

Arboricultural Impact Assessment

Redevelopment of 1020 Melia Court, Castle Hill

Prepared For: Castle Hill Glen Pty Ltd

Report Date: 30 January 2024



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Document Details

Report Title	Arboricultural Impact Assessment (AIA)
Project Title	Redevelopment of 1020 Melia Court, Castle Hill
Prepared For	Castle Hill Glen Pty Ltd
Report Date	30 January 2024
Project Team	David Cummings, Arielle Saunders, Alex Swanson

Document Control

Version	Approved by	Qualification / Position	Date
R0	David Cummings	Dip (Arb) BSc (Hons) PhD - Director (H2O Consulting group)	30.01.2024

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Table of Content

1	Introduction	1
1.1	Background	1
1.2	Project Overview	1
1.3	Tree Management Requirements	1
1.4	Relevant Guidelines	2
1.5	Site Description	2
2	Methodology	4
2.1	Visual Tree Assessment	4
2.2	SULE	4
2.3	Tree Retention Value	4
2.4	Calculations	5
2.5	Mapping	5
2.6	Limitations	5
3	Results and Findings	7
3.1	Tree Survey	7
3.2	Tree Observations	15
3.3	Tree Calculations	22
4	Tree Impact Assessment	32
4.1	Potential impacts	32
4.2	Construction footprint	32
4.3	Major encroachment	32
4.4	Minor encroachment	32
4.5	Other impacts	33
5	Recommendations:	35
5.1.1	Land stabilisation and retaining works	35
5.1.2	Underground services and stormwater	35
5.1.3	Landscaping	35
5.1.4	Retention basins	35
5.1.5	Asset protection zones	35
5.1.6	Access easements	35
6	Summary	36
7	References	37
	Photos	38
	Appendix 1: Plans of the Proposal	42
	Appendix 2: Qualifications and Experience	45
	Appendix 3: SULE	46
	Appendix 4: Tree Retention Value	47
	Appendix 5: Calculating TPZ and SRZ	50

1 Introduction

1.1 Background

H2O Consulting Group Pty Ltd was commissioned by EinV on behalf of Castle Hill Glen Pty Ltd (Property Owner) to provide an Arboricultural Impact Assessment (AIA) report for trees at 1020 Melia Court, Castle Hill (subject site). The subject site is located within The Hills Shire Council Local Government Area (LGA) (Figure 1).

The site has a DA Approved Subdivision for 21 residential lots. As part of this approval, previous surveys of trees on the site were undertaken in 2006 (Hawkeswood 2006) and later additional surveys in 2017 (TALC 2017).

1.2 Project Overview

The project involves the re-development of 1020 Melia Court in Castle Hill for Planning Proposal Application to the Hills Shire Council. The site is to be developed for a mix of low and medium density residential buildings including a new public park, series of open spaces and public domain upgrades.

The project includes:

- A Publicly Accessible Park “Rogans Hill Park” that is designed to provide a natural play area and outdoor fitness opportunities.
- Six (6) residential flat buildings, with heights ranging from three to six storeys, containing 147 apartment units.
- 38 terraces, each spanning between two and three stories.
- A series of connected biodiversity corridors connecting the existing Blue Gum High Forest and WSUD infrastructure that provide new opportunities for habitat for local flora and fauna.
- A central loop road to enhance accessibility and circulation to each public and communal space.

1.3 Tree Management Requirements

The State Environmental Planning Policy (Vegetation in Non-Rural Area's) 2017 under the Environmental Planning and Assessment Act 1979 prescribes that tree and vegetation works are to be processed by Council through its Development Control Plan (DCP).

The objective of the Hills Shire Tree Management Provision is to preserve the amenity of the area, including biodiversity values, through the preservation of trees and other vegetation. The Tree Management Provision protects trees prescribed under The Hills Development Control Plan 2012 (DCP 2012).

The DCP 2012 identifies prescribed trees to be a perennial plant with a self-supporting woody stem that has a spread of more than 3 metres or a height of more than 6 metres or has a trunk diameter of more than 300mm measured at the base. Under the Tree Management Provision, prescribed trees may only be removed in accordance with a development consent or permit granted by the Council. Exemptions identified within the DCP 2012 may include:

- Species identified as exempt species under Section 2.4 DCP 2012, or
- Trees within 5m of an Existing Approved Dwelling or Ancillary Structure.

1.4 Relevant Guidelines

The Australian Standard AS4970-2007 Protection of Trees on Development Sites provides guidance on the principles protecting trees on land subject to development. The Standard includes guidance on determining tree protection zones (TPZs), tree protection measures and monitoring and management during construction works (Standards Australia 2009).

1.5 Site Description

The site is located at 1020 Melia Court, Castle Hill, on the southern side of Castle Hill Road and includes three separate torrens title lots each under single ownership. The separate allotments which make up the site with a combined area of 45,024m². The allotments include the following:

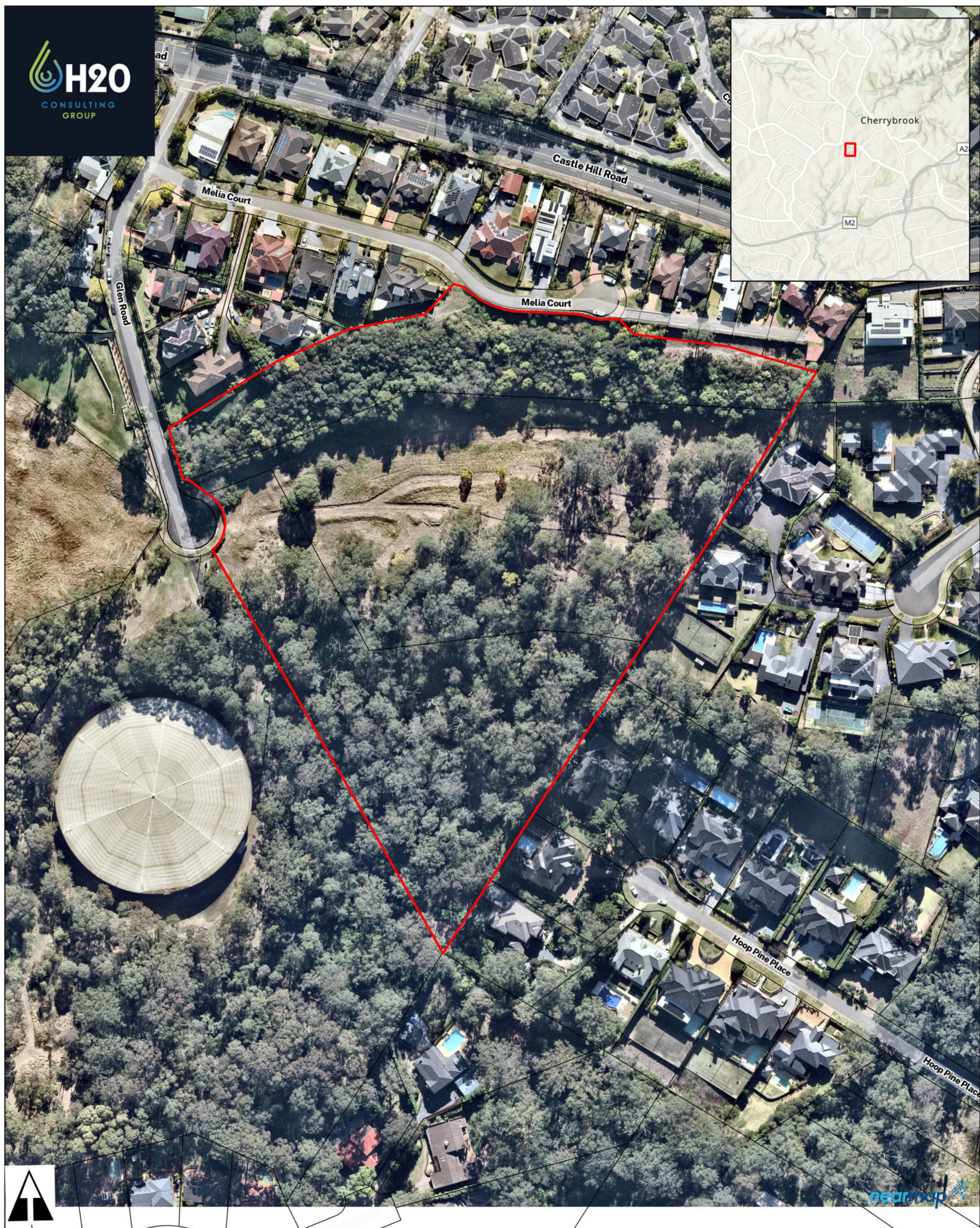
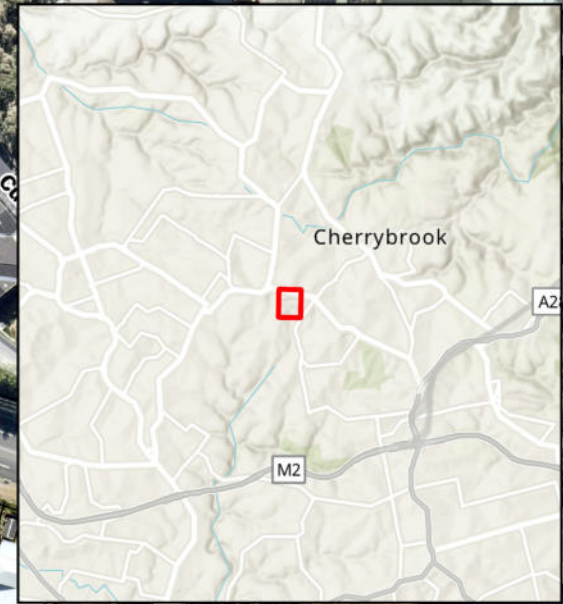
- Lot 1020 DP 876671 – 20,100m²
- Lot 2021 DP 876671 – 9,760m²
- Lot 2 DP 576773 – 15,200m²

The subject site is a partially cleared, level area amongst native bushland central to the property.

The property adjoins Glen Road to its east and has thicker sections of bushland to its north and south.

The native bushland around the clearing is mapped as Blue Gum High Forest, which aligns with aligns with the Critically Endangered Ecological Community listed under the NSW *Biodiversity Conservation Act 2016* (NSW Government 2023).

The site does not identify with any Environmental heritage items or conservation areas listed under The Hills LEP (2019).





SITE: Melia Gardens. Glen Road, Castle Hill, NSW 2154

0 15 30 45 60 75 150 Meters

Scale: 1:1,500

Figure 1 – locality

 Subject Site
 NSW Cadastre GDA2020

DATE : 25/10/2023

Map Version : 1_1

Projected Coordinate System : GDA 2020 Zone 56

Aerial Imagery: Nearmaps 12/08/2023 GDA2020

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2 Methodology

The site survey was undertaken between May and July 2023 by David Cummings (AQF 5 Arborist – See Appendix 2). Trees surveyed included all trees that could be safely accessed within 10 metres of the building footprint. This included all trees with a height greater than 6 metres, or trunk diameter greater than 300 mm or branch spread greater than 3 m. Each tree was distinguished by the reference number provided on the survey plans. Trees were identified to species based on guidance from regional identification guides (Fairley and Moore 1989, Robinson 2003), and descriptions and records provided by the Royal Botanic Gardens (Plantnet 2016).

2.1 Visual Tree Assessment

A visual tree assessment to evaluate the health and condition of these trees in relation to the impacts of the proposed development was undertaken from ground level following the methodology described by Mattheck and Breloer (1994). Tree height was estimated following the guidance outlined in the Private Native Forestry Code of Practice (DECC 2007). The DBH (Diameter at Breast Height) and Diameter Above Buttress (DAB) was determined using a DBH tape and methods of calculation outlined in AS 4970-2009 (Standards Australia 2009).

2.2 SULE

The SULE method (Safe Useful Life Expectancy) estimates the suitability of the tree in the urban landscape based on the species and age of the subject tree (Barrell 1996, Appendix 3). The following ranges have been allocated to each tree:

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

2.3 Tree Retention Value

To determine tree retention value a Landscape Significance Rating (LSR) was assigned to each tree. The LSR value provides consideration of the tree's amenity, environmental and heritage values (See Appendix 4). Trees are then assigned one of the following LSR categories:

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

Once the landscape significance value has been determined the following assessment matrix that utilises estimated life expectancy and landscape significance (Table 1) was applied to each tree.

Table 1: Assessment matrix adopted from Morton (2006).

	Landscape significance rating						
Estimated Life Expectancy	1	2	3	4	5	6	7
Greater than 40 Years	High						
15 to 40 Years			Moderate				
5 to 15 Years			Low				
Less than 5 Years			Very low				
Dead or Hazardous							

2.4 Calculations

For each tree the SRZ and TPZ was calculated in accordance with AS 4970 – 2009 (Appendix 5). The following formulas were applied for SRZ and TPZ.

$$SRZ = (DAB \times 50)^{0.42} \times 0.64$$

$$TPZ = DBH \times 12$$

For palms the TPZ was determined by adding 1m to each side of the crown.

To calculate an estimate of canopy area the average canopy spread was divided by two to derive a radius and the following formula applied.

$$Canopy\ Spread = PI \times Radius^2$$

2.5 Mapping

Mapping works were done using GIS software. Tree positions were recorded using Real Time Kinematic (RTK) GPS with a typical accuracy of <1m or provided by the survey team. Aerial imagery was sourced from Nearmap.

2.6 Limitations

The access to trees at this site was significantly impaired by the dense understorey of predominately weeds scrubs species (Lantana and Privett) that made access unsafe and impossible with out undertaking vegetation removal. Furthermore, visual observations were very limited for some trees.

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

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

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

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

The findings of this report are reliant on the accuracy and completeness of the plans provided at the time of survey.

