MacKay **Tree** Management

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20 June 2017

Proposed Residential
Apartment Development

Lot 67 DP 30186

50 Tallawong Road
ROUSE HILL NSW 2155

Arborist Report
Tree Survey

Prepared for;

HBL Developments Pty Ltd

C/- JS Architects Pty Ltd
PO Box 6967 BAULKHAM HILLS NSW 2153

Level 35 Tower One
Barangaroo Avenue Sydney NSW 2000

Prepared by;

Cheryl MacKay Level 5 Consulting Arboriculturist

1. Introduction/Background

JS Architects on behalf of their client HBL Developments Pty Ltd have commissioned MacKay Tree Management to assess trees located on the site 50 Tallawong Road, Rouse Hill (the subject site).

JS Architects are proposing a seven block, home unit development for the site. The development comprises demolition of the existing buildings and outhouses, tree removal and construction of seven, six storey residential flat buildings, totalling 370 units and two levels of basement parking.

Three hundred and sixty four (364) trees including fourty four (44) trees on neighbouring properties are impacted by the proposal and are surveyed in this report.

The report assesses the three hundred and sixty four trees and provides basic arboricultural data for each tree; species type, dimensions, health and condition and retention value.

This report and any works recommended herein are to form part of the Development Application to Blacktown City Council.

2. Assessment Methods

A visual tree assessment (*VTA*) [1] was carried out from the ground by a level 5 Consulting Arborist and one horticulturist on 11th and18th June 2017.

Tree height and age was estimated and Diameter at Breast Height (D.B.H.) was measured 1.4 metres (m.) above ground. Measurements were corroborated with the Detail and Level Survey SDG Land Development Solutions, Northmead, 3/09/2015. Trees 30, 132 and 134 are numbered in the tree survey but were not included in the site plan.

Tree Protection Zones and Protection Methods are referenced from Standard® AS 4970 - 2009 Protection of Trees on Development Sites. [2]

In the absence of or mixed scatterings of fruit, tree identification was referenced to bark, leaves and tree form only.

The report has relied upon the following plan/s and documents:

Plan/Document	Designer	Drawing No.	Date
Drawings	J S Architects	04/25 – 12B/25	8/06/2017
Details and Level Survey 1 + 2	SDG Land Development Solutions, Northmead,	Original Issue 6840	3/09/2015

3. Legislation

The site vegetation is assessed as Shale Plains Woodland (Cumberland Plain Woodland) vegetation classified as a Critically Endangered Ecological Community under the Environment Protection and Biodiversity Conservation Act (EPBC) 1999 and the NSW Threatened Species Conservation Act 1995.

Tallawong Road Rouse Hill is rated as a Development Area as part of the North West Growth Centre (NSW Planning, Sydney Growth Centres Strategic Assessment, Program Report November 2010). Government Directions and Policy for the Growth Centres has Biodiversity Certification over the State Environment Planning Policy (Sydney Region Growth Centres) 2006, (Growth Centres SEPP) allowing development to proceed without NSW threatened species assessment. To compensate for loss of threatened conservation areas NSW Planning will acquire new land for conservation area reinstatement.

50 Tallawong Road is zoned R3 medium density residential as part of the Cudgegong Road Structure Plan, North West Rail Link (Rapid Transit Rail Facility, Tallawong Road, Rouse Hill. Environmental Impact Statement July 2013). (Cudgegong Road Structure Plan, North West Rail Link (Rapid Transit Rail Facility, Tallawong Road, Rouse Hill. Environmental Impact Statement July 2013)).

4. Site Description

The assessed site Lot 67 DP 30186, 50 Tallawong Road Rouse Hill, is an R3 residential urban bushland block.

The dwelling, sheds and fenced off paddocks are located at the front of the site where native vegetation has been cleared up to the property boundaries.

Vegetation within the site is comprised of medium to tall size native trees in poor to moderate condition, native and introduced grasses and weeds.

The site appears prone to flooding, a small creek/water course runs through the middle of the site and is most likely responsible for the large numbers of dead trees through the centre of the block (photograph at right).

The property is located opposite the North West Rail Link train stabling facility (photograph below taken from within the site looking west).

5. Report Findings

The site is currently zoned for R3 Medium Density Residential Dwelling.

Three hundred and twenty site trees require removal to make way for the proposal.

The trees are exempt from environmental controls under the Growth Centres SEPP.

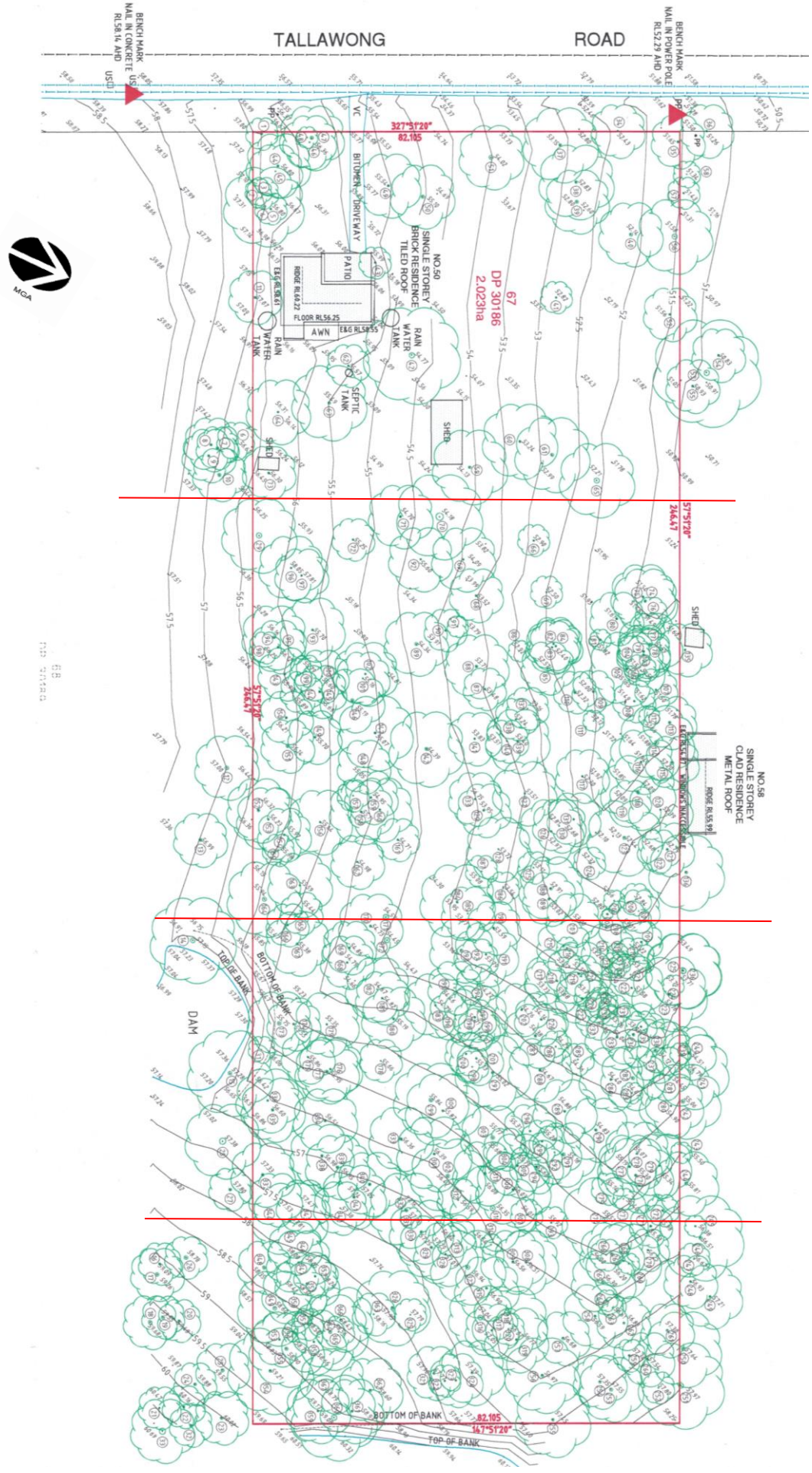
The location of the Proposed Roads provides a short term Tree Protection Zone for boundary trees Nos 46 and 58 Tallawong Road.

Cheryl Mackay

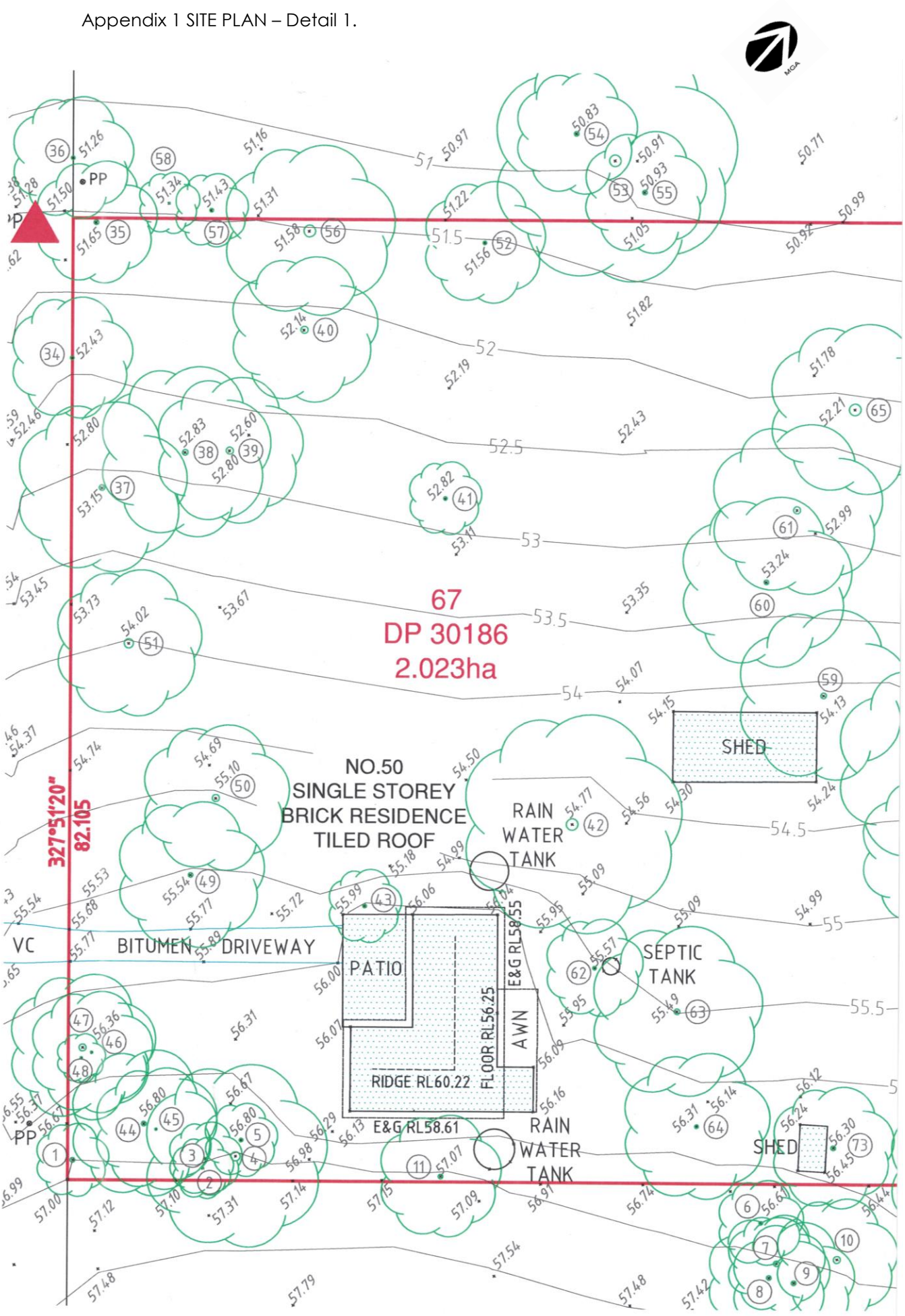
Advanced Certificate of Horticulture, Diploma of Arboriculture, Certificate in Tree Surgery
Founding Member I.A.C.A (ACM0062003), I.S.A (Member 200984) & L.G.T.R.A.
Level 5 Qualified and Practicing Arborist/Horticulturist since 1995
Qualified Tree Risk Assessor (TRAQ 2016)

