	Good	>10 years	Medium	Medium	2	1.8	Remove
77	Blackwood	<i>Acacia melanoxylon</i>	6	3	10	13	Good	Fair	>10 years	Low	Low	2	1.5	Remove
78	Blackwood	<i>Acacia melanoxylon</i>	10	4	20	26	Good	Good	>10 years	Medium	Medium	2.4	1.9	Remove
79	Blackwood	<i>Acacia melanoxylon</i>	7	3	13 9	30	Good	Poor	< 3 years	Low	Low	2	2.0	Remove
80	Blackwood	<i>Acacia melanoxylon</i>	10	6	32	35	Good	Poor	< 3 years	Medium	Low	3.8	2.1	Remove
81	Blackwood	<i>Acacia melanoxylon</i>	6	2	10	12	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
82	Blackwood	<i>Acacia melanoxylon</i>	7	2	9	13	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
83	Blackwood	<i>Acacia melanoxylon</i>	10	3	16	20	Good	Fair	>10 years	Low	Low	2	1.7	Remove
84	Blackwood	<i>Acacia melanoxylon</i>	10	3	18	24	Good	Fair	>10 years	Low	Low	2.2	1.8	Remove
85	Swamp Gum	<i>ovata</i>	16	9	49	58	Good	Poor	< 3 years	Medium	Medium	5.9	2.6	Remove
86	Blackwood	<i>Acacia melanoxylon</i>	11	4	21	26	Good	Poor	< 3 years	Medium	Low	2.5	1.9	Remove
87	Blackwood	<i>Acacia melanoxylon</i>	8	3	17	20	Good	Fair	>10 years	Medium	Low	2	1.7	Remove
88	Blackwood	<i>Acacia melanoxylon</i>	7	3	12	19	Good	Fair	>10 years	Low	Low	2	1.7	Remove
89	Blackwood	<i>Acacia melanoxylon</i>	12	8	23	28	Good	Good	>10 years	Medium	Medium	2.8	1.9	Remove
90	Swamp Gum	<i>ovata</i>	14	6	24	32	Fair	Poor	< 3 years	Medium	Low	2.9	2.1	Remove