3 Results and Findings

3.1 Tree Survey

The tree survey included 263 trees (Figure 2) that were found to be located within ~10m of the proposal footprint on the subject site. The trees were found to consist of various canopy forming species that align with locally occurring native vegetation along with a number of exotic and potential species (Table 2).

Table 2: Tree schedule

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
1	<i>Eucalyptus saligna</i>	Sydney blue gum	30	1000	1050	Mature	15
2	<i>Eucalyptus saligna</i>	Sydney blue gum	20	410	410	Mature	8
3	<i>Acacia mearnsii</i>	Black wattle	9	180	180	Mature	4
4	<i>Eucalyptus saligna</i>	Sydney blue gum	25	430	440	Mature	10
5	<i>Eucalyptus saligna</i>	Sydney blue gum	30	1090	1110	Mature	20
6	<i>Eucalyptus saligna</i>	Sydney blue gum	28	620	650	Mature	7
7	<i>Acacia mearnsii</i>	Black wattle	11	170	180	Semi-mature	4
8	<i>Acacia mearnsii</i>	Black wattle	13	250	280	Mature	5
9	<i>Acacia mearnsii</i>	Black wattle	11	180	230	Semi-mature	3
10	<i>Acacia mearnsii</i>	Black wattle	8	180	200	Mature	9
11	<i>Eucalyptus saligna</i>	Sydney blue gum	30	860	1050	Mature	15
12	<i>Acacia mearnsii</i>	Black wattle	7	140	170	Semi-mature	3
13	<i>Cinnamomum camphora</i>	Camphor laurel	18	660	660	Mature	20
14	<i>Cinnamomum camphora</i>	Camphor laurel	10	140	150	Semi-mature	5
15	<i>Cinnamomum camphora</i>	Camphor laurel	12	150	150	Semi-mature	5
16	<i>Cinnamomum camphora</i>	Camphor laurel	12	220	220	Semi-mature	5
17	<i>Eucalyptus saligna</i>	Sydney blue gum	30	700	800	Mature	18
18	<i>Eucalyptus saligna</i>	Sydney blue gum	22	1270	1320	Over-mature	30
19	<i>Acacia mearnsii</i>	Black wattle	16	150	190	Semi-mature	3
20	<i>Eucalyptus saligna</i>	Sydney blue gum	20	250	250	Semi-mature	6
21	<i>Eucalyptus saligna</i>	Sydney blue gum	20	290	350	Semi-mature	5
22	<i>Eucalyptus saligna</i>	Sydney blue gum	23	540	580	Mature	6
23	<i>Eucalyptus saligna</i>	Sydney blue gum	30	690	770	Mature	12
24	<i>Acacia mearnsii</i>	Black wattle	16	260	300	Mature	3

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
25	<i>Acacia mearnsii</i>	Black wattle	17	130	130	Semi-mature	3
26	<i>Acacia mearnsii</i>	Black wattle	17	170	200	Mature	3
27	<i>Eucalyptus saligna</i>	Sydney blue gum	25	500	570	Mature	12
28	<i>Acacia mearnsii</i>	Black wattle	12	190	210	Semi-mature	5
29	<i>Acacia mearnsii</i>	Black wattle	8	110	130	Semi-mature	2
30	<i>Acacia mearnsii</i>	Black wattle	14	170	190	Mature	4
31	<i>Acacia mearnsii</i>	Black wattle	8	120	150	Semi-mature	2
32	<i>Cinnamomum camphora</i>	Camphor laurel	20	460	460	Mature	15
33	<i>Cinnamomum camphora</i>	Camphor laurel	20	240	300	Mature	10
34	<i>Eucalyptus saligna</i>	Sydney blue gum	29	750	850	Mature	12
35	<i>Eucalyptus saligna</i>	Sydney blue gum	32	700	800	Mature	20
36	<i>Eucalyptus saligna</i>	Sydney blue gum	19	160	180	Semi-mature	5
37	<i>Eucalyptus saligna</i>	Sydney blue gum	30	700	800	Mature	10
38	<i>Eucalyptus saligna</i>	Sydney blue gum	28	670	750	Mature	12
39	<i>Eucalyptus saligna</i>	Sydney blue gum	23	750	850	Mature	15
40	<i>Cinnamomum camphora</i>	Camphor laurel	24	680	380	Mature	20
41	<i>Lophostenum confertus</i>	Brush box	14	840	840	Mature	19
42	<i>Lophostenum confertus</i>	Brush box	18	710	710	Mature	12
43	<i>Acacia mearnsii</i>	Black wattle	8	140	150	Semi-mature	4
44	<i>Acacia mearnsii</i>	Black wattle	9	150	170	Semi-mature	6
45	<i>Acacia mearnsii</i>	Black wattle	8	100	110	Semi-mature	6
46	<i>Cinnamomum camphora</i>	Camphor laurel	25	980	980	Mature	20
47	<i>Eucalyptus saligna</i>	Sydney blue gum	12	210	210	Semi-mature	6
48	<i>Eucalyptus saligna</i>	Sydney blue gum	11	130	140	Young	5
49	<i>Eucalyptus saligna</i>	Sydney blue gum	25	600	800	Mature	20
50	<i>Eucalyptus saligna</i>	Sydney blue gum	28	700	800	Mature	16
51	<i>Erythrina x sykesii</i>	Coral tree	12	990	990	Mature	12
52	<i>Acacia implexa</i>	Hickory wattle	7	100	120	Young	1
53	<i>Eucalyptus saligna</i>	Sydney blue gum	8	100	120	Young	1
54	<i>Acacia implexa</i>	Hickory wattle	8	100	120	Young	1
55	<i>Acacia implexa</i>	Hickory wattle	8	120	120	Young	2
56	<i>Acacia implexa</i>	Hickory wattle	8	90	120	Young	2
57	<i>Acacia implexa</i>	Hickory wattle	7	110	140	Young	2
58	<i>Acacia implexa</i>	Hickory wattle	7	120	120	Young	3

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
59	<i>Eucalyptus saligna</i>	Sydney blue gum	25	1200	1300	Over-mature	20
60	<i>Acacia implexa</i>	Hickory wattle	7	100	110	Young	1
61	<i>Acacia implexa</i>	Hickory wattle	7	100	100	Young	3
62	<i>Acacia implexa</i>	Hickory wattle	8	120	120	Young	2
63	<i>Acacia implexa</i>	Hickory wattle	8	100	100	Young	4
64	<i>Acacia implexa</i>	Hickory wattle	8	80	100	Young	2
65	<i>Acacia implexa</i>	Hickory wattle	9	100	130	Young	2
66	<i>Acacia implexa</i>	Hickory wattle	8	70	100	Young	1
67	<i>Acacia implexa</i>	Hickory wattle	8	60	80	Young	1
68	<i>Acacia implexa</i>	Hickory wattle	9	100	110	Young	2
69	<i>Acacia implexa</i>	Hickory wattle	9	80	100	Young	1
70	<i>Acacia implexa</i>	Hickory wattle	10	120	140	Young	3
71	<i>Acacia implexa</i>	Hickory wattle	10	120	160	Semi-mature	2
72	<i>Acacia implexa</i>	Hickory wattle	10	110	130	Semi-mature	3
73	<i>Acacia implexa</i>	Hickory wattle	8	90	110	Semi-mature	2
74	<i>Acacia implexa</i>	Hickory wattle	9	100	120	Semi-mature	2
75	<i>Acacia implexa</i>	Hickory wattle	7	80	100	Young	1
76	<i>Acacia implexa</i>	Hickory wattle	7	80	100	Young	2
77	<i>Eucalyptus saligna</i>	Sydney blue gum	18	580	650	Mature	15
78	<i>Eucalyptus saligna</i>	Sydney blue gum	7	120	150	Young	3
79	<i>Eucalyptus saligna</i>	Sydney blue gum	25	560	600	Mature	13
80	<i>Eucalyptus saligna</i>	Sydney blue gum	25	740	740	Mature	16
81	<i>Eucalyptus saligna</i>	Sydney blue gum	7	80	100	Young	2
82	<i>Eucalyptus saligna</i>	Sydney blue gum	22	460	460	Mature	11
83	<i>Acacia implexa</i>	Hickory wattle	8	120	140	Semi-mature	3
84	<i>Acacia implexa</i>	Hickory wattle	12	220	260	Mature	4
85	<i>Eucalyptus saligna</i>	Sydney blue gum	13	180	220	Semi-mature	6
86	<i>Eucalyptus saligna</i>	Sydney blue gum	8	90	100	Young	1
87	<i>Eucalyptus saligna</i>	Sydney blue gum	7	100	120	Young	2
88	<i>Acacia implexa</i>	Hickory wattle	8	170	170	Mature	6
89	<i>Acacia implexa</i>	Hickory wattle	12	100	120	Semi-mature	2
90	<i>Acacia implexa</i>	Hickory wattle	8	88	90	Mature	1
91	<i>Acacia implexa</i>	Hickory wattle	8	80	100	Young	1
92	<i>Acacia implexa</i>	Hickory wattle	11	160	200	Mature	5
93	<i>Acacia mearnsii</i>	Black wattle	8	130	160	Semi-mature	6

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
94	<i>Acacia mearnsii</i>	Black wattle	7	80	100	Semi-mature	2
95	<i>Acacia implexa</i>	Hickory wattle	8	90	110	Semi-mature	2
96	<i>Acacia implexa</i>	Hickory wattle	8	100	130	Semi-mature	2
97	<i>Acacia implexa</i>	Hickory wattle	7	100	120	Semi-mature	2
98	<i>Acacia implexa</i>	Hickory wattle	7	120	150	Semi-mature	3
99	<i>Acacia implexa</i>	Hickory wattle	10	150	180	Mature	8
100	<i>Acacia implexa</i>	Hickory wattle	10	140	170	Mature	5
101	<i>Acacia implexa</i>	Hickory wattle	7	100	120	Semi-mature	2
102	<i>Eucalyptus saligna</i>	Sydney blue gum	12	280	280	Semi-mature	11
103	<i>Eucalyptus saligna</i>	Sydney blue gum	11	190	190	Semi-mature	5
104	<i>Acacia implexa</i>	Hickory wattle	8	100	120	Semi-mature	2
105	<i>Acacia implexa</i>	Hickory wattle	7	80	100	Young	1
106	<i>Acacia implexa</i>	Hickory wattle	7	100	120	Young	2
107	<i>Acacia implexa</i>	Hickory wattle	7	90	110	Semi-mature	1
108	<i>Acacia implexa</i>	Hickory wattle	8	110	130	Semi-mature	2
109	<i>Acacia implexa</i>	Hickory wattle	8	80	100	Semi-mature	1
110	<i>Acacia implexa</i>	Hickory wattle	7	90	120	Young	1
111	<i>Acacia implexa</i>	Hickory wattle	7	90	110	Young	1
112	<i>Eucalyptus saligna</i>	Sydney blue gum	7	130	160	Young	4
113	<i>Eucalyptus saligna</i>	Sydney blue gum	28	830	950	Mature	22
114	<i>Eucalyptus saligna</i>	Sydney blue gum	9	230	260	Semi-mature	3
115	<i>Eucalyptus saligna</i>	Sydney blue gum	25	710	800	Mature	20
116	<i>Eucalyptus saligna</i>	Sydney blue gum	8	160	200	Semi-mature	4
117	<i>Acacia implexa</i>	Hickory wattle	8	180	180	Mature	6
118	<i>Acacia implexa</i>	Hickory wattle	7	80	100	Young	1
119	<i>Eucalyptus saligna</i>	Sydney blue gum	10	170	170	Semi-mature	8
120	<i>Acacia implexa</i>	Hickory wattle	7	90	110	Semi-mature	1
121	<i>Eucalyptus saligna</i>	Sydney blue gum	30	1000	1150	Mature	25
122	<i>Eucalyptus saligna</i>	Sydney blue gum	9	180	200	Semi-mature	4

