Arborist Report

Client: Aveo Pty Ltd

Address: Vale Street, Shortland N.S.W 2308

Bradley Magus
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1.0 Executive Summary

- It is recommended that Aveo Pty Ltd embark on a management program for all trees as outlined in the tree schedule before commencement of the proposed building/constructions works as follows:

- It is recommended that all trees on site as per the site plan outlined in Figures 9 & 10 other than those earmarked for retention be removed immediately (before commencement of building works) by a qualified arborist (minimum certificate 2 in arboriculture). It is recommended that professional indemnity and public liability insurances be current and sighted before commencement of works begin. The level of cover has to be one in agreement between Aveo and the arborist.

- Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) be retained and incorporated into the development.. It is recommended that no structural roots greater than 90mm in diameter be pruned within the TPZ of retained trees.

- It is recommended that the soil changes be kept to a minimum within the TPZ of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and be raised by no more than 150mm. No soil changes are to occur within the SRZ of retained trees. It is recommended that all debris and waste on site that is located within the TPZ of retained trees be removed by small earth moving equipment. It is recommended that all debris and waste on site that is located within the SRZ of retained trees be removed by non-mechanised methods being wheel barrow and shovel and/or similar method. All other areas outside of the TPZ could be utilised with machinery.

- It is recommended that protection measures be put in place that aid in the preservation of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) It is recommended that 1.8 metre inter locking chain wire fencing be installed before commencement of building works on site as indicated in Figure 8 (Australian Standards 4970 – 2009). Protection fencing is to be installed to Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) a minimum of 5 metres from the trunk of retained trees on all sides. Where trees are being retained near internal roads it is recommended to construct the fencing on the site closest to the hardstand area to the edge of the proposed works and a minimum of five (5) metres to all other sides. Protection fencing is to be installed prior to all civil/building works and remain in place until the completion of all building works on site.

- It is recommended that all civil contractors that enter the site are made aware of the importance of preserving Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and understand the tree protection measures that are put in place to preserve Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total).

- All stockpile sites to be maintained a minimum 5 metres away from the trunk of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and all other trees that come under the requirements of Newcastle City Councils' Tree Preservation order.

- It is recommended that all parking of vehicles be kept a minimum 5 metres from retained trees during construction works.

- It is recommended to inspect retained trees during key stages of the development to determine their health and condition and to ensure that the trees are being retained in accordance with Australian Standards 4970 – 2009. It is recommended that key stages include after tree removal of all trees earmarked for removal, construction of all roads. Final inspection to be undertaken upon completion of building works on site.

- It is recommended that Aveo embark on a tree replanting program to replace trees lost due to the development. In order to compensate for the loss of trees on site excluding those already assessed per previous stages and those with low to very low retention value will include replacement of 961 Trees. These trees are to be planted on site or at a site earmarked by Newcastle City Council before completion of building works on site. It is recommended to replace with local endemic trees such as Corymbia maculata, Eucalyptus siderophloia, Eucalyptus tereticornis, Eucalyptus floribunda, Casuarina glauca, Eucalyptus punctata or similar species before completion of building works onsite.

- This report is not for publication to the internet and submission of this report in the submission phase set out by Council is to be taken down upon completion of the development application.

2.0 Arborist Details

Bradley Magus **Contact Details:** P.O Box 333 Newcastle 2300 Ph: 0425 203 049 Email: abacustrees@gmail.com or bradmagus1@bigpond.com Web: www.abacustreeservices.com	**Qualifications** 1. Diploma Horticulture (1993) 2. Bachelor of Horticulture Science (1996) 3. Masters Land Economics (2002) 4. Diploma Horticulture (Arboriculture) (AQF 5) 2007 (Dux) 5. International Society of Arboriculture Certified Arborist (2007) 6. QTRA Assessor – 2011 & 2013

2.1 Introduction

Abacus Tree Services was commissioned by Aveo Pty Ltd to assist in the preparation of an arborist report. An assessment was made on all trees as per the site survey plan excluding those trees that have already been assessed in previous arborist reports prepared by Abacus Tree Services. There is in total four hundred and nine trees on the tree schedule as per the site survey plan as outlined in Appendix 1 that has been assessed as per the applicant's instructions.

The purpose of this report is to provide information and guidance to the applicant in relation to all trees within the site survey plan and all trees that come under council requirements. The information in this report is to be used in correlation with other reports identified by Newcastle City Council and will provide Newcastle City Council with a framework for determining the development/ application (D.A).

This report and its recommendations are based upon a physical site inspection undertaken on the 16, 18, 19, 20 & 23 – 27 October 2017.

The photographs included in this report were taken at the time of the inspection on the 16, 18, 19, 20 & 23 – 27 October 2017.2017.

2.2 Aims of this report/Procedure

The aim of this report is to assess the health and condition of all trees outlined by the site survey ecological report provided by Pulver Cooper & Blackley (Sheets 2 & 3 of 6) specified in the site plan. There are a total of two hundred and sixty six trees assessed as per the site survey and an additional forty eight (48) that were assessed by Abacus Tree Services. The condition of the trees was assessed from ground level using the VTA (Visual Tree Assessment) method as outlined by Mattheck & Breloer (1999). The following criteria will be addressed within this report –

- An assessment of the dimensions (age, class, height and Diameter at Breast Height (D.B.H)
- An assessment of the health and condition of the trees;
- An assessment of the Useful Life Expectancy (U.L.E)
- Compilation of an appropriate report detailing the results of the above assessments
- Trees earmarked for retention to be assessed as per Australian Standards 4970-2009, Hazard Rating, Recommendations for each tree

The (U.L.E) method of tree assessment, as outlined by Jeremy Barrell (1999) has been adopted within this report. U.L.E categories give an indication of the useful life expectancy anticipated for the tree that has been adopted for this report. Several factors are considered in determining this rating such as species, location, age, condition and health of the tree. The five U.L.E categories are outlined in detail within Appendix 2.

3.0 Disclaimer

This assessment has been prepared for the exclusive use of the applicant (Aveo Pty Ltd), for the preparation of a development application submission. Information in this report relates to number (amount) trees within the premises of address only and should not be used in conjunction with any other property.

This assessment was carried out from the ground, and covers what was reasonably able to be assessed and available to the assessor at the time of the inspection. The assessor carried out no aerial inspections. Information contained in this report covers only the trees that were examined and reflects the condition of the trees at the time of the inspection; furthermore the inspection was limited to a visual examination of the subject trees without dissection, excavation, probing or coring. Trees are living things and there condition will change over time. Therefore there is no guarantee that problems or deficiencies of the subject tree may not arise in the future.

3.1 Site Map

Figure 1
Location: All trees are located within Shortland Waters Golf Course (Vale Street, Shortland)
Source: www.googlemaps.com.au

3.2 Site Description

All trees have been assessed as per the site survey excluding those that have already been assessed by Abacus Tree Services The site is located in the municipality of Newcastle City Council. The species on site come under the requirements set out in Newcastle City Council's Tree Preservation Order. The species on site come under the requirements set out in Newcastle City Council's Local Environmental Plan (2012) & Development Control Plan (2012) pursuant to Section 5.9 & 5.9AA (repealed) & Development Control Plan (2012) & associated Technical Manual (Urban Forestry Technical Manual – UFTM). All information is assessed per the requirements as set out within section 5.03 Tree Management. I have assessed the property against Schedule 5 (Environmental Heritage) within NCC LEP. The property is not listed in accordance with Part 1 (Heritage Items) and Part 2 (Heritage Conservation Areas).

The site is set on a gently undulating terrain with the immediate area being dominated by Newcastle University & wetlands including overgrown land to the north. The nearest major arterial road is the Pacific Highway to the north east. All trees have been assessed as per the ecological report as provided by AVEO

Figure 2 – Location of subject property identified as identified as Shortland Waters Golf Course. The commencement of the tree inspection was undertaken from this area of the golf course.

3.4 Soil Considerations

From a visual observation there has been minimal soil disturbance in the last few years within the subject property. From a visual observation there has been no recent excavation works that have occurred to inspected trees. The trees are situated within a grassed on a gently sloping landscape while the wider area is undulating. There was no debris present or within the Structural Root Zone (S.R.Z) at the time of inspection. A root investigation would need to be undertaken if any roots have been damaged or diseased. The immediate area is dominated by two fairways interspersed with native bushland.

4.0 Tree Schedule

Species & dimension requirements on Pages 11 - 26. This page intentionally left blank

Tree No	Scientific Name	Common Name	DBH (MM)	SRZ (MM)	Height (M)	AGE CLASS	Vigour	SPREAD N.E.S.W.	ULE	Comments
7225	Eucalyptus microcorys	Tallowood	670	830	14.5m	M	G	7,3,5,6	2d	MDW In all four quadrants.
7212	Eucalyptus saligna	Blue gum	655	820	20	OM	G	7,4,6,5	3d	Major decay in trunk at 7 and 9 metres
7211	Corymbia maculata	Spotted gum	700	730	18	M	G	7,4,6,7	2d	MDW in all four quadrants
7210	Eucalyptus saligna	Blue gum	610	640	17	M	G	5,5,4,5	2d	No immediate works
7209	Lophostemon confertus	Brush box	430	470	11	YM	G	4,4,2,3	2a	No immediate works
7208	Lophostemon confertus	Brush box	370	420	7	YM	G	4,3,1,2	2a	No immediate works
7207	Lophostemon confertus	Brush box	250	320	8	YM	G	3,2,2,2	2a	No immediate works
7206	Lophostemon confertus	Brush box	460	450	9	YM	G	3,3,3,2	2a	No immediate works
7205	Lophostemon confertus	Brush box	400	435	8	YM	G	3,3,2,3	2a	No immediate works
7204	Lophostemon confertus	Brush box	235	310	8	YM	G	3,2,2,3	2a	No immediate works
7226	Eucalyptus scoparia	Wallangarra white gum	255	310	5	YM	P	2,1,1,1	2a	Sparse Canopy MDW in all four quadrants LCR =30 – 35%
7227	Eucalyptus siderophloia	Iron bark	390	470	7	YM	F	4,5,4,3	2d	No immediate works
7228	Eucalyptus tereticornis	Forest red gum	440	535	10	M	F	3,4,4,4	3d	Phellinus in trunk 2S at 5m.
7266	Eucalyptus tereticornis	Forest red gum	755	820	13	M	G	6,6,5,6	2d	MDW in all four quadrants.
7263	Eucalyptus tereticornis	Forest red gum	610	705	17	M	G	5,5,5,4	2d	MDW in all four quadrants.
7262	Eucalyptus microcorys	Tallowood	355	425	16	YM	G	4,4,4,3	2d	MDW in all four quadrants.
7261	Dead tree	Tallowood	N/A	N/A	8	N/A	N/A	3,2,2,2	N/A	Dead tree
7265	Eucalyptus tereticornis	Forest red gum	780	835	17	M	G	6,4,4,4	2d	LDW to the north MWD in all four quadrants.
7264	Eucalyptus robusta	Swamp mahogany	390	430	8	YM	F	4,3,3,1	2d	LDW to the north MWD in all four quadrants.

7259	Eucalyptus tereticornis	Forest Red Gum	420	480	9	SM	G	3,2,2,3	2a	Symmetrical, LCR = 95 – 100%, no immediate works
7255	Eucalyptus microcorys	Tallowood	490	560	14	YM	G	3,5,4,5	2d	Edge of fairway.
7257	Corymbia maculata	Spotted gum	360	410	20	YM	G	4,3,3,3	2a	No immediate works
7258	Eucalyptus tereticornis	Forest red gum	460	520	14	YM	G	3,4,2,4	3d	Phellinus robusta located on trunk 2S 3metres (photo)
7254	Eucalyptus tereticornis	Forest red gum	530	640	14	YM	F	5,4,4,3	3d	Extensive epicormic growth – moderately sparse canopy
7253	Lophostemon confertus	Brush box	300	365	7	YM	G	4,3,3,2	2a	No immediate works.
7251	Eucalyptus siderophloia	Grey iron bark	700	840	22	M	G	7,5,6,8	2d	MDW in all four quadrants. On edge of fairway.
7250	Eucalyptus robusta	Swamp mahogany	280	335	8	YM	G	1,2,2,3	2d	Minor epicormic growth.
7249	Eucalyptus robusta	Swamp mahogany	270	360	7	YM	G	4,5,3,4	2d	Minor epicormic growth.
7248	Lophostemon confertus	Brush box	520	580	8	YM	G	4,4,5,4	2d	Minor epicormic growth
7244	Corymbia maculata	Spotted gum	700	790	19	M	G	8,7,6,5	2d	MDW 2S at 9metres.
7245	Eucalyptus siderophloia	Grey iron bark	710	770	17	OM	P	7,4,6,4	4a	Top third of crown is dead. LCR.
7247	Lophostemon confertus	Brush box	300	360	6	YM	G	3,3,3,3	2d	MDW in all four quadrants
7201	Corymbia maculata	Spotted gum	975	1800	22	OM	F	10,8,8,7	4d	Canker present mainly affected west quadrant, cankers present all over trunk (Photo)
7246	Eucalyptus microcorys	Tallowood	340	405	8	YM	G	4,3,4,4	2d	MDW in all four quadrants
8207	Eucalyptus microcorys	Tallowood	540	620	17	M	G	5,5,6,6	2d	MDW in all four quadrants.
8206	Syncarpia glomulifera	Turpentine	530	615	15	YM	G	4,4,4,4	2a	MDW in all four quadrants
8205	Eucalyptus tereticornis	Forest red gum	640	760	18	M	G	6,3,5,5	2d	Active termites in trunk, and MDW in all four quadrants
8177	Corymbia maculata	Spotted gum	960	1085	25	M	G	9,9,10,7	2a	MDW in all four quadrants
8179	Corymbia maculata	Spotted gum	480	535	12	YM	G	4,4,3,5	2a	MDW in all four quadrants

8176	Eucalyptus saligna	Blue gum	520	610	20	M	G	7,7,4,4	2a	Moderately sparse canopy, minor dead wood
8175	Eucalyptus microcorys	Tallowood	33 0	390	9	YM	G	4,3,3 ,4	2a	MDW in all four quadrants
8174	Syncarpia glomulifera	Turpentine	425	500	10	YM	G	4,5,4,5	2a	MDW less than 40mm
8171	Corymbia maculata	Spotted gum	425	480	12	M	G	7,8,7,7	2a	MDW less than 40mm
8171a	Eucalyptus siderophloia	Grey iron bark	600	710	12	M	F	4,6,8,6	3d	LCR fair condition MDW less than 40mm
8172	Corymbia maculata	Spotted gum	1040	1260	20	M	G	8,8,8,9	2a	Large tear out to the E (first order scaffold)
8190	Eucalyptus microcorys	Tallowood	445	545	13	YM	G	6,5,5,5	2a	MDW less than 40mm
8182	Eucalyptus microcorys	Tallowood	465	530	13	YM	G	7,5,5,4	2a	MDW in all four quadrants
8215	Eucalyptus microcorys	Tallowood	505	610	16	YM	G	5,6,6,4	2a	MDW in all four quadrants
8181	Corymbia maculata	Spotted gum	710	795	19	M	G	7,4,8,8	2a	MDW in all four quadrants
8214	Eucalyptus siderophloia	Grey iron bark	595	660	16	OM	P	4,3,2,2	4a	LDW in all four quadrants LCR 10 – 15 %
8213	Corymbia maculata	Spotted gum	570	645	18	M	G	6,6,5,3	2a	MDW in all four quadrants
8214	Eucalyptus siderophloia	Grey iron bark	830	890	21	M	G	10,8,4,11	3a	LDW at 9m – mid canopy
8214a	Corymbia maculata	Spotted gum	365	430	13	YM	G	4,4,3,3	2a	MDW in all four quadrants
8095	Corymbia maculata	Spotted	870	935	16	M	G	7,6,7,7	3d	Apical dominant leader is dead. MDW in all four quadrants
7183	Eucalyptus siderophloia	Grey iron bark	630	460	9	YM	F	2,3,3,3	3d	Moderately sparse canopy.
7182	Eucalyptus microcorys	Tallowood	410	470	11	YM	G	3,2,2,2	2a	MDW in all four quadrants
7240	Corymbia maculata	Spotted Gum	580	630	14	YM	G	5,7,6,5	2a	No immediate works
7241	Eucalyptus tereticornis	Forest red gum	545	600	11	YM	G	7,5,5,2	2a	Mechanical damage to trunk.
7242	Eucalyptus tereticornis	Forest red gum	415	490	12	YM	G	3,3,4,4,	2a	MDW in all four quadrants
7243	Eucalyptus tereticornis	Forest red gum	480	495	12	YM	G	2,6,5,5	2a	MDW less than 40mm
7249	Eucalyptus tereticornis	Forest red gum	540	620	12	M	G	3,3,2,3	3d	Major included fork union at 4m