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91	Blackwood	<i>Acacia melanoxylon</i>	7	3	10	12	Good	Fair	>10 years	Low	Low	2	1.5	Remove
92	Blackwood	<i>Acacia melanoxylon</i>	10	3	22	32	Good	Good	>10 years	Medium	Medium	2.6	2.1	Remove
93	Swamp Gum	<i>Eucalyptus ovata</i>	10	6	20	29	Fair	Fair	>3 to <10 years	Medium	Low	2.4	2.0	Remove
94	Blackwood	<i>Acacia melanoxylon</i>	6	3	11.5	19	Good	Poor	< 3 years	Low	Low	2	1.7	Remove
95	Blackwood	<i>Acacia melanoxylon</i>	5	2	13	16	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
96	Blackwood	<i>Acacia melanoxylon</i>	7	3	17	19	Fair	Poor	< 3 years	Medium	Low	2	1.7	Remove
98	Blackwood	<i>Acacia melanoxylon</i>	7	3	18	20	Good	Fair	>10 years	Medium	Low	2.2	1.7	Remove
99	Swamp Gum	<i>Eucalyptus ovata</i>	16	6	27.24	57	Good	Fair	>10 years	Medium	Medium	4.3	2.6	Remove
101	Swamp Mahogany	<i>Eucalyptus robusta</i>	16	6	35	47	Fair	Good	>10 years	High	High	4.2	2.4	Remove
102	Blackwood	<i>Acacia melanoxylon</i>	4	1	2.4	3.5	Good	Good	>10 years	Low	Low	2	8.0	Remove
105	Blackwood	<i>Acacia melanoxylon</i>	7	3	11	18	Good	Fair	>10 years	Medium	Low	2	1.6	Remove
106	Blackwood	<i>Acacia melanoxylon</i>	6	2	9	10	Poor	Fair	< 3 years	Low	Low	2	1.5	Remove
107	Blackwood	<i>Acacia melanoxylon</i>	6	2	7	9	Good	Fair	>10 years	Low	Low	2	1.5	Remove
108	Blackwood	<i>Acacia melanoxylon</i>	7	4	13	16	Good	Fair	>10 years	Medium	Low	2	1.5	Remove
109	Willow-leaved Hakea	<i>Hakea salicifolia</i>	7	2	10	15	Good	Good	>10 years	Medium	Medium	2	1.5	Remove
110	Swamp Gum	<i>Eucalyptus ovata</i>	16	6	27	36	Fair	Good	>10 years	High	High	3.2	2.2	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
111	Blackwood	<i>Acacia melanoxylon</i>	5	2	7	11	Good	Good	>10 years	Low	Low	2	1.5	Remove
112	Blackwood	<i>Acacia melanoxylon</i>	10	7	38	45	Fair	Fair	>3 to <10years	Medium	Medium	4.6	2.4	Remove
113	Swamp Gum	<i>Eucalyptus ovata</i>	16	6	42	56	Poor	Good	>3 to <10years	Medium	Medium	5	2.6	Remove
114	Swamp Gum	<i>Eucalyptus ovata</i>	16	8	51	64	Fair	Good	>10 years	High	High	6.1	2.7	Remove
115	Swamp Gum	<i>Eucalyptus ovata</i>	10	4	14	23	Fair	Good	>10 years	Medium	Medium	2	1.8	Remove
116	Blackwood	<i>Acacia melanoxylon</i>	12	5	30	34	Fair	Fair	>3 to <10years	Medium	Low	3.6	2.1	Remove
117	Blackwood	<i>Acacia melanoxylon</i>	10	3	14	18	Good	Fair	>10 years	Medium	Low	2	1.6	Remove
118	Swamp Gum	<i>ovata</i>	12	6	34	37	Poor	Fair	< 3 years	Medium	Low	4.1	2.2	Remove
119	Blackwood	<i>Acacia melanoxylon</i>	11	4	21	25	Good	Good	>10 years	Medium	Medium	2.5	1.9	Remove
120	Blackwood	<i>Acacia melanoxylon</i>	13	5	24	30	Good	Good	>10 years	Medium	Medium	2.9	2.0	Remove
121	Swamp Gum	<i>Eucalyptus ovata</i>	16	8	49	60	Fair	Good	>10 years	High	High	5.9	2.7	Remove
122	Blackwood	<i>Acacia melanoxylon</i>	4	2	7	12	Good	Good	>10 years	Low	Low	2	1.5	Remove
123	Blackwood	<i>Acacia melanoxylon</i>	4	1	5	7	Good	Good	>10 years	Low	Low	2	1.5	Remove
124	Blackwood	<i>Acacia melanoxylon</i>	4	2	9	13	Good	Fair	>10 years	Low	Low	2	1.5	Remove
125	Blackwood	<i>Acacia melanoxylon</i>	7	3	14, 15, 9, 9	68	Good	Poor	< 3 years	Low	Low	2.9	2.8	Remove
126	Blackwood	<i>Acacia melanoxylon</i>	9	6	25	32	Poor	Good	< 3 years	Medium	Low	3	2.1	Remove
127	Swamp Gum	<i>Eucalyptus ovata</i>	7	3	12	16	Good	Good	>10 years	Medium	Low	2	1.5	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
128	Swamp Gum	<i>Eucalyptus ovata</i>	16	8	32	37	Good	Good	>10 years	High	High	3.8	2.2	Remove
129	Blackwood	<i>Acacia melanoxylon</i>	12	5	27	32	Good	Good	>10 years	Medium	Medium	3.2	2.1	Remove
130	Swamp Gum	<i>Eucalyptus</i>	14	3	17	24	Fair	Fair	>3 to <10years	Medium	Low	2	1.8	Remove
131	Swamp Gum	<i>Eucalyptus ovata</i>	18	7	46	53	Fair	Good	>10 years	High	High	5.5	2.5	Remove
132	Blackwood	<i>Acacia melanoxylon</i>	6	3	21	25	Good	Good	>10 years	Medium	Medium	2.5	1.9	Remove
133	Swamp Gum	<i>ovata</i>	15	9	53	72	Good	Fair	>10 years	High	High	6.4	2.9	Remove
134	Blackwood	<i>Acacia melanoxylon</i>	5	3	29	33	Good	Poor	< 3 years	Medium	Low	3.5	2.1	Remove
135	Blackwood	<i>Acacia melanoxylon</i>	7	2	10	12	Poor	Poor	< 3 years	Low	Low	2	1.5	Remove
136	Blackwood	<i>Acacia melanoxylon</i>	6	2	9	11	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
137	Blackwood	<i>Acacia melanoxylon</i>	10	3	20	28	Good	Good	>10 years	Medium	Medium	2.4	1.9	Remove
138	Blackwood	<i>Acacia melanoxylon</i>	7	2	8	9	Good	Fair	>10 years	Low	Low	2	1.5	Remove
139	Blackwood	<i>Acacia melanoxylon</i>	4	1	6	7	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
140	Blackwood	<i>Acacia melanoxylon</i>	10	3	17	21	Good	Good	>10 years	Medium	Medium	2	1.7	Remove
141	Swamp Gum	<i>Eucalyptus ovata</i>	19	8	48	52	Fair	Good	>10 years	High	High	5.8	2.5	Remove
142	Swamp Gum	<i>Eucalyptus ovata</i>	8	4	43	48	Good	Fair	>10 years	Medium	Medium	5.2	2.4	Remove
143	Radiata Pine	<i>Eucalyptus radiata</i>	25	12	155	163	Good	Poor	< 3 years	High	Medium	18.6	4.1	Remove
147	Blackwood	<i>Acacia melanoxylon</i>	6	1	7	12	Good	Fair	>10 years	Low	Low	2	1.5	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
148	Blackwood	<i>Acacia melanoxylon</i>	4	1	4	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
149	Blackwood	<i>Acacia melanoxylon</i>	5	1	4	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
155	Blackwood	<i>Acacia melanoxylon</i>	5	1	6	11	Good	Fair	>10 years	Low	Low	2	1.5	Remove
156	Blackwood	<i>Acacia melanoxylon</i>	4	1	5	7	Good	Fair	>10 years	Low	Low	2	1.5	Remove
157	Dead Gum	<i>Eucalyptus sp.</i>	6	2	9	13	Good	Good	>10 years	Low	Low	2	1.5	Remove
165	Swamp Gum	<i>Eucalyptus ovata</i>	18	10	40	58	Fair	Fair	>10 years	High	High	4.8	2.6	Remove
166	Blackwood	<i>Acacia melanoxylon</i>	12	5	22	30	Good	Good	>10 years	Medium	Medium	2.6	2.0	Remove
167	Blackwood	<i>Acacia melanoxylon</i>	9	4	14	16	Good	Good	>10 years	Low	Low	2	1.5	Remove
168	Blackwood	<i>Acacia melanoxylon</i>	12	6	17	22	Good	Good	>10 years	Low	Low	2	1.8	Remove
169	Blackwood	<i>Acacia melanoxylon</i>	6	2	7	9	Good	Fair	>10 years	Low	Low	2	1.5	Remove
170	Blackwood	<i>Acacia melanoxylon</i>	3	1	4	5	Good	Good	>10 years	Low	Low	2	1.5	Remove
171	Blackwood	<i>Acacia melanoxylon</i>	8	3	14	19	Good	Poor	< 3 years	Low	Low	2	1.7	Remove
172	Blackwood	<i>Acacia melanoxylon</i>	3	1	6	8	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
173	Blackwood	<i>Acacia melanoxylon</i>	7	3	12	15	Good	Poor	< 3 years	Low	Low	2	1.5	Remove
174	Blackwood	<i>Acacia melanoxylon</i>	7	3	12	18	Good	Poor	< 3 years	Low	Low	2	1.6	Remove
175	Blackwood	<i>Acacia melanoxylon</i>	8	3	13	20	Fair	Fair	>3 to <10years	Low	Low	2	1.7	Remove
177	Blackwood	<i>Acacia melanoxylon</i>	6	2	9	11	Good	Good	>10 years	Low	Low	2	1.5	Remove

