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ARBORICULTURAL ASSESSMENT REPORT

At

Clancy Catholic College
201 Carmichael Drive
West Hoxton

Prepared for

Fulton Trotter Architects

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DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Ross Jackson – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others. Unless stated otherwise:

- Information contained in this report covers only the trees examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, excavation, probing or coring; and
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

Ross Jackson.

Consulting Arborist No. 1695

19th July 2015

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1. BACKGROUND and METHODODOLGY

1.1 The purpose of this Tree Report is to inform and accompany the development application works at Clancy Catholic College, West Hoxton – The Site.

1.2 The report was commissioned by Fulton Trotter Architects, on behalf of the Catholic Education Office, Archdiocese of Sydney to respond to Council's requirements to consider the development impacts on trees associated with the proposed development on site.

1.3 This report outlines the health and condition of the subject trees, the remaining life expectancy of the trees, identifies any visible defects or other problems, describes which trees require pruning, removal, retention or represent a potential hazard and comments on the impact on these trees in relation to the works proposed. The report also provides recommended tree protection measures (Tree Management Plan) to ensure the long-term preservation of the trees to be retained where appropriate.

1.4 The Site is an existing college with lawns, driveway and gardens at West Hoxton.

1.5 The trees were identified by ground level Visual Tree Assessment (VTA) [1] only in the data collection, taken on 28th May 2015. No aerial (climbing) was undertaken.

1.6 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 600D) with no image enhancement either within the camera or on computer.

1.7 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.

1.8 The trees were identified and their genus species and common name used. The trees were identified by the use of data collected and compared to G Burnie, S Forrester et al (1997) **Botanica** Random House, Milsons Point, NSW Australia.

1.9 DBH. The Trunk Diameter at Breast Height (1.4 metres above ground level) in millimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.10 Height. Estimated overall height in metres.

1.11 Spread. Measured with a metal tape measure and shown in metres.

1.12 Useful Life Expectancy (ULE)[2].
A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. It gives a length of time that the Arborist feels a particular tree can be retained with an acceptable level of risk based on the information available at the time of the inspection. SULE ratings are Long

[1] Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England
[2] Barrell, Jeremy (1996, 2001) **Pre-development Tree Assessment** Proceedings of the International Conference on Trees and Building Sites (Chicago) International Society of Arboriculture, Illinois, USA

(retainable for 40 years or more with an acceptable level of risk), Medium, (retainable for 16 – 39 years), Short (retainable for 5 – 15 years) and Removal (tree requiring immediate removal due to imminent hazard or absolute unsuitability).

1.13 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated in terms of AS 4970 – 2009 Protection of trees on development site Section 3.

1.14 To prepare this report we have reviewed the following documents:

- Plan showing site detail on Existing Site Plan from Fulton Trotter Architects, project nos. 7023WH11, rev C;
- Proposed architectural plans by Fulton Trotter Architects project nos. 7023WH11, drawing SD101, issue C;
- Landscape plans by Site Design Studios dated 16.7.2015, Rev A;
- Liverpool City Council Tree Preservation Policy (TPO); &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the days of inspection (28.05.2015):

2.1 Our tree observations can be found in Annexure A.

3. DISCUSSIONS

3.1 We have been commissioned by Fulton Trotter Architects, on behalf of the Catholic Education Office, Archdiocese of Sydney to examine the health and condition of the trees on the Clancy Catholic College site.

It is proposed to undertake alterations and additions of a number of the college buildings and construct a new hall, visual arts/fitness building, canteen, playing courts, access road and landscaping on Site.

3.2 We have examined the trees on site and can suggest the following considerations for the design of the development:

1. Tree 1 *Elaeocarpus reticulatus* shows good vitality but with suspect branch junction at 1m. This tree is within the proposed additions to block B and will need to be removed. This species can be easily replaced;
2. Trees 2A, 2, 3, 4, 5, 6A, 6C, 7 & 8 *Lophostemon confertus* all have good vitality and form except for tree 6A (multiple trunks). Tree 2A & 4 is outside the proposed building works and can be retained and protected in the Tree Management Plan (TMP). All of the other trees are located within the building and will, need to be removed to construct Block M and the new entry Courtyard. Trees 2, 3, 4 & 5 are mature trees with good vitality and form – refer plate 1. It is possible to transplant these trees for reuse on site as they respond readily to the shock of transplanting. The site soil is a clay which is a benefit when transplanting these trees – the root plate will be stable and easily prepared for transplanting. Removal of trees 2, 3, 5, 6A, 6C, 7 & 8 is supported with the reuse of trees 2, 3 & 5;

