

Arborist Report

Client: Hume Housing

Address: 31 – 37 Phillip Street,
RAYMOND TERRACE N.S.W 2324



Bradley Magus

Valuation Solutions PTY LTD

Trading as ***Abacus Tree Services***

ABN: 63 163 718 631

ACN: 108 515 859

P.O Box 333 Newcastle 2300

(Ph 0425 203 049)

Email: abacustrees@gmail.com

www.abacustreeservices.com

Tafe RTO Provider Number: 90002

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Table of Contents

1.0	Executive Summary	3
2.0	Arborist Details	4
2.1	Introduction	4
2.2	Aims of this report/Procedure	5
3.0	Disclaimer	5
3.2	Site Description	6
4.0	Tree Schedule	10
4.1	Trees & Impact on Development	13
5.0	Discussion & Compliance to Australian Standards 4970 – 2009, 4373 – 2007 & Rural Fire Service (RFS) 10:50 Code.....	14
5.2	Tree Retention Values	29
6.0	Conclusions	30
7.0	Recommendations	32
8.0	References	36
9.0	APPENDIX 1 Site Maps	37
APPENDIX 2	U.L.E (Useful Life Expectancy) Categories and Subgroups	38
APPENDIX 3	Notes on Tree Assessment	39

1.0 *Executive Summary*

- It is recommended that Trees 1 - 6 & 9 - 13 (11 in total) 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 Hume Housing and the arborist.
- It is recommended that Trees 8 & 14 - 17 (5 in total) be retained and incorporated into the development. Conditions and recommendations will be outlined in section 7 of the report.
- This report has been assessed against the latest plans as provided by Stanton Dahl Architects (Revision P24). The amended report prepared by Abacus Tree Services (15 January 2025) is to satisfy the requirements of Port Stephens Council return for information (RFI) dated 4 December 2024.

2.0 Arborist Details

<p>Bradley Magus</p> <p>Contact Details:</p> <p>P.O Box 333 Newcastle 2300 Ph: 0425 203 049</p> <p>Email: abacustrees@gmail.com or bradmagus1@bigpond.com Web: www.abacustreeservices.com</p>	<p>Qualifications</p> <ol style="list-style-type: none">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
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2.1 Introduction

Abacus Tree Services was commissioned by Hume Housing to assist in the preparation of an arborist report. An assessment was made on sixteen (16) trees located within the confines of 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. There is in total sixteen (16) trees located at 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace that were assessed as per the applicant's instructions.

The purpose of this report is to provide information and guidance to the applicant in relation to sixteen (16) trees only. The information in this report is to be used in correlation with other reports identified by Port Stephens Council and will provide Port Stephens 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 23 December 2022.

The photographs included in this report were taken at the time of the inspection on the 23 December 2022.

2.2 Aims of this report/Procedure

The aim of this report is to assess the health and condition of sixteen (16) trees (Trees 1 – 6 & 8 - 17). 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 assessed 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 (Hume Housing), for the preparation of a development application submission. Information in this report relates to sixteen (16) trees (Trees 1 – 6 & 8 - 17) within the premises of 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace 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 their 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