7238	Eucalyptus tereticornis	Forest red gum	280	330	11	YM	G	2,3,4,2	2d	MDW in all four quadrants
7235	Eucalyptus tereticornis	Forest red gum	385	460	11	YM	G	2,2,4,4	2a	MDW in all four quadrants
7233	Eucalyptus tereticornis	Forest red gum	490	545	13	OM	G	4,4,3,2	3d	Phellinus robusta in trunk to the NE at 4m above ground level
7193	Eucalyptus saligna	Blue gum	640 610	1120	16	M	G	8,7,7,8	2d	MDW in all four quadrants 2 main leader's, on edge of fairway
7194	Angophora floribunda	Rough bark apple	220	285	6.5	YM	F	1,1,2,1	3d	Moderately sparse canopy and major epicormic growth
7192	Eucalyptus saligna	Blue gum	460	525	14	YM	G	5,4,5,7	2d	On edge of fairway
7190	Eucalyptus saligna	Blue gum	480	470	10	YM	G	2,3,2,4		On edge of fairway
7191	Melaleuca quinquenervia	Broad leaf paper bark	210	265	7	SM	G	1,2,1,1	2d	No immediate works
7189	Eucalyptus microcorys	Tallowood	570	640	12	YM	G	7,6,3,6	3d	On edge of fairway branch failure
7188	Corymbia citriodora	Lemon scented gum	190	230	8	SM	G	7,0,0,2	3d	Tropism to the North quadrant
7187	Grevillea Roberta	Silky oak	210	260	8	SM	G	3,2,2,2	2a	No immediate works
7181	Lophostemon confertus	Brush box	370	430	9	YM	G	3,4,3,3	2a	No immediate works
7166	Lophostemon confertus	Brush box	575	640	9	YM	G	5,5,5,6	2a	On edge of fairway, No immediate works
7167	Lophostemon confertus	Brush box	520	600	10	YM	G	4,4,4,4	2a	No immediate works
7178	Eucalyptus microcorys	Tallowood	290	395	9	YM	G	2,4,4,2	2a	No immediate works
7177	Eucalyptus microcorys	Tallowood	240	360	9	YM	G	2,4,2,2	2a	No immediate works
7176	Eucalyptus microcorys	Tallowood	285	370	9	YM	G	3,2,2,2	2a	No immediate works
7175	Eucalyptus microcorys	Tallowood	230	360	10	YM	G	2,2,2,3	2a	No immediate works
7172	Eucalyptus microcorys	Tallowood	370	450	11	YM	G	4,2,2,3	2a	No immediate works

7168	Eucalyptus Microcorys	Tallowood	365	440	15	YM	G	3,4,3,4	2a	No immediate works
7171	Eucalyptus Microcorys	Tallowood	360	435	17	YM	G	2,3,4,3	2a	MDW in all four quadrants
8093	Eucalyptus microcorys	Tallowood	340	385	16	YM	G	3,3,3,2	2a	No immediate works
8093a	Eucalyptus microcorys	Tallowood	335	430	17	YM	G	3,2,2,3	2a	Minor dead wood in all four quadrants
8091	Eucalyptus microcorys	Tallowood	330	390	17	YM	G	3,2,3,3	2a	No immediate works
8092	Eucalyptus microcorys	Tallowood	185	260	16	YM	G	1,1,1,1	2a	No immediate works
8094	Eucalyptus microcorys	Tallowood	360	440	17	YM	G	2,2,2,4	2a	No immediate works
8094a	Eucalyptus microcorys	Tallowood	310	365	18	YM	G	2,3,2,2	2a	No immediate works
7160	Eucalyptus microcorys	Tallowood	320	375	17	YM	G	3,2,3,3	2a	Minor dead wood in all four quadrants
7161	Eucalyptus microcorys	Tallowood	230	280	16	YM	G	3,3,3,2	2a	No immediate works
7169	Eucalyptus microcorys	Tallowood	260	330	15	YM	G	2,3,2,2	2a	MDW in all four quadrants
7162	Eucalyptus microcorys	Tallowood	345	440	16	YM	G	4,3,3,2	2d	MDW in all four quadrants
7163	Lophostemon confertus	Brush box	560	665	10	YM	G	6,3,6,6	2a	Minor dead wood in all four quadrants
7165	Lophostemon confertus	Brush box	575	655	9	YM	G	3,6,6,5	2a	Located on edge of fairway
7164	Eucalyptus microcorys	Tallowood	500	560	12	YM	G	4,6,5,4	2d	Located on edge of fairway
7158	Lophostemon confertus	Brush box	640	690	9	YM	G	5,5,4,4	2a	Located on edge of fairway
7159	Eucalyptus microcorys	Tallowood	950	1050	20	M	G	9,7,9,9	2a	MDW in all four quadrants
8089	Eucalyptus microcorys	Tallowood	370	420	17	M	G	3,3,4,4	2d	MDW in all four quadrants

8088	Eucalyptus microcorys	Tallowood	170	210	9	YM	G	4,1,1,2	2d	Suppressed
8090	Eucalyptus microcorys	Tallowood	230	280	10	YM	G	3,2,2,3	2a	MDW Minimal Less than 40mm
8087	Eucalyptus microcorys	Tallowood	160	200	8	SM	G	2,2,1,2	2a	No immediate works
8086	Eucalyptus microcorys	Tallowood	225	280	15	YM	G	1,3,2 1	2a	No immediate works
8085	Eucalyptus microcorys	Tallowood	305	370	16	YM	G	4,3,3,3	2a	MDW in all four quadrants
8192A	Eucalyptus microcorys	Tallowood	450	560	12	YM	G	4,4,3,3	2a	MDW in all four quadrants
8189	Eucalyptus saligna	Blue gum	410	490	13	YM	G	4,3,2,5	2a	Minor epicormic growth
8185	Eucalyptus microcorys	Tallowood	405	505	12	YM	G	4,4,6,5	2a	MDW less than 40mm
8188	Eucalyptus saligna	Blue gum	510	620	6	YM	G	1,6,5,5	2a	Extensive epicormic growth, apical leader snapped out (photo).
8184	Eucalyptus saligna	Blue gum	440	500	16	YM	G	6,5,6,5	2a	Symmetrical LCR 90 – 95%
8189	Eucalyptus saligna	Blue gum	345	450	14	YM	G	7,7,4,5	2a	Moderate epicormic growth, MDW less than 40mm
8186	Eucalyptus saligna	Blue gum	440	490	17	YM	G	6,6,5,4	2a	No immediate works
8190	Eucalyptus microcorys	Tallowood	440	520	13	YM	G	5,5,4,4	2a	No immediate works
8191	Eucalyptus microcorys	Tallowood	390	470	13	YM	G	5,4,4,4	2a	MDW in all four quadrants
8192	Eucalyptus saligna	Blue gum	330	400	11	YM	G	4,3,3,3	2a	No immediate works
8187	Eucalyptus microcorys	Tallowood	410	460	14	YM	G	5,3,3,4	2a	MDW in all four quadrants
8193	Corymbia maculata	Spotted gum	710	760	20	YM	G	8,5,1,7	3d	Sparse Canopy LCR 70 75% MDW in all four quadrants
8195	Corymbia maculata	Spotted gum	540	610	18	YM	G	8,4,3,3	3d	No immediate works
8121	Eucalyptus microcorys	Tallowood	310	360	10	YM	G	6,4,4,5	2a	MDW in all four quadrants
8158	Eucalyptus Tereticornis	Forest red gum	310	360	8	SM	G	4,4,2,3	2a	No immediate works
8159	Eucalyptus Tereticornis	Forest red gum	250	340	11	YM	G	4,3,2,2	2a	No immediate works

8154	Lophostemon confertus	Brush box	380	460	13	YM	G	6,5,6,5	2a	No immediate works
8156	Eucalyptus Tereticornis	Forest red gum	430	445	16	YM	G	6,6,3,4	2a	Large included fork union 2m below the bifurcation point.
8157	Eucalyptus robusta	Swamp mahogany	510	630	16	M	G	6,4,4,5	2a	MDW in all four quadrants
8162	Eucalyptus tereticornis	Forest red gum	140	190	9	SM	G	1,4,0,0	2a	Major tropism to the E
8163	Eucalyptus tereticornis	Forest Red Gum	130	190	7	SM	G	1,1,1,1	2a	
8167	Corymbia maculata	Spotted gum	720	770	21	M	G	8,5,2,6	3d	MDW in all four quadrants, aborted branch to the S at 9m
8019	Eucalyptus tereticornis	Forest Red Gum	610	740	12	M	G	5,5,4,4	2a	No immediate works
8018	Eucalyptus microcorys	Tallowood	630	715	17	M	G	5,4,3,5	2a	No immediate works
8017	Corymbia maculata	Spotted gum	660	NA	18	M	G	5,4,3 3	2a	Bifurcated at 2m, MDW the NW
8016	Lophostemon confertus	Brush box	600	660	9	M	G	4,4,2,3	2a	No immediate works, covered by mulch
8015	Lophostemon confertus	Brush box	620	685	17	M	G	7,5,4,3	2a	No immediate work MDW to E
8014	Eucalyptus microcorys	Tallowood	825	985	14	YM	G	8,6,4,5	2a	MDW in all four quadrants, precious pruning works to S quadrant
8013	Eucalyptus microcorys	Tallowood	890	1050	17	YM	G	10,8,5,9	2a	MDW in all four quadrants
8012	Eucalyptus microcorys	Tallowood	560	670	15	YM	G	4,6,5,4	2a	No immediate works
8011	Eucalyptus microcorys	Tallowood	1035	1120	20	YM	G	7,7,610	2a	MDW in all four quadrants
8010	Eucalyptus microcorys	Tallowood	890	960	18	YM	G	5,6,4,7	2a	LDW to the W & MDW in all four quadrants
7087	Lophostemon confertus	Brush box	410	480	8	YM	G	5,4,4,4	2a	No immediate works
7086	Eucalyptus microcorys	Tallowood	1180	1260	20	M	G	10,9,6,9	2a	MDW in all four quadrants, bifurcated at 1.8 m
7091	Lophostemon confertus	Brush box	585	660	16	M	G	6,5,4,5	2a	No immediate works

7090	Eucalyptus microcorys	Tallowood	560	650	20	M	G	8,6,5,4	2a	MDW in all four quadrants
7089	Eucalyptus microcorys	Tallowood	955	1055	21	M	G	7,6,7,6	2a	MDW in all four quadrants
7088	Lophostemon confertus	Brush box	280	370	7	SM	G	2,1,2,3	2a	No immediate works
7092	Lophostemon confertus	Brushbox	365	410	5	SM	G	4,5,4,3	2a	MDW in all four quadrants, symmetrical
7093	Eucalyptus microcorys	Tallowood	810	875	15	M	G	9,9,6,10	2d	MDW in all four quadrants, located on the edge edge of fairway
7094	Eucalyptus microcorys	Tallowood	825	865	15	M	G	13,9,6,,7	2d	MDW in all four quadrants, symmetrical
7095	Eucalyptus microcorys t	Tallowood	895	875	17	M	G	9,5,4,8	2d	Symmetrical, MDW in all four quadrants
7096	Eucalyptus microcorys	Tallowood	950	940	18	M	G	9,6,4,8	2d	Symmetrical, LCR 95 -100, MDW in all four quadrants
8009	Lophostemon confertus	Brush box	510	480	7	YM	G	5,3,3,4	2a	Symmetrical, crown raised to 3m , exposed root plate
8008	Sapium sebiferum	Chines Tallowood	370	420	5	YM	G	4,4,4,4	2a	Symmetrical.
8006	Lophostemon confertus	Brush box	510	540	9	YM	G	5,5,4,5	2a	Symmetrical, exposed roots.
8007	Lophostemon confertus	Brush box	360, 365	490	7	YM	G	4,3,4,3	2a	Symmetrical MDW in all four quadrants less than 40mm
8005	Lophostemon confertus	Brush box	805	795	10	M	G	5,5,3,4	2a	MDW less than 40mm
8004	Lophostemon confertus	Brush box	540	600	10	YM	G	4,4,4 3	2a	Symmetrical. No other works
8003	Lophostemon confertus	Brush box	810	760	10	YM	G	5,5,5,5	2a	No immediate works
8002	Lophostemon confertus	Brush box	390	420	6	YM	G	4,4,4,4	2a	No immediate works
8001	Eucalyptus sideroxylon	Mugga iron bark	405	445	10	M	F	2,2,5,4	3d	Minor sparse canopy, symmetrical.
8000	Eucalyptus tereticornis	Forest red gum	690	770	13	OM	F	4,2 3,3	3d	Large dead wood in all four quadrants.