Plate 1

Photo of tree 3 showing the form and condition of this specimen

3. Tree 5A *Sapium sebiferum* is a juvenile specimen with good vitality. No building works are an anticipated within the TPZ of this tree. However the retention of this tree so close to the switch board is not advisable. Removal is supported;
4. Trees 6 & 6B *Eucalyptus eximia* both show good vitality and form – tree 6 has mistletoe growing it its mid canopy (a parasitic plant). Both trees are within the footprint of Block M and will need to be removed;
5. Trees 9 – 15, 17 – 20, 24 – 34 *Agathis robusta* (on the whole good vitality and form) – refer plate 2. The Kauri Pine is a long lived hansom tree in maturity, able to adapt to the climate and soils at West Hoxton. These trees will be impacted by the building works associated with Block L, M and the associated open courtyards. However all these trees are of an ideal size and health and can be easily transplanted on site. Transplanting of these trees is recommended;

Plate 2

Photo of tree 20 – typical of the Kauri Pines for transplanting

6. Trees 21 & 22 *Eucalyptus amplifolia* & 23 *Corymbia citriodora* are a group of three trees within the proposed Undercroft structure beside Block N. Tree 21 shows fair vitality with signs of stress as seen by thinning foliage density in the canopy, epicormic regrowth and dieback of small twigs. Tree 22 has a similar condition as tree 21 with the additional issue of upper canopy suppression by tree 23. Tree 23 shows good vitality with a spreading canopy form. Tree 23 is a species well known to experience "Summer Branch Drop", where branches fail without reason. All these trees require removal to construct the Undercroft, however their removal is lessened when the condition of trees 22 & 23 are fully understood;
7. Trees 35A *Lophostemon confertus*, 35, 36, 37 *Eucalyptus eximia* all show good vitality except for tree 35A (Average vitality from being in a permanent bog). All these trees are within the southern end of Block L and the proposed playing courts – removal supported due to relatively small development – refer plate 3
Plate 3

Photo of tree 37 showing semi-mature size

8. Tree 38 *Eucalyptus amplifolia*, trees 38A (group of 50 semi-mature trees) & 38B (group of 12 semi-mature trees) *Eucalyptus amplifolia* all show good vitality, however trees 38A and 38B appear to be recently planted as a part of the landscaping associated with the original school development. These trees are located within the 10 metre wide drainage easement along the western side of the site. Tree 38 is a remnant tree with good vigour and vitality although bifurcated at 4m with minor bark inclusion – appears stable. These trees are to be retained in the existing drainage easement;
9. Trees 39 & 40 *Acacia* spp. are in poor vitality and will not live for much more than 3 – 5 years. Removal is supported regardless of any development works;
10. Trees 41, 42 & 43 *Corymbia maculata* all show good vitality and were planted when the school was developed. These trees are within the proposed access road linking the existing road to the Block N and the playing courts. Due to their relatively small size and the need to construct the access road, removal is supported;
11. Trees 43A, 43B, 44A, 44B, 44D *Eucalyptus amplifolia*, 43C & 43D, 44C, 44E *Eucalyptus* sp, 45, 45A (x 12) *Eucalyptus fibrosa*, 49A *Eucalyptus* sp x 4 & *Acacia decurrens* & 49B *Acacia decurrens* x 5, *Eucalyptus* sp & *Eucalyptus amplifolia* are located in the 10 metre wide drainage easement located along the western fence line. The extension of the access road appears to be outside the TPZ of these trees which allows for their retention, but need protection in the TMP;

12. Tree 44 *Eucalyptus amplifolia* has previously been lopped at 600mm with the entire canopy being epicormic regrowth branches – refer plate 4. This tree should be removed regardless of any development works;
Plate 4