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
178	Swamp Gum	<i>ovata</i>	14	5	19	28	Good	Good	>10 years	Medium	Low	2.3	1.9	Remove
179	Blackwood	<i>Acacia melanoxylon</i>	7	3	12	14	Good	Fair	>10 years	Low	Low	2	1.5	Remove
180	Blackwood	<i>Acacia melanoxylon</i>	7	3	13	16	Good	Good	>10 years	Low	Low	2	1.5	Remove
181	Blackwood	<i>Acacia melanoxylon</i>	5	2	7	8	Good	Fair	>10 years	Low	Low	2	1.5	Remove
182	Swamp Gum	<i>ovata</i>	11	1	10	13	Good	Good	>10 years	Low	Low	2	1.5	Remove
183	Blackwood	<i>Acacia melanoxylon</i>	9	3	16	20	Good	Fair	>10 years	Low	Low	2	1.7	Remove
184	Blackwood	<i>Acacia melanoxylon</i>	6	1	7	10	Good	Fair	>10 years	Low	Low	2	1.5	Remove
185	Blackwood	<i>Acacia melanoxylon</i>	6	1	6	7	Good	Fair	>10 years	Low	Low	2	1.5	Remove
186	Swamp Gum	<i>ovata</i>	12	3	18	21	Good	Good	>10 years	Low	Low	2.2	1.7	Remove
187	Blackwood	<i>Acacia melanoxylon</i>	6	2	8	11	Good	Good	>10 years	Low	Low	2	1.5	Remove
188	Blackwood	<i>Acacia melanoxylon</i>	7	2	10	14	Good	Good	>10 years	Low	Low	2	1.5	Remove
189	Blackwood	<i>Acacia melanoxylon</i>	5	3	7 6	18	Good	Fair	>10 years	Low	Low	2	1.6	Remove
190	Blackwood	<i>Acacia melanoxylon</i>	10	6	28	39	Good	Good	>10 years	Medium	Medium	3.4	2.2	Remove
230	Blackwood	<i>Acacia melanoxylon</i>	6	2	13	17	Good	Poor	< 3 years	Low	Low	2	1.6	Remove
231	Blackwood	<i>Acacia melanoxylon</i>	10	6	25	31	Good	Fair	>10 years	Medium	Medium	3	2.0	Remove
232	Blackwood	<i>Acacia melanoxylon</i>	4	1	7	9	Fair	Fair	>3 to <10 years	Low	Low	2	1.5	Remove
233	Blackwood	<i>Acacia melanoxylon</i>	5	2	10	12	Fair	Poor	< 3 years	Low	Low	2	1.5	Remove
244	Swamp Gum	<i>ovata</i>	11	5	20	27	Good	Good	>10 years	Medium	Medium	2.4	1.9	Remove

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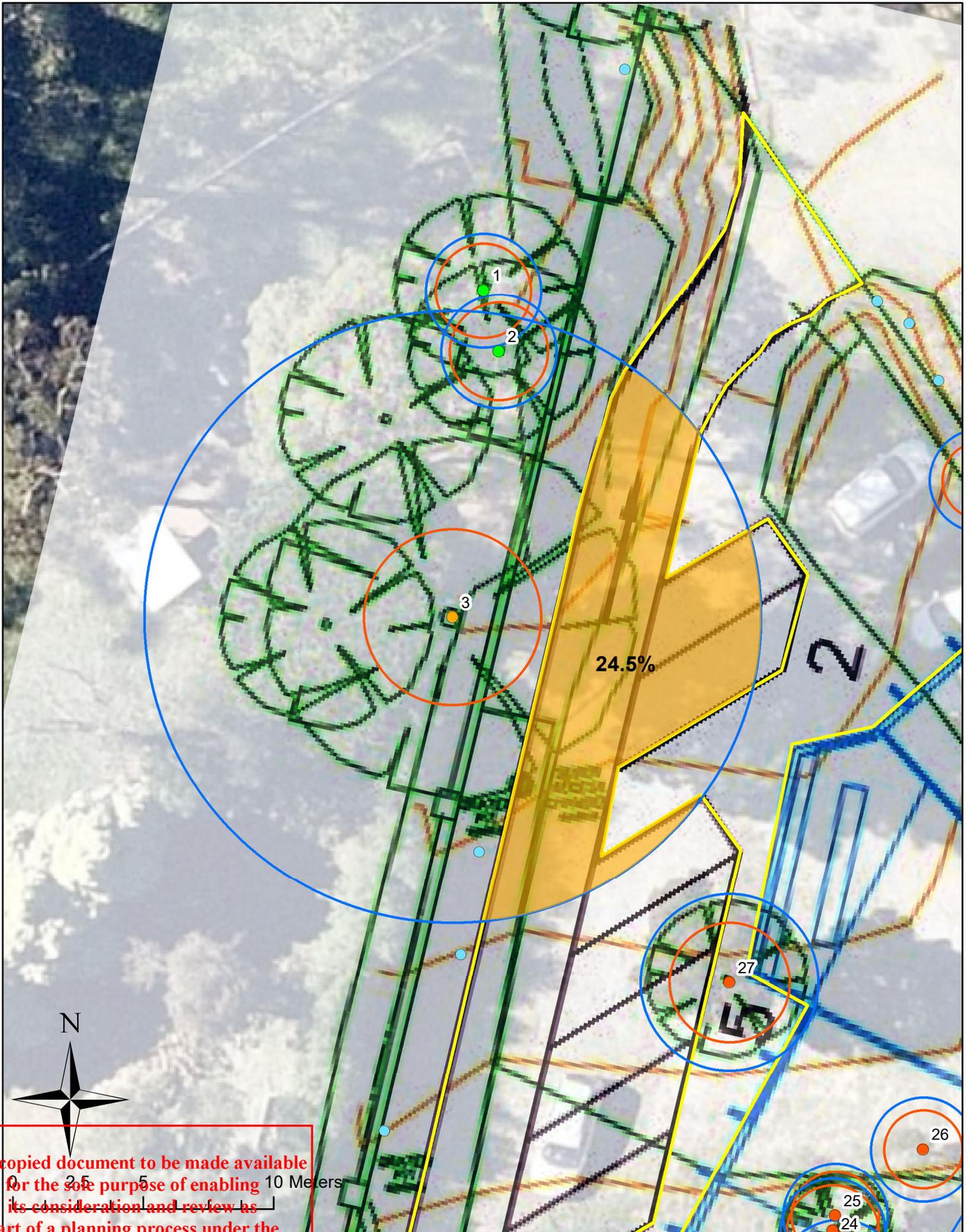
ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
245	Blackwood	<i>Acacia melanoxydon</i>	7	2	12	13	Good	Fair	>10 years	Low	Low	2	1.5	Remove
246	Blackwood	<i>Acacia melanoxydon</i>	7	2	12	18	Good	Good	>10 years	Low	Low	2	1.6	Remove

Arboricultural Impact Assessment – Major TPZ encroachment

- The proposal requires a *major* encroachment (>10%) into TPZs (but outside of the SRZ) of the trees in the table below.
- Tree #3 is unlikely to remain viable with the proposed 24.5% TPZ encroachment.
- Tree #237 will remain viable with the proposed 12.5% TPZ encroachment if tree protection measures are installed.