7077	Lophostemon confertus	Brush box	690	750	11	M	G	6,5,5,6	2a	Symmetrical! MDW in all four quadrants
7076	Eucalyptus microcorys	Tallowood	520	560	13	M	G	6,3,3,6	2a	MDW in all four quadrants, symmetrical
7078	Eucalyptus microcorys	Tallowood	330	390	12	YM	G	4,4,4,3	2a	Symmetrical, MDW in all four quadrants
7079	Eucalyptus microcorys	Tallowood	390	440	12	YM	G	5,4,6,4	2a	MDW in all four quadrants
7080	Eucalyptus tereticornis	Forest red gum	370	455	12	OM	P	1,1,2,2	4d	Extensive epicormic growth LCR 15 -20%
7078	Eucalyptus Microcorys	Tallowood	335	425	10	YM	G	4,4,3,3	2a	No immediate works
7075	Eucalyptus microcorys	Tallowood	445	505	12	YM	G	5,5,3,4	2a	MDW in all four quadrants
7074	Eucalyptus microcorys	Tallowood	275	330	13	YM	G	2,4,3,1	2a	Symmetrical
7073	Lophostemon confertus	Brush box	465	500	11	YM	G	4,4,4,3	2a	No immediate works
7072	Syncarpia glomulifera	Turpentine	585	640	9	YM	G	4,4,4,4	2a	No immediate works
7071	Eucalyptus tereticornis	Forest red gum	655	725	13	YM	G	5,6,5,4	2d	MDW in all four quadrants
7081	Eucalyptus Siderophloia	Grey iron bark	635	740	14	M	F	6,5,5,5,	3d	Apical leader has failed.
7082	Eucalyptus tereticornis	Forest red gum	565	640	13	M	G	4,3,4,4	2d	MDW in all four quadrants
7085	Eucalyptus tereticornis	Forest red gum	625	635	13	OM	F	5,3,2,1	3d	LCR 50- 55%, (sparse canopy)
7084	Eucalyptus microcorys	Tallowood	470	530	12	YM	G	5,4,4,4	2a	No immediate works
7070	Eucalyptus Tereticornis	Forest red gum	510	570	11	OM	F	1,1,3,2	4a	Extensive sparse canopy, LCR 25 – 30% Canker Noted In Trunk At Ground Level N side.
7057	Eucalyptus tereticornis	Forest red gum	710	870	14	OM	F	3,2,5,5	3d	MDW in all four quadrants LCR 55-60%
7069	Eucalyptus tereticornis	Forest red gum	620	745	14	OM	F	4,3,3,3	3d	MDW in all four quadrants LCR 55-60%

7068	Eucalyptus tereticornis	Forest red gum	590	680	13	M	F	4,2,2,4	3d	Included fork union at 4m LCR 55-60%
7067	Eucalyptus robusta	Swamp mahogany	410	490	11	YM	G	5,3,4,3	2a	Symmetrical
7066	Eucalyptus microcorys	Tallowood	400	480	14	YM	G	7,3,5,2	2a	MDW in all four quadrants
7065	Eucalyptus microcorys	Tallowood	395	460	17	YM	G	5,6,5,2	2d	MDW in all four quadrants
7064	Eucalyptus siderophloia	Grey iron bark	700	770	16	M	G	7,3,5,6	3d	Lost apical dominant leader, MDW in all four quadrants
7063	Eucalyptus microcorys	Tallowood	410	495	14	YM	G	3,2,3,7	2a	MDW in all four quadrants
7062	Eucalyptus microcorys	Tallowood	560	720	16	M	G	5,5,5,7	2a	MDW in all four quadrants
7060	Lophostemon confertus	Brush box	570	660	12	YM	G	5,4,5,2	2d	MDW in all four quadrants
7053	Eucalyptus microcorys	Tallowood	510	600	13	YM	G	5,4,3.3	2a	MDW in all four quadrants
7059	Eucalyptus tereticornis	Forest red gum	480	560	10	OM	G	4,4,0,1	4a	Large dead wood in all four quadrants, extensive epicormic growth, first order scaffold failed the north west at 8m
7058	Eucalyptus tereticornis	Forest red gum	460	545	12	M	G	4,3,4,4	2a	Symmetrical LCR 95 – 100%
7061	Eucalyptus microcorys	Tallowood	300	380	11	YM	G	2,5,1,5	2a	Symmetrical LCR 95 – 100%
7051	Eucalyptus microcorys	Tallowood	610	740	14	M	G	6,4,7,6	2d	Symmetrical LCR 95 – 100% MDW In all Four quadrants
7052	Lophostemon confertus	Brush box	475	560	7	YM	G	3,5,3,4	2a	Symmetrical LCR 95 – 100% MDW In all Four quadrants
7055	Eucalyptus tereticornis	Forest red gum	300	430	14	YM	G	4,2,2,3	2a	Symmetrical LCR 95 – 100% MDW In all Four quadrants
7054	Eucalyptus tereticornis	Forest red gum	400	440	13	YM	G	4,3,4,4	2a	Symmetrical LCR 95 – 100% MDW In all Four quadrants
7056	Eucalyptus tereticornis	Forest red gum	415	510	11	M	F	4,4,2,2	3d	Mod sparse canopy 80 - 85 %
7045	Eucalyptus siderophloia	Grey Iron Bark	620	750	11	M	A	6,4,2,6	3d	Minor sparse canopy

7046	Eucalyptus tereticornis	Forest red gum	230	305	8	YM	G	3,1,1,1	3d	Mod sparse canopy in all four quadrants
7047	Eucalyptus tereticornis	Forest red gum	215	260	8	YM	G	2,1,1,1	2a	Symmetrical LCR 95 – 100%
7048	Eucalyptus tereticornis	Forest red gum	300	360	9	YM	G	3,2,3,3	2a	Symmetrical LCR 95 – 100%
7049	Eucalyptus tereticornis	Forest red gum	330	400	9	YM	G	3,3,3,2	2a	Symmetrical LCR 95 – 100%
7050	Eucalyptus microcorys	Tallowood	445	530	15	YM	G	6,5,5,5	2a	Symmetrical LCR 95 – 100%
7041	Lophostemon confertus	Brushbox	450	510	9	YM	G	5,4,2,2	2a	Symmetrical LCR 95 epicormic growth noted
7040	Eucalyptus microcorys	Tallowood	810	880	11	M	G	7,5,4,5	3d	On a lean, minor tropism to north
7042	Eucalyptus tereticornis	Forest red gum	190	230	8	YM	G	1,2,1,1	2d	No immediate works
7043	Eucalyptus Tereticornis	Forest red gum	160	220	7	YM	G	1,2,1,1	2d	No immediate works
7044	Eucalyptus Tereticornis	Forest red gum	260	340	9	YM	G	2,2,1,1	2d	No immediate works
7039	Eucalyptus Tereticornis	Forest red gum	280	365	9	YM	G	3,43,2	2d	No immediate works
7038	Melaleuca quinquenervia	Board leaf paper	370	460	6	M	G	5,4,3,3	3d	Lost apical leader
7037	Lophostemon confertus	Brushbox	380	460	6	YM	G	4,4,2,3	2a	No immediate works
7036	Eucalyptus siderophloia	Grey iron bark	730	795	12	M	G	6,6,6,5	2a	No immediate works
7035	Lophostemon confertus	Brushbox	310	360	5.5	YM	G	4,2,4,2	2a	No immediate works
7034	Eucalyptus microcorys	Tallowood	790	910	14	YM	G	8,8,6,6	2a	MDW in all four quadrants
7033	Eucalyptus microcorys	Tallowood	915	945	14	M	G	8,7,6,7	2a	Symmetrical, MDW in all four quadrants
7032	Lophostemon confertus	Brushbox	495	430	8	YM	G	5,3,3,4	2a	No immediate works

7031	Eucalyptus microcorys	Tallowood	610	710	14	YM	G	7,6,2,5	2a	Minor asymmetry LCR 95 – 100%
7030	Eucalyptus microcorys	Tallowood	585	690	14	YM	G	6,6,7,6	2a	Symmetrical, LCR = 95 – 100%
7029	Eucalyptus microcorys	Tallowood	490	610	12	YM	G	4,4,3,5	2a	No immediate works
7028	Eucalyptus microcorys	Tallowood	465	540	12	YM	G	5,5,5,6	2a	No immediate works
7027	Casuarina glauca	River Sheoak	345	330	9	YM	G	4,3,2,2	2a	Included fork union at 4.5m
7026	Eucalyptus robusta	Swamp mahogany	420	540	7	YM	G	3,1,4,4	2a	No immediate works
7025	Melaleuca quinquenervia	Broad leaf paper bark	330	340	8	YM	G	2,2,2,3	2a	No immediate works
7024	Lophostemon confertus	Brushbox	260	325	7	YM	G	2,2,2,3	2a	No immediate works
7023	Casuarina glauca	River Sheoak	330	440	10	M	A	1,1,1,2	2a	Trunk damaged to the north
7022	Lophostemon confertus	Brushbox	620	730	7	YM	G	6,3,6,6	2a	No immediate works
7021	Eucalyptus tereticornis	Forest red gum	640	750	14	YM	G	4,3,5,5	2a	No immediate works
7020	Lophostemon confertus	Brushbox	460	520	11	YM	G	3,2,3,3	2a	No immediate works
7019	Eucalyptus punctata	Grey gum	420	510	9	YM	G	2,4,3,5	2a	MDW in all four quadrants
7018	Lophostemon confertus	Brushbox	410	470	10	YM	G	3,4,3,3	2a	Edge of fairway
7017	Lophostemon confertus	Brushbox	350	405	9	YM	G	3,3,2,3	2a	No immediate works
7016	Eucalyptus	Robusta	520	615	9	YM	G	5,4,4,4	2a	First order Branch tear-out to the north east at 2 m
7015	Eucalyptus siderophloia	Grey iron bark	470	565	11	YM	G	6,3,4,5	2a	No immediate works
7014	Lophostemon confertus	Brushbox	405	490	7	YM	G	3,3,4,4	2a	No immediate works
7013	Melaleuca quinquenervia	Broad leaf paper bark	640	695	7	YM	G	4,5,4,3	2a	No immediate works

7012	Eucalyptus punctata	Grey gum	330 400	630	7	YM	G	6,5,4,8	2d	Bifurcated at ground level
7011	Eucalyptus microcorys	Tallowood	615	760	8	YM	G	6,5,5,5	2a	Symmetrical LCR 95 %
7010	Eucalyptus tereticornis	Forest red gum	290	360	10	YM	G	2,3,3,2	2a	Large dead brand to north east
7009	Eucalyptus tereticornis f	Forest red gum	290	310	8	YM	G	2,4,2,4	2a	First order tare out to north at 3m
7008	Eucalyptus Tereticornis	Forest red gum	255	320	7	YM	G	3,3,1,1	2a	No immediate works
7006	Eucalyptus punctata	Grey gum	790	905	14	M	G	7,4,3,5	3d	LDW to the east and south east at 7m
7007	Corymbia maculata	Spotted gum	254	310	11	YM	G	1,2,1,3	2a	No immediate works
7005	Eucalyptus microcorys	Tallowood	500	630	14	YM	G	5,5,5,6	2a	No immediate works
7004	Eucalyptus tereticornis	Forest red gum	475	555	7	YM	G	4,2,1,5	2a	Large dead wood to south
7003	Eucalyptus microcorys	Tallowood	570 560	890	13	YM	G	7,7,6,6	2a	MDW in all four quadrants
7002	Dead tree	N/A	525 345	745	11	N/A	N/A	N/A	4a	N/A
7001	Eucalyptus microcorys	Tallowood	550	675	13	YM	G	5,6,3,6	2a	No immediate works
8045	Acer negundo	Box Elder	MS	530	9	YM	F	8,4,7,4	2a	No immediate works
8039	Liquidambar styraciflua	Liquid Amber	360	410	10	YM	G	5,4,4,4	2a	No immediate works
8046	Callistemon viminalis	Bottle brush	MS	420	5	M	G	3,2,3,3	2d	No immediate works
8043	Callistemon viminalis	Bottle brush	MS	435	6	M	G	3,4,3,3	2d	No immediate works
8102	Corymbia maculata	Spotted gum	285	340	11	YM	G	2,3,3,3	2a	MDW <40mm
8101	Eucalyptus microcorys	Tallowood	340	445	9	YM	G	5,1,4,4	2a	MDW in all four quadrants
8100	Eucalyptus microcorys	Tallowood	510	615	12	YM	G	6,3,3,5	2a	MDW in all four quadrants
8099	Corymbia maculata	Spotted gum	690	790	14	YM	G	7,4,4,7	2a	MDW in all four quadrants, Minor sparse canopy
8098	Eucalyptus saligna	Blue gum	310	390	11	YM	G	3,2,2,2	2a	No immediate works

8097	Eucalyptus microcorys	Tallowood	445	520	11	YM	G	5,4,4,4	2a	Symmetrical, MDW in all four quadrants
8106	Eucalyptus acmenoides	White Mahogany	865	945	12	YM	G	5,5,6,2	3d	MDW in all four quadrants, Major hollow noted in trunk located at 6m
8105	Corymbia maculata	Spotted gum	965	1040	12	YM	G	8,5,5,4	2a	MDW in all four quadrants
8103	Syncarpia glomulifera	Turpentine	280	330	10	YM	G	3,2,3,2	2a	MDW in all four quadrants
8104	Eucalyptus microcorys	Tallowood	450	660	12	YM	G	5,5,2,4	2a	MDW in all four quadrants
8114	Corymbia maculata	Spotted gum	1030 960	1120 1040	18	YM	G	9,7,6,6	2a	Minor sparse canopy, LDW in all four quadrants, Nesting hollows
8110	Eucalyptus microcorys	Tallowood	340	455	8	YM	G	3,4,4,4	2a	MDW in all four quadrants
8108	Eucalyptus microcorys	Tallowood	525	600	13	YM	G	5,6,4,4	2a	No immediate works
8107	Eucalyptus microcorys	Tallowood	410	498	9	YM	G	5,6,5,3	2a	No immediate works
8117	Eucalyptus microcorys	Tallowood	830	960	16	YM	G	6,6,7,5	2a	No immediate works
8116	Eucalyptus microcorys	Tallowood	200 205	395	8	YM	G	3,4,4,3	2d	No immediate works
8118	Eucalyptus microcorys	Tallowood	820	910	14	M	G	7,7,5,5	2a	MDW in all four quadrants, LCR 95 – 100%
8124	Melaleuca quinquenervia	Broad leaf paper bark	580	630	6	YM	G	4,4,1,1	2a	Minor sparse canopy LCR 70 – 75%
8119	Eucalyptus microcorys	Tallowood	700	795	15	M	G	6,5,4,4	2a	MDW in all four quadrants
8120	Corymbia maculata	Spotted gum	595	650	15	M	G	6,5,4,4	2a	Minor sparse canopy
8122	Eucalyptus microcorys	Tallowood	340	420	12	YM	G	4,3,2,2	2a	Bifurcated at 2m, tree has 3 leaders.
8123	Eucalyptus microcorys	Tallowood	330	430	13	YM	G	3,4,2,1	2a	Bifurcated at 5m, MDW in all for quadrants, Minor sparse canopy
8125	Dead tree	N/A	330	385	12	OM	N/A	0,0,0,0	4a	Dead tree, 2 small main leaders.
8128	Eucalyptus microcorys	Tallowood	490	560	12	YM	G	5,5,5,4	2a	Symmetrical, Tree is located on edge of fairway

8132	Eucalyptus microcorys	Tallowood	405	570	9	YM	G	5,5,5,4	2a	Symmetrical.
8127	Eucalyptus microcorys	Tallowood	280	345	8	YM	F	3,4,4,2	3d	Moderate epicormic growth
8126	Eucalyptus microcorys	Tallowood	450	490	16	M	G	3,4,2,2	2a	No immediate works
8130	Corymbia maculata	Spotted gum	760	820	16	M	G	5,5,3,5	2a	MDW in all four quadrants, Minor sparse canopy
8131	Eucalyptus robusta	Swamp mahogany	580	640	17	M	G	8,6,2,4	2a	Minor dead wood, canopy has tropism to the north
8145	Eucalyptus robusta	Swamp mahogany	450	450	9	YM	G	6,6,3,4	2a	Minor sparse canopy
8129	Eucalyptus microcorys	Tallowood	410	470	12	YM	G	4,5,2,3	2a	MDW in all four quadrants
8132	Eucalyptus microcorys	Tallowood	405	490	9	YM	G	4,4,3,4	2a	MDW in all four quadrants <40mm
8040 – 8044	Callistemon viminalis	Bottlebrush	MS	460	6	M	G	3,3,3,3	2d	Symmetrical, LCR = 95 – 100%
8138	Eucalyptus Siderophloia	Iron bark	515	690	8	M	G	5,3,4,1	2a	Extensive pruning to Western side, Tree has lost apical leader
8146	Eucalyptus robusta	Swamp mahogany	425	520	9	YM	G	5,5,5,4	2a	MDW in all four quadrants, Pruning works have been performed for crown raise at 3m
8134	Lophostemon confertus	Brush box	390 360 340	535	7	YM	G	5,4,4,4	2a	3 main leaders
8135	Eucalyptus robusta	Swamp mahogany	575	670	9	M	G	6,5,6,4	2a	Minor epicormic growth, tree has previously been pruned
8142	Corymbia maculata	Spotted gum	540	610	15	M	G	5,5,6,5	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
8033	Corymbia maculata	Spotted gum	485	545	14	M	G	3,6,5,6	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
8032	Corymbia maculata	Spotted gum	350	410	9	YM	G	4,4,5,4	2d	Symmetrical, LCR = 95 – 100%
8031	Corymbia maculata	Spotted gum	810	890	16	M	G	5,5,5,6	2d	Symmetrical, LCR = 95 – 100%
8035	Corymbia maculata	Spotted gum	300	380	7	YM	G	3,4,3,3	2d	Symmetrical, LCR = 95 – 100%
8036	Eucalyptus robusta	Swamp mahogany	875	960	15	YM	G	6,5,5,6	2d	Symmetrical, LCR = 95 – 100%