13. Tree 45 *Eucalyptus fibrosa* shows good vitality with genetic bifurcated stems at 2m with included bark (usually associated with structural defective branch unions). This remnant tree is located within the proposed access road to Block N (canteen) and will need to be removed. It is acknowledged this tree is in good vitality but with its bifurcated trunks the structural integrity cannot be assured. Therefore removal is supported;
14. Trees 45B & 45C *Corymbia maculata* both show good vitality. The proposed access road extension is outside the TPZ of these trees which allows for their retention. To ensure their ongoing health, vitality and stability these trees will need to be protected and noted for retention in the TMP;
15. Trees 46, 47, 48 & 49 *Acacia* spp. all show average vitality and vigour – dieback of foliage, severe infestation by wasp forming the galls, and increasing deadwood. They will need to be removed to construct the access road. Removal is supported due to their short useful life expectancy;
16. Tree 50 *Eucalyptus amplifolia* shows good vitality with a self-corrected trunk supporting a small canopy. To remain;
17. Tree 51 *Eucalyptus fibrosa* shows fair vitality but suspect structural stability due a recent large stem failure, in all probability due to bark inclusion – refer plate 5. The structural integrity of this tree has been lost due to the recent branch failure as the failure is at the junction of the two remaining large stems. This tree must be considered a hazard and poses a danger to any user of this site. Removal is supported regardless of the development works;

Plate 5

Photo of the large branch failure from tree 51

18. Tree 52 has been removed since the survey was undertaken;
19. Tree 53 *Eucalyptus eugenioides* has a large termite mound at the base of the trunk (active termites were seen). The structural integrity of this tree has been compromised by the action of the termites. Therefore it is recommended for removal to ensure the ongoing safety of the staff and students at this college. Removal supported;
20. Tree 54, 54A, 56 & 59A *Eucalyptus paniculata*, tree 55, 59 & 60 *Eucalyptus eugenioides* and tree 59B *Casuarina glauca* have on the whole good to fair vitality. Trees 55 & 60 have genetic structural defects (included bark) that warrant their removal for safety reasons with this areas increased use. To remain;
21. Trees 61, 62 & 63 *Lagerstroemia indica* all show good vitality and typical form for this species – refer plate 6. These trees are within the building footprint and associated courtyard of the works for Block M and will need to be removed. These trees are of a size and species that can be easily transplanted for reuse on site.

Plate 6

4. LANDSCAPE PLANS

The landscape plans have retained as many of the trees with good vitality and form that are not impacted by the proposed building works, including the new entry courtyards.

The proposed landscaping is supported.

5. CONCLUSION

The majority of the trees assessed as part of this report show good vitality and form.

The site is an existing College with an increasing numbers of students attending this school.

Accordingly the proposed development is supported to meet this demand.

Where possible the existing trees have been retained and with a number that can be re-used on Site, rather than merely cutting them down.

6. RECOMMENDATIONS

In consideration of the data collected recommendations are provided for the removal or retention of trees including specific tree protection measures required to reduce the anticipated impacts from the proposed construction on those trees proposed to be retained.

The report specifically recommends:
1. The removal of the following trees on site: Trees 1, 2, 3, 5, 5A, 6, 6A, 6B, 6C, 7, 8, 9 – 15, 17 – 20, 21, 22, 23, 24 – 34, 35A, 35, 36, 37, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 51, 53, 61, 62, & 63;
2. The retention of the following trees on site: 2A, 4, 38, 38A, 38B, 43A, 43B, 43C, 43D, 44A, 44B, 44C, 44D, 44E, 45A, 45B, 45C, 49A, 49B, 50, 54, 54A, 55, 56, 59, 59A, 59B & 60;
3. Consideration of transplanting the following trees on site: Trees 9 – 15, 17 – 20, 24 – 34;
4. Tree removal work shall be carried out by an experienced tree surgeon in accordance with NSW WorkCover Code of Practice for Amenity Tree Industry (1998);
5. Replacement planting as shown on the landscape plans by Site Design Studios dated 16.7.2015, Rev A be approved;
6. Install the following Tree Protection Measures around the retained trees: Tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. Existing boundary fences or walls are to be retained shall constitute part of the tree protection fence where appropriate. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone;

7. That a Tree Management Plan be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 under the Australian Qualification Framework;
8. An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures; &
9. Our tree location plans can be found on Annexure B.