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
123	<i>Eucalyptus saligna</i>	Sydney blue gum	25	440	190	Mature	14
124	<i>Acacia mearnsii</i>	Black wattle	8	160	160	Mature	6
125	<i>Eucalyptus saligna</i>	Sydney blue gum	8	200	200	Semi-mature	8
126	<i>Eucalyptus saligna</i>	Sydney blue gum	28	470	530	Mature	22
127	<i>Eucalyptus saligna</i>	Sydney blue gum	20	300	350	Mature	10
128	<i>Acacia implexa</i>	Hickory wattle	9	190	230	Mature	6
129	<i>Eucalyptus saligna</i>	Sydney blue gum	28	600	650	Mature	20
130	<i>Acacia implexa</i>	Hickory wattle	7	200	200	Mature	8
131	<i>Acacia implexa</i>	Hickory wattle	7	100	120	Semi-mature	2
132	<i>Eucalyptus saligna</i>	Sydney blue gum	27	560	620	Mature	20
133	<i>Eucalyptus saligna</i>	Sydney blue gum	20	270	270	Semi-mature	8
134	<i>Eucalyptus saligna</i>	Sydney blue gum	25	550	550	Mature	18
135	<i>Eucalyptus saligna</i>	Sydney blue gum	27	700	820	Mature	22
136	<i>Eucalyptus saligna</i>	Sydney blue gum	27	670	750	Mature	18
137	<i>Eucalyptus saligna</i>	Sydney blue gum	25	480	550	Mature	17
138	<i>Eucalyptus saligna</i>	Sydney blue gum	30	800	900	Mature	21
139	<i>Acacia mearnsii</i>	Black wattle	8	160	200	Mature	8
140	<i>Acacia implexa</i>	Hickory wattle	10	140	140	Mature	8
141	<i>Eucalyptus saligna</i>	Sydney blue gum	25	450	490	Mature	12
142	<i>Eucalyptus saligna</i>	Sydney blue gum	18	330	380	Mature	9
143	<i>Eucalyptus saligna</i>	Sydney blue gum	20	440	450	Mature	8
144	<i>Eucalyptus saligna</i>	Sydney blue gum	20	400	480	Mature	10
145	<i>Eucalyptus saligna</i>	Sydney blue gum	21	440	480	Mature	10
146	<i>Eucalyptus saligna</i>	Sydney blue gum	30	880	880	Mature	30
147	<i>Eucalyptus saligna</i>	Sydney blue gum	28	600	680	Mature	14
148	<i>Eucalyptus saligna</i>	Sydney blue gum	30	850	930	Mature	36
149	<i>Eucalyptus saligna</i>	Sydney blue gum	30	1300	1450	Mature	30
150	<i>Eucalyptus saligna</i>	Sydney blue gum	15	560	620	Mature	8
151	<i>Eucalyptus saligna</i>	Sydney blue gum	26	670	730	Mature	25
152	<i>Eucalyptus saligna</i>	Sydney blue gum	20	450	520	Mature	14
153	<i>Eucalyptus saligna</i>	Sydney blue gum	14	270	310	Semi-mature	8
154	<i>Eucalyptus saligna</i>	Sydney blue gum	19	420	460	Mature	10
155	<i>Eucalyptus saligna</i>	Sydney blue gum	30	700	760	Mature	20
156	<i>Eucalyptus saligna</i>	Sydney blue gum	28	710	780	Mature	25
157	<i>Eucalyptus saligna</i>	Sydney blue gum	23	600	670	Mature	16
158	<i>Acacia implexa</i>	Hickory wattle	8	120	140	Semi-mature	2
159	<i>Acacia implexa</i>	Hickory wattle	7	100	110	Semi-mature	2

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
160	<i>Acacia implexa</i>	Hickory wattle	8	100	110	Semi-mature	2
161	<i>Acacia implexa</i>	Hickory wattle	7	120	120	Semi-mature	2
162	<i>Acacia implexa</i>	Hickory wattle	7	120	140	Semi-mature	7
163	<i>Acacia implexa</i>	Hickory wattle	8	90	100	Semi-mature	2
164	<i>Acacia implexa</i>	Hickory wattle	8	90	100	Semi-mature	2
165	<i>Acacia implexa</i>	Hickory wattle	8	100	120	Semi-mature	2
166	<i>Acacia implexa</i>	Hickory wattle	8	140	150	Semi-mature	4
167	<i>Eucalyptus saligna</i>	Sydney blue gum	11	210	210	Semi-mature	7
168	<i>Acacia mearnsii</i>	Black wattle	13	270	300	Mature	10
169	<i>Acacia implexa</i>	Hickory wattle	11	120	120	Semi-mature	5
170	<i>Acacia implexa</i>	Hickory wattle	8	100	100	Semi-mature	1
171	<i>Acacia implexa</i>	Hickory wattle	8	100	110	Semi-mature	2
172	<i>Acacia implexa</i>	Hickory wattle	10	130	140	Semi-mature	2
173	<i>Acacia implexa</i>	Hickory wattle	10	140	150	Semi-mature	3
174	<i>Eucalyptus saligna</i>	Sydney blue gum	9	140	150	Young	4
175	<i>Acacia implexa</i>	Hickory wattle	7	100	110	Mature	1
176	<i>Acacia implexa</i>	Hickory wattle	10	120	130	Semi-mature	2
177	<i>Acacia mearnsii</i>	Black wattle	12	140	160	Mature	10
178	<i>Eucalyptus saligna</i>	Sydney blue gum	25	510	550	Mature	20
179	<i>Acacia implexa</i>	Hickory wattle	10	150	170	Mature	3
180	<i>Acacia implexa</i>	Hickory wattle	9	80	100	Semi-mature	2
181	<i>Eucalyptus saligna</i>	Sydney blue gum	25	520	520	Mature	20
182	<i>Acacia implexa</i>	Hickory wattle	12	130	140	Semi-mature	3
183	<i>Eucalyptus saligna</i>	Sydney blue gum	25	600	620	Mature	16
184	<i>Acacia implexa</i>	Hickory wattle	12	130	150	Semi-mature	3
185	<i>Acacia implexa</i>	Hickory wattle	11	110	120	Semi-mature	3
186	<i>Eucalyptus saligna</i>	Sydney blue gum	13	200	250	Semi-mature	8
187	<i>Eucalyptus saligna</i>	Sydney blue gum	7	100	130	Young	3

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
188	<i>Acacia mearnsii</i>	Black wattle	9	110	140	Semi-mature	7
189	<i>Acacia implexa</i>	Hickory wattle	9	150	170	Semi-mature	8
190	<i>Eucalyptus saligna</i>	Sydney blue gum	28	550	600	Mature	20
191	<i>Eucalyptus saligna</i>	Sydney blue gum	22	400	450	Mature	15
192	<i>Eucalyptus saligna</i>	Sydney blue gum	25	360	400	Mature	28
193	<i>Eucalyptus saligna</i>	Sydney blue gum	25	450	500	Mature	20
194	<i>Eucalyptus saligna</i>	Sydney blue gum	18	200	250	Semi-mature	10
195	<i>Eucalyptus saligna</i>	Sydney blue gum	17	220	220	Semi-mature	10
196	<i>Eucalyptus saligna</i>	Sydney blue gum	15	230	260	Semi-mature	8
197	<i>Eucalyptus saligna</i>	Sydney blue gum	30	960	1050	Mature	30
198	<i>Eucalyptus saligna</i>	Sydney blue gum	13	220	220	Semi-mature	14
199	<i>Eucalyptus saligna</i>	Sydney blue gum	17	360	360	Mature	17
201	<i>Acacia mearnsii</i>	Black Wattle	6	0.1	0.12	Semi-mature	3
202	<i>Acacia mearnsii</i>	Black Wattle	6	0.09	0.1	Semi-mature	2
203	<i>Pittosporum undulatum</i>	Native Daphne	10	0.14	0.16	Mature	5
204	<i>Pittosporum undulatum</i>	Native Daphne	10	0.17	0.19	Mature	5
205	<i>Pittosporum undulatum</i>	Native Daphne	10	0.13	0.17	Mature	4
206	<i>Pittosporum undulatum</i>	Native Daphne	10	0.1	0.15	Mature	4
207	<i>Pittosporum undulatum</i>	Native Daphne	9	0.11	0.13	Mature	4
208	<i>Pittosporum undulatum</i>	Native Daphne	7	0.09	0.1	Semi-mature	2
209	<i>Pittosporum undulatum</i>	Native Daphne	9	0.13	0.14	Mature	5
210	<i>Pittosporum undulatum</i>	Native Daphne	12	0.15	0.16	Mature	7
211	<i>Acacia mearnsii</i>	Black Wattle	7	0.12	0.16	Mature	4
212	<i>Acacia implexa</i>	Hickory Wattle	6	0.07	0.08	Young	2
213	<i>Acacia implexa</i>	Hickory Wattle	6	0.08	0.1	Young	2
214	<i>Acacia implexa</i>	Hickory Wattle	7	0.08	0.1	Young	2
215	<i>Acacia implexa</i>	Hickory Wattle	6	0.07	0.09	Young	1
216	<i>Acacia mearnsii</i>	Black Wattle	8	0.08	0.11	Young	4
217	<i>Pittosporum undulatum</i>	Native Daphne	14	0.27	0.27	Mature	10
218	<i>Pittosporum undulatum</i>	Native Daphne	15	0.29	0.29	Mature	10
219	<i>Acacia implexa</i>	Hickory Wattle	8	0.15	0.17	Mature	4
220	<i>Pittosporum undulatum</i>	Native Daphne	12	0.21	0.21	Mature	10
221	<i>Pittosporum undulatum</i>	Native Daphne	12	0.19	0.19	Mature	6
222	<i>Pittosporum undulatum</i>	Native Daphne	12	0.18	0.18	Mature	12
223	<i>Pittosporum undulatum</i>	Native Daphne	10	0.13	0.18	Mature	8

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
224	<i>Pittosporum undulatum</i>	Native Daphne	11	0.13	0.17	Mature	5
225	<i>Acacia implexa</i>	Hickory Wattle	15	0.31	0.4	Mature	9
226	<i>Pittosporum undulatum</i>	Native Daphne	15	0.26	0.3	Mature	12
227	<i>Pittosporum undulatum</i>	Native Daphne	12	0.26	0.29	Mature	8
228	<i>Pittosporum undulatum</i>	Native Daphne	13	0.27	0.31	Mature	7
229	<i>Pittosporum undulatum</i>	Native Daphne	10	0.15	0.18	Semi-mature	4
230	<i>Pittosporum undulatum</i>	Native Daphne	14	0.19	0.23	Mature	7
231	<i>Pittosporum undulatum</i>	Native Daphne	8	0.19	0.24	Mature	3
232	<i>Erythrina x sykesii</i>	Coral Tree	20	0.88	0.95	Mature	25
233	<i>Jacaranda mimosifolia</i>	Jacaranda	10	0.39	0.39	Mature	12
234	<i>Erythrina x sykesii</i>	Coral Tree	20	0.9	1	Mature	15
235	<i>Erythrina x sykesii</i>	Coral Tree	15	0.52	0.6	Mature	10
236	<i>Pittosporum undulatum</i>	Native Daphne	12	0.19	0.21	Semi-mature	6
237	<i>Erythrina x sykesii</i>	Coral Tree	17	0.89	0.89	Mature	25
238	<i>Pittosporum undulatum</i>	Native Daphne	12	0.16	0.16	Mature	5
239	<i>Erythrina x sykesii</i>	Coral Tree	18	0.85	0.85	Mature	20
240	<i>Erythrina x sykesii</i>	Coral Tree	14	0.43	0.43	Mature	8
241	<i>Erythrina x sykesii</i>	Coral Tree	18	1.22	1.4	Mature	27
242	<i>Pittosporum undulatum</i>	Native Daphne	16	0.36	0.4	Mature	7
243	<i>Pittosporum undulatum</i>	Native Daphne	11	0.34	0.34	Mature	10
244	<i>Jacaranda mimosifolia</i>	Jacaranda	15	0.77	0.77	Mature	15
245	<i>Pittosporum undulatum</i>	Native Daphne	12	0.36	0.32	Mature	8
246	<i>Erythrina x sykesii</i>	Coral Tree	12	0.31	0.4	Mature	10
247	<i>Erythrina x sykesii</i>	Coral Tree	14	0.24	0.24	Mature	6
248	<i>Erythrina x sykesii</i>	Coral Tree	13	0.35	0.38	Mature	7
249	<i>Erythrina x sykesii</i>	Coral Tree	14	0.34	0.34	Mature	8
250	<i>Erythrina x sykesii</i>	Coral Tree	13	0.35	0.4	Mature	8
251	<i>Erythrina x sykesii</i>	Coral Tree	18	0.94	0.94	Mature	10
253	<i>Pittosporum undulatum</i>	Native Daphne	8	0.15	0.15	Semi-mature	3
253	<i>Erythrina x sykesii</i>	Coral Tree	11	0.42	0.42	Mature	8
254	<i>Pittosporum undulatum</i>	Native Daphne	13	0.21	0.24	Mature	5
255	<i>Pittosporum undulatum</i>	Native Daphne	10	0.14	0.16	Mature	4
256	<i>Pittosporum undulatum</i>	Native Daphne	10	0.26	0.3	Mature	3
257	<i>Pittosporum undulatum</i>	Native Daphne	12	0.23	0.23	Semi-mature	3
258	<i>Pittosporum undulatum</i>	Native Daphne	12	0.27	0.31	Mature	4
259	<i>Pittosporum undulatum</i>	Native Daphne	13	0.24	0.3	Mature	5
260	<i>Pittosporum undulatum</i>	Native Daphne	13	0.14	0.18	Semi-mature	3

Tree No:	Species	Common Name	Height (m)	DBH (mm)	DAB (mm)	Age	Canopy Spread (m)
261	<i>Pittosporum undulatum</i>	Native Daphne	12	0.15	0.19	Semi-mature	5
262	<i>Acacia mearnsii</i>	Black Wattle	16	0.26	0.31	Over-mature	6
263	<i>Erythrina x sykesii</i>	Coral Tree	18	0.85	0.85	Mature	10
264	<i>Erythrina x sykesii</i>	Coral Tree	18	0.78	0.78	Mature	12

3.2 Tree Observations

The structure of the surveyed trees ranged from poor to excellent, with the majority displaying fair to good structure. A similar result was found for tree health, with trees typically being of good health, while trees 22, 224, and 241 were identified to be of poor health. A number of surveyed trees were Sydney blue gums (*Eucalyptus saligna*), a key indicator species of the EEC. The remainder were identified as locally indigenous native species or introduced species (Table 3).

Table 3: Tree observations.