8030	Eucalyptus Siderophloia	Iron bark	880	935	15	M	G	6,6,7,6	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
8029	Eucalyptus robusta	Swamp mahogany	760	845	15	M	G	5,5,6,7	2d	Symmetrical, LCR = 95 – 100%
8028	Eucalyptus Siderophloia	Iron bark	320	395	6	YM	G	3,2,3,3	2a	Symmetrical, LCR = 95 – 100% No immediate works
8027	Eucalyptus robusta	Swamp mahogany	295	360	6	YM	G	3,4,3,3	2d	Symmetrical, LCR = 95 – 100%, no immediate works
8025	Corymbia maculata	Spotted gum	860	910	15	M	G	7,6,6,7	2d	Symmetrical, LCR = 95 – 100%,
8024	Corymbia maculata	Spotted gum	475	540	10	YM	G	3,4,4,5	2d	Symmetrical, LCR = 95 – 100%
8023	Eucalyptus tereticornis	Forest Red Gum	830	935	15	YM	G	6,6,4,7	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
8022	Eucalyptus tereticornis	Forest Red Gum	910	965	17	M	G	6,6,5,6	2d	Symmetrical, LCR = 95 – 100%
8021	Eucalyptus tereticornis	Forest Red Gum	660	740	12	YM	G	3,3,4,3	2d	Symmetrical, LCR = 95 – 100%
8047	Corymbia maculata	Spotted gum	690	710	14	YM	G	4,5,4,4	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
8020	Corymbia maculata	Spotted gum	800	880	15	M	G	7,8,8,8	2d	Symmetrical, LCR = 95 – 100%
8080	Eucalyptus tereticornis	Forest Red Gum	660	710	16	M	G	6,3,5,5	2d	Symmetrical, LCR = 95 – 100%
8048	Eucalyptus tereticornis	Forest Red Gum	710	800	15	M	G	5,5,6,5	2d	Symmetrical, LCR = 95 – 100%
1518	Eucalyptus robusta	Swamp mahogany	330 490	500	8	M	G	4,3,5,4	3d	2 leaders, large trunk failure, extensive decay in trunk, tree is located at the edge of fairway.
5189	Eucalyptus tereticornis	Forest Red Gum	780	830	10	YM	G	4,3,2,3	2d	MDW in all four quadrants
5172	Eucalyptus tereticornis	Forest Red Gum	800	960	16	M	G	5,5,6,5	2d	MDW in all four quadrants
5165	Eucalyptus tereticornis	Forest Red Gum	900	980	16	M	G	4,6,5,5	2d	MDW in all four quadrants
5160	Corymbia maculata	Spotted Gum	880	940	16	M	G	4,7,5,6	2d	No immediate works
5171	Eucalyptus tereticornis	Forest Red Gum	845	900	15	M	G	5,5,6,5	2d	Symmetrical, MDW in all four quadrants
5153	Eucalyptus tereticornis	Forest Red Gum	855	910	16	M	G	6,5,7,6	2d	Symmetrical, MDW in all four quadrants

5148	Corymbia maculata	Spotted Gum	400	480	12	YM	G	4,3,3,2	2d	Symmetrical, MDW in all four quadrants
5142	Corymbia maculata	Spotted Gum	420	490	12	YM	G	3,5,5,4	2d	No immediate works
5141	Corymbia maculata	Spotted Gum	400	480	12	YM	G	4,4,3,3,	2d	No immediate works
5138	Eucalyptus tereticornis	Forest Red Gum	580	645	8	YM	G	3,2,3,3	2d	No immediate works
5133	Eucalyptus tereticornis	Forest Red Gum	600	680	8	YM	G	2,3,2,3	2d	No immediate works
5125	Lophostemon confertus	Brushbox	495	560	12	YM	G	4,3,4,5	2d	Symmetrical, MDW in all four quadrants
5124	Eucalyptus tereticornis	Forest Red Gum	820	900	17	M	G	6,7,6,5	2d	Symmetrical, MDW in all four quadrants
5117	Eucalyptus tereticornis	Forest Red Gum	590	580	8	YM	G	3,4,4,4	2d	Symmetrical, MDW in all four quadrants
5110	Corymbia maculata	Spotted Gum	580	630	8	YM	G	3,4,4,5	2d	Symmetrical, MDW in all four quadrants
5067	Corymbia maculata	Spotted Gum	600	660	12	YM	G	4,5,4,5	2d	No immediate works
5078	Corymbia maculata	Spotted Gum	600	665	12	YM	G	5,5,6,5	2d	No immediate works
5079	Lophostemon confertus	Brushbox	800	880	17	M	G	4,5,6,6	2d	No immediate works
5094	Lophostemon confertus	Brushbox	550	590	10	YM	G	4,4,3,4	2d	Symmetrical, MDW in all four quadrants
5099	Lophostemon confertus	Brushbox	610	675	10	YM	G	4,6,5,4	2d	No immediate works
5100	Lophostemon confertus	Brushbox	720	800	12	YM	G	4,6,5,5	2d	No immediate works
5105	Corymbia maculata	Spotted Gum	300	370	8	YM	G	2,3,2,2	2d	Symmetrical, MDW in all four quadrants
5104	Corymbia maculata	Spotted Gum	800	880	17	M	G	6,7,6,5	2d	No immediate works
5106	Lophostemon confertus	Brushbox	400	490	8	YM	G	3,5,6,3	2d	Symmetrical, MDW in all four quadrants
5066	Corymbia maculata	Spotted Gum	300	360	8	YM	G	3,2,3,3	2d	No immediate works
5059	Corymbia maculata	Spotted Gum	460	520	10	YM	G	4,3,4,4	2d	No immediate works
5055	Casuarina glauca	Sheoak	360	410	10	YM	G	3,3,2,3	2d	No immediate works
5060	Lophostemon confertus	Brushbox	440	510	6	SM	G	2,3,2,2	2d	Symmetrical, MDW in all four quadrants
5053	Casuarina glauca	Sheoak	300	360	10	YM	G	4,3,5,5	2d	No immediate works

5052	Casuarina glauca	Sheoak	300	380	9	YM	G	4,3,4,4	2d	No immediate works
5051	Casuarina glauca	Sheoak	310	370	9	YM	G	3,2,4,3	2d	No immediate works
5050	Corymbia maculata	Spotted Gum	340	400	10	YM	G	4,6,5,5	2d	Symmetrical, MDW in all four quadrants
5040	Lophostemon confertus	Brushbox	780	870	14	YM	G	6,6,4,5	2d	Symmetrical, MDW in all four quadrants
5039	Corymbia maculata	Spotted Gum	500	565	10	YM	G	6,4,4,5	2d	No immediate works
5038	Lophostemon confertus	Brushbox	470	510	9	YM	G	4,6,5,4	2d	No immediate works
5037	Eucalyptus tereticornis	Forest Red Gum	600	660	13	YM	G	5,5,5,6	2d	Symmetrical, MDW in all four quadrants
5032	Eucalyptus tereticornis	Forest Red Gum	560	610	14	YM	G	5,5,3,5	2d	No immediate works

7097	Eucalyptus microcorys	Tallowood	760	18	M	G	10,6,5,10	2d	MDW in all four quadrants, Symmetrical, LCR = 95 – 100%
7098	Eucalyptus microcorys	Tallowood	840	16	M	G	6,8,8,7	2d	Bifurcated at 2 metres above ground level, MDW in all four quadrants, Symmetrical, LCR = 95 – 100%
7099	Eucalyptus microcorys	Tallowood	705	16	M	G	10,8,9,8	2d	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7100	Eucalyptus microcorys	Tallowood	460	13	YM	G	5,7,7,4	2d	Symmetrical, LCR = 95 – 100% MDW in all four quadrants
7101	Eucalyptus microcorys	Tallowood	650	14	YM	G	4,7,7,5	2d	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants, Bifurcated at 2.5 metres above ground level
7102	Eucalyptus microcorys	Tallowood	820	13	M	G	8,4,8,6	2a	LDW to the NE at 4 metres above ground level (7 metres long), Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7103	Eucalyptus microcorys	Tallowood	990	16	M	G	13,11,10,10	2a	Symmetrical, LCR = 95 – 100%
7104	Lophostemon confertus	Brushbox	360	7	SM	G	5,5,5,5	2a	Symmetrical, LCR = 95 – 100%,
7105	Eucalyptus punctata	Grey Gum	350	9	YM	G	6,6,6,7	2a	Moderate included fork union, Symmetrical, LCR = 95 – 100%,, Bifurcated at 3 metres above ground level
7106	Eucalyptus punctata	Grey Gum	370	7	YM	A	7,5,2,1	3d	Tropism To the north, LDW, Not structurally sound, Symmetrical, LCR = 95 – 100%
7107	Lophostemon confertus	Brushbox	530	7	YM	G	7,5,5,6	2a	Symmetrical, LCR = 95 – 100%,
7108	Lophostemon confertus	Brushbox	390	6	YM	G	6,6,4,5	2a	Symmetrical, LCR = 95 – 100%,
7280	Eucalyptus punctata	Grey Gum	450	7	YM	A	7,7,5,3	3d	Exposed root plate to the S quadrants, Extensive tropism to the N quadrant.
7281	Lophostemon confertus	Brushbox	340	7	YM	G	4,3,3,3	2a	Symmetrical, LCR = 95 – 100%,
7110	Lophostemon confertus	Brushbox	160,175	6	YM	G	3,3,2,2	2a	Bifurcated at 1.4 metres, Symmetrical, LCR = 95 – 100%,
7109	Eucalyptus punctata	Grey Gum	455	7	M	A	6,6,5,2	2a	Minor tropism to the N quadrant, Asymmetrical, LCR = 95 – 100%,
7113	Lophostemon confertus	Brushbox	495	7	M	G	5,5,5,5	2a	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7112	Eucalyptus punctata	Grey Gum	630	10	M	A	7,6,3,5	3d	Moderately sparse canopy, Symmetrical, LCR = 75 - 80%,

7111	Eucalyptus microcorys	Tallowood	455	12	YM	G	4,7,5,3	2a	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7115	Eucalyptus saligna	Blue Gum	740	22	M	G	8,9,8,8	2d	Previously pruned tat 3.5 metres to the NE quadrant, Symmetrical, LCR = 95 – 100%,
7116	Eucalyptus punctata	Grey Gum	520	11	M	A	7,5,5,4	3d	Symmetrical, LCR = 80 – 85%, Moderately sparse canopy, MDW in all four quadrants, Minor tropism to the NW quadrant
7114	Lophostemon confertus	Brushbox	555	6	M	G	4,4,4,4	2a	Symmetrical, LCR = 95 – 100%,
7117	Eucalyptus punctata	Grey Gum	535	9	M	A	9,4,3,4	3d	Tropism to the NW, MDW in all four quadrants, Symmetrical, LCR = 95 – 100%,
7120	Lophostemon confertus	Brushbox	545	10	M	G	6,5,5,6	2a	Symmetrical, LCR = 95 – 100%,
7119	Eucalyptus punctata	Grey Gum	890	14	M	G	12,8,6,11	2a	Symmetrical, LCR = 85 - 90%,
7118	Lophostemon confertus	Brushbox	285	7	M	G	3,4,3,3	2a	Bifurcated at 1.8 metres above ground level, Symmetrical, LCR = 95 – 100%,
7121	Eucalyptus punctata	Grey Gum	520	11	M	A	10,4,4,9	3d	Minor asymmetry to the W quadrant, MDW in all four quadrants
7122	Lophostemon confertus	Brushbox	330,250	7	M	G	5,4,4,5	4a	Exposed root plate to the N quadrant, decay in the S (trunk). Symmetrical, LCR = 95 – 100%, Structurally unsound
7127	Lophostemon confertus	Brushbox	330	7	M	G	5,5,5,4	2a	Symmetrical, LCR = 95 – 100%,
7123	Eucalyptus punctata	Grey Gum	820	13	M	A	8,8,6,7	3d	Symmetrical, LCR = 85 - 90%, Bifurcated at 2 metres above ground level. MDW in all four quadrants
7124	Lophostemon confertus	Brushbox	440	8	YM	G	5,6,4,4	2a	Symmetrical, LCR = 85 - 90%, Bifurcated at 2 metres above ground level.
7125	Lophostemon confertus	Brushbox	435	11	YM	G	5,6,5,4	2a	Symmetrical, LCR = 95 – 100%,
7126	Eucalyptus punctata	Grey Gum	830	14	M	G	10,10,9,8	2a	Minor asymmetry to the W quadrant, Symmetrical, LCR = 85 - 90%, MDW in all four quadrants
7128	Corymbia maculata	Spotted Gum	350	11	SM	G	3,2,3,3	4a	Strom damage to the main leader, Structurally unsound
7127	Lophostemon confertus	Brushbox	160,260	7	SM	G	5,3,4,3	2a	Bifurcated at 1.4 metres, Symmetrical, LCR = 95 – 100%,
7129	Lophostemon confertus	Brushbox	280,170, 370	11	SM	G	4,4,3,3	2a	Trifurcated at 1.4 metres, Symmetrical, LCR = 95 – 100%,