Appendices

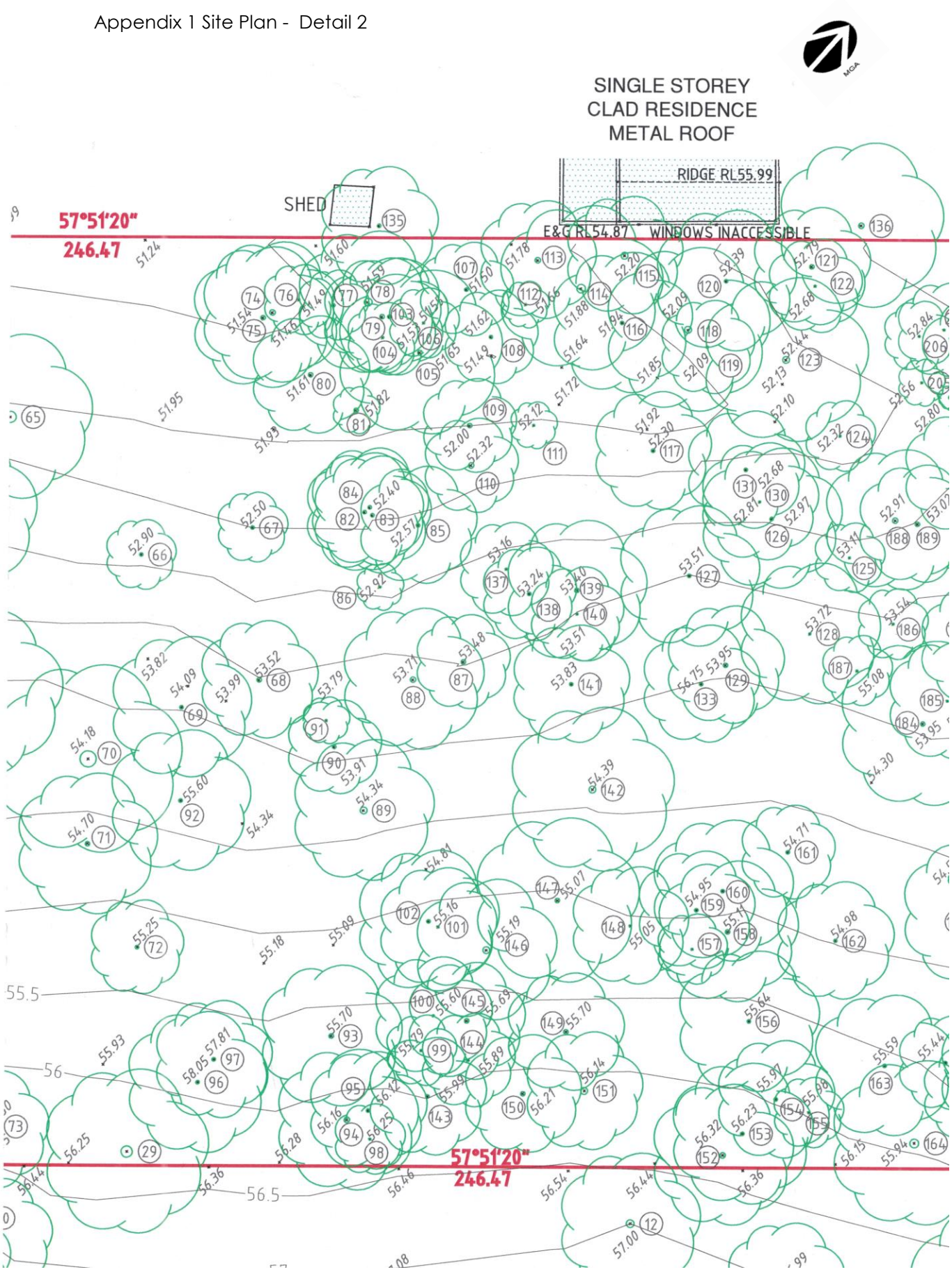
Appendix 1 SITE PLAN – Indicating Tree Locations



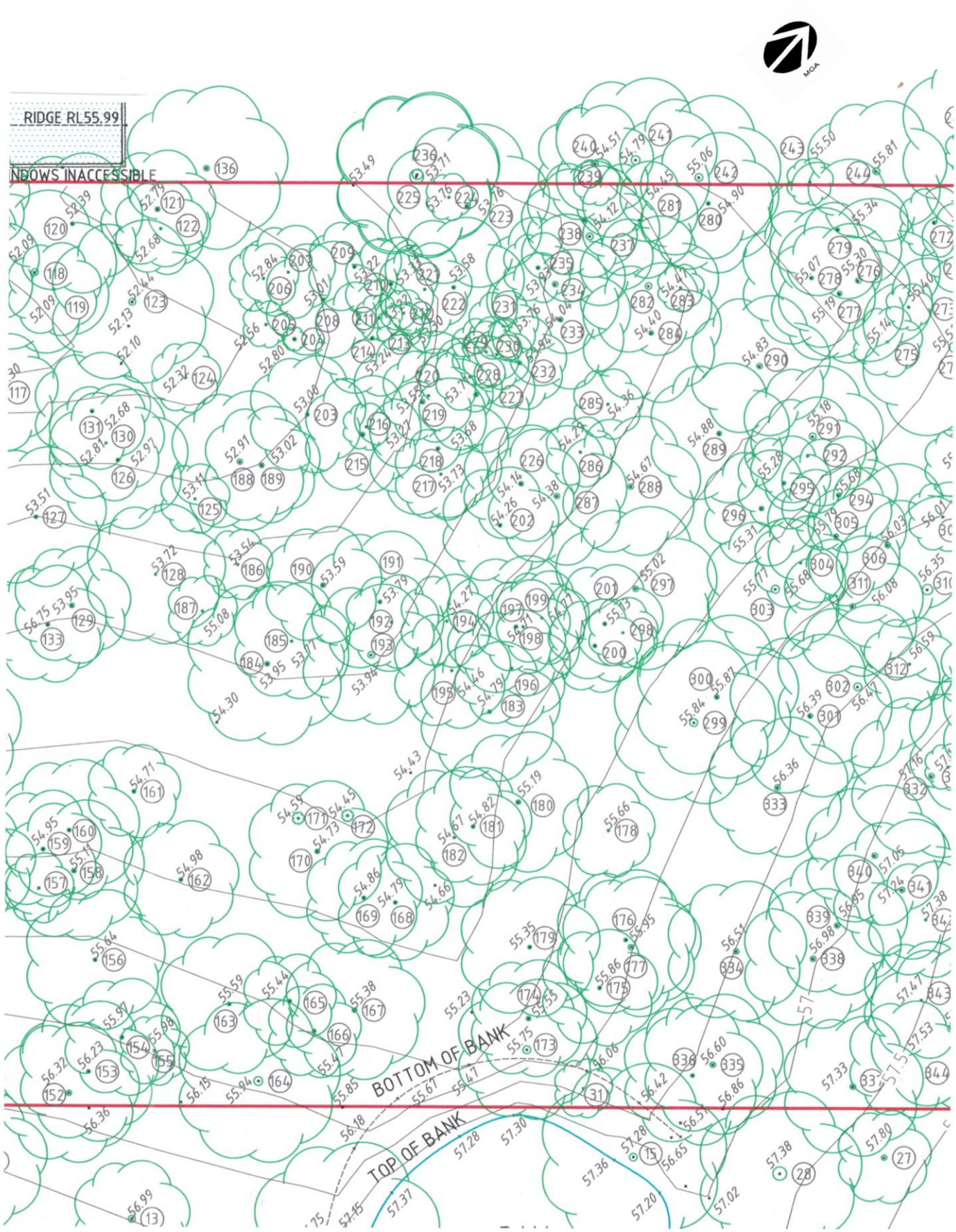
Appendix 1 SITE PLAN – Detail 1.