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Consulting Arborist Nos. 1695
Diploma Horticulture (Arboriculture) – AQF Level 5
Certificate III in Horticulture
Certificate in Horticulture (Landscape – Honours)

Annexure A: Observations as seen on the day of inspection of trees

Tree No	Botanical Name	Age Class	Height - m	Spread - m	D.B.H	D.B.R	TPZ & SRZ Rad.m	Condition comments on trees as seen on site	ULE
1	*Elaeocarpus reticulatus*	M	7	4	120	140	2.0, 1.5	G vitality, but suspect main stem un ion at 1m	3
2A	*Lophostemon confertus*	M	6	2	120	160	2.0, 1.5	G vitality	2
2	*Lophostemon confertus*	M	6	2	120	160	2.0, 1.5	G vitality	2
3	*Lophostemon confertus*	M	6	2	120	160	2.0, 1.5	G vitality	2
4	*Lophostemon confertus*	M	6	2	160	190	2.0, 1.5	G vitality	2
5	*Lophostemon confertus*	M	6	2	120	160	2.0, 1.5	G vitality	2
5A	*Sapium sebiferum*	SM	3	1	60	80	2.0, 1.5	G vitality - juvenile	2 (5)
6	*Eucalyptus eximia*	M	7	3	180	240	2.1, 1.8	G vitality – Mistle toe	2
6A	*Lophostemon confertus*	M	6	4	50, 90, 140 (180)	300	2.1, 2.0	G vitality – but not true to form (single trunk)	3
6B	*Eucalyptus eximia*	M	7	5	180	240	2.1, 1.8	G vitality	2
6C	*Lophostemon confertus*	M	7	4	160	190	2.0, 1.5	G vitality	2
7	*Lophostemon confertus*	M	7	4	160	190	2.0, 1.5	G vitality	2
8	*Lophostemon confertus*	M	6	3	140	180	2.0, 1.5	G vitality	2
9	*Agathis robusta*	SM	6	1	110	140	2.0, 1.5	G vitality	2 (5)
10	*Agathis robusta*	SM	6	1	80	110	2.0, 1.5	G vitality	2 (5)
11	*Agathis robusta*	SM	4.5	1	80	110	2.0, 1.5	G vitality	2 (5)
12	*Agathis robusta*	SM	4	1	80	110	2.0, 1.5	G vitality	2 (5)
13	*Agathis robusta*	SM	5	1	80	110	2.0, 1.5	G vitality	2 (5)
14	*Agathis robusta*	SM	5	1	80	110	2.0, 1.5	G vitality	2 (5)
15	*Agathis robusta*	SM	5	1	80	110	2.0, 1.5	G vitality	2 (5)
16	*No tree found*								
17	*Agathis robusta*	SM	6	1	110	160	2.0, 1.5	G vitality	2 (5)
18	*Agathis robusta*	SM	6	1	110	160	2.0, 1.5	G vitality	2 (5)
19	*Agathis robusta*	SM	5	1	80	100	2.0, 1.5	G vitality	2 (5)
20	*Agathis robusta*	SM	8	2	140	180	2.0, 1.5	G vitality	2 (5)
21	*Eucalyptus amplifolia*	M	18	18	650	720	7.8, 2.9	F vitality – crown lifted, thinning foliage density, epicormic regrowth & die back	4A
22	*Eucalyptus amplifolia*	M	9	4	200	270	2.4, 1.9	F vitality – thin canopy density, epicormic regrowth, die back & occluded basal injury. Suppressed	4A
23	*Corymbia citriodora*	M	16	18	800	850	9.6, 3.0	G vitality – suffers summer branch drop	4 (5)
24	*Agathis robusta*	SM	4	1	60	70	2.0, 1.5	G vitality	2 (5)
25	*Agathis robusta*	SM	7	1	110	140	2.0, 1.5	G vitality	2 (5)
26	*Agathis robusta*	SM	5	1	100	140	2.0, 1.5	G vitality	2 (5)
27	*Agathis robusta*	SM	6	2	160	180	2.0, 1.5	G vitality	2 (5)
28	*Agathis robusta*	SM	6	2	160	180	2.0, 1.5	G vitality	2 (5)
29	*Agathis robusta*	SM	4	1	80	100	2.0, 1.5	G vitality	2 (5)
30	*Agathis robusta*	SM	5	1	80	100	2.0, 1.5	G vitality	2 (5)
31	*Agathis robusta*	SM	6	1	140	180	2.0, 1.5	G vitality	2 (5)
32	*Agathis robusta*	SM	4	1	90	110	2.0, 1.5	G vitality	2 (5)
33	*Agathis robusta*	SM	5	1	110	140	2.0, 1.5	G vitality	2 (5)
34	*Agathis robusta*	SM	4	1	110	140	2.0, 1.5	G vitality	2 (5)