ID	Common Name	Genus	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
3	Radiata Pine	<i>Pinus radiata</i>	28	8	98	106	Good	Good	>10 years	High	High	11.8	3.4	Major encroachment 24.5%
237	Swamp Gum	<i>Eucalyptus ovata</i>	18	12	53	59	Good	Good	>10 years	High	High	6.4	2.7	Major encroachment 12.5%

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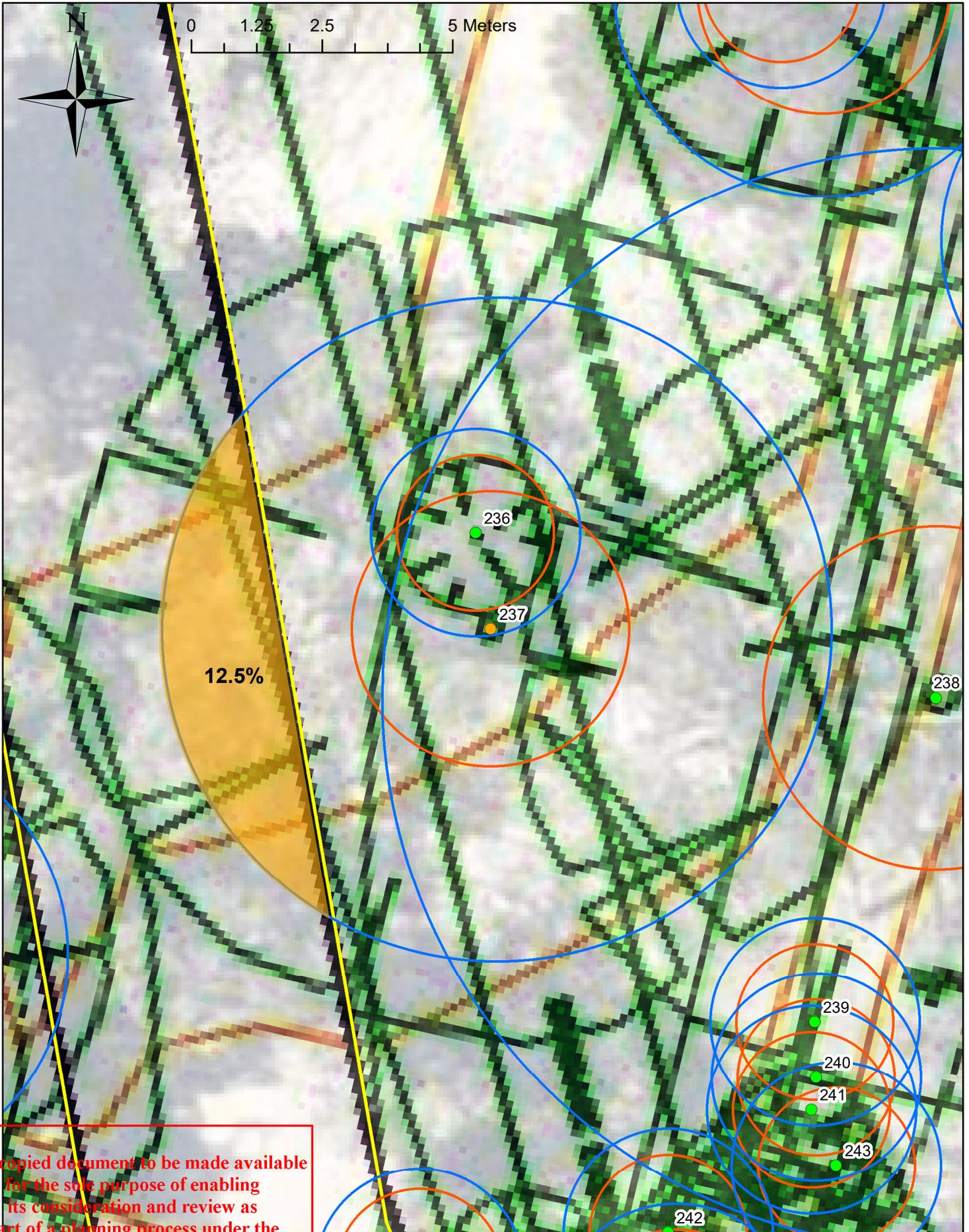
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Tree 3 Major TPZ encroachment

Adapted from Final plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07 and Nearmap aerial imagery.

Projection: GDA 94 / MGA Zone 55, georeferenced to cadastral boundaries.

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Tree 237 Major TPZ encroachment

Adapted from Final plans - 20054_Belgrave Heights CS_VCE Prelim DA - 2022.09.07 and Nearmap aerial imagery.

Projection: GDA 94 / MGA Zone 55, georeferenced to cadastral boundaries.

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Arboricultural Impact Assessment – Minor TPZ encroachments

- The proposal requires a *minor* encroachment (>10%) into the TPZs of the trees in the table below.
- Trees with *minor* encroachments will remain viable if isolated from construction impacts with tree protection fencing.

ID	Common Name	Botanical Name	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
158	Blackwood	<i>Acacia melanoxylon</i>	6	2	11	16	Good	Good	>10 years	Low	Low	2	1.5	Minor encroachment <10%
226	Blackwood	<i>Acacia melanoxylon</i>	12	6	36	46	Fair	Good	< 3 years	Medium	Medium	4.3	2.4	Minor encroachment <10%
229	Blackwood	<i>Acacia melanoxylon</i>	9	5	29	33	Good	Fair	>10 years	Medium	Medium	3.5	2.1	Minor encroachment <10%

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Arboricultural Impact Assessment – No encroachment

- The proposal does not require encroachment into TPZs of the trees in the table below.
- Trees with no proposed encroachment will remain viable if isolated from construction impacts with tree protection fencing.

ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
1	Blackwood	<i>Acacia melanoxylon</i>	8	4	18	24	Fair	Fair	>3 to <10years	Medium	High	2.2	1.8	None
2	Blackwood	<i>Acacia melanoxylon</i>	10	5	18	26	Good	Good	>10 years	Medium	High	2.2	1.9	None
4	Prickly-leaved Paperbark	<i>Melaleuca styphelioides</i>	3	3	6	9	Good	Good	>10 years	Low	Low	2	1.5	None
10	Swamp Gum	<i>Eucalyptus ovata</i>	5	2	10	13	Poor	Good	>3 to <10years	Low	Low	2	1.5	None
11	Swamp Gum	<i>Eucalyptus ovata</i>	7	4	13	20	Good	Good	>10 years	Low	Low	2	1.7	None
12	Swamp Gum	<i>Eucalyptus ovata</i>	2	1	45	58	Good	Fair	>10 years	Medium	Medium	5.4	2.6	None
13	Blackwood	<i>Acacia melanoxylon</i>	6	4	20	23	Good	Fair	>10 years	Medium	Medium	2.4	1.8	None
97	Blackwood	<i>Acacia melanoxylon</i>	6	2	15	17	Fair	Fair	>3 to <10years	Medium	Low	2	1.6	None
100	Blackwood	<i>Acacia melanoxylon</i>	6	2	11	14	Good	Good	>10 years	Medium	Low	2	1.5	None
103	Eucalyptus	<i>Eucalyptus sp.</i>	7	2	9	12	Good	Good	>10 years	Medium	Medium	2	1.5	None
104	Blackwood	<i>Acacia melanoxylon</i>	7	4	16	22	Good	Fair	>10 years	Medium	Low	2.1	1.8	None

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
144	Blackwood	<i>Acacia melanoxylon</i>	4	1	5	6	Good	Good	>10 years	Low	Low	2	1.5	None
145	Blackwood	<i>Acacia melanoxylon</i>	6	2	9	12	Good	Good	>10 years	Low	Low	2	1.5	None
146	Blackwood	<i>Acacia melanoxylon</i>	6	3	6 9	20	Good	Fair	>10 years	Low	Low	2	1.7	None
150	Blackwood	<i>Acacia melanoxylon</i>	6	2	12 3 2	17	Good	Good	>10 years	Low	Low	2	1.6	None
151	Blackwood	<i>Acacia melanoxylon</i>	6	2	13	17	Good	Good	>10 years	Low	Low	2	1.6	None
152	Blackwood	<i>Acacia melanoxylon</i>	5	1	7	9	Good	Fair	>10 years	Low	Low	2	1.5	None
153	Blackwood	<i>Acacia melanoxylon</i>	6	2	9 8	18	Good	Poor	< 3 years	Low	Low	2	1.6	None
154	Blackwood	<i>Acacia melanoxylon</i>	5	1	7	8	Good	Fair	>10 years	Low	Low	2	1.5	None
159	Blackwood	<i>Acacia melanoxylon</i>	7	2	10 4	18	Good	Good	>10 years	Low	Low	2	1.6	None
160	Blackwood	<i>Acacia melanoxylon</i>	8	3	13 8	23	Good	Fair	>10 years	Low	Low	2	1.8	None
161	Blackwood	<i>Acacia melanoxylon</i>	8	4	10 8 15 4	31	Good	Poor	< 3 years	Low	Low	2.4	2.0	None
162	Blackwood	<i>Acacia melanoxylon</i>	6	2	8	10	Good	Good	>10 years	Low	Low	2	1.5	None
163	Blackwood	<i>Acacia melanoxylon</i>	5	2	7 2 3 5	13	Good	Good	>10 years	Low	Low	2	1.5	None
164	Swamp Gum	<i>Eucalyptus ovata</i>	11	10	16 48	77	Fair	Fair	>10 years	High	High	6.1	3.0	None
176	Unknown	sp.	6	5	16	21	Fair	Fair	>3 to <10years	Low	Low	2	1.7	None
191	Swamp Gum	<i>Eucalyptus ovata</i>	14	7	47	55	Poor	Good	>10 years	High	High	5.6	2.6	None
192	Blackwood	<i>Acacia melanoxylon</i>	9	4	10 7 14 12	33	Good	Poor	< 3 years	Low	Low	2.7	2.1	None

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
193	Blackwood	<i>Acacia melanoxylon</i>	9	4	14	20	Good	Fair	>10 years	Medium	Medium	2	1.7	None
194	Messmate	<i>obliqua</i>	22	13	72	85	Fair	Good	>10 years	High	High	8.6	3.1	None
195	Messmate	<i>Eucalyptus obliqua</i>	22	11	64	76	Poor	Good	>10 years	High	High	7.7	3.0	None
196	Messmate	<i>Eucalyptus obliqua</i>	17	9	38	52	Fair	Good	>10 years	High	High	4.6	2.5	None
197	Blackwood	<i>Acacia melanoxylon</i>	6	3	10	12	Good	Poor	< 3 years	Low	Low	2	1.5	None
198	Blackwood	<i>Acacia melanoxylon</i>	7	2	8	9	Good	Poor	< 3 years	Low	Low	2	1.5	None
199	Blackwood	<i>Acacia melanoxylon</i>	8	3	15	20	Good	Good	>10 years	Low	Medium	2	1.7	None
200	Blackwood	<i>Acacia melanoxylon</i>	6	4	27 7	32	Good	Poor	< 3 years	Low	Low	3.3	2.1	None
201	Peppermint	<i>Eucalyptus radiata</i>	8	6	36	45	Fair	Fair	>3 to <10years	Medium	Medium	4.3	2.4	None
202	Blackwood	<i>Acacia melanoxylon</i>	7	5	28	40	Good	Poor	< 3 years	Medium	Low	3.4	2.3	None
203	Blackwood	<i>Acacia melanoxylon</i>	5	3	16	23	Good	Good	>10 years	Low	Medium	2	1.8	None
204	Blackwood	<i>Acacia melanoxylon</i>	17	8	50	69	Good	Good	>10 years	High	High	6	2.8	None
205	Blackwood	<i>Acacia melanoxylon</i>	4	2	8 4	13	Good	Fair	>10 years	Low	Low	2	1.5	None
206	Messmate	<i>obliqua</i>	17	11	72	80	Poor	Good	>10 years	High	High	8.6	3.0	None
207	Blackwood	<i>Acacia melanoxylon</i>	11	4	27	38	Good	Good	>10 years	Medium	Medium	3.2	2.2	None
208	Blackwood	<i>Acacia melanoxylon</i>	7	2	11	14	Good	Fair	>10 years	Low	Low	2	1.5	None
209	Blackwood	<i>Acacia melanoxylon</i>	6	2	8	9	Good	Poor	< 3 years	Low	Low	2	1.5	None