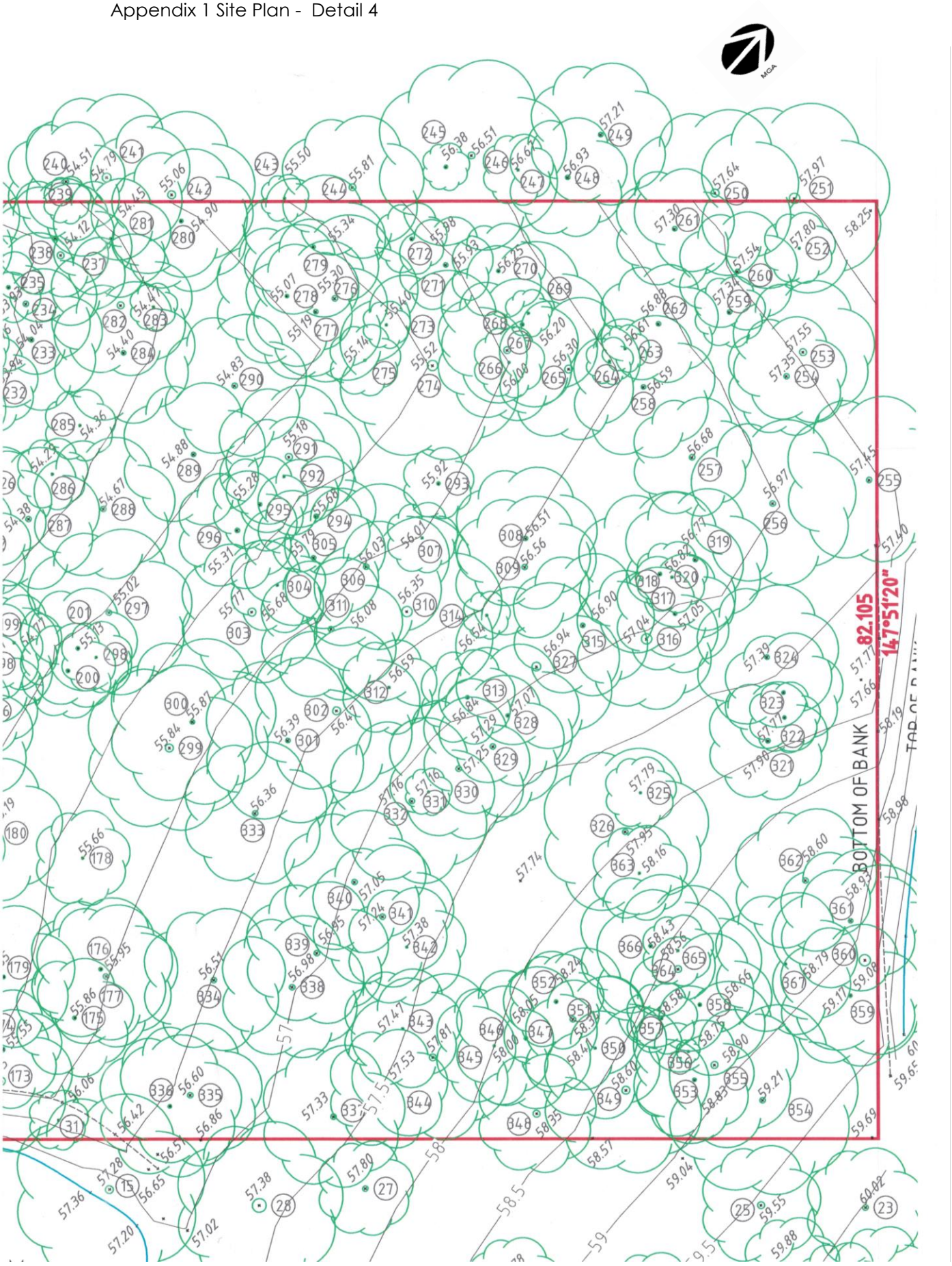
Appendix 1 Site Plan - Detail 2



Appendix 1 Site Plan - Detail 3



Appendix 1 Site Plan - Detail 4



Appendix 2	Tree Survey 50 Tallawong Road Rouse Hill								
Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
1	*Eucalyptus crebra* Narrow Leaved Ironbark	18 6	400	M	Codominant Symmetrical	Normal	High	Low	Pruned for powerline clearance, branch inclusion at 6 m. Tall thin canopy, reduced to top quarter of tree.
2	*Eucalyptus tereticornis* Forest Red Gum	6 5	170	M	Suppressed Asymmetrical	Normal	High	Low	Small suppressed tree, intermediate canopy.
3	*Eucalyptus Eugenioides* Thin Leaved Stringybark	12 6	220	M	Suppressed Asymmetrical	Low	High	Low	Stunted tree in small stand.
4	*Eucalyptus moluccana* Grey Box	20 15	800	M	Codominant Symmetrical	Low	High	Low	Larger tree with fair condition.
5	*Eucalyptus moluccana* Grey Box	8 6	300	M	Suppressed Asymmetrical	Low	High	Low	Crown die back, declining condition
6, 7, 8, 9, 10	*Eucalyptus tereticornis* Forest Red Gum x 5 trees						High	High	Neighbouring Tree stand, No 46 Tallawong Road. 1 – 4 m. from boundary in fair condition.
11	*Olea europaea* ssp. *cuspidata* African Olive	12 10	400	M	Dominant Symmetrical	Normal	Low	Low	Class 4 Locally Controlled Weed – because of site restrictions close inspection of the tree not possible.
12	Dead tree						Low	Low	Neighbouring Property No 46 Tallawong Road.
13 - 28	*Eucalyptus sp.* x 15 trees						High	High	Neighbouring Tree stand, No 46 Tallawong Road. 2 – 4 m. from boundary in senescent - fair condition.
29	*Eucalyptus crebra* Narrow Leaved Ironbark	16 14	900	M	Codominant Symmetrical	Normal	High	Low	Co dominant trunks 380 420mm from base to 1m. Union failing, poor structure.
30	Not Surveyed								
31	Dead tree								
32, 33	*Eucalyptus sp.* x 2 trees						High	High	Neighbouring Property No 46 Tallawong Road 4 m. from boundary
34	*Eucalyptus crebra* Narrow Leaved Ironbark						High	High	Street Boundary tree
35	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	400	M	Codominant Asymmetrical	Normal	High	Medium	Street boundary tree pruned or powerline clearance. Co dominant union at 3.5 m., branch inclusions

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
36	*Eucalyptus sp.* x 5 trees						High	High	Neighbouring Trees front of No 48 Tallawong Road.
37	*Eucalyptus crebra* Narrow Leaved Ironbark	18 14	500	M	Dominant Asymmetrical	Normal	High	Medium	Twin trunks 420, 450 mm. Good condition.
38	*Eucalyptus crebra* Narrow Leaved Ironbark	20 14	500	M	Dominant Asymmetrical	Normal	High	Low	Dominant forest tree.
39	*Eucalyptus tereticornis* Forest Red Gum	20 12	600	M	Codominant Symmetrical	Low	Low	Low	Near dead tree
40	*Eucalyptus crebra* Narrow Leaved Ironbark	20 12	600	M	Codominant Symmetrical	Normal	High	Low	Dominant forest tree high volume medium to large size deadwood.
41	*Eucalyptus tereticornis* Forest Red Gum	7 4	300	M	Suppressed Asymmetrical	Normal	Low	Low	Stunted tree high volume small to medium size deadwood.
42	*Eucalyptus tereticornis* Forest Red Gum	22 18	900	M	Dominant Symmetrical	Normal	High	Low	Multi trunked from base, 500 500 mm from 1.2 m. spreading tree.
43	*Jacaranda mimosifolia* Jacaranda	8 6	300	Semi M	Intermediate Asymmetrical	Normal	Medium	Low	Small ornamental tree
44	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	400	M	Codominant Symmetrical	Normal	High	Low	Co dominant forest trees.
45	*Eucalyptus crebra* Narrow Leaved Ironbark	12 10	300	M	Codominant Symmetrical	Normal	High	Low	
46 47 48	*Eucalyptus crebra* Narrow Leaved Ironbark	14 10	200 600 200	M	Intermediate Asymmetrical	Normal	High	Low	Co dominant forest trees high crowns pruned for powerline clearance.
49	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	400	M	Codominant Asymmetrical	Normal	High	Low	Dominant forest tree high volume medium to large size deadwood.
50	*Eucalyptus crebra* Narrow Leaved Ironbark	20 12	600	M	Codominant Asymmetrical	Normal	High	Low	Large tree, basal cavity into root crown.
51	*Eucalyptus tereticornis* Forest Red Gum	20 12	800	M	Codominant Asymmetrical	Normal	High	Low	Trunk wounds on 1 leader to 3m. , leader failure at ground level and another failed at 4 m. Poor structure/

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
52	*Eucalyptus crebra* Narrow Leaved Ironbark	16 10	300	M	Intermediate Asymmetrical	Low	High	Low	Twin trunks from base, 10% epicormic growth. Declining vigour.
53, 54, 55, 57, 58	*Eucalyptus sp.* x 5 trees						High	High	Neighbouring Trees front of No 48 Tallawong Road. 1 – 4 m. from boundary in fair condition.
56	*Eucalyptus tereticornis* Forest Red Gum	20 14	900	M	Intermediate Asymmetrical	Normal	High	Low	Large tree multi trunked, 200, 200 450, 700 from 1 m.
59	*Eucalyptus tereticornis* Forest Red Gum	18 14	500	M	Codominant Asymmetrical	Normal	High	Low	Large tree with poor form and structure, twin trunk failure at 6 m.
60	*Eucalyptus moluccana* Grey Box	16 14	400	M	Codominant Asymmetrical	Normal	High	Low	Good health, form and vigour.
61	*Eucalyptus tereticornis* Forest Red Gum	18 14	300 350 350	M	Codominant Asymmetrical	High	High	Low	Large tree multi trunked from base,average health and vigour.
62	*Syagrus romanzoffianum* Cocos Palm	12 8	300	M	Dominant Symmetrical	Normal	Low	Low	Pest species palm.
63	*Eucalyptus tereticornis* Forest Red Gum	20 15	500	M	Codominant Symmetrical	Normal	High	Low	Dominant tree, trunk obscured with Bougainvillea climber.
64	*Eucalyptus crebra* Narrow Leaved Ironbark	14 12	300	M	Codominant Symmetrical	Normal	High	Low	Large tree, good health and vigour, termite mound at base,
65	*Eucalyptus eugenioides* Thin leaved Stringybark	20 14	950	M	Co dominant Asymmetrical	Normal	High	Low	Large well -formed tree, multi trunked from base, termite mound.
66, 67, 68, 69	Dead trees								
70	*Eucalyptus tereticornis* Forest Red Gum	18 16	1400	M	Dominant Symmetrical	Normal	High	Low	Large spreading tree, multi trunked from base, canopy cover reduced to 10% in upper canopy only. Large volume deadwood and epicormic shoots. Decay into root crown.
71	*Eucalyptus tereticornis* Forest Red Gum	18 12	400	M	Co dominant Asymmetrical	High	High	Low	Poor condition.
72	*Eucalyptus tereticornis* Forest Red Gum	18 8	300	M	Suppressed Asymmetrical		High	Low	Rink barked trunk, high volume medium size deadwood.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
73	*Eucalyptus tereticornis* Forest Red Gum	20 10	400	M	Suppressed Asymmetrical	Low	High	Low	High volume deadwood, borer damaged trunk to 1.2 m. Poor condition
74 75	*Eucalyptus tereticornis* Forest Red Gum	22 12	600 550	M	Codominant Asymmetrical	Normal	High	Low	Co dominant trees, edge of stand. High volume deadwood.
76	*Eucalyptus tereticornis* Forest Red Gum	10 6	200	M	Suppressed Asymmetrical	Low	High	Low	Vine covered tree, suppressed, poor from.
77	*Eucalyptus crebra* Narrow Leaved Ironbark	14 6	280, 310 340	M	Suppressed Asymmetrical	Low	High	Low	Decayed leaders from base, to 1.1 m. Poor condition.
78	*Eucalyptus tereticornis* Forest Red Gum	20 12	700	M	Intermediate Asymmetrical	Normal	High	Low	Co dominant leaders at 1.4 m., vine covered trunk. Tree holding medium volume, small to medium sized deadwood.
79	*Eucalyptus eugenioides* Thin leaved Stringybark	18 10	400	M	Intermediate Asymmetrical	Low	High	Low	Leaning tree, trunk damage to 1.2 m. exposed heartwood. Poor structure.
80	*Eucalyptus crebra* Narrow Leaved Ironbark	14 10	400	M	Intermediate Asymmetrical	Normal	High	Low	Poor from and condition.
81	*Eucalyptus crebra* Narrow Leaved Ironbark	10 4	300	M	Suppressed Asymmetrical	Low	High	Low	Poor from and low vigour
82 83	*Eucalyptus fibrosa* Broad Leaved Red Ironbark	16 10	300	M	Codominant Asymmetrical	Low	High	Low	Co dependant trees holding high volumes of dead wood. Poor condition.
84	Dead tree								
85	*Eucalyptus fibrosa* Broad Leaved Red Ironbark	16 10	100 300 300	Semi	Intermediate Asymmetrical	Normal	High	Low	Multi trunked from base.
86	*Eucalyptus crebra* Narrow Leaved Ironbark	10 4	150 150	M	Suppressed Asymmetrical	Normal	High	Low	Stunted tree.
87 88	Dead trees								
89	*Eucalyptus tereticornis* Forest Red Gum	18 12	320 400	M	Co Dominant Asymmetrical	Low	High	Low	Rink barked leader to 1.5 m. high volume deadwood.
90 91 92	Dead trees								