7130	Lophostemon confertus	Brushbox	365,340	11	SM	G	4,4,4,5	2a	Bifurcated at 1 metre, Symmetrical, LCR = 95 – 100%,
7131	Corymbia citriodora	Lemon Scented Gum	555	13	YM	G	8,9,9,8	2a	Previously pruned to the N quadrant (X2 scaffolds – 1st order), Symmetrical, LCR = 95 – 100%,
7132	Lophostemon confertus	Brushbox	370	6.5	YM	G	5,4,4,5	2a	Symmetrical, LCR = 95 – 100%,
7133	Lophostemon confertus	Brushbox	190,130, 210	7	SM	G	4,5,5,5	2a	Trifurcated at 1 metre, Symmetrical, LCR = 95 – 100%,
7134	Lophostemon confertus	Brushbox	500	9	SM	G	3,5,5,5	2a	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7137	Lophostemon confertus	Brushbox	260,240	6.5	SM	G	5,3,4,4	2a	Bifurcated at 1.3 metres, located at the 13th Tee, Symmetrical, LCR = 95 – 100%,
7135	Lophostemon confertus	Brushbox	375	7	SM	G	4,5,5,4	2a	Symmetrical, LCR = 95 – 100%,
7136	Eucalyptus scoparia	Wallangarra White Gum	710	13	M	A	9,8,5,6	3d	Moderate epicormic growth, Symmetrical, LCR = 75 - 80%,
7138	Lophostemon confertus	Brushbox	170,290	5	SM	G	7,4,4,5	2a	Bifurcated at 1.1 metres, Symmetrical, LCR = 95 – 100%,
7139	Eucalyptus saligna	Blue Gum	900	17	M	G	11,11,9,9	2d	Symmetrical, LCR = 95 – 100%, MDW in all four quadrants
7140	Corymbia maculata	Spotted Gum	840	19	M	G	8,9,8,5	2d	LDW to the N quadrant at 6.5 metres (3 metres long) & LDW to the S quadrant at 9 metres (2 metres long)
7141	Pinus patula	Mexican Weeping Pine	375,410	8	M	A	7,3,4,5	3d	Minor tropism to the W quadrant, Bifurcated at 0.8 metres, Symmetrical, LCR = 85 - 90%,
7152	Lophostemon confertus	Brushbox	265, 290	8	SM	G	5,4,5,4	2d	Bifurcated at 1.3 metres above ground level, Symmetrical, LCR = 95 – 100%,
7143	Lophostemon confertus	Brushbox	400,480	10	YM	G	6,6,7,7	2d	Bifurcated at 1.6 metres above ground level, Symmetrical, LCR = 95 – 100%, Bifurcated at 1.3 metres above ground level,
7142	Lophostemon confertus	Brushbox	450	6.5	YM	G	2,6,6,3	2a	Symmetrical, LCR = 95 – 100%,
7144	Melaleuca quinquenervia	Broad Leaved Paperbark	300	11	SM	G	3,3,3,5	2a	Symmetrical, LCR = 95 – 100%,
7150	Angophora costata	Red Gum	190	7	SM	A	2,3,3,2	3d	Symmetrical, LCR = 90 – 95%,
7149	Eucalyptus scoparia	Wallangarra White Gum	340	12	OM	P	3,3,3,2	4a	LDW to the W quadrant at 4 metres above ground level, sparse canopy, Symmetrical, LCR = 35 - 40%,

7145	Eucalyptus scoparia	Wallangarra White Gum	820	13	M	P	6,8,7,5	4a	Moderate epicormic growth, Symmetrical, LCR = 75 - 80%,
7146	Eucalyptus robusta	Swamp Mahogany	330,290	7	SM	G	4,5,6,2	3d	Symmetrical, LCR = 95 – 100%,
7147	Eucalyptus siderophloia	Ironbark	360	13	SM	G	4,6,4,4	2a	Symmetrical, LCR = 95 – 100%,
7148	Lophostemon confertus	Brushbox	530	11	YM	G	5,6,4,4	2a	4 main leaders at 1.6 metres, Symmetrical, LCR = 95 – 100%,
7153	Lophostemon confertus	Brushbox	270,300	9	YM	G	5,6,5,6	2a	Bifurcated at 1.3 metres, MDW in all four quadrants, Symmetrical, LCR = 95 – 100%,
7151	Lophostemon confertus	Brushbox	570	10	YM	G	6,6,6,6	2a	Symmetrical, LCR = 95 – 100%,
7157	Grevillea robusta	Silky Oak	310	10	YM	G	4,4,3,3	2a	Symmetrical, LCR = 95 – 100%,
7156	Angophora costata	Red Gum	535	8	YM	G	6,6,5,6	2a	Symmetrical, LCR = 95 – 100%,
7275	Melaleuca quinquenervia	Broad Leaved Paperbark	460	10	YM	G	4,4,4,4	2a	Bifurcated at 4 metres, Symmetrical, LCR = 95 – 100%,
7267	Casuarina glauca	River Sheoak	345	13	M	A	4,5,5,3	4a	Symmetrical, LCR =50 – 55%, MDW in all four quadrants
7155	Lophostemon confertus	Brushbox	410	9	YM	G	6,6,5,6	2a	Symmetrical, LCR = 95 – 100%,
7154	Lagurnaria patersonii	Norfolk Island Hibiscus	210,145	6	YM	G	3,3,4,3	4a	Weed species, Not suitable for retention.
7269	Callistemon viminalis	Weeping Bottlebrush	225,310	5	YM	G	2,3,4,3	2a	Bifurcated at 0.9 metres, Symmetrical, LCR = 95 – 100%,
7268	Lophostemon confertus	Brushbox	360,420	8	YM	G	4,4,4,5	2a	Symmetrical, LCR = 95 – 100%,
7274	Lophostemon confertus	Brushbox	190,295	7	YM	G	4,5,5,4	2a	Bifurcated at 1.3 metres, Symmetrical, LCR = 95 – 100%,
7270	Lophostemon confertus	Brushbox	210,280	5	SM	G	2,2,1,1	2a	Bifurcated at 0.4 metres above ground level, Symmetrical, LCR = 95 – 100%,
7271	Callistemon viminalis	Weeping Bottlebrush	315,215	4.5	M	A	1,3,5,4	3d	Tropism to the SW, bifurcated at ground level, Symmetrical, LCR = 95 – 100%,
7272	Pinus patula	Mexican Weeping Pine	605	16	M	A	7,6,7,5	3d	Moderately sparse canopy, Symmetrical, LCR = 65 - 70%,
7273	Pinus patula	Mexican Weeping Pine	650,620	15	M	G	8,8,9,8	4a	Large included fork union, Symmetrical, LCR = 95 – 100%,

7223	Eucalyptus microcorys	Tallowood	875	15	M	G	6,7,6,6	2a	Symmetrical, LCR = 95 – 100%,

Key:

Age class: Young = Y, Semi mature = SM, Mature = M, Over mature = OM
DBH = Diameter at Breast Height LCR = Live Crown Ratio
Vigour = Excellent = E, Good = G, Fair = f, Poor = P
LDW = large deadwood over 40mm, MDW = Minor deadwood less than 40mm
N= north, E = east, W = west, S = south MS = multiple Stems
ULE = Useful Life Expectancy (See appendix 2 for guidelines)

4.1 Trees & Impact on Development

Trees are living organisms and their root systems play an integral role in stability and providing nutrient storage as well as water uptake. The majority of tree roots for Dicotyledons occur within the first metre of the soil. Therefore construction works can have a profound effect on their health and longevity as well as their structural stability. Tree distances from excavation works must be taken into consideration at the planning stage to ensure that the tree is not damaged.

There are several main factors that occur at the construction phase that can have a negative impact on the trees health and stability. These practices can include but are not limited to –

- Parking of vehicles and heavy machinery within the drip line of the tree.
- Stockpiling of materials within the drip line of the tree.
- Excavating within the drip line and damaging the structural root system.
- Raising soil levels in and around the base of the tree therefore reducing the trees ability for gaseous exchange.
- Damage to the tree due to heavy machinery and equipment resulting in large bark tears or loss of branches and scaffolds.

To reduce the effects of construction it is imperative to provide an area underneath the tree where no works are undertaken. The area where supervised works are undertaken is referred to as the structural root zone (SRZ). The S.R.Z is an area where no to minimal activities listed above should occur. All trees require a S.R.Z and will vary from species to species but for the purposes of this report the Australian Standards 4970 has now been adopted.

In conclusion the Australian Standards like similar methods for protecting trees is only a guide. To ensure the health and longevity of trees within construction sites it is imperative to provide a large protection zone taking into consideration that the tree will also grow over time. The greater area that can be put aside where no works occur will aid in the preservation of the tree. The activities listed above should be kept to a minimum and encroachment within the SRZ will require the supervision by a qualified AQF 5 arborist. These impacts will be taken into consideration in the discussion & recommendations section of this report.

5.0 Discussion & Compliance to Australian Standards 4970 – 2009, 4373 – 2007 & Rural Fire Service (RFS) 10:50 Code

Abacus Tree Services has been approached by Aveo Pty Ltd to undertake an arborist (assessment) report on all trees as per the site plan provided by AVEO. The aim of this report is to determine how many trees require removal for all trees on site that are outlined in the masterplan. I have assessed all trees on site and assessed the potential impacts on the trees in relation to the proposed development including proposed buildings, hardstand areas and internal roads. I have used the tags and tag numbers provided by the ecologist for ease of identification. All trees have been tagged that correspond with Appendix 1.

Abacus Tree Services has relied upon the sketch drawings provided by AVEO (Pulver, Cooper & Blackley) to formulate distances and setbacks in accordance with Australian Standards 4970 – 2009. I have relied upon this information to be true and accurate. Any changes to the sketching and drawings will require the calculations to be reassessed in accordance with Australian Standards 4970 – 2009.

Tree 7225 is outside the proposed construction/building works by greater than 12 metres therefore it complies with Australian Standards 4970 - 2009. This species has the potential to be retained and incorporated into the development.

Tree 7213 has been given an SRZ and TPZ of 3.28 & 10.232 metres in accordance with Australian Standards 4970 - 2009. The proposed batter is mooted in the SRZ of Tree 7213. This will alter the soil levels within this zone. This wouldn't comply with Australian Standards 4970 – 2009. In order for the development to proceed in its current format will require the removal of Tree 7213.

Tree 7212 has been given an SRZ and TPZ of 3.11 & 7.86 metres in accordance with Australian Standards 4970 - 2009. The proposed batter is mooted in the SRZ of Tree 7212. This will alter the soil levels within this zone. This wouldn't comply with Australian Standards 4970 – 2009. In order for the development to proceed in its current format will require the removal of Tree 7212. This species is structurally unsound as it has an extensive cavity at 9 metres above ground level as indicated in Figure 5. This species would only be suited to short term retention due to the cavity within the trunk.

Tree 7211 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7211 is located in a hard stand area in close proximity the proposed residential dwellings as seen in the site plan. Therefore Tree 7211 will require removal for the development to proceed in its current format.

Tree 7210 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7210 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7210 will require removal for the development to proceed in its current format.

Tree 7209 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7209 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7209 will require removal for the development to proceed in its current format.

Tree 7208 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7208 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7208 will require removal for the development to proceed in its current format.

Tree 7207 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7207 is located in a hardstand area in close proximity the proposed residential dwellings as seen in the site plan. Therefore Tree 7207 will require removal for the development to proceed in its current format.

Tree 7206 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7206 is located in a hardstand area in close proximity the proposed residential dwellings as seen in the site plan. Therefore Tree 7206 will require removal for the development to proceed in its current format.

Tree 7205 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7205 is located in a hardstand area in close proximity the proposed residential dwellings as seen in the site overly. Therefore Tree 7205 will require removal for the development to proceed in its current format.

Tree 7204 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7204 is located in a hardstand area in close proximity the proposed residential dwellings as seen in the site plan. Therefore Tree 7204 will require removal for the development to proceed in its current format.

Tree 7226 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7226 is located in a hardstand area in close proximity the proposed residential dwellings as seen in the site plan. Therefore Tree 7226 will require removal for the development to proceed in its current format.

Tree 7227 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7227 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7227 will require removal for the development to proceed in its current format.

Tree 7228 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7228 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7208 will require removal for the development to proceed in its current format.

Tree 7266 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7266 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7266 will require removal for the development to proceed in its current format.

Tree 7263 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7263 is located in the proposed access road as seen in the site plan. Therefore Tree 7263 will require removal for the development to proceed in its current format.

Tree 7262 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7262 is located in the proposed access road as shown in the site plan. Therefore Tree 7262 will require removal for the development to proceed in its current format.

Tree 7261 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7261 is located in the proposed building footprint as seen in the site plan. Therefore Tree 7261 will require removal for the development to proceed in its current format.

Figure 3 – showing the location of the fairway that will require removal of all trees either side to accommodate the proposed buildings and associated hardstand areas.

Tree 7265 is located on the Western side of the proposed development area as shown on the survey plan. The proposed building footprint and access road is located within the TPZ of Tree 7265 as shown in the site plan. The location of this tree will be impacted by structural instability caused by reducing the TPZ. Therefore Tree 7265 will require removal for the development to proceed in its current format.

Tree 7264 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7264 is located in the proposed access road as shown in the site plan. Therefore Tree 7264 will require removal for the development to proceed in its current format.

Tree 7259 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7259 is located is located inside the proposed driveway as shown in the site plan. Therefore Tree 7259 will require removal for the development to proceed in its current format.

Tree 7255 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7255 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7255 will require removal for the development to proceed in its current format.

Tree 7257 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7257 is located in the proposed access road as shown in the site plan. Therefore Tree 7257 will require removal for the development to proceed in its current format.

Tree 7258 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7258 is located in the proposed access road as shown in the site plan. Therefore Tree 7258 will require removal for the development to proceed in its current format.

Tree 7254 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7255 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7255 will require removal for the development to proceed in its current format.

Tree 7253 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7253 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7253 will require removal for the development to proceed in its current format.

Tree 7251 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7251 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7251 will require removal for the development to proceed in its current format.

Tree 7250 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7250 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7250 will require removal for the development to proceed in its current format.

Tree 7249 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7249 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7249 will require removal for the development to proceed in its current format.

Tree 7248 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7248 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7248 will require removal for the development to proceed in its current format.

Tree 7247 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7247 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7247 will require removal for the development to proceed in its current format.

Tree 7245 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7245 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7245 will require removal for the development to proceed in its current format.

Tree 7201 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7201 is located on the edge of the proposed building footprint as shown in the site plan. Therefore Tree 7201 will require removal for the development to proceed in its current format.

Tree 7244 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7244 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7244 will require removal for the development to proceed in its current format.

Tree 7242 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7242 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7242 will require removal for the development to proceed in its current format.

Figure 4 – showing the location of the proposed development as it extends to the western quadrant.

Tree 7241 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7241 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7241 will require removal for the development to proceed in its current format.

Tree 7240 is located in the backyard of the subject property within 2 metres of the proposed development. The incursion into the TPZ is greater than 10% and doesn't comply with Australian Standards 4970 – 2009. Therefore Tree 7240 will require removal for the development to proceed in its current format.

Tree 7246 is located on the Western side of the proposed development area as shown on the survey plan. Tree 7246 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7246 will require removal for the development to proceed in its current format.

Tree 8207 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8207 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8206 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8206 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8207 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8205 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8177 is located in the backyard of the subject property within 2 metres of the proposed development. The incursion into the TPZ is greater than 10% and doesn't comply with Australian Standards 4970 – 2009. Therefore Tree 8177 will require removal for the development to proceed in its current format.

Tree 8176 is located in the backyard of the subject property within 3 metres of the proposed development. The incursion into the TPZ is greater than 10% and doesn't comply with Australian Standards 4970 – 2009. Therefore Tree 8176 will require removal for the development to proceed in its current format.

Tree 8175 is located in the backyard of the subject property within 3 metres of the proposed development. The incursion into the TPZ is greater than 10% and doesn't comply with Australian Standards 4970 – 2009. Therefore Tree 8175 will require removal for the development to proceed in its current format.

Tree 8174 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8174 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8171 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8171 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8171a is outside of the scope of works and development and therefore has the potential to be retained. Tree 8171a is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8172 is outside of the scope of works and development and therefore has the potential to be retained. Tree 8172 is located outside of all building, internal roads and therefore is earmarked for retention. Tree protection fencing is to be outlined for this species in accordance with Australian Standards 4970 – 2009.

Tree 8190 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8190 will require removal for the development to proceed in its current format.

Tree 8182 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8182 will require removal for the development to proceed in its current format.

Tree 8215 is located in the internal access road of the complex. Therefore Tree 8215 will require removal for the development to proceed in its current format.

Tree 8181 is located within 2 metres of the bend of the internal access road. The incursion into the TPZ is greater than 10% and doesn't comply with Australian Standards 4970 – 2009. Therefore Tree 8181 will require removal for the development to proceed in its current format.