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
210	Blackwood	<i>Acacia melanoxylon</i>	10	6	29 17	47	Good	Poor	< 3 years	Medium	Medium	4	2.4	None
211	Swamp Gum	<i>Eucalyptus ovata</i>	14	8	32	40	Good	Good	>10 years	High	High	3.8	2.3	None
212	Sweet Pittosporum	<i>Pittosporum undulatum</i>	4	3	6 4 6	9	Good	Good	>10 years	Low	Low	2	1.5	None
213	Blackwood	<i>Acacia melanoxylon</i>	18	12	56	73	Fair	Good	>10 years	High	High	6.7	2.9	None
214	Blackwood	<i>Acacia melanoxylon</i>	9	8	27	34	Good	Good	>10 years	Medium	Medium	3.2	2.1	None
215	Blackwood	<i>Acacia melanoxylon</i>	8	2	11	15	Good	Good	>10 years	Low	Low	2	1.5	None
216	Sweet Pittosporum	<i>Pittosporum undulatum</i>	5	3	9	14	Good	Good	>10 years	Low	Low	2	1.5	None
217	Messmate	<i>Eucalyptus ovata</i>	20	12	49	60	Fair	Fair	>3 to <10years	High	High	5.9	2.7	None
218	Messmate	<i>Eucalyptus ovata</i>	7	3	13	17	Good	Good	>10 years	Low	Medium	2	1.6	None
219	Blackwood	<i>Acacia melanoxylon</i>	4	2	8	10	Good	Poor	< 3 years	Low	Low	2	1.5	None
220	Blackwood	<i>Acacia melanoxylon</i>	4	2	8	10	Good	Poor	< 3 years	Low	Low	2	1.5	None
221	Blackwood	<i>Acacia melanoxylon</i>	6	1	11	15	Good	Fair	>10 years	Low	Low	2	1.5	None
222	Peppermint	<i>Eucalyptus radiata</i>	14	11	34	40	Fair	Good	>10 years	High	High	4.1	2.3	None
223	Blackwood	<i>Acacia melanoxylon</i>	10	5	30	38	Good	Good	>10 years	High	Medium	3.6	2.2	None
224	Peppermint	<i>Eucalyptus radiata</i>	17	8	40	52	Poor	Good	>3 to <10years	Medium	High	4.8	2.5	None
225	Blackwood	<i>Acacia melanoxylon</i>	12	6	32	36	Good	Fair	>10 years	Medium	Medium	3.8	2.2	None
227	Blackwood	<i>Acacia melanoxylon</i>	8	3	15	17	Good	Fair	>10 years	Low	Low	2	1.6	None

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ID	Common Name	Species	Height (m)	Width (m)	DBH (cm)	D (cm)	Health	Structure	ULE	Visual Amenity Value	Retention Value	TPZ (m)	SRZ (m)	Impact
228	Peppermint	<i>Eucalyptus radiata</i>	12	6	30	39	Poor	Good	>3 to <10years	Medium	High	3.6	2.2	None
234	Swamp Gum	<i>Eucalyptus ovata</i>	11	9	23	30	Good	Fair	>10 years	Medium	Low	2.8	2.0	None
235	Blackwood	<i>Acacia melanoxylon</i>	7	3	16	20	Poor	Fair	< 3 years	Low	Low	2	1.7	None
236	Blackwood	<i>Acacia melanoxylon</i>	6	4	10 9	15	Good	Fair	>10 years	Low	Low	2	1.5	None
238	Swamp Gum	<i>Eucalyptus ovata</i>	16	13	50 71 16	100	Fair	Good	>10 years	High	High	10.6	3.3	None
239	Swamp Gum	<i>Eucalyptus ovata</i>	5	2	6	12	Good	Good	>10 years	Low	Low	2	1.5	None
240	Blackwood	<i>Acacia melanoxylon</i>	5	2	8	10	Good	Good	>10 years	Low	Low	2	1.5	None
241	Blackwood	<i>Acacia melanoxylon</i>	7	2	13	15	Good	Good	>10 years	Low	Low	2	1.5	None
242	Swamp Gum	<i>Eucalyptus ovata</i>	7	1	5	7	Poor	Good	< 3 years	Low	Low	2	1.5	None
243	Swamp Gum	<i>Eucalyptus ovata</i>	7	2	8	9	Good	Good	>10 years	Low	Low	2	1.5	None

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Arboricultural Impact Assessment Summary

Retention Value	Impact	Total
High	Major TPZ encroachment	2
	SRZ Encroachment	24
	No Encroachment	16
Total		42
Medium	Minor TPZ encroachment	2
	SRZ Encroachment	42
	No Encroachment	13
Total		57
Low	Minor TPZ encroachment	1
	SRZ Encroachment	103
	No Encroachment	43
Total		147



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Discussion

Based on the current information; 169 trees fall within the proposed design footprint and have encroachment into their SRZ. These trees will require removal.

The 72 trees that do not have encroachments into their TPZ can be retained; however, to remain viable tree protection measures must be in place before demolition and earthworks start. Tree protection measures must remain in place until construction has been completed. Examples of tree protection measures included; fenced exclusion zones and ground protection.

Tree 3 has a *major encroachment* into 24.5% of the TPZ. The tree is a Radiata Pine (*Pinus radiata*) a listed weed species in the Yarra Ranges Shire. This species is not tolerant of root loss and is unlikely to remain viable with this level of encroachment.

Tree 237 has a *major encroachment* into 12.5% of the TPZ; the encroachment is from a new driveway. This tree will likely tolerate this level of encroachment. This tree has a *high* retention value and is recommended for retention. Tree protection measures will be required to ensure this tree remains viable post-construction.

Tree 158, 226 and 229 all have *minor encroachments* along a single side of their TPZ. The encroachments are 4.1%, 3.0% and 3.36% respectively. These trees will be tolerant of the proposed encroachment

Any tree with a DBH bigger than 16cm will require a permit to remove under the *Significant Landscape Overlay (SLO22)*; with the exception of tree species that appear on the *Shire of Yarra Ranges Environmental Weed Species List – Clause 22.05*.



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Recommendations

- Trees with encroachment into the SRZ will need to be removed for the proposed design.
- Trees with no encroachment can be retained with tree protection measures in place throughout the development of the site.
- Tree 3 should be removed given the size of the encroachment and the species as it is unlikely to be viable with the proposed design.
- Trees 237, 158, 226 and 229 are all likely to be tolerant of the encroachment into the TPZ and should be retained with tree protection measures in place throughout the development of the site.
- Apply for permits for the removal of trees with a DBH bigger than 16cm that will require removal for the proposed design.
- Commission a *tree protection management plan* for trees to be retained prior to the start of works.