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
93	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	340 350 350	M - OM	Codominant Symmetrical	Low	High	Low	Damaged leader, multi from base, 5% epicormics, high volume deadwood.
94	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	200 220 320 400	M - OM	Codominant Asymmetrical	Low	High	Low	Basal limb failure, damaged trunk at base, high volume of deadwood.
95	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	300	Semi	Suppressed Asymmetrical	Low	High	Low	Forest form, medium volume large size deadwood.
96 97 98	Dead trees								
99	*Eucalyptus crebra* Narrow Leaved Ironbark	18 6	220 280	M	Codominant Symmetrical	Normal	High	Low	Multi from base, forest form.
100	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	200	M	Codominant Asymmetrical	Normal	High	Low	Forest form, medium volume deadwood.
101	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	200	M	Codominant Asymmetrical	Normal	High	Low	Forest form, medium volume deadwood.
102	*Eucalyptus crebra* Narrow Leaved Ironbark	16 12	300	M	Codominant Asymmetrical	Normal	High	Low	Forest form, high volume large size deadwood.
103	*Eucalyptus tereticornis* Forest Red Gum	18 10	300	M	Suppressed Symmetrical	Low	High	Low	Vine covered trunk, poor form, and spindly tree.
104	*Eucalyptus eugenioides* Thin leaved Stringybark	10 6	200	M	Intermediate Symmetrical	Normal	High	Low	Near dead tree
105	*Eucalyptus eugenioides* Thin leaved Stringybark	20 14	400	M - OM	Intermediate Symmetrical	Normal	High	Low	Forest form, high volume deadwood, 5% epicormic shoots.
106	*Eucalyptus tereticornis* Forest Red Gum	12 6	200	M - OM	Suppressed Asymmetrical	Low	High	Low	Vine covered trunk, poor form, and spindly tree.
107	*Eucalyptus crebra* Narrow Leaved Ironbark	12 8	300	M	Intermediate Asymmetrical	Low	High	Low	Vine covered trunk, poor form, spindly multi trunked tree.
108	*Eucalyptus tereticornis* Forest Red Gum	18 8	300	M	Intermediate Asymmetrical	Low	High	Low	Poor form.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
109	*Eucalyptus eugenioides* Thin leaved Stringybark	18 8	400	Semi	Codominant Asymmetrical	Normal	High	Low	High canopy reduce to 5% upper crown cover, leaning tree with high volume small to medium size deadwood.
110	*Eucalyptus tereticornis* Forest Red Gum	22 10	500	M	Codominant Asymmetrical	Normal	High	Low	High canopy reduce to 15% upper crown cover, good from.
111	Dead tree								
112	*Eucalyptus punctata* X Grey Gum cross	12 4	200	M	Suppressed Symmetrical	Low	High	Low	Poor from and condition.
113	*Eucalyptus crebra* Narrow Leaved Ironbark	10 10	3 x 150 180 200	M	Intermediate Asymmetrical	Normal	High	Low	Multi trunked tree from base with basal hollows into root crown. High canopy reduce to 5% upper crown cover, poor form.
114	*Eucalyptus eugenioides* Thin leaved Stringybark	18 14	800	M	Co dominant Symmetrical	Normal	High	Low	Large tree on edge of stand.
115	*Eucalyptus tereticornis* Forest Red Gum	22 10	600	M	Dominant Symmetrical	Normal	High	Low	Significantly sized tree 1m. from neighbouring building. Open crown.
116	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	300	M	Intermediate Asymmetrical	Normal	High	Low	Co dominant leaders, 1 failure at 4 m.
117	*Eucalyptus eugenioides* Thin leaved Stringybark	10 10	300	M - OM	Codominant Symmetrical	Normal	High	Low	Poor from and condition.
118, 119	*Eucalyptus crebra* Narrow Leaved Ironbark	18 -10 14 - 8	600 200	M - OM	Codominant Asymmetrical	Low	High	Low	Near dead trees
120	*Eucalyptus crebra* Narrow Leaved Ironbark	10 12	300	M	Codominant Asymmetrical	Low	High	Low	Poor form health and vigour.
121	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 10	400	M	Suppressed Asymmetrical	Low	High	Low	High sparse forest form canopy, severe lean.
122	*Eucalyptus eugenioides* Thin Leaved Stringybark	16 8	200	M	Codominant Asymmetrical	Low	High	Low	High canopy reduce to 5% upper crown cover.
123	*Eucalyptus moluccana* Grey Box	24 14	600	M	Codominant Symmetrical	Low	High	Low	High sparse canopy, 5% upper crown cover, Large volume of medium size deadwood.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
124	*Eucalyptus moluccana* Grey Box	16 6	200	M	Codominant Symmetrical	Low	High	Low	High canopy reduce to 5% upper crown cover, poor form.
125	Dead tree								
126	Dead tree								
127	Dead tree	Ringbarked							
128	*Eucalyptus moluccana* Grey Box	14 12	200		Codominant Symmetrical	Normal	High	Low	Fair condition, in centre of block.
129	*Dead tree*								
130	*Eucalyptus fibrosa* Broad Leaf Ironbark	16 10	200	M	Codominant Asymmetrical	Normal	High	Low	High forest form canopy with 30% upper crown cover.
131	*Eucalyptus fibrosa* Broad Leaf Ironbark	16 10	300	M	Suppressed Asymmetrical	Normal	High	Low	High forest form canopy with 30% upper crown cover.
132	Not Surveyed								
133	Dead tree								
134	Not Surveyed								
135 136	*Eucalyptus tereticornis* Forest Red Gum *Eucalyptus moluccana* Grey Box						High	High	Neighbouring Trees No 58 within 1 m. of boundary
137	Dead tree								
138	*Eucalyptus fibrosa* Broad Leaf Ironbark	18 8	300	M	Suppressed Asymmetrical	Low	High	Low	High canopy reduce to 5% upper crown cover, suppressed tree.
139	*Eucalyptus fibrosa* Broad Leaf Ironbark	18 12	350 350	M	Codominant Asymmetrical	Normal	High	Low	Twin leaders from base, high canopy reduce to 10% upper crown cover, poor form.
140	*Eucalyptus fibrosa* Broad Leaf Ironbark	14 8	200	M	Intermediate Asymmetrical	Low	High	Low	High canopy reduce to 5% upper crown cover, suppressed tree.
141	Dead tree								

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
142	*Eucalyptus fibrosa* Broad Leaf Ironbark	20 14	600	M	Dominant Asymmetrical	Normal	High	Low	Twin leaders from base, high canopy reduce to 10% upper crown cover. Large tree.
143	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	300	Semi	Codominant Asymmetrical	Low	High	Low	Twin leaders from base, high canopy reduce to 10% upper crown cover, poor form.
144	*Eucalyptus crebra* Narrow Leaved Ironbark	16 8	200	M	Suppressed Asymmetrical	Low	High	Low	Twin leaders from base, high canopy reduce to 10% upper crown cover. Suppressed from.
145	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	400	M	Codominant Asymmetrical	Normal	High	Low	High forest form canopy with 20% upper crown cover.
146	*Eucalyptus crebra* Narrow Leaved Ironbark	18 12	180 180 180 200	M	Intermediate Asymmetrical	Low	High	Low	Multi from base, high volume deadwood.
147	*Eucalyptus crebra* Narrow Leaved Ironbark	16 14	220 220 280	M	Codominant Symmetrical	Normal	High	Low	Multi from base, high volume deadwood, included limbs.
148	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	200	M	Codominant Asymmetrical	Normal	High	Low	Co dominant leaders at 1.2 m. Poor structure, failed leader.
149	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	120 180 200 250	M	Codominant Asymmetrical	Low	High	Low	Damaged trunk at base, failed leader from base.
150	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	350 350	M	Codominant Asymmetrical	Normal	High		Multi trunked from base, high forest form canopy with 20% upper crown cover.
151	*Eucalyptus crebra* Narrow Leaved Ironbark	18 10	600	M	Codominant Asymmetrical	Normal	High	Low	Multi trunked 320, 350 350 mm from base. High volume deadwood. High forest form canopy.
152	*Eucalyptus moluccana* Grey Box	16 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy 30% upper crown cover.
153	*Eucalyptus moluccana* Grey Box	16 12	300	M - OM	Codominant Asymmetrical	Low	High	Low	High volume deadwood. High forest form canopy.
154	Dead tree								
155	*Eucalyptus moluccana* Grey Box	14 6	200	Sen.	Suppressed Asymmetrical	Low	Low	Low	Near dead tree