Tree No:	Structure	Health	Comments	Landscape Significance
1	Fair	Excellent	Previous failure	Key indicator species of EEC
2	Fair	Good	Crowded	Key indicator species of EEC
3	Poor	Good	Tree on lean	Locally indigenous species
4	Good	Good		Key indicator species of EEC
5	Good	Good	Co-dominant leaders	Key indicator species of EEC
6	Good	Good	Crowded	Key indicator species of EEC
7	Good	Good		Locally indigenous species
8	Good	Fair	Abundant dead wood, dieback	Locally indigenous species
9	Fair	Fair	Twisted trunk/form	Locally indigenous species
10	Good	Good		Locally indigenous species
11	Fair	Good	Decay, trunk wounds	Key indicator species of EEC
12	Good	Good		Locally indigenous species
13	Fair	Good	Weed, co-dominant leaders	Introduced species
14	Poor	Good	Crowded, twisted trunk/form	Introduced species
15	Fair	Good	Co-dominant leaders, crowded	Introduced species
16	Fair	Good	Co-dominant leaders, crowded, tree on lean	Introduced species
17	Good	Good		Key indicator species of EEC
18	Poor	Good	Cracking, decay, hollows, recent failures, unbalanced canopy	Key indicator species of EEC
19	Good	Good		Locally indigenous species
20	Fair	Good	Co-dominant leaders	Key indicator species of EEC
21	Fair	Good	Crowded	Key indicator species of EEC
22	Poor	Poor	Decay, hollows, tree on lean, trunk wounds, abundant dead wood, defoliation, dieback, low vigour	Key indicator species of EEC
23	Fair	Good	Twisted trunk/form	Key indicator species of EEC
24	Fair	Good	Crowded, tree on lean	Locally indigenous species

Tree No:	Structure	Health	Comments	Landscape Significance
25	Fair	Good	Co-dominant leaders, tree on lean	Locally indigenous species
26	Fair	Good	Tree on lean	Locally indigenous species
27	Excellent	Good		Key indicator species of EEC
28	Good	Good		Locally indigenous species
29	Good	Good		Locally indigenous species
30	Good	Good		Locally indigenous species
31	Good	Good		Locally indigenous species
32	Fair	Good	Co-dominant leaders, decay, trunk wounds	Introduced species
33	Fair	Good	Crowded, twisted trunk/form	Introduced species
34	Good	Good		Key indicator species of EEC
35	Good	Good		Key indicator species of EEC
36	Fair	Good	Crowded	Key indicator species of EEC
37	Good	Good		Key indicator species of EEC
38	Good	Good		Key indicator species of EEC
39	Good	Good		Key indicator species of EEC
40	Fair	Good	Co-dominant leaders	Introduced species
41	Good	Good		Locally indigenous species
42	Good	Good	Co-dominant leaders	Locally indigenous species
43	Good	Good		Locally indigenous species
44	Fair	Good	Tree on lean	Locally indigenous species
45	Good	Good		Locally indigenous species
46	Fair	Good	Co-dominant leaders	Introduced species
47	Fair	Good	Co-dominant leaders	Key indicator species of EEC
48	Good	Good		Key indicator species of EEC
49	Good	Good		Key indicator species of EEC
50	Good	Good		Key indicator species of EEC
51	Poor	Fair	Co-dominant leaders, cracking, decay, trunk wounds	Introduced species
52	Good	Good		Locally indigenous species
53	Good	Good		Key indicator species of EEC
54	Good	Good	Co-dominant leaders	Locally indigenous species
55	Fair	Good		Locally indigenous species
56	Good	Good	Tree on lean	Locally indigenous species
57	Fair	Good		Locally indigenous species
58	Good	Good	Recent failures	Locally indigenous species
59	Fair	Good	Remnant tree, trunk wounds	Key indicator species of EEC
60	Fair	Good	Co-dominant leaders	Locally indigenous species
61	Fair	Good		Locally indigenous species
62	Good	Good	Co-dominant leaders	Locally indigenous species
63	Fair	Good		Locally indigenous species
64	Good	Good	Twisted trunk/form	Locally indigenous species
65	Fair	Good		Locally indigenous species
66	Good	Good		Locally indigenous species
67	Good	Good		Locally indigenous species
68	Good	Good		Locally indigenous species
69	Good	Good		Locally indigenous species
70	Good	Good	Trunk wounds, twisted trunk/form	Locally indigenous species
71	Fair	Good		Locally indigenous species
72	Good	Good	Tree on lean, trunk wounds	Locally indigenous species

Tree No:	Structure	Health	Comments	Landscape Significance
73	Fair	Good		Locally indigenous species
74	Good	Good		Locally indigenous species
75	Good	Good	Crowded	Locally indigenous species
76	Good	Good	Canopy, main leader previously failed, decay, twisted trunk/form	Locally indigenous species
77	Fair	Good		Key indicator species of EEC
78	Excellent	Fair	Trunk wounds, fungal bodies on tree	Key indicator species of EEC
79	Fair	Fair	Co-dominant leaders, twisted trunk/form, vines	Key indicator species of EEC
80	Fair	Good		Key indicator species of EEC
81	Good	Good	Co-dominant leaders	Key indicator species of EEC
82	Fair	Good		Key indicator species of EEC
83	Good	Good	Tree on lean	Locally indigenous species
84	Fair	Good	Bark damage at buttress	Locally indigenous species
85	Fair	Fair	Trunk wounds, twisted trunk/form	Key indicator species of EEC
86	Poor	Good	Tree likely to die, tree on lean, twisted trunk/form	Key indicator species of EEC
87	Fair	Good	Co-dominant leaders, crowded, twisted trunk/form	Key indicator species of EEC
88	Fair	Fair	Crowded, tree on lean, twisted trunk/form, low vigour	Locally indigenous species
89	Fair	Good		Locally indigenous species
90	Good	Good		Locally indigenous species
91	Good	Fair	Tree on lean	Locally indigenous species
92	Poor	Good	Tree on 45° lean	Locally indigenous species
93	Good	Good	Ground gradient change, tree on lean	Locally indigenous species
94	Fair	Good		Locally indigenous species
95	Good	Good	Buttress on steep slope, ground gradient change	Locally indigenous species
96	Fair	Good		Locally indigenous species
97	Good	Good	Trunk wounds	Locally indigenous species
98	Fair	Good		Locally indigenous species
99	Good	Good		Locally indigenous species
100	Good	Good		Locally indigenous species
101	Good	Good	Co-dominant leaders, trunk wounds	Locally indigenous species
102	Fair	Good	Trunk wounds	Key indicator species of EEC
103	Poor	Good	Tree severely damaged, will likely die	Key indicator species of EEC
104	Good	Good	crowded	Locally indigenous species
105	Good	Good		Locally indigenous species
106	Good	Good		Locally indigenous species
107	Good	Good		Locally indigenous species
108	Good	Good		Locally indigenous species
109	Good	Good		Locally indigenous species
110	Good	Good	Tree on lean	Locally indigenous species
111	Fair	Good	Trunk wounds	Locally indigenous species
112	Fair	Fair	Lopped / canopy absent, low vigour	Key indicator species of EEC
113	Good	Good		Key indicator species of EEC

Tree No:	Structure	Health	Comments	Landscape Significance	
114	Poor	Fair	Trunk wounds, fungal bodies on tree	Key indicator species of EEC	
115	Fair	Fair	Crowded, twisted trunk/form	Key indicator species of EEC	
116	Fair	Good	Co-dominant leaders, crowded, tree on lean, low vigour	Key indicator species of EEC	
117	Fair	Good		Locally indigenous species	
118	Good	Good	Cracking, trunk wounds	Locally indigenous species	
119	Fair	Good	Crowded	Key indicator species of EEC	
120	Good	Good		Locally indigenous species	
121	Good	Good	Remnant trees, crowded, tree on lean, trunk wounds	Key indicator species of EEC	
122	Poor	Good	Tree has been damaged back to heartwood, will likely die	Key indicator species of EEC	
123	Good	Good	Trunk wounds	Key indicator species of EEC	
124	Fair	Good	Co-dominant leaders	Locally indigenous species	
125	Fair	Good		Key indicator species of EEC	
126	Good	Good		Key indicator species of EEC	
127	Good	Good	Crowded, twisted trunk/form	Key indicator species of EEC	
128	Fair	Good		Locally indigenous species	
129	Good	Good	Co-dominant leaders, crowded, twisted trunk/form	Key indicator species of EEC	
130	Fair	Good	Crowded, tree on lean	Locally indigenous species	
131	Fair	Good		Locally indigenous species	
132	Good	Good		Key indicator species of EEC	
133	Good	Good	Co-dominant leaders, trunk wounds	Key indicator species of EEC	
134	Fair	Good		Key indicator species of EEC	
135	Good	Good	Recent failures	Key indicator species of EEC	
136	Fair	Good	Trunk wounds	Key indicator species of EEC	
137	Good	Good	Dieback, low vigour	Key indicator species of EEC	
138	Good	Fair		Key indicator species of EEC	
139	Good	Good	Co-dominant leaders	Locally indigenous species	
140	Fair	Good		Locally indigenous species	
141	Good	Good	Unbalanced canopy	Key indicator species of EEC	
142	Fair	Good	Crowded, twisted trunk/form	Key indicator species of EEC	
143	Good	Fair	Abundant dead wood, dieback	Key indicator species of EEC	
144	Good	Good		Key indicator species of EEC	
145	Good	Good	Unbalanced canopy	Key indicator species of EEC	
146	Fair	Fair	Co-dominant leaders, twisted trunk/form, unbalanced canopy, abundant dead wood, dieback	Key indicator species of EEC	
147	Fair	Fair	Decay, recent failures, trunk wounds, abundant dead wood, dieback	Key indicator species of EEC	
148	Excellent	Good		Key indicator species of EEC	
149	Fair	Good	Recent failures	Key indicator species of EEC	
150	Poor	Fair	Recent failures, tree has previously filed at approximately 10 m and canopy is absent and limited to epicormic regrowth, low vigour	Key indicator species of EEC	Key indicator spe
151	Good	Good		Key indicator species of EEC	

Tree No:	Structure	Health	Comments	Landscape Significance	
152	Fair	Good	Remnant tree, crowded, twisted trunk/form	Key indicator species of EEC	
153	Good	Good		Key indicator species of EEC	Key indicator spe
154	Excellent	Good		Key indicator species of EEC	Key indicator spe
155	Poor	Good	Remnant tree, decay, trunk wounds	Key indicator species of EEC	
156	Fair	Good	Decay, trunk wounds	Key indicator species of EEC	
157	Good	Good		Key indicator species of EEC	
158	Good	Good		Locally indigenous species	
159	Fair	Good	Trunk wounds	Locally indigenous species	
160	Fair	Good	Trunk wounds	Locally indigenous species	
161	Good	Good		Locally indigenous species	
162	Fair	Good	Crowded, twisted trunk/form	Locally indigenous species	
163	Good	Good		Locally indigenous species	
164	Good	Good		Locally indigenous species	
165	Good	Good		Locally indigenous species	
166	Good	Good		Locally indigenous species	
167	Good	Good		Key indicator species of EEC	
168	Good	Fair		Locally indigenous species	
169	Fair	Good	Co-dominant leaders	Locally indigenous species	
170	Good	Good		Locally indigenous species	
171	Good	Good		Locally indigenous species	
172	Good	Good		Locally indigenous species	
173	Fair	Good	Trunk wounds	Locally indigenous species	
174	Poor	Good	Recent damage during clearing of under scrub, trunk wounds	Key indicator species of EEC	
175	Good	Good		Locally indigenous species	
176	Poor	Good	Trunk wounds	Locally indigenous species	
177	Poor	Good	Trunk wounds	Locally indigenous species	
178	Good	Good		Key indicator species of EEC	
179	Good	Good	Tree has been severely damaged and will likely file or die in the near future	Locally indigenous species	
180	Good	Good		Locally indigenous species	
181	Good	Good		Key indicator species of EEC	
182	Good	Good	Tree is likely to die from wound	Locally indigenous species	
183	Fair	Good	Decay, trunk wounds	Key indicator species of EEC	
184	Good	Good		Locally indigenous species	
185	Good	Good		Locally indigenous species	
186	Good	Good		Key indicator species of EEC	
187	Fair	Good	Buttress on steep slope, ground gradient change	Key indicator species of EEC	
188	Good	Good		Locally indigenous species	
189	Good	Good		Locally indigenous species	
190	Good	Good		Key indicator species of EEC	
191	Good	Good		Key indicator species of EEC	
192	Good	Good		Key indicator species of EEC	
193	Good	Good		Key indicator species of EEC	
194	Good	Good		Key indicator species of EEC	
195	Fair	Good	Co-dominant leaders	Key indicator species of EEC	
196	Good	Good		Key indicator species of EEC	

Tree No:	Structure	Health	Comments	Landscape Significance
197	Fair	Good	Co-dominant leaders, trunk wounds	Key indicator species of EEC
198	Fair	Good	Co-dominant leaders	Key indicator species of EEC
199	Fair	Good	Co-dominant leaders	Key indicator species of EEC
201	Poor	Good	Tree on lean	Locally indigenous species
202	Poor	Good	Tree on lean	Locally indigenous species
203	Good	Good		Locally indigenous species
204	Good	Good		Locally indigenous species
205	Fair	Good	Tree on lean, twisted trunk/form	Locally indigenous species
206	Good	Good		Locally indigenous species
207	Good	Good		Locally indigenous species
208	Fair	Good	Tree on lean, twisted trunk/form	Locally indigenous species
209	Good	Good		Locally indigenous species
210	Good	Good		Locally indigenous species
211	Fair	Good	Tree on lean, twisted trunk/form	Locally indigenous species
212	Good	Good		Locally indigenous species
213	Good	Good		Locally indigenous species
214	Good	Good		Locally indigenous species
215	Good	Good		Locally indigenous species
216	Good	Good		Locally indigenous species
217	Fair	Good	Co-dominant leaders	Locally indigenous species
218	Good	Good		Locally indigenous species
219	Poor	Good	Tree on lean	Locally indigenous species
220	Fair	Good	Co-dominant leaders, tree on lean	Locally indigenous species
221	Fair	Good	Co-dominant leaders, trunk wounds	Locally indigenous species
222	Fair	Good	Co-dominant leaders, twisted trunk/form	Locally indigenous species
223	Fair	Good	Root disturbance twisted trunk/form, unbalanced canopy	Locally indigenous species
224	Fair	Poor	Decay, root disturbance, almost dead, defoliation, dieback	Locally indigenous species
225	Fair	Good	Twisted trunk/form	Locally indigenous species
226	Fair	Good	Twisted trunk/form	Locally indigenous species
227	Poor	Good	Tree on lean, twisted trunk/form	Locally indigenous species
228	Poor	Good	Partially failed, tree on lean	Locally indigenous species
229	Fair	Good	Crowded, tree on lean, twisted trunk/form	Locally indigenous species
230	Poor	Good	Tree on lean, twisted trunk/form	Locally indigenous species
231	Poor	Good	Tree on lean, twisted trunk/form	Locally indigenous species
232	Fair	Good	Co-dominant leaders, decay, included bark junction	Introduced species
233	Poor	Fair	Co-dominant leaders, decay, tree on lean	Introduced species
234	Good	Good		Introduced species
235	Poor	Fair	Failed, supported by adjacent trees, hazardous and needs to be removed, recent failures, root lifting, tree on lean, epicormic growth	Introduced species
236	Poor	Good	Tree on lean, twisted trunk/form, epicormic growth	Locally indigenous species