Appendix 1: Tree Descriptors

Origin

- *Indigenous* – species is characteristic of pre-1750 ecological vegetation class of the local area
- *Native* – native to the state of Victoria, naturally occurring since the recording of flora commenced
- *Australian* – native to Australia and naturally occurring since the recording of flora commenced
- *Exotic* – species is not endemic to any part of Australia

Tree Health

Good

- tree displays 71-100% live canopy mass
- exhibits near-optimal foliage characteristics in size, colour and density
- tree may have deadwood in the interior canopy
- it is expected that the tree will maintain its condition of health without plant-health treatments

Fair

- tree displays 51-70% live canopy mass
- foliage may be stunted or partly discoloured
- the tree may display dieback of the peripheral canopy
- tree may exhibit medium level pest/pathogen infestation
- with plant-health treatments, it is expected that the tree will improve its condition of health

Poor

- tree displays < 50% live canopy mass
- foliage is completely discoloured, dying or both
- tree has extensive pest/pathogen infestation and is unlikely to improve its condition of health even with plant-health treatments

Dead

- tree has no live vascular tissue

Tree Structure

Good

- tree has well-formed unions
- there are no signs of decay in either the trunk or 1st order branches
- tree has good trunk and 1st order branch taper and is displaying pronounced reactive wood growth, indicating it has adapted to its location
- tree may exhibit structural defects on either the 2nd or 3rd order branches or both. Such deficiencies can be remediated by pruning as per AS 4373-2007 *Pruning of Amenity Trees*

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Fair

- tree may have some included bark between unions
- tree may have signs of decay in either the trunk, the 1st order branches or both
- may have suboptimal taper in either the trunk, 1st order branches or both and is displaying some reactive wood growth, indicating it has not fully adapted to its location
- structural defects of 1st order braces can be mitigated but not remediated by pruning as per AS 4373-2007 *Pruning of Amenity Trees*

Poor

- tree may have extensive included bark, signs of splitting as well as decay in the unions
- there is evidence of extensive decay in either the trunk, the 1st order branches or both
- tree has poor taper in the trunk, and 1st order branches or both, indicating either exposure to new conditions or a poor condition of health and that the tree does not have the resources to allocate to reactive wood growth
- structural defects of 1st order branches cannot be mitigated by pruning as per AS 4373-2007 *Pruning of Amenity Trees*

Visual Amenity Value

High

- the tree is large (>12 m in height)
- tree is easily visible from neighbouring streets
- tree make a significant aesthetic contribution to the streetscape as well as the broader landscape

Medium

- the tree is medium-sized (8 to <12 m in height)
- tree is partly visible from neighbouring streets
- tree makes an aesthetic contribution to the streetscape and is visible from neighbouring streets

Low

- the tree is small (< 8 m in height)
- tree make minimal aesthetic contribution to the streetscape

Tree Retention Value

High

- tree has fair to good health, fair to good structure and a high visual amenity value
- trees in third-party ownership have an assumed High retention value regardless of their condition, health, structure or visual amenity
- Tree is of cultural, heritage or ecological significance.

Medium

- tree has fair to good health, fair to good structure and a medium visual amenity value

Low

- tree has either poor health, poor structure or both
- tree has a low visual amenity value

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Useful Life Expectancy

+10 Years

- tree has good health and good structure and is expected to maintain its condition of health and structure without intervention for greater than ten (10) years

+3 to <10 Years

- tree has fair to good health, fair to good structure and is expected to maintain its condition of health and structure without intervention for more than three (3) years. Without intervention the tree is expected to decline in health, structure or both within ten (10) years.

<3 Years

- tree has either poor health, poor structure or both
- Without intervention the tree is expected to decline in health, structure or both within three (3) years.

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Order of Branches

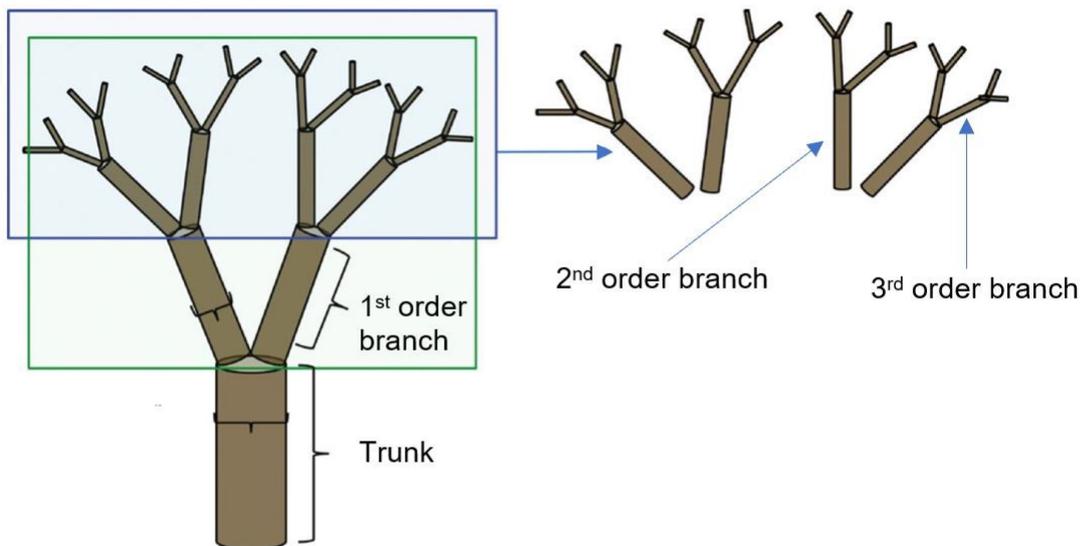


Image adapted from Bentley *et al* 2013, An empirical assessment of tree branching networks and implications for plant allometric scaling models, *Ecology Letters*, vol.16, p.1069–1078.

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Diameter at Breast Height (DBH)

Trunk diameter measured at 1.4 m above ground level is used to calculate the tree protection zone (TPZ).