Tree 8214 is located in the internal access road of the complex. Therefore Tree 8214 will require removal for the development to proceed in its current format.

Tree 8213 is located within 1 metre of the proposed development (building). All the SRZ will require removal to complete the building works. Tree 8213 will require removal in order for the development to proceed in its current format.

Tree 8095 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8095 will require removal for the development to proceed in its current format.

Tree 7183 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7183 will require removal for the development to proceed in its current format.

Tree 7182 is located within 2 metres either side of two buildings. This is a major incursion into the TPZ on two sides that will lead to structural instability. The loss of TPZ doesn't comply with Australian Standards 4970 – 2009. In order for the development to proceed in its current format will require the removal of Tree 7182.

Tree 7241 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7241 will require removal for the development to proceed in its current format.

Tree 7242 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7242 will require removal for the development to proceed in its current format.

Tree 7243 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7243 will require removal for the development to proceed in its current format.

Tree 7249 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7249 will require removal for the development to proceed in its current format.

Tree 7238 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7238 will require removal for the development to proceed in its current format.

Tree 7235 is located within 2 metres of the internal road and the excavation works will be inside of the TPZ of Tree 7235. This will lead to structural instability to Tree 7235. Therefore Tree 7235 will require removal for the development to proceed in its current format.

Tree 7193 is located in the internal access road associated with the proposed development. Therefore Tree 7193 will require removal for the development to proceed in its current format.

Tree 7194 is located on the edge of the internal road within 1 metre. Tree 7194 is only a young mature tree that would be severely affected by the proposed excavation works associated with the development. Therefore Tree 7194 will require removal for the development to proceed in its current format.

Tree 7192 is located in the internal access road associated with the proposed development. Therefore Tree 7192 will require removal for the development to proceed in its current format.

Figure 5 – showing the bottom of the fairway and the start of the row of trees that will require removal in order to construct the proposed development.

Tree 7190 is located within 3 metres of the building and access road either side. This species would have excavation works on either side of the TPZ that is greater than 10%. The amount of excavation works doesn't comply with Australian Standards 4970 - 2 009. Therefore Tree 7190 will require removal for the development to proceed in its current format.

Tree 7191 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7191 will require removal for the development to proceed in its current format.

Tree 7189 is located on the edge of the proposed building footprint. All the SRZ will be removed on one side that would lead to structural instability of the tree. Therefore Tree 7189 will require removal for the development to proceed in its current format.

Tree 7178 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7188 will require removal for the development to proceed in its current format.

Tree 7187 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7187 will require removal for the development to proceed in its current format.

Tree 7181 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7181 will require removal for the development to proceed in its current format.

Tree 7266 is located in the internal access road associated with the proposed development. Therefore Tree 7266 will require removal for the development to proceed in its current format.

Tree 7167 is located in the internal access road associated with the proposed development. Therefore Tree 7167 will require removal for the development to proceed in its current format.

Tree 7177 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7177 will require removal for the development to proceed in its current format.

Tree 7176 is located within 0.5 metres of the portico associated with the development and within 3 metres of the proposed building. In order for the development to proceed in its current format will require the removal of Tree 7176.

Tree 7175 is located within 1.5 metres of the portico associated with the development and within 3 metres of the proposed building. In order for the development to proceed in its current format will require the removal of Tree 7175.

Tree 7175 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7175 will require removal for the development to proceed in its current format.

Tree 7168 is located in the internal access road associated with the proposed development. Therefore Tree 7168 will require removal for the development to proceed in its current format.

Tree 7171 is located just outside of the proposed internal road and will be severely compromised by the excavation works. Therefore Tree 7171 will require removal for the development to proceed in its current format.

Tree 8093 is located in the internal access road associated with the proposed development. Therefore Tree 8093 will require removal for the development to proceed in its current format.

Tree 8093a is located in the internal access road associated with the proposed development. Therefore Tree 8093a will require removal for the development to proceed in its current format.

Tree 8091 will be located inside the proposed driveway associated with the building. Therefore Tree 8091 will require removal for the development to proceed in its current format.

Tree 8092 will be located inside the proposed driveway associated with the building. Therefore Tree 8092 will require removal for the development to proceed in its current format.

Tree 8094 is located within 0.5 metres of the proposed development and therefore doesn't meet the requirements of Australian Standards 4970 – 2009. Therefore Tree 8094 will require removal for the development to proceed in its current format.

Tree 8094a is located within 1.0 metre of the proposed development and therefore doesn't meet the requirements of Australian Standards 4970 – 2009. Therefore Tree 8094a will require removal for the development to proceed in its current format.

Tree 7160 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7160 will require removal for the development to proceed in its current format.

Tree 7161 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7161 will require removal for the development to proceed in its current format.

Tree 7169 will be located inside the proposed driveway associated with the building. Therefore Tree 7169 will require removal for the development to proceed in its current format.

Tree 7163 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7163 will require removal for the development to proceed in its current format.

Tree 7165 is located on the edge of the portico associated with the proposed building footprint as shown in the site plan. Therefore Tree 7165 will require removal for the development to proceed in its current format.

Tree 7164 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7164 will require removal for the development to proceed in its current format.

Tree 7158 is located within 0.5 metres of the patio area associated with the proposed building footprint. Therefore Tree 7158 will require removal for the development to proceed in its current format.

Tree 7159 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7164 will require removal for the development to proceed in its current format.

Tree 8089 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8089 will require removal for the development to proceed in its current format.

Tree 8088 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8088 will require removal for the development to proceed in its current format.

Tree 8090 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8090 will require removal for the development to proceed in its current format.

Tree 8087 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8087 will require removal for the development to proceed in its current format.

Tree 8086 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8086 will require removal for the development to proceed in its current format.

Tree 8085 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8085 will require removal for the development to proceed in its current format.

Tree 8102 is located inside the proposed courtyard area. This is a young mature tree with the potential for extensive future growth. This species would not be suited to a small backyard. I have earmarked Tree 8102 for removal before commencement of building works.

8101 is located outside of all proposed excavation and building works. Tree 8101 is located outside of all proposed internal roads and buildings and therefore has the potential to be retained and incorporated into the development on the proviso that no soil levels are altered within the SRZ.

8100 is located outside of all proposed excavation and building works. Tree 8100 is located outside of all proposed internal roads and buildings and therefore has the potential to be retained and incorporated into the development on the proviso that no soil levels are altered within the SRZ.

Tree 8099 is located within 3 metres of the proposed development. There is an estimated 40 – 45% of the canopy that will require removal in order to create a 1 mette spatial separation to the building. This amount of pruning works contravenes Australian Standards 4373 – 2007. Therefore Tree 8099 will require removal for the development to proceed in its current format.

Tree 8098 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8098 will require removal for the development to proceed in its current format.

Tree 8097 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8097 will require removal for the development to proceed in its current format.

Tree 8106 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8106 will require removal for the development to proceed in its current format.

Tree 8105 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8105 will require removal for the development to proceed in its current format.

Tree 8103 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8103 will require removal for the development to proceed in its current format.

Tree 8104 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8104 will require removal for the development to proceed in its current format.

Tree 8184 is located in the internal access road associated with the proposed development. Therefore Tree 8184 will require removal for the development to proceed in its current format.

Tree 8110 is located in the internal access road associated with the proposed development. Therefore Tree 8110 will require removal for the development to proceed in its current format.

Tree 8108 is located in the internal access road associated with the proposed development. Therefore Tree 8108 will require removal for the development to proceed in its current format.

Tree 8107 is located in the internal access road associated with the proposed development. Therefore Tree 8107 will require removal for the development to proceed in its current format.

Tree 8117 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8117 will require removal for the development to proceed in its current format.

Tree 8116 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8115 will require removal for the development to proceed in its current format.

Tree 8118 is located within 5 metres of the proposed development. There is an estimated 30 – 35% of the canopy that will require removal in order to create a 1 metre spatial separation to the proposed building. In order for the development to proceed in its current format will require the removal of Tree 8118.

Tree 8122 is located on the edge of the proposed building footprint. In order for the development to proceed will require the removal of Tree 8122.

Tree 8119 is located in the internal access road associated with the proposed development. Therefore Tree 8119 will require removal for the development to proceed in its current format.

Tree 8120 is located in the internal access road associated with the proposed development. Therefore Tree 8120 will require removal for the development to proceed in its current format.

Tree 8122 is located on the edge of the proposed internal road associated with the proposed building footprint as shown in the site plan. Therefore Tree 8122 will require removal for the development to proceed in its current format.

Tree 8123 is located in the internal access road associated with the proposed development. Therefore Tree 8123 will require removal for the development to proceed in its current format.

Tree 8135 is located in the internal access road associated with the proposed development. Therefore Tree 8125 will require removal for the development to proceed in its current format.

Figure 6 – looking south east towards the two fairways. These two fairways will require removal of majority of the species to accommodate the proposed development and hardstand areas.

Tree 8128 is located on the edge of the proposed internal road associated with the proposed building footprint as shown in the site plan. Therefore Tree 8128 will require removal for the development to proceed in its current format.

Tree 8132 is located in the internal access road associated with the proposed development. Therefore Tree 8132 will require removal for the development to proceed in its current format.

Tree 8127 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8127 will require removal for the development to proceed in its current format.

Tree 8126 is located within 1.5 metres of the proposed building footprint as shown in the site plan. Therefore Tree 8126 will require removal for the development to proceed in its current format.

Tree 8130 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8130 will require removal for the development to proceed in its current format.

Tree 8131 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8131 will require removal for the development to proceed in its current format.

Tree 8145 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8145 will require removal for the development to proceed in its current format.

Tree 8129 will be located inside the proposed driveway associated with the building. Therefore Tree 8129 will require removal for the development to proceed in its current format.

Tree 8132 will be located inside the proposed driveway associated with the building. Therefore Tree 8132 will require removal for the development to proceed in its current format.

Tree 8138 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8138 will require removal for the development to proceed in its current format.

Tree 8146 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8146 will require removal for the development to proceed in its current format.

Tree 8134 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8134 will require removal for the development to proceed in its current format.

Tree 8135 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8135 will require removal for the development to proceed in its current format.

Tree 8129a is located in the proposed building footprint as shown in the site plan. Therefore Tree 8129a will require removal for the development to proceed in its current format.

Tree 8189 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8189 will require removal for the development to proceed in its current format.

Tree 8195 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8195 will require removal for the development to proceed in its current format.

Tree 8192 is located within 1 metre to the proposed building footprint as shown in the site plan. Therefore Tree 8192 will require removal for the development to proceed in its current format. The amount of tree removal doesn't pass Australian Standards 4970 – 2009.

Tree 8190 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8190 will require removal for the development to proceed in its current format.

Tree 8188 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8188 will require removal for the development to proceed in its current format.

Tree 8189 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8189 will require removal for the development to proceed in its current format.

Tree 8184 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8184 will require removal for the development to proceed in its current format.

Tree 8186 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8186 will require removal for the development to proceed in its current format.

Tree 8185 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8185 will require removal for the development to proceed in its current format.

Tree 8187 will be located inside the proposed driveway associated with the building. Therefore Tree 8187 will require removal for the development to proceed in its current format.

Tree 8193 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8193 will require removal for the development to proceed in its current format.

Tree 8195 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8195 will require removal for the development to proceed in its current format.

Tree 8121 is located in the internal access road associated with the proposed development. Therefore Tree 8121 will require removal for the development to proceed in its current format.

Tree 8158 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8158 will require removal for the development to proceed in its current format.

Tree 8159 is located in the internal access road associated with the proposed development. Therefore Tree 8159 will require removal for the development to proceed in its current format.

Tree 8154 is located outside of the proposed development. This species is located a minimum 5 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8154 and the proposed internal access road.

Tree 8156 is located outside of the proposed development. This species is located a minimum 5 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8156 and the proposed internal access road.

Tree 8157 is located outside of the proposed development. This species is located a minimum 5 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8157 and the proposed internal access road.

Tree 8162 is located outside of the proposed development. This species is located a minimum 3 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8162 and the proposed internal access road. This is a small species and therefore has been considered for retention.

Tree 8163 is located outside of the proposed development. This species is located a minimum 5 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8163 and the proposed internal access road.

Tree 8167 is located outside of the proposed development. This species is located a minimum 5 metres to all proposed hardstand areas and therefore has the potential to be retained on the proviso that no excavation works are to occur between the trunk of Tree 8167 and the proposed internal access road.

Tree 8019 is located in the internal access road associated with the proposed development. Therefore Tree 8019 will require removal for the development to proceed in its current format.

Figure 7 – showing the location of Trees 8039 – 8040. Majority of these trees can be retained except for Trees 8044 & 8043 that will be located on the edge of the proposed internal road.

Tree 8018 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8018 will require removal for the development to proceed in its current format.

Tree 8017 is located in the internal access road associated with the proposed development. Therefore Tree 8017 will require removal for the development to proceed in its current format.

Tree 8016 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8016 will require removal for the development to proceed in its current format.

Tree 8015 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8015 will require removal for the development to proceed in its current format.

Tree 8014 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8014 will require removal for the development to proceed in its current format.

Tree 8013 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8013 will require removal for the development to proceed in its current format.

Tree 8012 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8012 will require removal for the development to proceed in its current format.

Tree 8011 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8011 will require removal for the development to proceed in its current format.

Tree 8010 is located in the proposed building footprint as shown in the site plan. Therefore Tree 8010 will require removal for the development to proceed in its current format.

Tree 7087 is located in the proposed driveway associated with the proposed building footprint as shown in the site plan. Therefore Tree 7087 will require removal for the development to proceed in its current format.

Tree 7086 & 7088 will be located in the proposed garden bed feature area. There will be major excavation works to construct the garden bed and therefore Tree 7086 has been mooted for removal.

Trees 7091, 7090, 7089, 7092, 7093, 7094 & 7095 will be hardstand area associated with the proposed development. In order for the development to proceed in its current format will require the removal of Trees 7091, 7090, 7089, 7092, 7093, 7094 & 7095.

Tree 8009, 8008, 8006, 8005 & 8004 will be located in the proposed building footprint as shown in the site plan. Therefore Tree 8009, 8008, 8006, 8005 & 8004 will require removal for the development to proceed in its current format.

Tree 8007, 8003, 8001 & 8002 are located in the internal access road associated with the proposed development. Therefore Tree 8007, 8003, 8001 & 8002 will require removal for the development to proceed in its current format.

Trees 7057, 7073, 7075, 7076, 7068, 7077 & 7078 are located in the proposed building footprint as shown in the site plan. Therefore Tree 7075, 7076, 7077 & 7078 will require removal for the development to proceed in its current format.

Tree 7074 is located in between the proposed driveway and the proposed building footprint. Tree 7074 is located within 2 metres to the proposed development and within 3 metres of the internal road. The amount of tree root plate removal doesn't comply with Australian Standards 4970 – 2009. In order for the development to proceed will require the removal of Tree 7074.

Trees 7079, 7080, 7081, 7082, 7072, 7068 & 7058 are all located in the proposed internal road. In order to construct the road will require the removal of Trees 7079, 7080, 7081, 7082, 7072, 7068 & 7058.

Tree 7064, 7063, 7062, 7061, 7051 & 7041 are located in the proposed internal road associated with the proposed building footprint as shown in the site plan. Therefore Trees 7064, 7063, 7062, 7061, 7051 & 7041 will require removal for the development to proceed in its current format.