Tree No:	Structure	Health	Comments	Landscape Significance
237	Poor	Good	Co-dominant leaders, crowded, twisted trunk/form	Introduced species
238	Poor	Good	Cracking, tree on lean, trunk wounds, twisted trunk/form, epicormic growth	Locally indigenous species
239	Poor	Good	Close to failing, co-dominant leaders, cracking, crowded, root disturbance, tree on lean, epicormic growth	Introduced species
240	Poor	Fair	Co-dominant leaders, crowded, supporting other fallen tree, tree on lean, twisted trunk/form	Introduced species
241	Poor	Poor	Cracking, hollows, recent failures, tree on lean	Introduced species
242	Poor	Good	Crowded, tree on lean, twisted trunk/form	Locally indigenous species
243	Poor	Good	Co-dominant leaders, cracking, tree on lean, twisted trunk/form, epicormic growth, hardwood attack by boring insects	Locally indigenous species
244	Fair	Good	Tree on lean	Introduced species
245	Poor	Fair	Co-dominant leaders, cracking, crowded, tree on lean, twisted trunk/form	Locally indigenous species
246	Good	Good	Tree on lean	Introduced species
247	Poor	Good	Cracking, hollows, tree on lean, twisted trunk/form	Introduced species
248	Fair	Good	Cracking	Introduced species
249	Fair	Good	Co-dominant leaders, tree on lean, twisted trunk/form	Introduced species
250	Fair	Good	Tree on lean	Introduced species
251	Poor	Good	Co-dominant leaders, cracking, tree on lean, trunk wounds, twisted trunk/form	Introduced species
253	Poor	Good	Tree on lean	Locally indigenous species
253	Fair	Good	Co-dominant leaders	Introduced species
254	Poor	Good	Recent failures, root lifting, tree on lean	Locally indigenous species
255	Fair	Good	Tree on lean	Locally indigenous species
256	Poor	Good	Tree on lean, twisted trunk/form, unbalanced canopy	Locally indigenous species
257	Fair	Good	Co-dominant leaders, twisted trunk/form	Locally indigenous species
258	Fair	Good	Tree on lean	Locally indigenous species
259	Fair	Good	Twisted trunk/form	Locally indigenous species
260	Fair	Good	Tree on lean, twisted trunk/form	Locally indigenous species
261	Fair	Good	Tree on lean, twisted trunk/form	Locally indigenous species
262	Good	Poor	Abundant dead wood, defoliation	Locally indigenous species
263	Fair	Good	Co-dominant leaders, recent failures, trunk wounds	Introduced species

Tree No:	Structure	Health	Comments	Landscape Significance
264	Poor	Good	Co-dominant leaders, decay, included bark junction, recent failures, trunk wounds	Introduced species

3.3 Tree Calculations

The SULE method was applied to provide guidance on Safe Useful Life Expectancy of the surveyed trees that may potentially be impacted by the proposal. The majority of trees are considered to have a medium to long SULE, however it was also found that based on the guidance of SULE, a small number of trees should be removed (Table 4).

Based on the ELE and the Landscape Significance Rating (LSR), the majority of trees have a high or moderate retention value, while several trees had a low retention value (Table 4, Figure 2).

Table 4: Tree calculations including Estimated Life Expectancy (ELE), Land Landscape Significance Rating (LSR), Tree Protection Zone (TPZ), Structural Root Zone (SRZ) location in relation to Proposal Footprint (FP) and present Encroachment into the TPZ (EC %).

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
1	Medium	176.7	15-40 yrs	Significant	High	12	3.4	Yes	NA
2	Medium	50.3	15-40 yrs	Significant	High	4.9	2.3	Yes	NA
3	Short	12.6	5-15 yrs	Moderate	Low	2.2	1.6	No	0
4	Medium	78.5	>40yrs	Significant	High	5.2	2.3	Yes	NA
5	Medium	314.2	>40yrs	Significant	High	13.1	3.5	No	47.3
6	Medium	38.5	>40yrs	Significant	High	7.4	2.8	No	7.1
7	Short	12.6	5-15 yrs	Moderate	Low	2	1.6	No	0
8	Short	19.6	5-15 yrs	Moderate	Low	3	1.9	No	0
9	Medium	7.1	15-40 yrs	Moderate	Moderate	2.2	1.8	No	0
10	Medium	63.6	15-40 yrs	Moderate	Moderate	2.2	1.7	No	0
11	Medium	176.7	>40yrs	Significant	High	10.3	3.4	No	0
12	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.6	No	0
13	Medium	314.2	15-40 yrs	Very low	Low	7.9	2.8	Yes	NA
14	Young or Small Tree	19.6	15-40 yrs	Very low	Low	2	1.5	Yes	NA
15	Medium	19.6	15-40 yrs	Very low	Low	2	1.5	Yes	NA
16	Medium	19.6	15-40 yrs	Very low	Low	2.6	1.8	Yes	NA
17	Medium	254.5	>40yrs	Significant	High	8.4	3	No	20.5
18	Short	706.9	15-40 yrs	Significant	High	15.2	3.7	No	42.5
19	Medium	7.1	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
20	Medium	28.3	>40yrs	Significant	High	3	1.8	Yes	NA
21	Medium	19.6	>40yrs	Significant	High	3.5	2.1	Yes	NA

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
22	Remove	28.3	Dead or Hazardous	Significant	Low	6.5	2.6	Yes	NA
23	Medium	113.1	>40yrs	Significant	High	8.3	3	No	36.4
24	Medium	7.1	15-40 yrs	Moderate	Moderate	3.1	2	No	21.9
25	Medium	7.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
26	Short	7.1	15-40 yrs	Very low	Low	2	1.7	Yes	NA
27	Long	113.1	>40yrs	Significant	High	6	2.6	No	0
28	Medium	19.6	15-40 yrs	Moderate	Moderate	2.3	1.7	Yes	NA
29	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
30	Medium	12.6	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
31	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
32	Remove	176.7	15-40 yrs	Very low	Low	5.5	2.4	No	0
33	Medium	78.5	15-40 yrs	Very low	Low	2.9	2	No	0
34	Long	113.1	>40yrs	Significant	High	9	3.1	Yes	NA
35	Long	314.2	>40yrs	Significant	High	8.4	3	Yes	NA
36	Medium	19.6	>40yrs	Significant	High	2	1.6	Yes	NA
37	Long	78.5	>40yrs	Significant	High	8.4	3	Yes	NA
38	Medium	113.1	>40yrs	Significant	High	8	2.9	No	0
39	Medium	176.7	>40yrs	Significant	High	9	3.1	No	0
40	Medium	314.2	>40yrs	Very low	Low	8.2	2.2	Yes	NA
41	Long	283.5	>40yrs	High	High	10.1	3.1	Yes	NA
42	Medium	113.1	>40yrs	High	High	8.5	2.9	Yes	NA
43	Young or Small Tree	12.6	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
44	Medium	28.3	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
45	Young or Small Tree	28.3	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
46	Medium	314.2	15-40 yrs	Very low	Low	11.8	3.3	Yes	NA
47	Medium	28.3	>40yrs	Significant	High	2.5	1.7	Yes	NA
48	Young or Small Tree	19.6	>40yrs	Significant	High	2	1.5	Yes	NA
49	Long	314.2	>40yrs	Significant	High	7.2	3	Yes	NA
50	Long	201.1	>40yrs	Significant	High	8.4	3	Yes	NA
51	Short	113.1	15-40 yrs	Very low	Low	11.9	3.3	Yes	NA
52	Young or Small Tree	0.8	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
53	Young or Small Tree	0.8	>40yrs	Significant	High	2	1.5	Yes	NA
54	Young or Small Tree	0.8	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
55	Young or Small Tree	3.1	>40yrs	Moderate	Moderate	2	1.5	Yes	NA

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
56	Young or Small Tree	3.1	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
57	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
58	Young or Small Tree	7.1	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
59	Medium	314.2	15-40 yrs	Significant	High	14.4	3.7	Yes	NA
60	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
61	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
62	Young or Small Tree	3.1	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
63	Young or Small Tree	12.6	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
64	Young or Small Tree	3.1	>40yrs	Moderate	Moderate	2	1.5	Yes	NA
65	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
66	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
67	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
68	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
69	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
70	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
71	Young or Small Tree	3.1	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
72	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
73	Young or Small Tree	3.1	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
74	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
75	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
76	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
77	Medium	176.7	15-40 yrs	Significant	Moderate	7	2.8	Yes	NA
78	Young or Small Tree	7.1	>40yrs	Significant	High	2	1.5	Yes	NA
79	Medium	132.7	15-40 yrs	Significant	High	6.7	2.7	Yes	NA
80	Medium	201.1	15-40 yrs	Significant	High	8.9	2.9	Yes	NA
81	Young or Small Tree	3.1	>40yrs	Significant	High	2	1.5	Yes	NA

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
82	Medium	95	15-40 yrs	Significant	High	5.5	2.4	No	43.4
83	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
84	Medium	12.6	15-40 yrs	Moderate	Moderate	2.6	1.9	Yes	NA
85	Medium	28.3	15-40 yrs	Significant	High	2.2	1.8	No	18.4
86	Young or Small Tree	0.8	<5 yrs	Significant	Moderate	2	1.5	No	0
87	Young or Small Tree	3.1	15-40 yrs	Significant	High	2	1.5	Yes	NA
88	Medium	28.3	15-40 yrs	Moderate	Moderate	2	1.6	No	24.4
89	Young or Small Tree	3.1	15-40 yrs	Significant	High	2	1.5	Yes	NA
90	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
91	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
92	Remove	19.6	<5 yrs	Moderate	Very low	2	1.7	Yes	NA
93	Young or Small Tree	28.3	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
94	Young or Small Tree	3.1	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
95	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
96	Young or Small Tree	3.1	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
97	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	No	11.1
98	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	2	1.5	No	0
99	Medium	50.3	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
100	Young or Small Tree	19.6	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
101	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
102	Medium	95	15-40 yrs	Significant	High	3.4	1.9	Yes	NA
103	Remove	19.6	<5 yrs	Significant	Moderate	2.3	1.6	Yes	NA
104	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
105	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
106	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
107	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
108	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
109	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA

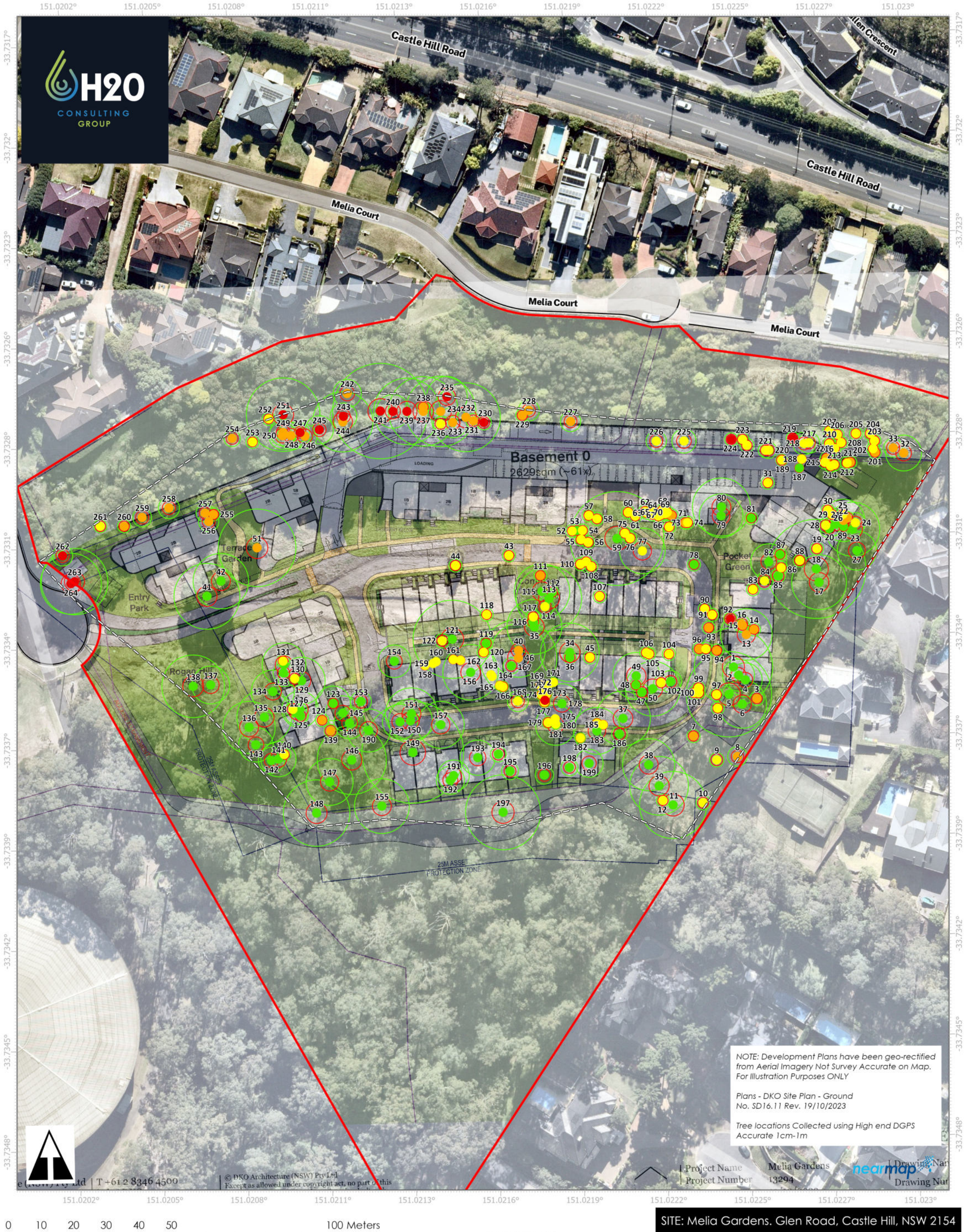
Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
110	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
111	Young or Small Tree	0.8	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
112	Young or Small Tree	12.6	15-40 yrs	Significant	High	2	1.5	Yes	NA
113	Medium	380.1	>40yrs	Significant	High	10	3.2	Yes	NA
114	Remove	7.1	<5 yrs	Significant	Moderate	2.8	1.9	Yes	NA
115	Medium	314.2	15-40 yrs	Significant	High	8.5	3	Yes	NA
116	Medium	12.6	15-40 yrs	Significant	High	2	1.7	Yes	NA
117	Medium	28.3	15-40 yrs	Moderate	Moderate	2.2	1.6	Yes	NA
118	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
119	Medium	50.3	15-40 yrs	Significant	High	2	1.6	Yes	NA
120	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
121	Long	490.9	>40yrs	Significant	High	12	3.5	Yes	NA
122	Remove	12.6	<5 yrs	Significant	Moderate	2.2	1.7	Yes	NA
123	Long	153.9	>40yrs	Significant	High	5.3	1.6	Yes	NA
124	Short	28.3	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
125	Young or Small Tree	50.3	15-40 yrs	Significant	High	2.4	1.7	Yes	NA
126	Long	380.1	>40yrs	Significant	High	5.6	2.5	Yes	NA
127	Long	78.5	>40yrs	Significant	High	3.6	2.1	Yes	NA
128	Medium	28.3	15-40 yrs	Moderate	Moderate	2.3	1.8	Yes	NA
129	Long	314.2	>40yrs	Significant	High	7.2	2.8	Yes	NA
130	Medium	50.3	15-40 yrs	Moderate	Moderate	2.4	1.7	Yes	NA
131	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
132	Long	314.2	>40yrs	Significant	High	6.7	2.7	Yes	NA
133	Long	50.3	>40yrs	Significant	High	3.2	1.9	Yes	NA
134	Medium	254.5	>40yrs	Significant	High	6.6	2.6	Yes	NA
135	Long	380.1	>40yrs	Significant	High	8.4	3	No	23
136	Medium	254.5	>40yrs	Significant	High	8	2.9	No	0.6
137	Long	227	>40yrs	Significant	High	5.8	2.6	No	0
138	Long	346.4	>40yrs	Significant	High	9.6	3.2	No	0
139	Short	50.3	5-15 yrs	Moderate	Low	2	1.7	Yes	NA
140	Young or Small Tree	50.3	15-40 yrs	Moderate	Moderate	2	1.5	No	0
141	Long	113.1	>40yrs	Significant	High	5.4	2.5	No	1.4
142	Medium	63.6	>40yrs	Significant	High	4	2.2	No	0
143	Medium	50.3	>40yrs	Significant	High	5.3	2.4	No	0
144	Long	78.5	>40yrs	Significant	High	4.8	2.4	Yes	NA
145	Long	78.5	>40yrs	Significant	High	5.3	2.4	Yes	NA

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
146	Medium	706.9	15-40 yrs	Significant	High	10.6	3.1	No	8.7
147	Medium	153.9	>40yrs	Significant	High	7.2	2.8	No	0
148	Long	1017.9	>40yrs	Significant	High	10.2	3.2	No	0
149	Medium	706.9	15-40 yrs	Significant	High	15.6	3.9	Yes	NA
150	Short	50.3	5-15 yrs	Significant	High	6.7	2.7	Yes	NA
151	Long	490.9	>40yrs	Significant	High	8	2.9	Yes	NA
152	Medium	153.9	15-40 yrs	Significant	High	5.4	2.5	Yes	NA
153	Long	50.3	>40yrs	Significant	High	3.2	2	Yes	NA
154	Long	78.5	>40yrs	Significant	High	5	2.4	Yes	NA
155	Short	314.2	15-40 yrs	Significant	High	8.4	2.9	No	14.8
156	Medium	490.9	>40yrs	Significant	High	8.5	3	Yes	NA
157	Long	201.1	>40yrs	Significant	High	7.2	2.8	Yes	NA
158	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.4	1.4	Yes	NA
159	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.2	1.3	Yes	NA
160	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.2	1.3	Yes	NA
161	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.4	1.4	Yes	NA
162	Young or Small Tree	38.5	15-40 yrs	Moderate	Moderate	1.4	1.4	Yes	NA
163	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.1	1.3	Yes	NA
164	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.1	1.3	Yes	NA
165	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.2	1.4	Yes	NA
166	Young or Small Tree	12.6	15-40 yrs	Moderate	Moderate	1.7	1.5	Yes	NA
167	Long	38.5	>40yrs	Significant	High	2.5	1.7	Yes	NA
168	Short	78.5	5-15 yrs	Moderate	Moderate	3.2	2	Yes	NA
169	Young or Small Tree	19.6	15-40 yrs	Moderate	Moderate	1.4	1.4	Yes	NA
170	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	1.2	1.3	Yes	NA
171	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.2	1.3	Yes	NA
172	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1.6	1.4	Yes	NA
173	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	1.7	1.5	Yes	NA
174	Young or Small Tree	12.6	<5 yrs	Significant	Moderate	1.7	1.5	Yes	NA
175	Young or Small Tree	0.8	15-40 yrs	Moderate	Moderate	1.2	1.3	Yes	NA

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
176	Young or Small Tree	3.1	<5 yrs	Moderate	Very Low	1.4	1.4	Yes	NA
177	Remove	78.5	Dead or Hazardous	Moderate	Moderate	1.7	1.5	Yes	NA
178	Long	314.2	>40yrs	Significant	High	6.1	2.6	Yes	NA
179	Medium	7.1	15-40 yrs	Moderate	Moderate	1.8	1.6	Yes	NA
180	Young or Small Tree	3.1	15-40 yrs	Moderate	Moderate	1	1.3	Yes	NA
181	Long	314.2	>40yrs	Significant	High	6.2	2.5	Yes	NA
182	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	1.6	1.4	Yes	NA
183	Medium	201.1	>40yrs	Significant	High	7.2	2.7	Yes	NA
184	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	1.6	1.5	Yes	NA
185	Young or Small Tree	7.1	15-40 yrs	Moderate	Moderate	1.3	1.4	Yes	NA
186	Long	50.3	>40yrs	Significant	High	2.4	1.8	Yes	NA
187	Young or Small Tree	7.1	15-40 yrs	Significant	High	1.2	1.4	Yes	NA
188	Young or Small Tree	38.5	5-15 yrs	Moderate	Moderate	1.3	1.4	Yes	NA
189	Young or Small Tree	50.3	15-40 yrs	Moderate	Moderate	1.8	1.6	Yes	NA
190	Long	314.2	>40yrs	Significant	High	6.6	2.7	Yes	NA
191	Long	176.7	>40yrs	Significant	High	4.8	2.4	Yes	NA
192	Long	615.8	>40yrs	Significant	High	4.3	2.3	Yes	NA
193	Long	314.2	>40yrs	Significant	High	5.4	2.5	Yes	NA
194	Long	78.5	>40yrs	Significant	High	2.4	1.8	Yes	NA
195	Long	78.5	>40yrs	Significant	High	2.6	1.8	Yes	NA
196	Long	50.3	>40yrs	Significant	High	2.8	1.9	Yes	NA
197	Medium	706.9	>40yrs	Significant	High	11.5	3.4	No	20.8
198	Medium	153.9	>40yrs	Significant	High	2.6	1.8	Yes	NA
199	Medium	227	>40yrs	Significant	High	4.3	2.2	Yes	NA
201	Short	7	5-15 yrs	Moderate	Low	2	1.5	No	0
202	Short	3	15-40 yrs	Moderate	Moderate	2	1.5	No	0
203	Medium	20	15-40 yrs	Moderate	Moderate	2	1.5	No	0
204	Medium	20	15-40 yrs	Moderate	Moderate	2	1.6	No	0
205	Short	13	15-40 yrs	Moderate	Moderate	2	1.5	No	0
206	Medium	13	15-40 yrs	Moderate	Moderate	2	1.5	No	0
207	Medium	13	15-40 yrs	Moderate	Moderate	2	1.5	No	0
208	Medium	3	15-40 yrs	Moderate	Moderate	2	1.5	No	0
209	Medium	20	15-40 yrs	Moderate	Moderate	2	1.5	No	6.7
210	Medium	38	15-40 yrs	Moderate	Moderate	2	1.5	No	0.7
211	Short	13	5-15 yrs	Moderate	Low	2	1.5	No	34.7

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
212	Young or Small Tree	3	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
213	Young or Small Tree	3	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
214	Young or Small Tree	3	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
215	Young or Small Tree	1	15-40 yrs	Moderate	Moderate	2	1.5	Yes	NA
216	Young or Small Tree	13	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
217	Medium	79	15-40 yrs	Moderate	Moderate	3.2	1.9	Yes	NA
218	Medium	79	15-40 yrs	Moderate	Moderate	3.5	2	Yes	NA
219	Remove	13	<5 yrs	Moderate	Very low	2	1.6	Yes	NA
220	Medium	79	15-40 yrs	Moderate	Moderate	2.5	1.7	Yes	NA
221	Medium	28	15-40 yrs	Moderate	Moderate	2.3	1.6	Yes	NA
222	Medium	113	15-40 yrs	Moderate	Moderate	2.2	1.6	Yes	NA
223	Medium	50	15-40 yrs	Moderate	Moderate	2	1.6	Yes	NA
224	Remove	20	<5 yrs	Moderate	Very low	2	1.6	Yes	NA
225	Medium	64	15-40 yrs	Moderate	Moderate	3.7	2.3	Yes	NA
226	Medium	113	15-40 yrs	Moderate	Moderate	3.1	2	Yes	NA
227	Short	50	5-15 yrs	Moderate	Low	3.1	2	No	33.8
228	Short	38	5-15 yrs	Moderate	Low	3.2	2	No	0
229	Short	13	5-15 yrs	Moderate	Low	2	1.6	No	0
230	Remove	38	<5 yrs	Moderate	Very low	2.3	1.8	Yes	NA
231	Short	7	5-15 yrs	Moderate	Low	2.3	1.8	Yes	NA
232	Medium	491	15-40 yrs	Very Low	Low	10.6	3.2	No	0
233	Remove	113	5-15 yrs	Low	Low	4.7	2.2	Yes	NA
234	Short	177	15-40 yrs	Very Low	Low	10.8	3.3	No	36.5
235	Remove	79	Dead or Hazardous	Very Low	Very Low	6.2	2.7	No	0
236	Short	28	15-40 yrs	Moderate	Moderate	2.3	1.7	Yes	NA
237	Short	491	15-40 yrs	Very Low	Low	10.7	3.2	No	37.4
238	Short	20	5-15 yrs	Moderate	Low	2	1.5	No	0
239	Remove	314	5-15 yrs	Very Low	Very Low	10.2	3.1	No	35.8
240	Remove	50	5-15 yrs	Very Low	Very Low	5.2	2.3	No	22.5
241	Remove	573	Dead or Hazardous	Very Low	Very Low	14.6	3.8	No	32.1
242	Remove	38	5-15 yrs	Moderate	Low	4.3	2.3	No	0
243	Remove	79	<5 yrs	Moderate	Very low	4.1	2.1	No	0
244	Short	177	5-15 yrs	Low	Low	9.2	3	No	19.7
245	Remove	50	<5 yrs	Moderate	Very low	4.3	2.1	No	0
246	Short	79	15-40 yrs	Very Low	Low	3.7	2.3	No	0
247	Remove	28	5-15 yrs	Very Low	Very Low	2.9	1.8	No	0
248	Short	38	15-40 yrs	Very Low	Low	4.2	2.2	No	0

Tree No:	SULE	Canopy Area (m ²)	ELE (yrs)	LSR	Retention value	TPZ (m)	SRZ (m)	Inside FP	EC %
249	Medium	50	15-40 yrs	Very Low	Low	4.1	2.1	No	0
250	Short	50	15-40 yrs	Very Low	Low	4.2	2.3	No	0
251	Remove	79	5-15 yrs	Very Low	Very Low	11.3	3.2	No	0
253	Short	7	15-40 yrs	Moderate	Moderate	2	1.5	No	0
253	Short	50	15-40 yrs	Very Low	Low	5	2.3	No	0
254	Remove	20	5-15 yrs	Moderate	Low	2.5	1.8	No	0
255	Short	13	5-15 yrs	Moderate	Low	2	1.5	Yes	NA
256	Short	7	5-15 yrs	Moderate	Low	3.1	2	Yes	NA
257	Short	7	5-15 yrs	Moderate	Low	2.8	1.8	Yes	NA
258	Remove	13	5-15 yrs	Moderate	Low	3.2	2	Yes	NA
259	Short	20	5-15 yrs	Moderate	Low	2.9	2	No	44.4
260	Short	7	5-15 yrs	Moderate	Low	2	1.6	Yes	NA
261	Medium	20	15-40 yrs	Moderate	Moderate	2	1.6	No	0
262	Remove	28	<5 yrs	Moderate	Very low	3.1	2	Yes	NA
263	Short	79	Dead or Hazardous	Very Low	Very Low	10.2	3.1	Yes	NA
264	Short	113	Dead or Hazardous	Very Low	Very Low	9.4	3	No	45.8



NOTE: Development Plans have been geo-rectified from Aerial Imagery Not Survey Accurate on Map. For Illustration Purposes ONLY

Plans - DKO Site Plan - Ground
No. SD16.11 Rev. 19/10/2023

Tree locations Collected using High end DGPS
Accurate 1cm-1m

Project Name Melia Gardens
Project Number 13294

SITE: Melia Gardens, Glen Road, Castle Hill, NSW 2154

Figure 2 – Tree Survey

Subject Site	Tree Survey H2O (Retention Value)
Limit of Survey	High
Tree Protection Zone	Low
Structural Root Zone	Moderate
	Very low

DATE : 25/10/2023	Map Version : 1_1
Projected Coordinate System : GDA 2020 Zone 56	
Aerial Imagery: Nearmaps 12/08/2023 GDA2020	
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4 Tree Impact Assessment

4.1 Potential impacts

Potential impacts on trees from redevelopment of the site for a mix of low and medium density residential buildings may include.