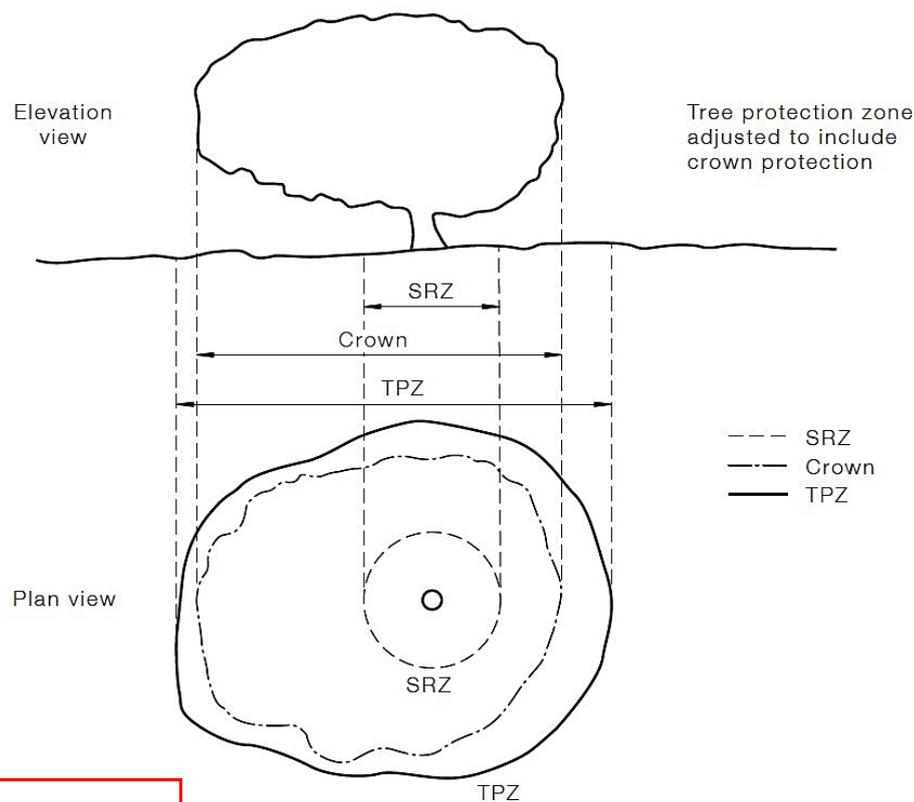
Trunks of trees on the subject site are measured using tape. The DBHs of neighbouring or inaccessible trees are visually estimated.

Tree Protection Zone (TPZ)

A specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree's root and crown.

Structural Root Zone (SRZ)

The SRZ is the area required for tree stability. This is the area where structural woody roots are likely to occur. The SRZ is calculated from the diameter of the trunk above the root buttress.



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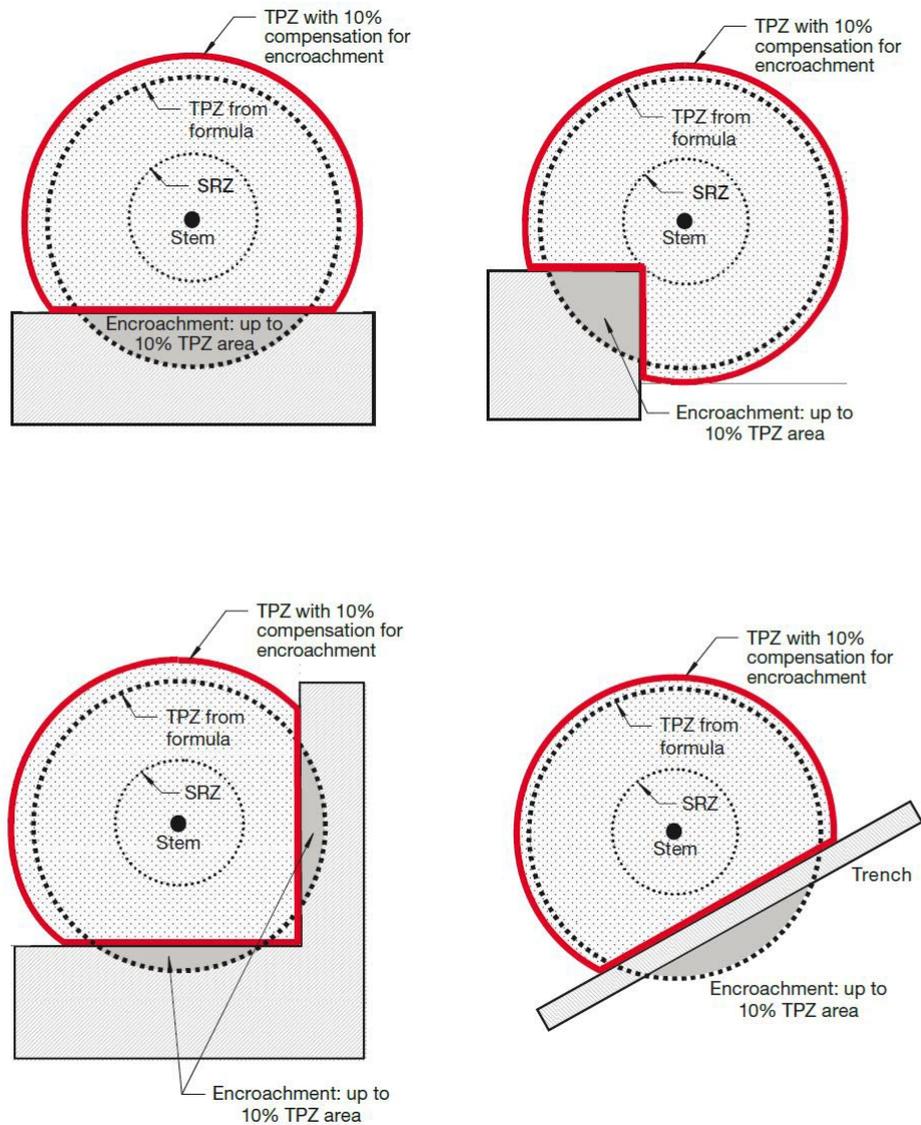
Minor TPZ Encroachment

The proposed encroachment is less than 10% of the TPZ area and outside of the SRZ.

Major TPZ Encroachment

The proposed encroachment is more than 10% of the TPZ area, inside SRZ or both.

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Appendix 3: Expertise to Prepare the Report

I have over fifteen (15) years of experience in arboricultural and ecological industries, including over eleven (11) years of consultancy.

I have training and experience in the collection of biological samples and data for scientific research. I have co-authored papers published in peer-reviewed scientific journals.

My qualifications, experience and expertise are in the fields of arboriculture, planning and wildlife biology, which ensures that I am qualified to make informed independent assessments of issues pertaining to the management of vegetation and associated fauna.

Yours Sincerely



 – Director Ironbark Environmental Arboriculture Pty Ltd

References

Standards Australia, AS 4970-2009 *Protection of Trees on Development Sites*, SAI Global.

Standards Australia, AS 4373-2007 *Pruning of Amenity Trees*, SAI Global.



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