Tree 7085, 5165, 5172 & 5160 are located in the proposed building footprint as shown in the site plan. Therefore Tree 7085, 5165, 5172 & 5160 will require removal for the development to proceed in its current format.

Tree 5171 is located off the internal road within 3 metres to the excavation works. This species has the potential for extensive future growth. Due to the species type and potential growth patterns it would be beneficial to remove Tree 5171 before commencement of building works.

Tree 7084 is located in the proposed building footprint as shown in the site plan. Therefore Tree 7084 will require removal for the development to proceed in its current format.

Trees 7067 & 7066 are located in the proposed building footprint as shown in the site plan. Therefore Tree 7067 & 7066 will require removal for the development to proceed in its current format.

Tree 7065 is located on the edge of the proposed internal access road. Tree 7065 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7060, 7053, 7059 & 7052 are located in the proposed building footprint as shown in the site plan. Therefore Tree 7060, 7053, 7052 & 7059 will require removal for the development to proceed in its current format.

Tree 7054 is located on the edge of the proposed internal access road. Tree 7054 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Trees 7055 & 7056, 7045, 7048 have the potential to be retained and incorporated into the development. These trees will require SRZ and TPZ requirements set out in accordance with Australian Standards 4970 – 2009. These will be outlined to determine if the trees can be retained or will require removal.

Tree 7046 is located on the edge of the proposed internal access road. Tree 7046 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7047, 7048 &7049 is located in the internal access road associated with the proposed development. Therefore Tree 7047 will require removal for the development to proceed in its current format.

Tree 7050 will require an estimated 30 – 35% pruning works to create a 1 metre spatial separation to the proposed development. This is at the upper limits of Australian Standards 4373 – 2007. This species will have a moderate incursion into the TPZ due to the proposed building. The amount of pruning works has the potential to compromise the structural integrity of Tree 7050. In order for the development to proceed in is current format will require the removal of Tree 7050.

Tree 7040 is located within 2 metres of the proposed internal road. This species has a TPZ of 9.72 metres in accordance with AS 4970 – 2009. This would be greater than the 10% limit and be inside the SRZ. The SRZ has been calculated at 3.14 metres. The SRZ will be compromised on side of the tree. The proposed internal road will be an incursion into the SRZ on one side by 36.31%. This will lead to loss of SRZ and structural integrity of the tree. In order for the development to proceed in is current format will require the removal of Tree 7040.

Tree 7042, 7044 & 5125 are located off the internal road within 3 metres to the excavation works. This species has the potential for extensive future growth. Due to the species type and potential growth patterns it would be beneficial to remove Tree 7042, 7044 & 5125 before commencement of building works.

Tree 7043 is located in the proposed internal access road. Tree 7043 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7036 is located on the edge of the proposed internal access road. Tree 7036 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7038 is located in the proposed internal access road. Tree 7038 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7037, 7035 & 7034 is located in the proposed building footprint as shown in the site plan. Therefore Trees 7037, 7035 & 7034 will require removal for the development to proceed in its current format. Tree 7035 is located on the edge of the proposed building and would also require an estimated 50 – 55% of the canopy removed that doesn't comply with Australian Standards 4373 – 2007.

Tree 7033 is located on the edge of the proposed internal access road. Tree 7033 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 7032 is located within 3 metres to two buildings. This species would require 75 – 80% of the tree pruned to accommodate the two buildings and provide a spatial separation of 1 metre. This amount of pruning works will not comply with Australian Standards 4373 – 2007.

Trees 7031, 7030, 7029, 7028, 5067, 7027, 7026, 7025, 7024 & 7023 will be in the proposed building footprint or within 3 metres of the proposed development. These trees in particular the ones just outside of the proposed building footprints would also require major pruning works to achieve clearances to buildings. Trees 7031, 7030, 7029, 7028, 5067, 7027, 7026, 7025, 7024 & 7023 will require removal in order for the development to proceed in its current format.

Tree 7022 will require removal as it will require an estimated 40 – 45% of its canopy removed to allow a minimum spatial separation of 1 metre to the proposed building. This amount of pruning works doesn't comply with Australian Standards 4373 – 2007. In order for the development to proceed in is current format will require the removal of Tree 7022.

Trees 7021, 7019, 5079 & 7018 & 7012 will be located in the proposed building footprint as shown in the site plan. Therefore Tree 7021, 7019, 5079, 018 & 7012 will require removal for the development to proceed in its current format.

Tree 7020 & 7017 will be located within 3 metres to the proposed building and internal road. This species would require 45 – 50% of the tree pruned to accommodate the building and provide a spatial separation of 1 metre. This amount of pruning works will not comply with Australian Standards 4373 – 2007. Therefore Tree 7020 & 7017 will require removal for the development to proceed in its current format.

Tree 7015, 7014 & 7013 is located in the proposed internal access road. Tree 7015, 7014 & 7013 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Trees 5094 will be located on the edge of the proposed internal access road. Tree 5094 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Tree 5099 is located within 3 metres to two buildings. This species would require 75 – 80% of the tree pruned to accommodate the two buildings and provide a spatial separation of 1 metre. This amount of pruning works will not comply with Australian Standards 4373 – 2007. In order for the development to proceed in its current format will require the removal of Tree 5099.

Tree 7011 is located within 3 metres to the proposed building and within 4 metres to the internal access road. Tree 7011 would also require 30 – 35% of its canopy pruned to accommodate the proposed buildings. This doesn't comply with Australian Standards 4373 – 2007. In order for the development to proceed in its current format will require the removal of Tree 7011.

Trees 7010, 5100, 7009, 7008, 7007, 7006, 7004, 7003, 7002 & 7001 will be located in the proposed building footprint or within 3 metres of the proposed development. These trees in particular the ones just outside of the proposed building footprints would also require major pruning works to achieve clearances to buildings. Trees 7010, 5100, 7009, 7008, 7007, 7006, 7004, 7003, 7002 & 7001 will require removal in order for the development to proceed in its current format.

Trees 5104, 5106, 5066, 5059, 5055, 5054, 5053, 5051, 5039, 5037 & 5050 will be located inside the proposed internal access road. In order for the development to proceed in its current format will require the removal of Trees 5104, 5106, 5066, 5059, 5055, 5054, 5053, 5051, 5039, 5037 & 5050.

Tree 5061 is located within 3 metres to two buildings. This species would require 75 – 80% of the tree pruned to accommodate the two buildings and provide a spatial separation of 1 metre. This amount of pruning works will not comply with Australian Standards 4373 – 2007. In order for the development to proceed in its current format will require the removal of these trees.

Tree 7005 is located on the edge of the proposed internal access road. Tree 7005 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Trees 7001, 5040, 5038 & 5032 are located inside the proposed building footprint as shown in the site plan. Therefore Tree 7001, 5040, 5038 & 5032 will require removal for the development to proceed in its current format.

Tree 8045 is located within 4 metres to the proposed development. This species has been identified as a weed species. This species would not be suited to long term retention. This species has been earmarked for removal before commencement of building works on site.

Tree 8039 is located on the edge of the proposed internal access road. Tree 8039 will be located in the hardstand area and therefore will require removal in order for the development to proceed in its current format.

Trees 8044 & 8043 form a row of Callistemon viminalis near the existing green. These trees will require removal as they will be within 3 metres to the proposed internal access road. Trees 8040, 8042, 8041 & 8040 (Callistemon viminalis) will be able to be retained and incorporated into the development as they are outside the scope of works.

5.2 Tree Retention Values

Tree retention and values are part of the process when evaluating trees within NCC. The significance and the assessment criteria are to be assessed within the 7 step criteria set out within Urban Forestry Technical Manual. Section 6.4.2 of the UFTM also highlights the guide to compensatory planting on development sites. This section also looks at the total area of crown projection to be removed and the formula used to determine the canopy area. Trees of moderate to high retention value if earmarked for removal on private land will require compensatory replanting in accordance with Section 6.1 & 6.4.2 of the UFTM.

Trees with very low to low retention values have not been considered for replacement as this reflects the comments as outlined in Section 6.4.2 of the UFTM. Section 6.4.2 of the UFTM highlights that where it is not feasible to retain a tree of moderate or high value on private land, compensatory planting will be required. A guide to compensatory planting range for trees of moderate or high value is provided in accordance with Table 2 of the UFTM.

Tree retention and values are part of the process when evaluating trees within NCC. The significance and the assessment criteria are to be assessed within the 7 step criteria set out within Urban Forestry Technical Manual. Trees 7225, 7228, 7261, 7258, 7254, 7245, 7201, 8171a, 8214, 7183, 7249, 7233, 7194, 7189, 7188, 8193, 8195, 8167, 8001, 8000, 7080, 7081, 7085, 7070, 7057, 7069, 7068, 7064, 7059, 7058, 7045, 7046, 7040, 7038, 7006, 7002, 8106, 8127 & 1518 (39 in total) have a low retention value in accordance with the criteria assessed and modelled within the matrix. All remaining trees on site have a moderate to high retention value and therefore will require replacement plantings in accordance with Section 6.4.2. Due to the size of the trees with several being mature specimens on site will require a replacement value of 961 Trees. I have calculated every tree with a moderate to high retention value that require removal due to the proposed development. This will require the compensation of 961 trees to be planted within the subject property and/or off site as specified by Newcastle City Council. I have also excluded those trees that have been assessed as per the previous inspections and stages. These trees have been highlighted in green in the tree schedule.

Tree Retention Value – As per 7 step criteria (Urban Forestry Policy)

Tree	ULE	Landscape Significance	Retention Value
7225, 7228, 7261, 7258, 7254, 7245, 7201, 8171a, 8214, 7183, 7249, 7233, 7194, 7189, 7188, 8193, 8195, 8167, 8001, 8000, 7080, 7081, 7085, 7070, 7057, 7069, 7068, 7064, 7059, 7058, 7045, 7046, 7040, 7038, 7006, 7002, 8106, 8127 & 1518	3d, 3a & 4a	5	VL & L

6.0 Conclusions

- Abacus Tree Services has been approached by Aveo Pty Ltd to undertake an arborist (assessment) report on all trees as per the site plan provided by AVEO. The aim of this report is to determine how many trees require removal for all trees on site that are outlined in the masterplan. I have assessed all trees on site and assessed the potential impacts on the trees in relation to the proposed development including proposed buildings, hardstand areas and internal roads. All trees within the proposed development, hardstand areas or a minimum of three metres to these structures is earmarked for removal. I have used the tags and tag numbers provided by the ecologist for ease of identification. All trees have been tagged that correspond with Appendix 1.

- Abacus Tree Services has relied upon the sketch drawings provided by AVEO (Pulver, Cooper & Blackley site plan) to formulate distances and setbacks in accordance with Australian Standards 4970 – 2009. I have relied upon this information to be true and accurate. Any changes to the sketching and drawings will require the calculations to be reassessed in accordance with Australian Standards 4970 – 2009.

- Trees with a low to very low retention value would not be suitable to long term retention. Trees 7225, 7228, 7261, 7258, 7254, 7245, 7201, 8171a, 8214, 7183, 7249, 7233, 7194, 7189, 7188, 8193, 8195, 8167, 8001, 8000, 7080, 7081, 7085, 7070, 7057, 7069, 7068, 7064, 7059, 7058, 7045, 7046, 7040, 7038, 7006, 7002, 8106, 8127 & 1518 (39 in total) have a low to very low retention value and therefore do not require compensatory replanting. I have not assessed these trees against Section 6.4.2 of the UFTM.

- The subject property identified as Vale Street, Wallsend (Shortland Waters Golf Club) is located in a Rural Fire Service (RFS) 10:50 area. The RFS mapping tool indicates although the subject site is mapped as fire prone and coming under the requirements of the RFS 10:50 legislation & is also subject to the requirements of SEPP 14 (Coastal Wetlands). The applicant cannot use the 10:50 exemption to clear vegetation on this parcel of land without council consent. The search was undertaken on the 6 November 2017. There are no habitable dwellings or residential accommodation within 10 metres of trees and therefore all trees have been assessed under council requirements. Rules and regulations in relation to the RFS 10:50 can change and it is therefore up to the applicant to ensure they comply with the 10:50 code and any updates that may occur.

- Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (29 in total) have the potential to be retained and incorporated into the development. These trees are outside the scope of works or have been assessed as being outside of buildings and hardstand areas. These trees have the potential to be retained on the proviso that the existing soil levels can be maintained within the TPZ.

- All other trees as per the site plan will require removal as they are located inside the proposed buildings, hardstand areas or have been assessed as being within 3 metres of the proposed buildings and/or hardstand areas.

- Protection fencing for retained trees will require governance to Australian Standards 4970 – 2009. Retained trees will require 1.8 metre interlocking chain wire fencing installed prior to commencement of all building/civil works on site including all tree removal associated with the development. This will minimise damage to the trees and avoid machinery damage.

- Trees earmarked for retention have the potential for future growth and therefore the canopy and root plate have the potential for future growth. All measures have been taken to minimise damage to the proposed buildings and hardstand areas however future growth has the potential to cause damage to the proposed buildings and/or hardstand areas.

- I have excluded all trees that have already been assessed in previous stages from Section 6.4.2. Therefore in order to compensate for the loss of all trees on site I have excluded all trees with low to very low retention value & those already inspected. Trees with low to very low retention value are highlighted in yellow in the tree schedule.. Excluding these two factors will require the compensation of 961 Trees.

- There were an additional three trees that I have added to the site assessment being Trees 8214a, 8192a & 8171a. Trees 8214a & 8192a are located in the proposed internal road and on the edge of the proposed development. These trees will require removal in order for the development to proceed in its current format. Tree 8151a has the potential to be retained and incorporated into the development on the proviso that all works remain outside of the TPZ. This species is located right next to 8151 and has been tagged by Abacus Tree Services.

- Trees 7118, 7119, 7129, 7130, 7134 & 7135 are located outside of the proposed development. These trees have small TPZ requirements no greater than 6 metres. Tree 7129 has the smallest TPZ requirement at 5.88 metres. These trees are outside the development works and on the proviso that the existing soil levels can be maintained in the TPZ will allow the development to proceed in its current format. Trees 7139, 7140, 7142 & 7144 have the potential to be retained and incorporated into the development.

- It is recommended that the project arborist inspect the trees periodically throughout the development phase. This may include at key stages of the development including once all trees earmarked for removal have been removed. Commencement of internal roads and completion of building works on site & at the end of the development.

- Tree retention and values are part of the process when evaluating trees within NCC. The significance and the assessment criteria are to be assessed within the 7 step criteria set out within Urban Forestry Technical Manual. Trees 7225, 7228, 7261, 7258, 7254, 7245, 7201, 8171a, 8214, 7183, 7249, 7233, 7194, 7189, 7188, 8193, 8195, 8167, 8001, 8000, 7080, 7081, 7085, 7070, 7057, 7069, 7068, 7064, 7059, 7058, 7045, 7046, 7040, 7038, 7006, 7002, 8106, 8127 & 1518 (39 in total) have a low retention value in accordance with the criteria assessed and modelled within the matrix. All remaining trees on site have a moderate to high retention value and therefore will require replacement plantings in accordance with Section 6.4.2. Due to the size of the trees with several being mature specimens on site will require a replacement value of 961 Trees. I have calculated every tree with a moderate to high retention value that require removal due to the proposed development. This will require the compensation of 961 trees to be planted within the subject property and/or off site as specified by Newcastle City Council. I have also excluded those trees that have been assessed as per the previous inspections and stages. These trees have been highlighted in green in the tree schedule.