- Removal to make way for the proposal, supporting services and asset protection zones.
- Disturbance of roots within the TPZs during any construction works that require ground disturbance or excavations.
- Changes to natural ground levels that may expose roots, damage tree buttresses or impact on the health of trees.
- Compaction of roots and soils within the TPZs by equipment, and vehicular access and operation during construction works.
- Removal and trimming and canopy reduction to remove hazardous limbs, improve construction access and maintain APZ requirements.
- Damage to low branches by construction equipment operating in close proximity to these trees.
- Bark and trunk injury to trees from accidental contact with equipment during construction works.

4.2 Construction footprint

There are 187 trees located within the proposal footprint, which will require removal (Table 4, Figure 3). This includes 66 ecologically significant Sydney Blue Gum trees, most of which (60) are of also of High Retention Value. In total 63 High Retention Value Trees occur within the proposal footprint and will require removal to make way for construction works.

4.3 Major encroachment

The proposal is also expected to have a major encroachment into the TPZ of an additional 22 trees (Table 4, Figure 3). This includes nine High Retention Value trees, all of which are Sydney Blue Gum trees.

AS4970-2007 Protection of Trees on Development Sites requires that where major encroachment occurs the area lost to encroachment be compensated elsewhere and contiguous with the TPZ. In addition, the Project Arborist is required to demonstrate that the tree will remain viable, this may require detailed and non-destructive root investigations.

Given the extensive excavation works that will be required to establish the underground carparks, and considerable amounts of overhead works to construct the buildings, none of these trees are expected to remain viable, thus have been recommended for removal.

4.4 Minor encroachment

The survey identified that the proposed works will have a minor encroachment (up to 10%) of the TPZ of an additional six trees (Table 4, Figure 3). This includes four High Retention Value trees, all of which are Sydney Blue Gum trees.

Australian Standard AS 4970-2007 Protection of Trees on Development Sites requires that where minor encroachment occurs, the area lost to encroachment be compensated elsewhere and contiguous with the TPZ.

Based on the current design it likely these trees can be retained with adequate tree protection measures during construction works. This will need to be developed as part of a detailed Tree Protection Plan before construction works commence.

4.5 Other impacts

In addition to the above, the proposal has potential for further impacts on trees outside the identified construction footprint. This may encroach into areas with large mature canopy forming trees to the west and south-west, south and south-east of the proposal, which are likely to include both High Retention Value and Sydney Blue Gum trees. These additional impacts may result from the following project requirements:

- Land stabilisation and retaining works.
- Establishment and connection of utilities and services.
- Landscaping works associated with the proposed Rogans Hill Park, biodiversity corridors and WSUD infrastructure.
- Retention basins, that are expected to be required on the lower slope to the south-west of the construction footprint.
- Establishment of asset protection zones and fire fighting infrastructure around the perimeter of the development.
- Maintenance of access easements below the construction footprint.

Further investigations will be required to determine the full extent of the impacts of the above actions before development approval. These investigations will require access to trees, which will likely need to be aided by land management works to under scrub and remove the shrub layer that has become overgrown with weed species.

Some preliminary recommendations have been provided to minimise these impacts in Section 5.

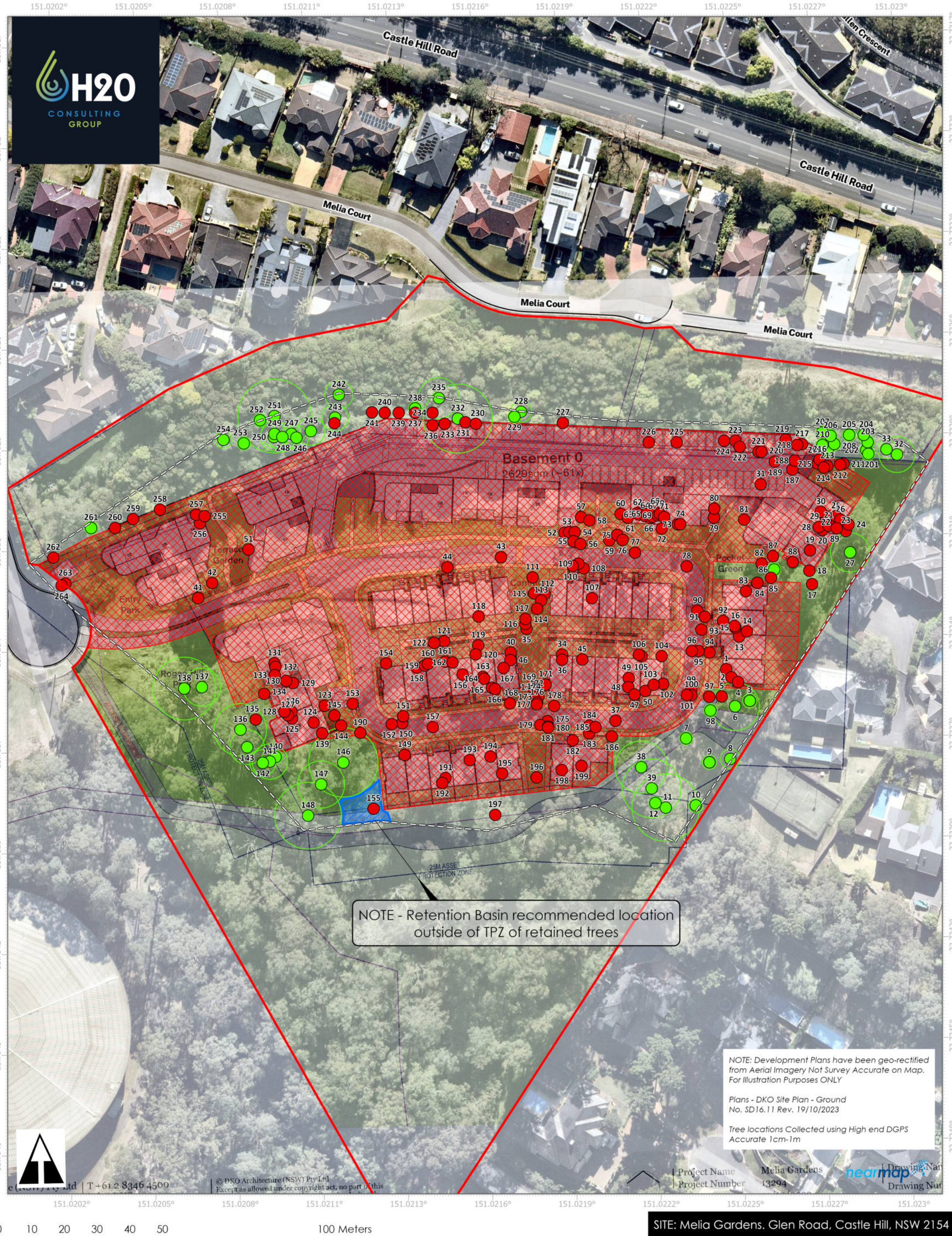


Figure 3 - Tree Impact Assessment

Subject Site	Remove
Limit of Survey	Retain
Retention Basin	Retained Tree TPZ
Proposal Footprint	

DATE : 25/10/2023	Map Version : 1_1
Projected Coordinate System : GDA 2020 Zone 56	
Aerial Imagery: Nearmaps 12/08/2023 GDA2020	
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5 Recommendations:

5.1.1 Land stabilisation and retaining works

Land stabilisation works should be confined to the construction footprint. Where works are required outside the construction footprint they should avoid areas with any retained Blue Gum or High Retention Value Trees. Such works will need to be considered as part of a detailed Tree Protection Plan to guide construction works.

5.1.2 Underground services and stormwater

It is recommended that all works for any underground services and stormwater connections be confined to the proposed construction footprint.

5.1.3 Landscaping

Landscaping works should be designed and implemented with consideration of the findings of this report. This should include designing landscaping works such as those associated with the proposed Rogans Hill Park, biodiversity corridors and WSUD infrastructure, around all High retention Value trees. Landscape design should also include for supplementary plantings of semi-mature Sydney Blue Gum trees to restore canopy connectivity between open spaces and the biodiversity corridors. Adequate protection measures will also need to be identified at later stages in this project as part of the Tree Protection Plan.

5.1.4 Retention basins

The retention basins should be positioned to avoid further construction works within the TPZ of any trees to be retained on the site. A preliminary site for the retention basins has been identified in Figure 3.

5.1.5 Asset protection zones

Asset protection zones should be designed to minimise the requirement through tree removal. This should include maximising the use of managed lands and implementing alternate fire protection and risk reduction strategies to those that require tree removal.

5.1.6 Access easements.

Access easements should maximise use of existing and or previous paths amongst the canopy forming trees below the development footprint. These should be maintained through minimising the requirement for any excavation works and preference for raising ground levels to avoid tree roots, where the easements are required to pass through the TPZ of any retained High Retention Value or Sydney Blue Gum trees.

6 Summary

In summary we estimate the proposal will require the removal of at least 209 trees. Included amongst these are 72 High Retention Value and/or 69 Sydney Blue Gum trees.

Further Arboriculture Impact Assessment will be required at the DA stage once a final design that meets planning requirements at the time is agreed upon by all stakeholders. This will need to include further survey of trees along the south-west, southern and south-eastern perimeter of the proposal footprint.

A consent condition for this project will need to include a detailed Tree Management Plan that includes for a detailed Tree Protection Plan, replanting and restoration strategy, and tree monitoring through construction and post construction stages of the project.

7 References

- Barrell, J. (1996). Pre-development Tree Assessment. *Proceedings of the International Conference on Trees and Building Sites* (Chicago). International Society of arboriculture, Illinois, USA.
- DECC (Department of Environment Conservation and Climate Change NSW). (2007). Techniques for measuring stand height. *Private Native Forestry Code of Practice Guideline No. 4*.
- Fairley, A. and Moore P. (1989). Native Plants of the Sydney District: An Identification Guide. Kangaroo Press, Botany NSW.
- Georges River Council (2019). Tree Management Policy. April 2019, Version 2.
- Hawkeswood, T. J. (2006). Tree Survey and SULE Assessment for part of Lots 1020 & 1021, DP876671 and Lot 2, DP576773, Glen Road, Castle Hill, New South Wales. Report prepared by Hawkeswood Scientific Consulting 21 December 2006.
- Mattheck, K. and Breloer, H. (1994) The Body Language of Trees – A handbook for failure analysis. TSO, London
- NSW Government (2023). SEED – NSW State Vegetation Type Map. Available Online: <https://datasets.seed.nsw.gov.au/dataset/nsw-state-vegetation-type-map/resource/anzlic-web-map>
- PlantNET (The NSW Plant Information Network System). Royal Botanic Gardens and Domain Trust, Sydney. <http://plantnet.rbgsyd.nsw.gov.au> [last accessed 10 January 2017].
- Robinson, L. (2003). Field Guide to the Native Plants of Sydney. 3rd Edition. Simon Shuster, Sydney, New South Wales
- Standards Australia (2009) AS4970: Protection of Trees on Development Sites, Standards Australia, Sydney.
- TALC (2017). Arboricultural Assessment Report: Lot 1020 DP 876671, Lot 1021 876671, Lot 2 DP 576773, Lot1020 Melia Court & lots 2 & 1021 Gen Road, Castle Hill. Report Prepared by Tree & Landscape Consultants (TALC) 19 September 20107.

Photos



Photo 1: Easterly view of site and middle of the proposal footprint from the access point on Glen Road.



Photo 2: Trees on the southern side of the clearing dominated by Sydney Blue Gums.



Photo 3: Trees with extensive understorey (mainly weed species) on the higher northern side of the clearing and proposed construction footprint.