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
156	*Eucalyptus moluccana* Grey Box	18 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
157	Dead tree								
158	*Eucalyptus moluccana* Grey Box	18 12	400	M	Codominant Asymmetrical	Low	High	Low	Multi trunked 250 + 250 mm from base. High volume deadwood. High forest form canopy.
159	Dead tree								
160	*Eucalyptus moluccana* Grey Box	18 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
161	Dead tree								
162	*Eucalyptus moluccana* Grey Box	18 8	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 20% upper crown cover, high volume medium size deadwood.
163	*Eucalyptus moluccana* Grey Box	20 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 20% upper crown cover, high volume medium size deadwood.
164 165	Dead trees								
166	*Eucalyptus moluccana* Grey Box	12 8	300	M - OM	Codominant Asymmetrical	High	High	Low	High canopy 30% epicormic, high volume medium size deadwood, damaged trunk.
167	Dead tree Animal grazing/damage								
168	*Eucalyptus moluccana* Grey Box	18 10	300		Codominant Asymmetrical	Low	High	Low	Twin trunks from base, smaller trunk dead. Poor condition.
169	*Eucalyptus moluccana* Grey Box	20 12	400		Codominant Asymmetrical	Low	High	Low	Twin trunks from base, smaller trunk dead. Poor condition.
170, 171, 172, 173, 174		Dead Trees							
175	*Eucalyptus moluccana* Grey Box	18 12	300		Codominant Asymmetrical	Low	High	Low	High canopy 20% upper crown cover, high volume medium size deadwood.
176	*Eucalyptus moluccana* Grey Box	20 12	500		Codominant Asymmetrical	Low	High	Low	High canopy 20% upper crown cover, high volume medium size deadwood.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
177	Dead tree								
178	*Eucalyptus moluccana* Grey Box	14 8	200		Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume medium size deadwood.
179	*Eucalyptus moluccana* Grey Box	18 12	300		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover, high volume medium size deadwood. Damaged trunk, poor condition.
180	*Eucalyptus moluccana* Grey Box	18 12	400		Codominant Asymmetrical	Low	High	Low	High canopy 20% upper crown cover, high volume medium size deadwood. Basal cavity in trunk at ground level.
181	*Eucalyptus moluccana* Grey Box	18 10	300		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover, high volume medium size deadwood. Damaged trunk, poor condition.
182	*Eucalyptus moluccana* Grey Box	14 12	200		Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
183	*Eucalyptus moluccana* Grey Box	18 12	300		Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume deadwood.
184	*Eucalyptus moluccana* Grey Box	20 14	400		Codominant Asymmetrical	Normal	High	Low	120, 300, 320 mm from base. High canopy 20% upper crown cover.
185 186	Dead trees								
187	*Eucalyptus moluccana* Grey Box	16 6	200		Intermediate Asymmetrical	Low	High	Low	High canopy, 20% upper crown cover, high volume deadwood.
188	*Eucalyptus tereticornis* Forest Red Gum	22 12	500		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
189	*Eucalyptus tereticornis* Forest Red Gum	20 10	400		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover.
190	*Eucalyptus moluccana* Grey Box	22 10	400		Intermediate Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, poor condition
191	*Eucalyptus moluccana* Grey Box	18 12	300		Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, poor condition
192	Dead tree								

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
193	*Eucalyptus moluccana* Grey Box	18 12	600		Intermediate Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, ringbarked trunk damage, near dead.
194	*Eucalyptus eugenioides* Thin leaved Stringybark	16 8	200		Suppressed Asymmetrical	Low	High	Low	High canopy 10% upper crown cover.
195	*Eucalyptus tereticornis* Forest Red Gum	16 10	200		Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood. Damaged trunk, poor condition.
196	*Eucalyptus moluccana* Grey Box	16 10	200		Intermediate Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, high volume deadwood.
197	*Eucalyptus moluccana* Grey Box	18 12	300		Intermediate Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Poor condition.
198	*Eucalyptus moluccana* Grey Box	18 8	200		Intermediate Asymmetrical	Low	High	Low	High canopy 15% upper crown cover.
199	*Eucalyptus moluccana* Grey Box	10 8	200		Intermediate Asymmetrical	Low	High	Low	High canopy. Damaged trunk, poor condition.
200	*Eucalyptus moluccana* Grey Box	16 8	300		Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
201	*Eucalyptus moluccana* Grey Box	18 10	300		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover, high volume medium size deadwood.
202	*Eucalyptus moluccana* Grey Box	18 10	300		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover, high volume medium size deadwood. Damaged trunk, poor condition.
203	*Eucalyptus eugenioides* Thin leaved Stringybark	16 10	300		Codominant Asymmetrical	Low	High	Low	High canopy 15% upper crown cover, high volume medium size deadwood. Damaged trunk, poor condition.
204	*Eucalyptus moluccana* Grey Box	18 2	300		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, part of co dependant group of suppressed trees.
205	*Eucalyptus moluccana* Grey Box	18 4	200		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, part of co dependant group of suppressed trees.
206	*Eucalyptus moluccana* Grey Box	10 6	200		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, part of co dependant group of suppressed trees.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
207	*Eucalyptus moluccana* Grey Box	18 8	200		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, co dependant group of suppressed trees.
208	*Eucalyptus moluccana* Grey Box	18 10	300		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, co dependant group of suppressed trees.
209	*Eucalyptus moluccana* Grey Box	18 8	300		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, co dependant group of suppressed trees.
210	*Eucalyptus punctata* Grey Gum	18 10	300	M	Dominant Asymmetrical	Normal	High	Low	High canopy, 10% upper crown cover. Larger tree
211	*Eucalyptus moluccana* Grey Box	14 4	200	M	Intermediate Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, spindly tree.
212	*Eucalyptus moluccana* Grey Box	12 4	200	M	Intermediate Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
213	*Eucalyptus moluccana* Grey Box	12 4	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
214	*Eucalyptus moluccana* Grey Box	18 10	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume medium size deadwood.
215	*Eucalyptus eugenioides* Thin leaved Stringybark	18 10	400	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume small size deadwood.
216	*Eucalyptus eugenioides* Thin leaved Stringybark	16 4	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume small size deadwood.
217	*Eucalyptus moluccana* Grey Box	14 8	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
218	*Eucalyptus moluccana* Grey Box	18 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
219	*Eucalyptus eugenioides* Thin leaved Stringybark	20 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
220	*Eucalyptus moluccana* Grey Box	16 8	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover, high volume small to medium size deadwood.
221	Near dead tree								

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
222	*Eucalyptus crebra* Narrow Lead Ironbark	18 12	300		Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, co dependant group of suppressed trees.
223	*Eucalyptus moluccana* Grey Box	18 14	400	M	Codominant Asymmetrical	Low	High	Low	Trunk wounds to 1m., high volume small to medium size deadwood.
224	*Eucalyptus moluccana* Grey Box	10 4	200	M	Intermediate Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover, high volume small to medium size deadwood.
225	*Eucalyptus globoidea* White Stringybark						High	High	Neighbouring tree No 58 Tallawong Road. .5 m. from boundary
226	*Eucalyptus punctata* Grey Gum	18 10	400	M	Codominant Asymmetrical	Low	High	Low	Severe lean and poor condition.
227	*Eucalyptus tereticornis* Forest Red Gum	18 10	400	M	Codominant Symmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume small to medium size deadwood.
228	*Eucalyptus moluccana* Grey Box	14 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume medium size deadwood.
229	*Eucalyptus moluccana* Grey Box	16 6	200	M	Codominant Symmetrical	Low	High	Low	High canopy 5% upper crown cover, high volume medium size deadwood.
230	*Eucalyptus moluccana* Grey Box	20 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume medium size deadwood.
231	*Eucalyptus moluccana* Grey Box	14 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume small size deadwood.
232	*Eucalyptus tereticornis* Forest Red Gum	18 8	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 2% upper crown cover, high volume small size deadwood. Poor condition.
233	*Eucalyptus tereticornis* Forest Red Gum	20 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy, 2% upper crown cover. Near dead tree.
234	*Eucalyptus eugenioides* Thin leaved Stringybark	20 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover, basal sucker 300 mm in diameter, ringbarked.
235	*Eucalyptus punctata* Grey Gum	14 6	300	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Co dominant leaders at 1.5 m. Poor structure.
236	*Eucalyptus moluccana* Grey Box						High	Low	Neighbouring tree No 58 Tallawong Road. 1m. from boundary

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
237	*Eucalyptus tereticornis* Forest Red Gum	20 12	600	M	Codominant Asymmetrical	Low	High	Low	Twin trunks 300, 400 mm at 1 m. High canopy, 5% upper crown cover.
238	*Eucalyptus tereticornis* Forest Red Gum	18 10	400	M	Codominant Asymmetrical	Low	High	Low	Stunted tree, 5% upper crown cover. Poor specimen.
239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250	*Eucalyptus* spp. X 12 trees						Medium	High	Neighbouring Trees No 58 within 2 m. of boundary
251	*Eucalyptus punctata* Grey Gum	20 16	900	M	Codominant Asymmetrical	Low	High	Low	Severe lean and poor condition.
252	*Eucalyptus moluccana* Grey Box	8 6	200		Suppressed Asymmetrical		High	Low	Sparse canopy, twin trunks from base.
253	*Eucalyptus crebra* Narrow Leaf Ironbark	20 12	600		Codominant Asymmetrical		High	Medium	Multi trunked from base
254	*Eucalyptus eugenioides* Thin leaved Stringybark	18 10	500		Codominant Asymmetrical		High	Low	
255	*Eucalyptus crebra* Narrow Leaf Ironbark	18 14	500		Dominant Symmetrical		High	Medium	Large tree on rear boundary
256	*Eucalyptus crebra* Narrow Leaf Ironbark	18 14	500		Codominant Asymmetrical		High	Low	Damaged trunk, canopy cover reduced to10% upper crown only.
257	*Eucalyptus tereticornis* Sydney Red Gum	18 10	500		Codominant Asymmetrical		High	Low	Lower trunk damage, poor condition.
258	*Eucalyptus globoidea* White Stringybark	16 12	400		Dominant Symmetrical		High	Medium	Large tree, average condition.
259	*Eucalyptus tereticornis* Forest Red Gum	10 6	400		Suppressed Asymmetrical		High	Low	High crown with cover reduced to 10%
260	*Eucalyptus crebra* Narrow Leaf Ironbark	18 10	400		Intermediate Asymmetrical		High	Low	Co dominant leaders with compression fork, included bark. Poor structure
261	*Eucalyptus tereticornis* Forest Red Gum	16 10	400		Codominant Asymmetrical		High	Low	Multi trunk from 1 m. poor condition.
262	*Eucalyptus amplifolia* Cabbage Gum	20 10	400		Intermediate Asymmetrical		High	Low	High crown with cover reduced to 10%