7.0 Recommendations

- It is recommended that Aveo Pty Ltd embark on a management program for all trees as outlined in the tree schedule before commencement of the proposed building/constructions works as follows:

- It is recommended that all trees on site as per the site plan outlined in Figures 9 & 10 other than those earmarked for retention be removed immediately (before commencement of building works) by a qualified arborist (minimum certificate 2 in arboriculture). It is recommended that professional indemnity and public liability insurances be current and sighted before commencement of works begin. The level of cover has to be one in agreement between Aveo and the arborist.

- Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) be retained and incorporated into the development.. It is recommended that no structural roots greater than 90mm in diameter be pruned within the TPZ of retained trees.

- It is recommended that the soil changes be kept to a minimum within the TPZ of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and be raised by no more than 150mm. No soil changes are to occur within the SRZ of retained trees. It is recommended that all debris and waste on site that is located within the TPZ of retained trees be removed by small earth moving equipment. It is recommended that all debris and waste on site that is located within the SRZ of retained trees be removed by non-mechanised methods being wheel barrow and shovel and/or similar method. All other areas outside of the TPZ could be utilised with machinery.

- It is recommended that protection measures be put in place that aid in the preservation of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) It is recommended that 1.8 metre inter locking chain wire fencing be installed before commencement of building works on site as indicated in Figure 8 (Australian Standards 4970 – 2009). Protection fencing is to be installed to Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) a minimum of 5 metres from the trunk of retained trees on all sides. Where trees are being retained near internal roads it is recommended to construct the fencing on the site closest to the hardstand area to the edge of the proposed works and a minimum of five (5) metres to all other sides. Protection fencing is to be installed prior to all civil/building works and remain in place until the completion of all building works on site.

- It is recommended that all civil contractors that enter the site are made aware of the importance of preserving Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and understand the tree protection measures that are put in place to preserve Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total).

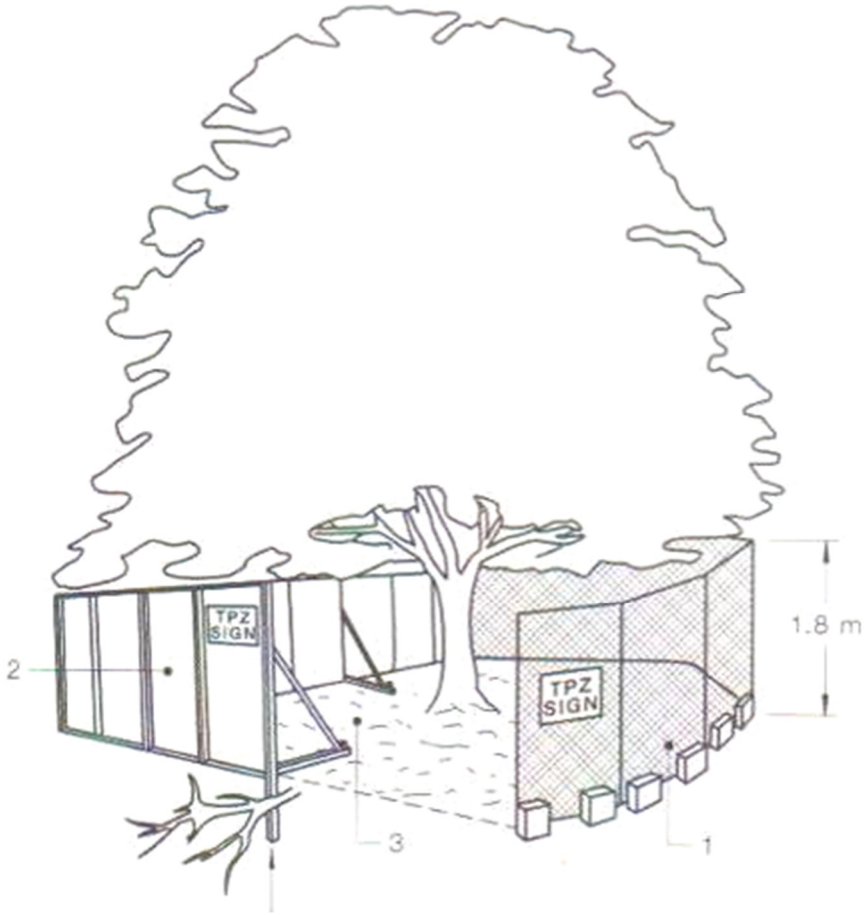
- All stockpile sites to be maintained a minimum 5 metres away from the trunk of Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total) and all other trees that come under the requirements of Newcastle City Councils' Tree Preservation order.

- It is recommended that all parking of vehicles be kept a minimum 5 metres from retained trees during construction works.

- It is recommended to inspect retained trees during key stages of the development to determine their health and condition and to ensure that the trees are being retained in accordance with Australian Standards 4970 – 2009. It is recommended that key stages include after tree removal of all trees earmarked for removal, construction of all roads. Final inspection to be undertaken upon completion of building works on site.

- It is recommended that Aveo embark on a tree replanting program to replace trees lost due to the development. In order to compensate for the loss of trees on site excluding those already assessed per previous stages and those with low to very low retention value will require the replacement of 961 Trees. These trees are to be planted on site or at a site earmarked by Newcastle City Council before completion of building works on site. It is recommended to replace with local endemic trees such as Corymbia maculata, Eucalyptus siderophloia, Eucalyptus tereticornis, Eucalyptus floribunda, Casuarina glauca, Eucalyptus punctata or similar species before completion of building works onsite.

- This report is not for publication to the internet and submission of this report in the submission phase set out by Council is to be taken down upon completion of the development application.



- Figure 8 – showing the proposed fencing that is to be put in place before the commencement of building works on site (Trees 7224, 7223, 7222, 7221, 7219, 7218, 7217, 7216, 7215, 7214, 7212, 7213, 7226, 7104, 7107, 7108, 7118, 7119, 7123, 7126, 7129, 7130, 7134, 7135, 7139, 7140, 7142, 7144, 8207, 8206, 8205, 8179, 8176, 8174, 8102, 8101, 8100, 8171, 8171a, 8170, 8167, 8166, 8162, 8161, 8163, 8168, 8169, 8157, 8156, 8155, 8154, 8153, 8152, 8149, 8020, 8042, 8041, 8040, 7055, 7056, 7045, 7048 (62 in total)) only).

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Consulting Arborist/Certified Arborist (ISAAC 2007)
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Bachelor of Horticulture Science

8.0 References

AS4373-2007 Pruning of Amenity Trees. Standards Australia

AS 4970 – 2009 Protection of trees on development sites

Clark R.J & Matheny N (1998) Trees & Development – A technical guide to Preservation of trees during land development: International Society of Arboriculture

Mattheck C., Breloer, (1999) The Body Language of Trees – a handbook for failure analysis 5th ed., London: The Stationery Office, U.K

Internet Sites

www.googlemaps.com.au

www.rfs.nsw.gov.au

www.ncc.nsw.gov.au

www.olg.nsw.gov.au

9.0 APPENDIX 1 Site Maps

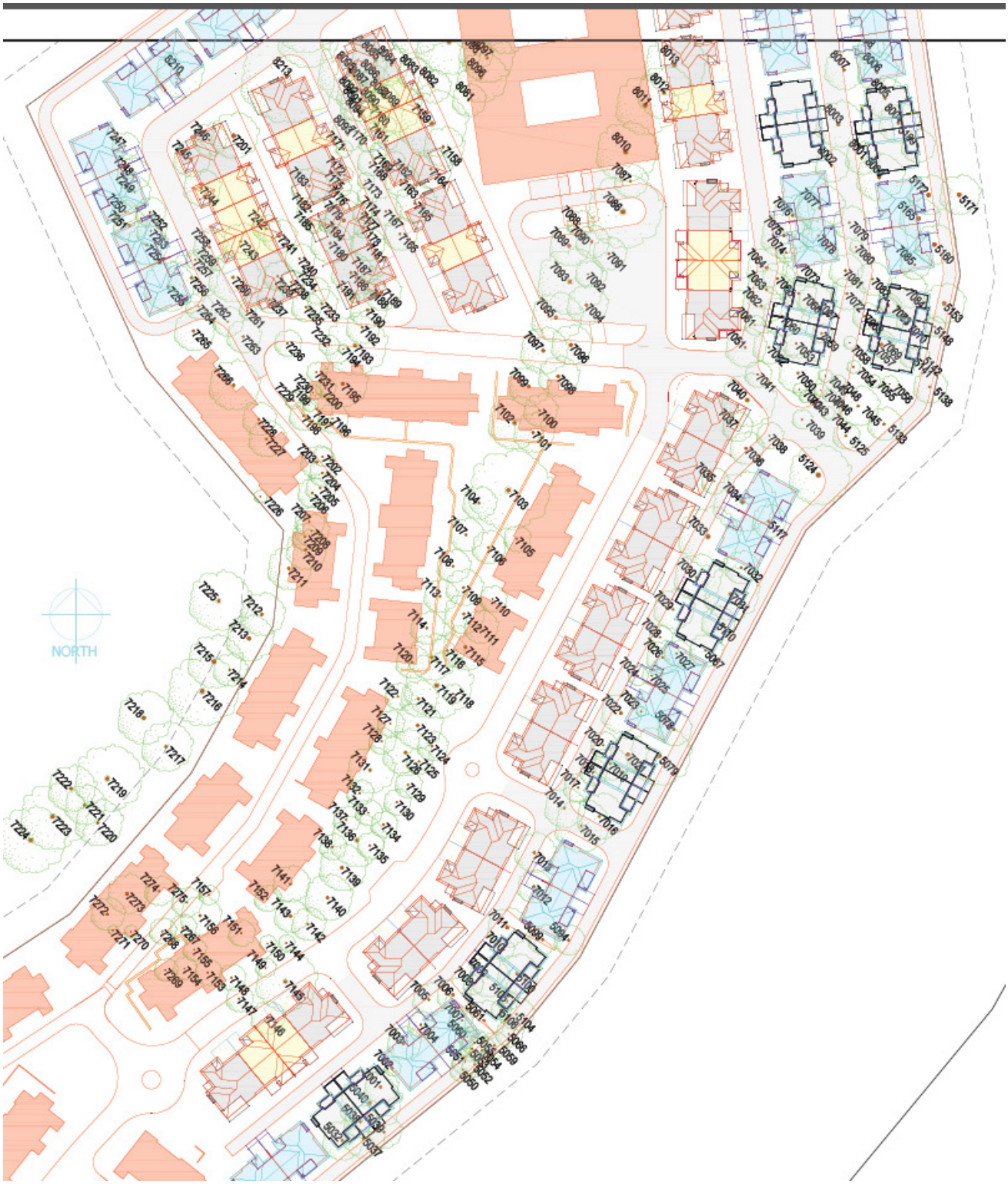

Figure 9 – showing the subject property and proposed development. Not to scale
Source: Aveo

Figure 10 – showing the subject property and proposed development. Not to scale
Source: Aveo

APPENDIX 2 U.L.E (Useful Life Expectancy) Categories and Subgroups

Useful Life Expectancy – Classification

1. Long ULE > 40 Years

a. Structurally sound and can accommodate future growth
b. Long term potential with minor remedial treatment
c. Trees of special significance which warrant extra care

2. Medium ULE of 15-40years

a. Will live between 15 – 40 years
b. Will live for more than 40 years but would be removed for safety or other reasons
c. May live for more than 40 years but will interfere with more suitable specimens and need removal eventually
d. More suitable for retention in the medium term with some remedial care

3. Short ULE of 5-15 years

a. Trees that may only live between 5 – 15 more years
b. May live for more than 15 years but would need removal for safety or other reasons
c. Will live for more than 15 years but will interfere with more suitable specimens or provide space for replacement plantings
d. Require substantial remedial care but are only suitable for short term retention

4. Remove tree within 5 years

a. Dead, dying or seriously diseased
b. Dangerous trees through instability or loss of adjacent trees
c. Structural defects such as cavities
d. Damaged that are clearly not safe to retain
e. May live for more than 5 years but will need replacement to prevent interference or make space for more suitable trees
f. May or are causing damage to structures
g. That will become dangerous

5 Trees suitable to transplant

a. Small trees can be reliably moved or replaced
b. Young trees between 5 – 15 years
c. Trees that have been regularly pruned to control growth

Key	Criteria	Comments
Tree no		
Species	Relates to the number on the site plan	
Remnant /planted Self Sown	May be coded – See Key for details	
Special Significance	A – Aboriginal C- Commemorative Ha- Habitat Hi- Historic M- Memorial R- Rare U- Unique form O- Other	May require specialist knowledge
Age Class	Y- Young- Recently Planted S-Semi mature (<20% of life expectancy M- Mature (20-80% of life expectancy) O- Over mature (>80% of life expectancy)	
Height	In Metres	
Spread	Average diameter of canopy in metres	
Crown Condition	Overall vigour and vitality 0 – Dead 1 – Severe decline (<20% canopy, major deadwood 2 – Declining 20-60% canopy density, twig dieback 3- Average/low vigour (60-90% canopy density, twig dieback) 4- Good (90-100% crown cover, little or no dieback or other problems) 5- Excellent (100% crown cover, no deadwood or other problems	
Failure Potential	Identifies the most likely failure and rates the likelihood that the structural defects will result in failure within the inspection period. 1- Low – Defects are minor (eg dieback of twigs, small wounds with good wound development) 2 – Medium – Defects are present and obvious egg Cavity encompassing 10-25% of the circumference of the trunk) 3 High- Numerous and/or significant defects present (eg cavity encompassing 30-50% of the circumference of the trunk, major bark inclusions)	Requires specialist knowledge

	4- Severe- Defects are very severe (eg fruiting bodies, cavity encompassing more than 50% of the trunk)	
Size of defective part	Rates the size of the part most likely to fail. The larger the part that fails the greater the potential for damage. 1- Most likely failure less than 150mm in diameter 2- Most likely failure 150-450mm in diameter 3- Most likely failure 450-750mm in diameter 4- Most likely failure more than 750mm in diameter	
Target rating	Rates the use and occupancy that would be struck by the defective part: 1. Occasional use (jogging, cycle track 2. Intermittent use (e.g picnic area, day use parking 3. Frequent use, secondary structure (eg seasonal camping, storage facilities) 4. Constant use structures (year round use for a number of hours each day, residences)	
Hazard rating	Failure potential + size of part + target rating Add each of the above sections for a number out of 12	The final number identifies the degree of risk. The next step is to determine a management strategy. A rating in this column does not condemn a tree but may indicate the need for more investigation and a risk management strategy.
Root Zone	C-Compaction D- Damaged/wounded roots E- Exposed roots Ga- Tree in graded bed Gi- Girdled roots Gr- Grass K-Kerb close to tree L+- Raised soil level L- Lowered soil level	

	M- Mulched Pa- Paving concrete bitumen Pr- Roots pruned O-Other	
Defects	B-Borers C-Cavity D-Decay Dw-Deadwood E-Epicormics I-Inclusions L- Lopped LDCMP- Leaf damage by chewing mouthpiece insects M- Mistletoe/parasites MBA- Multi branch attachments PD- Parrot damage PFS- Previous failure sites S-Splits/Cracks T-Termites TL- Trunk lean TW- Trunk wound O-Other	
Services/adjacent structures	Bs- Bus stop Bu- Building within 3 metres Hvo- High voltage open wire construction Hvb- High voltage bundled (ABC) Lvo- Low voltage open wire construction Lvb- Low voltage bundled (ABC) Na- No services above Nb- No services below ground Si- Signage SL- Street light T- Transmission U- Underground services O- Other	More than one of these may apply