Tree No	Botanical Name	Age Class	Height - m	Spread - m	D.B.H	D.B.R	TPZ & SRZ Rad.m	Condition comments on trees as seen on site	ULE
35A	*Lophostemon confertus*	M	3.5	1	80	120	2.0, 1.5	A vitality – in constant bog (poor drainage / irrigation)	4A
35	*Eucalyptus eximia*	M	4	4	160	190	2.0, 1.5	G vitality	2
36	*Eucalyptus eximia*	M	4.5	4	190	200	2.2, 1.6	G vitality	2
37	*Eucalyptus eximia*	M	5	4	190	200	2.2, 1.6	G vitality	2
38	*Eucalyptus amplifolia*	M	20	14	730	820	8.7, 3.0	G vitality – bifurcated at 4m (stable). 10% deadwood. Borers	3
38A	*Eucalyptus amplifolia* x 50	SM	6 av	2 av	100 – 140av	140 – 200av	2.0, 1.5	G vitality	2
38B	*Eucalyptus amplifolia* x 12	SM	6 av	2 av	100av	150av	2.0, 1.5	G vitality	2
39	*Acacia* sp	M	8	4	220	240	2.6, 1.8	½ dead with extensive galls	4A
40	*Acacia* sp	M	8	2	80, 100, 60 (170)	200	2.0, 1.5	F - A vitality, thinning canopy density, galls, die back	3
41	*Corymbia maculata*	M	7	3	110	140	2.0, 1.5	G vitality – pole like	2
42	*Corymbia maculata*	M	7	3	110	140	2.0, 1.5	G vitality- pole like	2
43	*Corymbia maculata*	M	7	3	110	140	2.0, 1.5	G vitality – pole like	2
43A	*Eucalyptus amplifolia*	M	8	1	140	190	2.0, 1.5	G vitality	2
43B	*Eucalyptus amplifolia*	M	7	1	130	180	2.0, 1.5	G vitality	2
43C	*Eucalyptus sp*	M	7	2	160	190	2.0, 1.5	G vitality – scale on small twigs	3
43D	*Eucalyptus sp*	M	7	3	220	260	2.6, 1.9	G vitality – bifurcated at 1.5m (stable). Scale on small twigs	3
44	*Eucalyptus amplifolia (?)*	M	6	3	300	360	3.6, 2.2	Stump with entire canopy epicormic regrowth	4C
44A	*Eucalyptus amplifolia*	SM	4	1	100	120	2.0, 1.5	G vitality	2
44B	*Eucalyptus amplifolia*	SM	4	1	80	90	2.0, 1.5	G vitality	2
44C	*Eucalyptus sp*	M	8	5	200	260	2.4, 1.9	G vitality – bifurcated at 4m	3
44D	*Eucalyptus amplifolia*	M	8	2	120 x 2 (170)	280	2.1, 2.0	G vitality – twin stems with bifurcation	3
44E	*Eucalyptus sp*	M	6	1	90	110	2.0, 1.5	G vitality	2
45	*Eucalyptus fibrosa*	M	18	18	850	800	9.9, 3.0	G vitality with bifurcated stems	2
45A	*Eucalyptus fibrosa* x 12	M	6 -7 av	2 av	140 - 160	190 – 220	2.0, 1.5	G vitality	2
45B	*Corymbia maculata*	M	7	2	120	160	2.0, 1.5	G vitality – pole like	2
45C	*Corymbia maculata*	M	6	2	120	160	2.0, 1.5	G vitality – pole like	2
46	*Acacia sp*	M	7	2	100	160	2.0, 1.5	A vitality – dieback, galls & thinning canopy density	4A
47	*Acacia* sp	M	7	2	100	160	2.0, 1.5	A vitality – dieback, galls & thinning canopy density	4A
48	*Acacia* sp	M	7	2	100	160	2.0, 1.5	A vitality – dieback, galls & thinning canopy density	4A
49	*Acacia* sp	M	7	2	110	170	2.0, 1.5	A vitality – dieback, galls & thinning canopy density	4A
49A	*Eucalyptus sp* x 4, *Acacia decurrens*	M	6 – 7m av	2 - 4	200	220	2.4, 1.7	G vitality	3
49B	*Acacia decurrens* x 5, *Eucalyptus sp & Eucalyptus amplifolia*	M	6 – 7 av	2 - 3	200av	240av	2.4, 1.8	G vitality	2
50	*Eucalyptus amplifolia*	M	7	3	180	220	2.1, 1.7	G vitality	2
51	*Eucalyptus fibrosa*	M	20	18	750	830	8.9, 3.0	F vitality but suspect trunk stability – failed 1st order branch at 3m. Bifurcated stems at 5m	4C