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
263	*Eucalyptus amplifolia* Cabbage Gum	14 4	200		Intermediate Asymmetrical		High	Low	Co dominant leaders from the base, 50% of canopy dead.
264	*Eucalyptus eugenioides* Thin Leaved Stringybark	14 4	200		Suppressed Asymmetrical		High	Low	Co dominant at 3 m. sparse canopy cover.
265	*Eucalyptus crebra* Narrow Leaf Ironbark	20 12	700	Sen.	Codominant Asymmetrical		High	Low	Larger tree with large volume of deadwood to 12m. ¾ canopy. 20% canopy cover.
266	*Eucalyptus crebra* Narrow Leaf Ironbark	16 6	200	Sen.	Intermediate Asymmetrical		High	Low	Failed leader at 1m. 50% tree dead.
267	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 12	600	M	Suppressed Asymmetrical		High	Low	High crown, reduced canopy.
268	*Eucalyptus crebra* Narrow Leaf Ironbark	18 14	300	M	Suppressed Asymmetrical		High	Low	High crown, reduced canopy.
269	*Eucalyptus crebra* Narrow Leaf Ironbark	14 14	200	M	Suppressed Asymmetrical		High	Low	High crown, reduced canopy.
270	*Eucalyptus crebra* Narrow Leaf Ironbark	16 8	300	Sen.	Codominant Asymmetrical		High	Low	Failed leader from base. 50% of tree dead.
271	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 8	400	M	Codominant Asymmetrical	Low	High	Low	High forest form canopy 10% upper crown cover.
272	*Eucalyptus moluccana* Grey Box	16 6	300	M	Codominant Asymmetrical	Low	High	Low	Twin trunks from base, poor form.
273	Near dead tree								
274	*Eucalyptus moluccana* Grey Box	22 16	900	M	Dominant Asymmetrical	Low	High	Low	Larger tree with large volume of deadwood, multi leaders from base.
275	Near dead tree								
276	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 14	500	M	Codominant Asymmetrical	Low	High	Low	High forest canopy 5% upper crown cover. Poor specimen.
277	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 12	400	M	Codominant Asymmetrical	Low	High	Low	High forest canopy 10% upper crown cover.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
278	*Eucalyptus moluccana* Grey Box	16 12	300	M	Codominant Asymmetrical	Low	High	Low	Poor form and structure, damage trunk with twin leaders, compression fork from 1 m.
279	*Eucalyptus tereticornis* Forest Red Gum	16 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 5 - 10% upper crown cover, high volume small size deadwood.
280	*Eucalyptus eugenioides* Thin Leaved Stringybark	16 12	300	M	Suppressed Asymmetrical	Low	High	Low	Stunted tree, 120, 150 170 mm trunks from base.
281	*Eucalyptus punctata* Grey Gum	12 10	200	M	Codominant Asymmetrical	Low	High	Low	High sparse canopy, 5% upper crown cover.
282	*Eucalyptus crebra* Narrow Leaf Ironbark	22 12	600	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Tall tree.
283	Fallen dead tree								
284	*Eucalyptus moluccana* Grey Box	20 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, dead basal sucker.
285	*Eucalyptus moluccana* Grey Box	14 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume small size deadwood.
286	*Eucalyptus moluccana* Grey Box	14 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Near dead tree.
287	*Eucalyptus tereticornis* Forest Red Gum	20 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
288	*Eucalyptus tereticornis* Forest Red Gum	18 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Co dominant leaders at 1 m. from base. Poor structure.
289	*Eucalyptus tereticornis* Forest Red Gum	18 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Near dead tree.
290	*Eucalyptus tereticornis* Forest Red Gum	22 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Co dominant leaders at .5 m. from base. Poor structure.
291	*Eucalyptus crebra* Narrow Leaf Ironbark	22 12	600	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. 150, 180, 180 mm co dominant leaders from base. Poor condition.
292	*Eucalyptus crebra* Narrow Leaf Ironbark	12 10	200	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, dead basal sucker.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
293	*Eucalyptus tereticornis* Forest Red Gum	16 6	300	M	Codominant Asymmetrical	Low	High	Low	3 -5% upper crown cover, trunk damaged at base.
294	*Eucalyptus eugenioides* Thin Leaved Stringybark	16 10	400	M	Dominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. High volume small and medium size deadwood.
295	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 8	300	M	Codominant Asymmetrical	Low	High	Low	Trunk damage, exposed heartwood, poor wound wood healing.
296	*Eucalyptus tereticornis* Forest Red Gum	20 10	400	M	Codominant Asymmetrical	Low	High	Low	Co dominant leaders from base with smaller trunk damaged, large cavity. Poor structure.
297	*Eucalyptus eugenioides* Thin Leaved Stringybark	22 14	500	M	Dominant Asymmetrical	Low	High	Low	High canopy, 15% upper crown cover.
298	*Eucalyptus moluccana* Grey Box	12 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Poor condition.
299	*Eucalyptus moluccana* Grey Box	18 14	700	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, dead basal sucker.
300	*Eucalyptus moluccana* Grey Box	20 14	400	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, basal sucker.
301	*Eucalyptus moluccana* Grey Box	20 14	400	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. High volume medium sized deadwood.
302	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 14	700	M	Codominant Asymmetrical	Low	High	Low	Poor structure, co dominant from base, poor overall condition.
303	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 12	700	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Poor structure.
304	*Eucalyptus moluccana* Grey Box	12 8	200	M	Codominant Asymmetrical	Low	High	Low	5% upper crown cover, twin trunks from base.
305	*Eucalyptus moluccana* Grey Box	18 12	400	M	Codominant Asymmetrical	Low	High	Low	Multi trunk from base with trunk wound from 1.4 m. high volume medium sized deadwood.
306	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 14	500	M	Codominant Asymmetrical	Low	High	Low	Near dead tree, large limb failures.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
307	*Eucalyptus tereticornis* Forest Red Gum	10 6	200	M	Suppressed Asymmetrical	Low	High	Low	Suppressed small tree, 5% upper crown cover. Leaves animal grazed.
308	*Eucalyptus moluccana* Grey Box	16 12	400	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Medium volume, medium size deadwood.
309	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Medium volume, medium size deadwood.
310	*Eucalyptus moluccana* Grey Box	22 16	900	M	Codominant Asymmetrical	Normal	High	Medium	Larger tree, 10% upper crown cover. Co dominant leaders 150, 150, 400mm diameter from base.
311	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, dead basal sucker.
312	*Eucalyptus moluccana* Grey Box	14 8	200	M	Codominant Asymmetrical	Low	High	Low	Co dominant leaders from base. Poor structure, branch inclusions.
313	*Eucalyptus moluccana* Grey Box	16 8	300	M	Codominant Asymmetrical	Low	High	Low	Co dominant leaders from base, high volume medium size deadwood.
314	*Eucalyptus tereticornis* Forest Red Gum	12 4	200	M	Suppressed Asymmetrical	Low	High	Low	High, spindly canopy, 5% upper crown cover.
315	Dead tree								
316	*Eucalyptus moluccana* Grey Box	18 12	900	M	Suppressed Asymmetrical	Low	High	Low	120, 150, 180 350 mm from base, suppressed form and poor structure.
317	*Eucalyptus moluccana* Grey Box	18 10	300	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
318	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 14	300	M	Suppressed Asymmetrical	Low	High	Low	Straggly emergent tree. Poor condition.
319	*Eucalyptus tereticornis* Forest Red Gum	20 12	400	M	Codominant Asymmetrical	Low	High	Low	Co dominant leaders at .5 m. from base. Poor structure.
320	*Eucalyptus eugenioides* Thin Leaved Stringybark	12 6	200	M	Intermediate Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume small size deadwood.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
321	*Eucalyptus moluccana* Grey Box	18 10	400	M	Codominant Asymmetrical	Low	High	Low	High canopy with branch inclusions at 5m., poor structure.
322	*Eucalyptus moluccana* Grey Box	16 6	300	M	Codominant Asymmetrical	Low	High	Low	High canopy with branch inclusions at 4 m., poor structure.
323	*Eucalyptus moluccana* Grey Box	16 10	300	M	Codominant Asymmetrical	Low	High	Low	High canopy with branch inclusions at 2.3 m., poor structure.
324	*Eucalyptus tereticornis* Forest Red Gum	18 12	400	M	Codominant Asymmetrical	Low	High	Low	Damaged trunk union at 4.5 m. Poor structure.
325	*Eucalyptus moluccana* Grey Box	16 6	200	M	Suppressed Asymmetrical	Low	Low	Low	High canopy 5% upper crown cover, stunted tree.
326, 327, 328	Dead trees								
329	*Eucalyptus moluccana* Grey Box	20 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy. Co dominant leaders at .5 m. from base.
330	*Eucalyptus eugenioides* Thin Leaved Stringybark	20 12	500	M	Codominant Asymmetrical	Low	High	Low	High volume small and large size deadwood. Near dead tree.
331	*Eucalyptus moluccana* Grey Box	12 4	200	M	Suppressed Asymmetrical	Low	Low	Low	Poor condition, low vigour.
332	*Eucalyptus eugenioides* Thin Leaved Stringybark	18 14	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Near dead tree. Active termite mound at base.
333	*Eucalyptus tereticornis* Forest Red Gum	20 12	500	M	Codominant Asymmetrical	Low	High	Low	Damaged main leader at 1.2 m. poor structure.
334	*Eucalyptus moluccana* Grey Box	18 12	500	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Basal decay into root crown.
335	*Eucalyptus crebra* Narrow Leaf Ironbark	16 12	500	M	Codominant Asymmetrical	Low	Low	Low	Tree failed/storm damaged at 6 m.
336	*Eucalyptus moluccana* Grey Box	18 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover, high volume small to medium size deadwood.
337	*Eucalyptus crebra* Narrow Leaf Ironbark	16 12	500	M	Codominant Asymmetrical	Low	Low	Low	Tree failed/storm damaged at 6 m.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
338	*Eucalyptus moluccana* Grey Box	22 12	500	M	Suppressed Asymmetrical	Low	Low	Low	Twin trunks from base, 200, 350mm. diameter. Smaller trunk co dominant at 3.2m. larger trunk wounded from base to 3m., hollow.
339	*Eucalyptus moluccana* Grey Box	18 12	500	M	Codominant Asymmetrical	Low	Low	Low	Failed branch union at 1.1 m., poor condition.
340	*Eucalyptus moluccana* Grey Box	18 12	500	M	Codominant Asymmetrical	Low	High	Low	High volume small and medium size deadwood. 350 350 mm trunks from 1m.
341	Dead tree								
342	*Eucalyptus moluccana* Grey Box	18 10	200	M	Suppressed Asymmetrical	Low	High	Low	High forest from canopy, 10% upper crown cover.
343	*Eucalyptus moluccana* Grey Box	16 10	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover.
344	*Eucalyptus moluccana* Grey Box	16 10	300	M	Suppressed Asymmetrical	Low	High	Low	Suppressed tree with failed co dominant leader at Base.
345	*Eucalyptus fibrosa* Broad Leaf Ironbark	22 14	600	M	Codominant Asymmetrical	Low	High	Low	300 600 mm from base. High volume small and large size deadwood.
346	*Eucalyptus fibrosa* Broad Leaf Ironbark	16 10	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Co dominant leaders at 1.4 m.
347	*Eucalyptus moluccana* Grey Box	16 12	300	M	Suppressed Asymmetrical	Low	Low	Low	Stunted mallee form tree.
348	*Eucalyptus moluccana* Grey Box	20 10	600	M	Codominant Asymmetrical	Low	High	Low	Dead leader, 50% of tree failed.
349	*Eucalyptus tereticornis* Forest Red Gum	20 14	700	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Active termite mound at base.
350	*Eucalyptus moluccana* Grey Box	16 12	200	M	Codominant Asymmetrical	Low	High	Low	Co dominant leaders from base. Poor structure. Large volume of deadwood.
351	*Eucalyptus moluccana* Grey Box	18 12	500	M	Codominant Asymmetrical	Low	High	Low	Co dominant/twin leaders at .5 m. from base. High volume medium small size deadwood.
352	*Eucalyptus moluccana* Grey Box	14 8	300	M	Codominant Asymmetrical	Low	High	Low	Declining condition. 30% canopy comprised epicormic shoots.