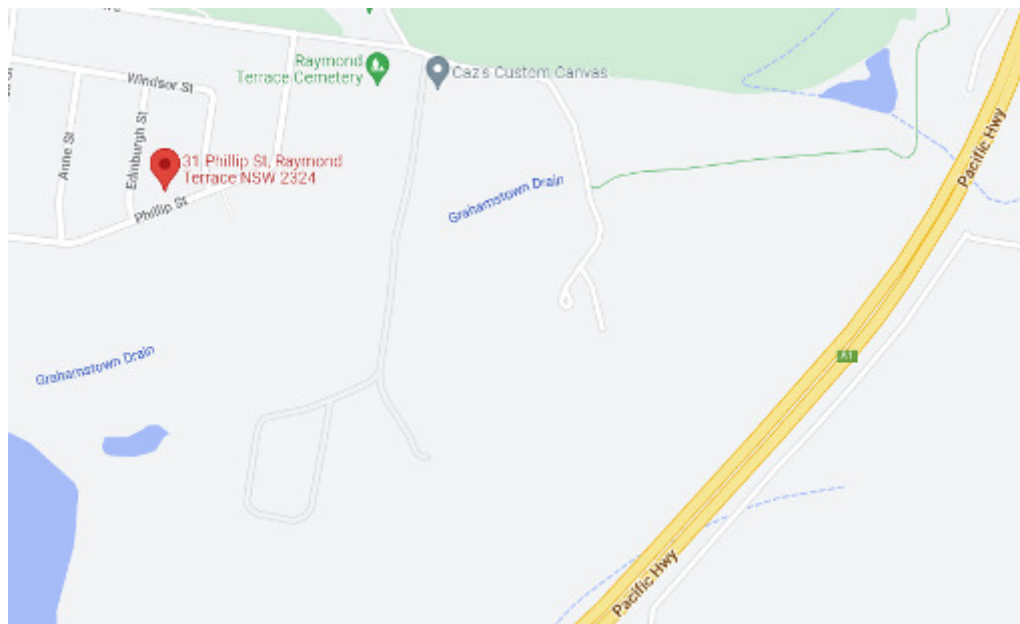


Figure 1

Location: Location of the subject properties identified as 31 35 & 37 Phillip Street, Raymond Terrace. Figure 5 shows all three allotments.

Source: www.googlemaps.com.au

3.2 Site Description

Trees 1 – 6 & 8 - 17 are located wholly within 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. The site is located in the municipality of Port Stephens Council. Trees 1 – 6 & 8 - 17 have been assessed against the requirements set out in Port Stephens Council's Local Environmental Plan (2013) pursuant to Section 5.9 & 5.9AA (repealed) & Development Control Plan (2014) pursuant to Part B1. I have assessed the property against Schedule 5 (Environmental Heritage) within Port Stephens Council LEP. The property is not listed in accordance with Part 1 (Heritage Items) and is listed in Part 2 (Heritage Conservation Area).

The subject property has also been assessed against the SEPP Policy (Biodiversity and Conservation) 2021. This property or council area is listed as being within Part 2 (Section 2.3) of the SEPP (Biodiversity and Conservation) 2021. All councils have items of local government and state heritage significance. These items are found in the NSW heritage website. The subject property has been assessed against the Heritage NSW database. In accordance with Heritage NSW listed items there are no listings (Items listed by Local Government & State Agencies) for the subject property. This also includes no trees of heritage significance for the subject property.

The three main properties being 31, 35 & 37 Phillip Street, Raymond Terrace are set on a flat block with the immediate area being dominated by residential houses. The nearest major arterial road is the Pacific Highway. Trees 1 – 6 & 8 - 17 are located within the subject properties identified as 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. The trees are located within close proximity to the subject properties & proposed development.



Figure 2 – Location of subject property identified as 31 Phillip Street, Raymond Terrace



Figure 3 - Location of subject property identified as 35 Phillip Street, Raymond Terrace



Figure 4 -Location of subject property identified as 37 Phillip Street, Raymond Terrace



Figure 5 – showing the location of the subject properties identified as 31, 35 & 37 Phillip Street, Raymond Terrace.

Source: NSW Planning Portal

4.0 Tree Schedule

Species & dimension requirements on Pages 9 & 10. This page intentionally left blank