Tree No	Botanical Name	Age Class	Height - m	Spread - m	D.B.H	D.B.R	TPZ & SRZ Rad.m	Condition comments on trees as seen on site	ULE
52	Removed								
53	*Eucalyptus eugenioides*	M	26	20	780	960	9.3, 3.3	G form but suspect stability / structural condition as a large termite mound at base of tree.	4D
54	*Eucalyptus paniculata*	M	18	14	550	600	6.5, 2.7	G vitality	2
54A	*Eucalyptus paniculata*	M	6	4	110	140	2.0, 1.5	G vitality	2
55	*Eucalyptus eugenioides*	M	22	10	500	600	6.0, 2.7	F vitality – bifurcated at 3, 6 & 8m. Thin canopy density	4C
56	*Eucalyptus paniculata*	M	16	6	300	360	3.6, 2.2	G vitality – suppressed form. Bifurcated at 3m	4C
57	Removed								
58	Removed								
59	*Eucalyptus eugenioides*	M	18	18	500	580	6.0, 2.6	F vitality – deadwood (10%), active termites, leaning	4 (4A)
59A	*Eucalyptus paniculata*	M	6	2	150	180	2.0, 1.5	G vitality	2
59B	*Casuarina glauca*	SM	6	2	90	140	2.0, 1.5	G vitality	2
60	*Eucalyptus eugenioides*	M	18	14	600	700	7.2, 2.8	G vitality – but trifurcated at 3m (instability?)	3 (4C)
61	*Lagerstroemia indica*	M	4	4	150	160	2.0, 1.5	G vitality	2 (5)
62	*Lagerstroemia indica*	M	4	2	80	90	2.0, 1.5	G vitality	2 (5)
63	*Lagerstroemia indica*	M	3	2	90	110	2.0, 1.5	G vitality	2 (5)

Terms used in Tree Survey & Report:

Age Class
(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy
(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics. 1/3 to 2/3 life expectancy
(M)- Mature refers to a full size tree with some capacity for future growth. Older than 2/3 life expectancy
(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.
Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor, (P) Poor & (D) Dead.**
Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection;
Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline;
Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion;
Dead: Tree no longer capable of sustained growth.

Height expressed in metres refers to estimated overall height of tree.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level.

(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(ULE) The various ULE categories indicate the useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age, condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995, 2001).

ULE RATING (UPDATED 1/4/01) BARRELL

1.Long ULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	**2.Medium ULE:** Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk.	**3.Short ULE:** Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk.	**4.Remove:** Trees that should be removed within the next 5 years.	**5.Small, young or regularly pruned:** Trees that can be reliably moved or replaced.
(A) Structurally sound trees located in positions that can accommodate future growth	**(A)** Trees that may only live between 15 and 40 more years.	**(A)** Trees that may only live between 5 and 15 more years.	**(A)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	**(A)** Small trees less than 5 Metres in height.
(B) Trees that could be made suitable for retention in the long term by remedial tree care.	**(B)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.	**(B)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.	**(B)** Dangerous trees because of instability or recent loss of adjacent trees.	**(B)** Young trees less than 15 years old but over 5 metres in height.
(C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	**(C)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.	**(C)** Formal hedges and trees intended for regular pruning to artificially control growth.
	(D) Trees that could be made suitable for retention in the medium term by remedial tree care.	**(D)** Trees that require substantial remedial tree care and are only suitable for retention in the short term.	**(D)** Damaged trees that are clearly not safe to retain.	
			(E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	
			(F) Trees that are damaging or may cause damage to existing structures within 5 years.	
			(G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F).	
			(H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.	

Annexure B: Tree location plan