Tree No.	Genus/species Common Name	Height Spread	D.B.H. mm	Age	Crown Form Condition	Vigour	STARS Sign.	Retention Value	Observations/ Condition of Trees
353	*Eucalyptus crebra* Narrow Leaf Ironbark	16 10	300	M	Codominant Asymmetrical	Low	High	Low	High canopy 5% upper crown cover, dead basal sucker.
354	*Eucalyptus crebra* Narrow Leaf Ironbark	18 16	500	M	Codominant Asymmetrical	Low	High	Low	High canopy 10% upper crown cover, high volume small size deadwood.
355	*Eucalyptus crebra* Narrow Leaf Ironbark	18 14	600	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Near dead tree.
356	*Eucalyptus crebra* Narrow Leaf Ironbark	16 2	200	M	Suppressed Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover.
357	*Eucalyptus crebra* Narrow Leaf Ironbark	14 6	200	M	Codominant Asymmetrical	Low	High	Low	High canopy, 10% upper crown cover. Co dominant leaders at 1 m. from base. Poor structure.
358	*Eucalyptus crebra* Narrow Leaf Ironbark	18 12	300	M	Codominant Asymmetrical	Low	High	Low	High canopy, 5% upper crown cover. Near dead tree.
359	*Eucalyptus crebra* Narrow Leaf Ironbark	16 12	300	Sen	Intermediate Asymmetrical	Normal	High	Low	Twin trunks from base, crown dieback, near dead tree.
360	*Eucalyptus tereticornis* Forest Red Gum	22 16	980	M	Codominant Asymmetrical	Normal	High	Low	Large tree with cavities in lower trunk, structurally unstable. Failure from base.
361	*Eucalyptus crebra* Narrow Leaf Ironbark	20 12	400	Sen	Suppressed Asymmetrical	Normal	High	Low	High forest form canopy, high volume of deadwood
362	*Eucalyptus crebra* Narrow Leaf Ironbark	18 12	500	Sen	Intermediate Asymmetrical	Normal	High	Low	Near dead tree, multi trunked from base with 350 mm trunk failure. high volume of deadwood
363	*Eucalyptus crebra* Narrow Leaf Ironbark	10 8	200	Sen	Intermediate Asymmetrical	Normal	High	Low	Near dead tree 20% canopy cover, basal trunk cavity.
364	*Eucalyptus globoidea* White Stringybark	20 14	600	Sen	Intermediate Asymmetrical	Normal	High	Low	Near dead tree, high volume of deadwood
365	*Eucalyptus moluccana* Grey Box	14 6	200	Sen	Codominant Asymmetrical	Normal	High	Low	Large wound base of trunk, poor condition.
366	*Eucalyptus crebra* Narrow Leaf Ironbark	18 12	300	Sen	Intermediate Asymmetrical	Normal	High	Low	Near dead tree, high volume of deadwood
367	*Eucalyptus crebra* Narrow Leaf Ironbark	16 12	200	Sen	Intermediate Asymmetrical	Normal	High	Low	Near dead tree, high volume of deadwood, 10% canopy cover.

Appendix 3

References

1. A Visual Tree Assessment (VTA) is a systematic method of identifying tree characteristics and hazard potential recognised by The International Society of Arboriculture. Journal of Arboriculture, Vol. 22, No. 6, November 1996.

The VTA was formulated by Mattheck and Breloer and described in, - Mattheck, C. and Breloer, H (2001) *The Body Language of Trees a Handbook for Failure Analysis*, Department of Transport, Local Government and the Regions. London, Research for Amenity Trees No. 4.

2. Standards Australia 2009, *Australian Standard 4970 Protection of trees on development sites*, Standards Australia, Sydney, Australia.

3. Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Appendix 4 General Tree Protection Measures

4.1 Tree Protection Fencing

The Protective fencing where required may delineate the TPZ and should be located as determined by the project or council arborist.

Fencing should be erected before any machinery or materials are brought onto the site and before the commencement of works including demolition.
Once erected, protective fencing must not be removed or altered without approval by the project or council arborist.

The TPZ must be secured to restrict access.

AS 4687 Temporary fencing and hoardings specifies applicable fencing requirements.

Shade cloth or similar should be attached to reduce the transport of dust, other particulate matter and liquids into the protected area.

Fence posts and supports should have a diameter greater than 20 mm and be located clear of roots.

Existing perimeter fencing and other structures may be suitable as part of the protective fencing.

Chain wire mesh panels with shade cloth attached, held in place with concrete feet.

Alternative plywood or wooden paling fence panels. The fencing material also prevents building materials or soil entering the TPZ.

Mulch installation across surface of TPZ (at the discretion of the project arborist).

No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.

Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

4.2 Activities Restricted within the TPZ

Activities generally excluded from the TPZ included but are not limited to -
Machine excavation including trenching;
Excavation for silt fencing;
Cultivation;
Storage;
Preparation of chemicals, including preparation of cement products;
Parking of vehicles and plant;
Refuelling;
Dumping of waste;
Wash down and cleaning of equipment;
Placement of fill;
Lighting of fires;
Soil level changes;
Temporary or permanent installation of utilities and signs, and
Physical damage to the tree.

Appendix 5

Significance of a Tree, Assessment Rating System (STARS) ©

Institute of Australian Consulting Arborists 2010© from an original concept by
Footprint Green Tree Significance & Retention Value Matrix, June 2001.

Tree Significance - Assessment Criteria

1 High Significance in landscape

The tree is in good condition and good vigour;

The tree has a form typical for the species;

The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;

The tree is listed as a Heritage Item, Threatened Species or part of an Endangered Ecological Community or listed on Councils significant Tree Register;

The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;

The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;

The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa *in situ* - tree is appropriate to the site conditions.

2 Medium Significance in landscape

The tree is in fair-good condition and good or low vigour;

The tree has form typical or atypical of the species;

The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area

The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,

The tree provides a fair contribution to the visual character and amenity of the local area,

The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa *in situ*.

3 Low Significance in landscape

The tree is in fair-poor condition and good or low vigour;

The tree has form atypical of the species;

The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,

The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,

The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,

The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,

The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,

The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,

The tree is a declared noxious weed by legislation.

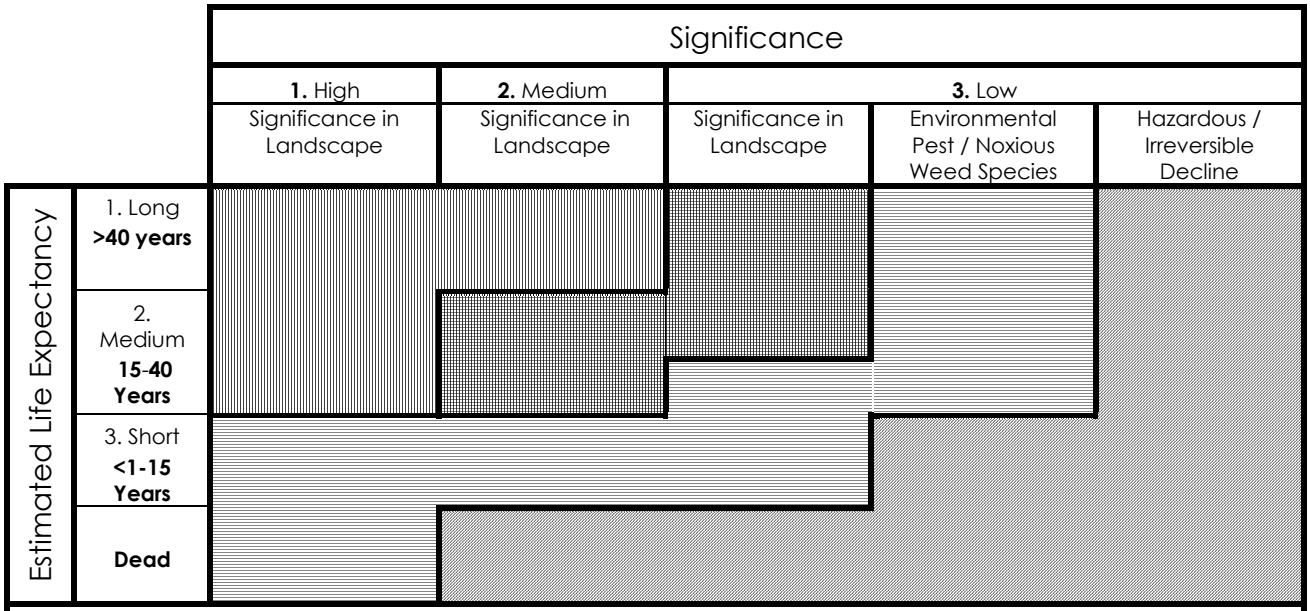
Hazardous/Irreversible Decline

The tree is structurally unsound and/or unstable and is considered potentially dangerous,

The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

Appendix 6

Tree Retention Value - Priority Matrix.



Legend for Matrix Assessment

	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 *Protection of trees on development sites*. Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for Removal (Low) - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	Priority for Removal - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

References

IACA, 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

Appendix 7

Matrix - Sustainable Retention Index Value (SRIV) ©

Institute of Australian Consulting Arboriculturists, Australia, 2010, Sustainable Retention Index Value (SRIV), Version 4.
A visual method of objectively rating the viability of urban trees for development sites and management, based on general tree and landscape assessment criteria.

The matrix is to be used with the value classes defined in the Glossary for Age / Vigour / Condition.
An index value is given to each category where ten (10) is the highest value.