Photo 4: Trees on the eastern side of the clearing and proposed construction footprint

Appendix 1: Plans of the Proposal

A1.1: Site Plan - Basement

A1.2: Site Plan - Ground

Appendix 2: Qualifications and Experience

Education

- PhD, University of Sydney, Biology: 2011
- Bachelor of Science (Hons), Macquarie University: 2004
- Bachelor of Science, University of Newcastle, Sustainable Resource Management & Marine Sciences: 2002

Qualifications

- Diploma Arboriculture AHC50510 (AQF5)
- Certificate IV in Transport and Distribution (Coastal Maritime Operations)
- Certificate III in Occupational Diving 80431 (Occupational Scuba Diving)
- Rail Industry Safety Induction (RISI) card
- NSW White Card
- Senior First Aid

Experience

- H2O Consulting Group: Director and Principal Consultant, 2014 – Present.
- Niche Environment and Heritage: Ecologist & Arborist, 2015 –2017
- Cardno, Water & Environment: Environmental Scientist, 2010 – 2014
- Kulnura Nursery: Horticulturalist and Production Manager, 1996 – 2005

Appendix 3: SULE

Long SULE: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

- (a) Structurally sound trees located in positions that can accommodate future growth.
- (b) Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
- (c) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

Medium SULE: Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

- (a) Trees that may only live between 15 and 40 more years.
- (b) Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 40 years but would be removed during the course of normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that can be made suitable for retention in the medium term by remedial work.

Short SULE: Trees that appear to be retainable with an acceptable level of risk for 5–15 years.

- (a) Trees that may only live between 5 and 15 more years.
- (b) Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 15 years but would be removed during the course of normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that require substantial remedial work to make safe, and are only suitable for retention in the short term.

Remove: Trees with a high level of risk that would need removing within the next 5 years.

- (a) Dead trees.
- (b) Dying or suppressed and declining trees through disease or inhospitable conditions.
- (c) Dangerous trees through instability or recent loss of adjacent trees.
- (d) Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
- (e) Damaged trees that are considered unsafe to retain.
- (f) Trees that will become dangerous after removal of other trees for the reasons given in (a) to (e).

Young or Small Trees:

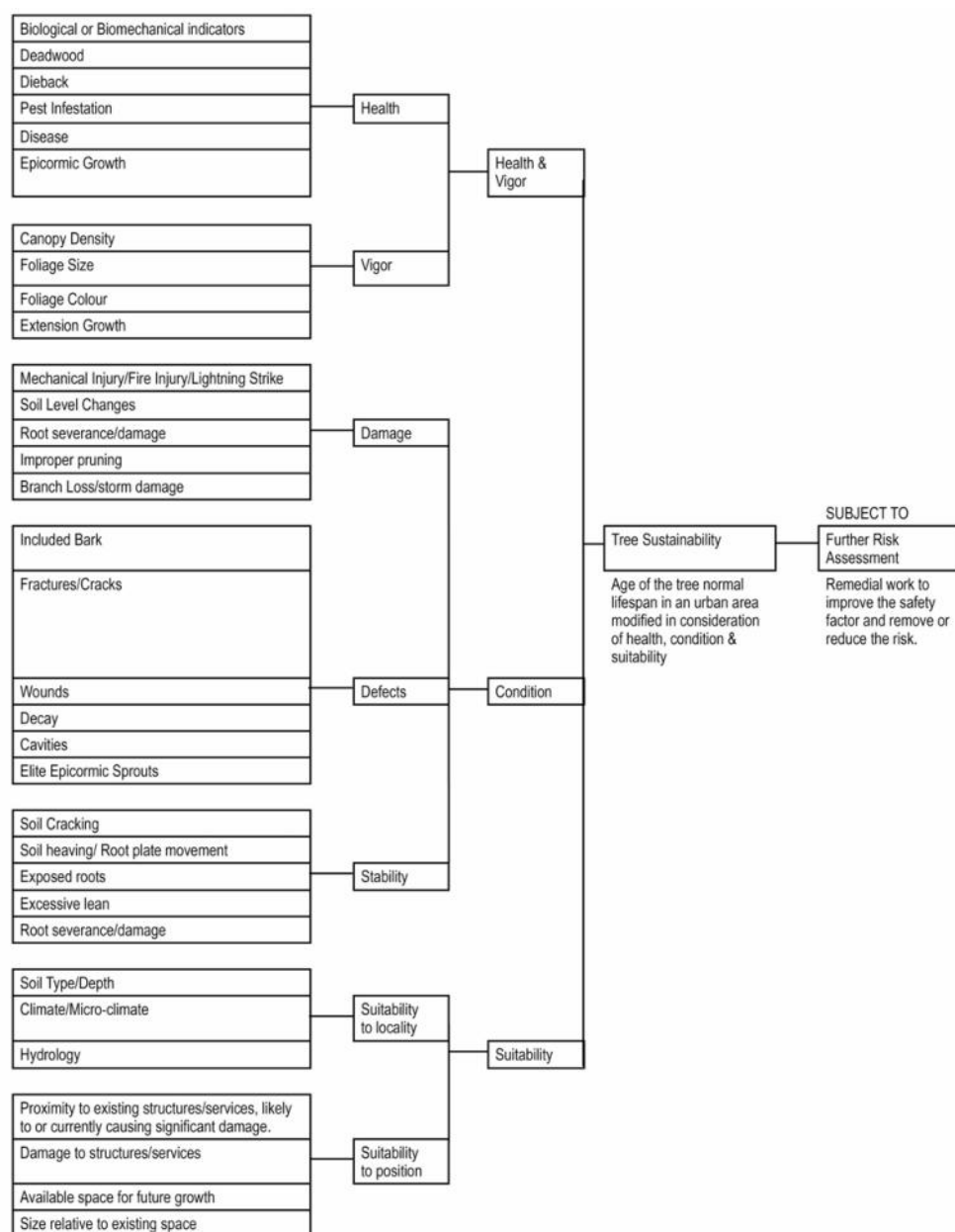
- (a) Trees which are less than 5 metres (m) in height.
- (b) Trees which are over 5m in height but less than 15 years old.

Appendix 4: Tree Retention Value

Step 1 – Assess tree sustainability

- Greater than 40 years
- From 15 to 40 years
- From 5 to 15 years
- Less than 5 years
- Dead, defective or hazardous

Step 2 – Determine landscape significance rating



The level of landscape significance has been determined using the following key criteria as a guide:

1. SIGNIFICANT

- The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance; or
- The subject tree forms part of the curtilage of a Heritage Item (building /structure/artifact as defined under the LEP) and has a known or documented association with that item; or
- The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event; or
- The subject tree is scheduled as a Threatened Species or is a key indicator species of an Endangered Ecological Community as defined under the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999; or
- The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species; or
- The subject tree is a Remnant Tree, being a tree in existence prior to development of the area; or
- The subject tree has a very large live crown size exceeding 300m² with normal to dense foliage cover, is located in a visually prominent in the landscape, exhibits very good form and habit typical of the species and makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity; or
- The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.

2. VERY HIGH

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

3. HIGH

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

4. MODERATE

- The subject tree has a medium live crown size exceeding 40m²; and
- The tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% Crown Cover (thinning to normal); and

- The tree makes a fair contribution to the visual character and amenity of the area; and
- The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms.
- The tree has no known or suspected historical association

5. LOW

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

6. VERY LOW

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

7. INSIGNIFICANT

- The tree is a declared Noxious Weed under the Noxious Weeds Act (NSW) 1993

Step 3 – Determine the Retention Value

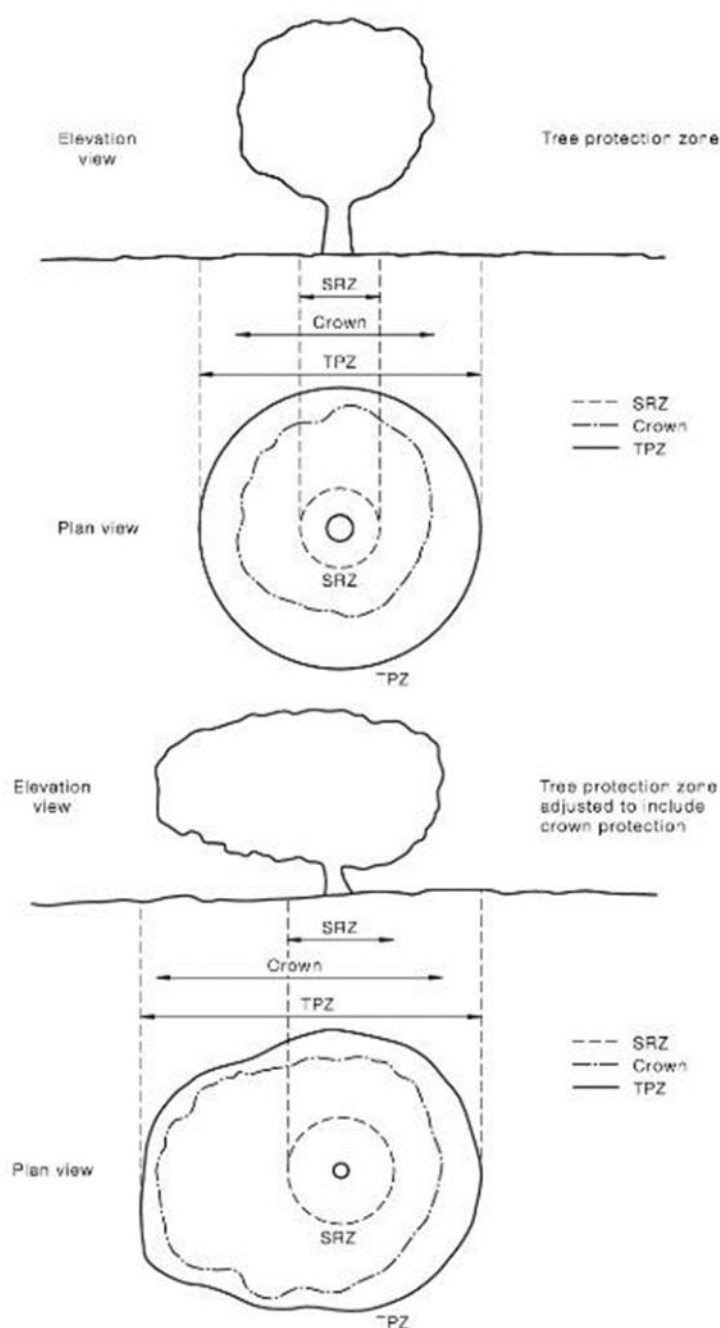
Determine the retention value by applying Tree Sustainability and Landscape Significance Rating using the following matrix.

	Landscape Significance Rating						
Tree Sustainability	1	2	3	4	5	6	7
40+ years	High						
15 – 40 years			Moderate				
5 – 15 years				Low			
< 5 years					Very low		
Dead or hazardous							

Appendix 5: Calculating TPZ and SRZ

AS 4970—2009

14



NOTE: Refer to Clause 3.2 for calculation of TPZ.

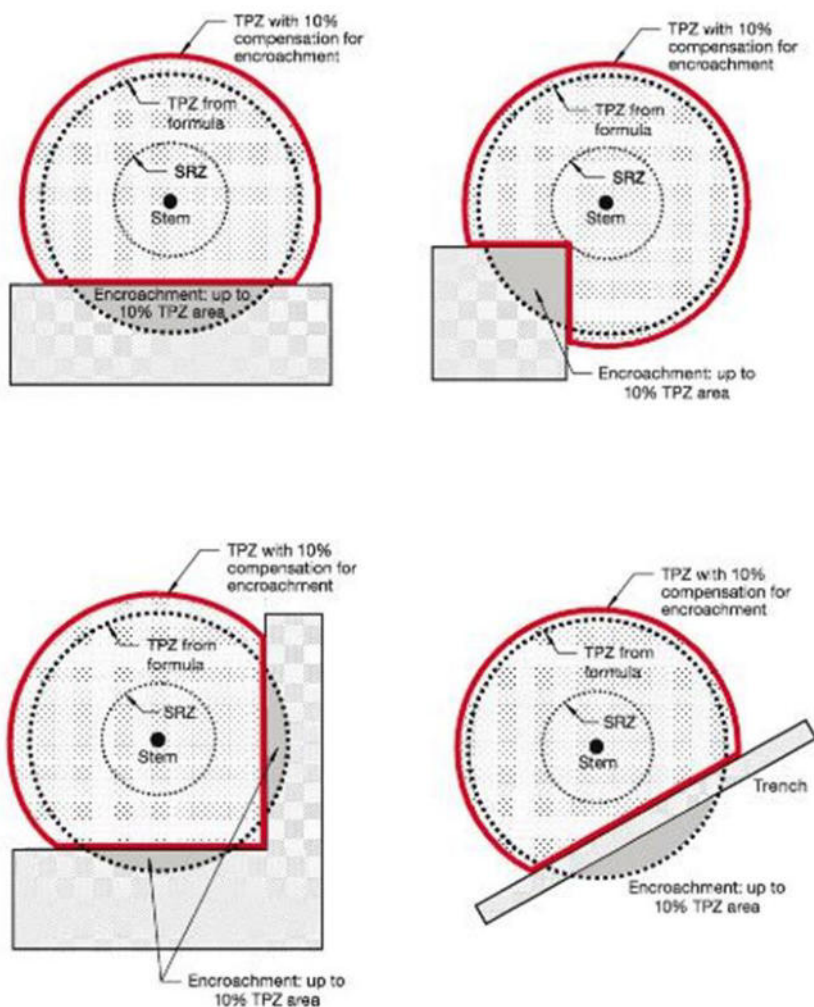
FIGURE 2 INDICATIVE TREE PROTECTION ZONE

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APPENDIX D ENCROACHMENT INTO TREE PROTECTION ZONE (Informative)

Encroachment into the tree protection zone (TPZ) is sometimes unavoidable. Figure D1 provides examples of TPZ encroachment by area, to assist in reducing the impact of such incursions.



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

FIGURE D1 EXAMPLES OF MINOR ENCROACHMENT INTO TPZ

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