Age Class	**Vigour Class and Condition Class**					
	Good Vigour & Good Condition (GVG)	Good Vigour & Fair Condition (GVF)	Good Vigour & Poor Condition (GVP)	Low Vigour & Good Condition (LVG)	Low Vigour & Fair Condition (LVF)	Low Vigour & Poor Condition (LVP)
	Able to be retained if sufficient space available above and below ground for future growth. No remedial work or improvement to growing environment required. May be subject to high vigour. Retention potential - Medium – Long Term.	Able to be retained if sufficient space available above and below ground for future growth. Remedial work may be required or improvement to growing environment may assist. Retention potential - Medium Term. Potential for longer with remediation or favourable environmental conditions.	Able to be retained if sufficient space available above and below ground for future growth. Remedial work unlikely to assist condition, improvement to growing environment may assist. Retention potential - Short Term. Potential for longer with remediation or favourable environmental conditions.	May be able to be retained if sufficient space available above and below ground for future growth. No remedial work required, but improvement to growing environment may assist vigour. Retention potential - Short Term. Potential for longer with remediation or favourable environmental conditions.	May be able to be retained if sufficient space available above and below ground for future growth. Remedial work or improvement to growing environment may assist condition and vigour. Retention potential - Short Term. Potential for longer with remediation or favourable environmental conditions.	Unlikely to be able to be retained if sufficient space available above and below ground for future growth. Remedial work or improvement to growing environment unlikely to assist condition or vigour. Retention potential - Likely to be removed immediately or retained for Short Term. Potential for longer with remediation or favourable environmental conditions.
(Y) Young	**YGVG - 9** **Index Value 9** Retention potential - Long Term. Likely to provide minimal contribution to local amenity if height <5 m. High potential for future growth and adaptability. Retain, move or replace.	**YGVF - 8** **Index Value 8** Retention potential - Short – Medium Term. Potential for longer with improved growing conditions. Likely to provide minimal contribution to local amenity if height <5 m. Medium-high potential for future growth and adaptability. Retain, move or replace.	**YGVP - 5** **Index Value 5** Retention potential - Short Term. Potential for longer with improved growing conditions. Likely to provide minimal contribution to local amenity if height <5 m. Low-medium potential for future growth and adaptability. Retain, move or replace.	**YLVG - 4** **Index Value 4** Retention potential - Short Term. Potential for longer with improved growing conditions. Likely to provide minimal contribution to local amenity if height <5 m. Medium potential for future growth and adaptability. Retain, move or replace.	**YLVF - 3** **Index Value 3** Retention potential - Short Term. Potential for longer with improved growing conditions. Likely to provide minimal contribution to local amenity if height <5m. Low-medium potential for future growth and adaptability. Retain, move or replace.	**YLVP - 1** **Index Value 1** Retention potential - Likely to be removed immediately or retained for Short Term. Likely to provide minimal contribution to local amenity if height <5 m. Low potential for future growth and adaptability.
(M) Mature	**MGVG - 10** **Index Value 10** Retention potential - Medium - Long Term.	**MGVF - 9** **Index Value 9** Retention potential - Medium Term. Potential for longer with improved growing conditions.	**MGVP - 6** **Index Value 6** Retention potential - Short Term. Potential for longer with improved growing conditions.	**MLVG - 5** **Index Value 5** Retention potential - Short Term. Potential for longer with improved growing conditions.	**MLVF - 4** **Index Value 4** Retention potential - Short Term. Potential for longer with improved growing conditions.	**MLVP - 2** **Index Value 2** Retention potential - Likely to be removed immediately or retained for Short Term.
(O) Over-mature	**OGVG - 6** **Index Value 6** Retention potential - Medium - Long Term.	**OGVF - 5** **Index Value 5** Retention potential - Medium Term.	**OGVP - 4** **Index Value 4** Retention potential - Short Term.	**OLVG - 3** **Index Value 3** Retention potential - Short Term. Potential for longer with improved growing conditions.	**OLVF - 2** **Index Value 2** Retention potential - Short Term.	**OLVP - 0** **Index Value 0** Retention potential - Likely to be removed immediately or retained for Short Term.

Appendix 8

Glossary of Terms
From Dictionary for Managing Trees in Urban Environments

Age Most trees have a stable biomass for the major proportion of their life.
The estimation of the age of a tree is based on the knowledge of the expected lifespan of the taxa in situ divided into three distinct stages of measurable biomass, when the exact age of the tree from its date of cultivation or planting is unknown and can be categorized as *Young*, *Mature* and *Over-mature* (British Standards 1991, p. 13, Harris *et al*, 2004, p. 262).

Young Tree aged less than <20% of life expectancy, *in situ*.

Mature Tree aged 20-80% of life expectancy, *in situ*.

Over-mature Tree aged greater than >80% of life expectancy, *in situ,* or *senescent* with or without reduced *vigour*, and declining gradually or rapidly but irreversibly to death.

Condition of Trees A tree's *crown form* and growth habit, as modified by its *environment* (aspect, suppression by other trees, soils), the *stability* and *viability* of the *root plate*, trunk and structural branches (first (1st) and possibly second (2nd) order branches), including structural defects such as wounds, cavities or hollows, *crooked* trunk or weak trunk/branch junctions and the effects of predation by pests and diseases. These may not be directly connected with *vigour* and it is possible for a tree to be of *normal vigour* but in *poor condition*. Can be categorized as Good Condition, Fair Condition, Poor Condition or Dead.

Good Condition Tree is of good habit, with *crown form* not severely restricted for space and light, physically free from the adverse effects of *predation* by pests and diseases, obvious instability or structural weaknesses, fungal, bacterial or insect infestation and is expected to continue to live in much the same condition as at the time of inspection provided conditions around it for its basic survival do not alter greatly. This may be independent from, or contributed to by vigour.

Fair Condition Tree is of good habit or *misshapen*, a form not severely restricted for space and light, has some physical indication of *decline* due to the early effects of *predation* by pests and diseases, fungal, bacterial, or insect infestation, or has suffered physical injury to itself that may be contributing to instability or structural weaknesses, or is faltering due to the modification of the *environment* essential for its basic survival. Such a tree may recover with remedial works where appropriate, or without intervention may stabilise or improve over time, or in response to the implementation of beneficial changes to its local environment. This may be independent from, or contributed to by vigour.

Poor Condition Tree is of good habit or *misshapen*, a form not severely restricted for space and light, exhibits symptoms of advanced and irreversible decline such as fungal or bacterial infestation, major dieback in the branch and foliage crown, structural deterioration from insect damage, or storm damage from lightning strike, ring barking from borer activity.

Deadwood Dead branches within a tree's crown and considered quantitatively as separate to *crown cover* and can be categorised as *Small Deadwood* and *Large Deadwood* according to diameter, length and subsequent *risk* potential. The amount of dead branches on a tree can be categorized as *Low Volume Deadwood*, *Medium Volume Deadwood* and *High Volume Deadwood*. See also *Dieback.*

Small Deadwood A dead branch up to 10 mm diameter and usually <2 metres long, generally considered of low *risk* potential.

Large Deadwood A dead branch >10 mm diameter and usually >2 metres long, generally considered of high *risk* potential.

Low Volume Deadwood Where <5 dead branches occur that may require *removal*.

Medium Volume Deadwood Where 5-10 dead branches occur that may require *removal*.

High Volume Deadwood Where >10 dead branches occur that may require *removal*.

Epicormic Shoots Juvenile shoots produced at branches or trunk from *epicormic strands* in some Eucalypts (Burrows 2002, pp. 111-131) or sprouts produced from dormant or latent buds concealed beneath the bark in some trees. Production can be triggered by fire, pruning, wounding, or root damage but may also be as a result of *stress* or *decline*. Epicormic shoots can be categorized as *Low Volume Epicormic Shoots*, *Medium Volume Epicormic Shoots* and *High Volume Epicormic Shoots*.

Form of Trees

Crown Form The shape of the crown of a tree as influenced by the availability or restriction of space and light, or other contributing factors within its growing environment. Crown Form may be determined for tree shape and habit generally as *Dominant*, *Codominant*, *Intermediate*, *Emergent*, *Forest* and *Suppressed*. The habit and shape of a *crown* may also be considered qualitatively and can be categorized as *Good Form* or *Poor Form*.

Good Form Tree of *typical* crown shape and habit with proportions representative of the taxa considering constraints such as origin e.g. indigenous or exotic, but does not appear to have been adversely influenced in its development by environmental factors in situ such as *soil water* availability, prevailing wind, or cultural practices such as lopping and competition for space and light.

Poor Form Tree of *atypical* crown shape and habit with proportions not representative of the species considering constraints and appears to have been adversely influenced in its development by environmental factors in situ such as *soil water* availability, prevailing wind, cultural practices such as lopping and competition for space and light; causing it to be *misshapen* or disfigured by disease or vandalism.

Codominant Crowns of trees restricted for space and light on one or more sides and receiving light primarily from above e.g. constrained by another tree/s or a building.

Dominant Crowns of trees generally not restricted for space and light receiving light from above and all sides.

Emergent Crowns of trees restricted for space on most sides receiving most light from above until the *upper crown* grows to protrude above the canopy in a stand or forest environment. Such trees may be *crown form dominant* or transitional from *crown form intermediate* to *crown form forest* asserting both *apical dominance* and *axillary dominance* once free of constraints for space and light.

Forest Crowns of trees restricted for space and light except from above forming tall trees with narrow spreading crowns with foliage restricted generally to the top of the tree. The trunk is usually erect, straight and continuous, tapering gradually, crown often excurrent, with first order branches becoming structural, supporting the live crown concentrated towards the top of the tree, and below this point other first order branches arising radially with each *inferior* and usually temporary, divergent and ranging from horizontal to ascending, often with internodes exaggerated due to competition for space and light in the *lower crown*.

Intermediate Crowns of trees restricted for space on most sides with light primarily from above and on some sides only.

Suppressed Crowns of trees generally not restricted for space but restricted for light by being overtopped by other trees and occupying an understorey position in the canopy and growing slowly.

Leaning A tree where the trunk grows or moves away from upright. A leaning tree may maintain a static lean or display increasingly progressive lean over time and may be hazardous and prone to failure and collapse.
The degrees of leaning can be categorised as Slightly leaning (0^0 – 15^0 from upright), Moderately leaning (15^0 – 30^0 from upright), Severely leaning (30^0 – 45^0 from upright) or Critically leaning (>45^0 from upright).

Vigour Ability of a tree to sustain its life processes. This is independent of the condition of a tree but may impact upon it. Vigour can appear to alter rapidly with change of seasons (seasonality) e.g. dormant, deciduous or semi-deciduous trees.
Vigour can be categorized as Normal Vigour, High Vigour, Low Vigour and Dormant Tree Vigour.

Normal Vigour Ability of a tree to maintain and sustain its life processes. This may be evident by the typical growth of leaves, crown cover and crown density, branches, roots and trunk and resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

High Vigour Accelerated growth of a tree due to incidental or deliberate artificial changes to its growing environment that are seemingly beneficial, but may result in premature aging or failure if the favourable conditions cease, or promote prolonged senescence if the favourable conditions remain, e.g. water from a leaking pipe; water and nutrients from a leaking or disrupted sewer pipe; nutrients from animal waste, a tree growing next to a chicken coop, or a stock feed lot, or a regularly used stockyard; a tree subject to a stringent watering and fertilising program; or some trees may achieve an extended lifespan from continuous pollarding practices over the life of the tree.

Low Vigour Reduced ability of a tree to sustain its life processes. This may be evident by the atypical growth of leaves, reduced crown cover and reduced crown density, branches, roots and trunk, and a deterioration of their functions with reduced resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.