Tree No	Scientific Name	Common Name	DBH (MM)	Height (M)	AGE CLASS	Vigour	SPREAD N.E.S.W.	ULE	Comments
1	Cinnamomum camphora	Camphor Laurel	820	14	YM	G	4,4,5,6	2d	Symmetrical, LCR = 95 – 100%
2	Cinnamomum camphora	Camphor Laurel	540	19	M	G	5,5,6,5	2d	Symmetrical, LCR = 95 – 100%
3	Eucalyptus sideroxylon	Mugga Ironbark	660	19	M	G	5,7,3,3	2d	Bifurcated at 3 metres above ground level, Symmetrical, LCR = 95 – 100%
4	Eriobotrya japonica	Loquat	330	9	M	G	5,4,6,7	2a	Bifurcated at 1 metre above ground level, Symmetrical, LCR = 95 – 100%
5	Grevillea robusta	Silky Oak	810	20	M	G	8,5,4,5	2a	Symmetrical, LCR = 85 – 90%
6	Grevillea robusta	Silky Oak	495	11	YM	G	3,3,5,5	2a	Symmetrical, LCR = 95 – 100%
7	Cinnamomum camphora	Camphor Laurel	MS (200)	5	SM	G	2,2,2,2	2a	Removed from site due to being a noxious weed
8	Citrus reticulata	Mandarin	MS (180)	4	YM	G	2,2,1,2	2a	Symmetrical, LCR = 95 – 100%
9	Eucalyptus acmenoides	White Mahogany	975	8	M	F	7,6,3,7	3d	Extensive LDW to N & NW quadrant, 50 – 55% epicormic growth in all four quadrants. Symmetrical, LCR = 75 – 80%
10	Banksia serrata	Banksia	560	4	OM	P	2,0,3,1	4a	Symmetrical, LCR = 15 – 20%, large aborted 1 st order scaffold at 3 metres to SE quadrant
11	Cupressocyparis leylandii	Leyland Cypress	MS (260)	4	M	G	2,3,3,2	2a	Symmetrical, LCR = 95 – 100%
12	Mangifera indica	Mango	320,390, 300	8	M		4,5,4,4	2a	Located 2.9 metres to existing building, trifurcated at 0.5 metres above ground level, Symmetrical, LCR = 95 – 100%
13	Citrus limon	Lemon	MS (315)	4.5	M	G	3,2,2,2	2d	Symmetrical, LCR = 95 – 100%, Symmetrical, LCR = 95 – 100%
14	Callistemon salignus	Willow Bottlebrush	220,290	11	M	G	6,3,2,4	2d	Neighbours' Tree, Located 0.6 metres to the boundary fence, Bifurcated at 1.2 metres above ground level, Symmetrical, LCR = 95 – 100%
15	Melaleuca armillaris	Bracelet	130,145	7.5	M	G	5,4,3,2	2d	Mistletoe in upper quadrant, Bifurcated at 1.2 metres above ground level, Symmetrical, LCR = 95 – 100%
16	Melaleuca quinquenervia	Broad Leaved Paperbark	700	12	M	G	6,3,8,8	2d	Nature strip tree, Bifurcated at 2.5 metres above ground level, Symmetrical, LCR = 95 – 100%
17	Cupressus sempervirens	Italian Cypress	275,270	7.5	M	G	4,2,3,3	2d	Bifurcated at 0.6 metres above ground level, Symmetrical, LCR = 95 – 100%

Key:

Age class: Young = Y, Semi mature = SM, Mature = M, YM = Young Mature, Over mature = OM

DBH = Diameter at Breast Height LCR = Live Crown Ratio

Vigour = E = Excellent, G = Good, F = Fair, P = Poor, D = Dead, Do = Dormant

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)

MS = Multiple Stems S = Shrub

PSC = Port Stephens Council TTS = Tree Technical Specification

SRZ = Structural Root Zone TPZ = Tree Protection Zone

POS = Private Open Space

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/T.P.Z is an area where no to minimal activities listed above should occur. All trees require an S.R.Z/T.P.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/TPZ 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 CKDS on behalf of their client (Hume Housing) to undertake an arborist (assessment) report on trees that come under the requirements of Port Stephens Council DCP (Section B1 & Tree Technical Specification) & trees that will be affected by the proposed development. There are sixteen (16) trees that have been assessed within the subject properties identified as 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. Trees 1 & 2 are located within the backyard of 11 Edinburgh Street, Raymond Terrace. Trees 3 & 8 are located in the backyard of 1 Windsor Street, Raymond Terrace. Trees 4 – 6 are located in the backyard of 31 Phillip Street, Raymond Terrace. Tree 7 is located in 29 Phillip Street, Raymond Terrace. Tree 9 is located in the front yard of 35 Phillip Street, Raymond Terrace. Trees 10 & 11 are located in the front yard of 37 Phillip Street, Raymond Terrace. Trees 12 & 13 are located in the backyard of 37 Phillip Street, Raymond Terrace. Trees 14 & 15 are located in the front yard of 1 Windsor Street, Raymond Terrace. Tree 16 is located on the nature strip outside the front of 1 Windsor Street, Raymond Terrace. Tree 17 is located on the nature strip outside the front of 37 Phillip Street, Raymond Terrace. The applicant proposes to construct a thirteen (13) unit development within the subject property identified as 31, 35 & 37 Phillip Street, Raymond Terrace (Appendix 1).

Abacus Tree Services has relied upon the sketch drawings provided by Stanton Dahl Architects (Drawing number – Issue P 24) 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.

The table below represents the S.R.Z (Structural Root Zone) and TPZ (Tree Protection Zone) figures based on Australian Standards 4970 - 2009.

Tree No	SRZ (metres)	TPZ (metres)
1	2.85	9.84
2	2.76	6.48
3	2.95	7.92
4	2.59	3.96
5	3.15	9.72
6	2.61	5.94
7	1.68	2.40
8	1.68	2.16
9	3.35	11.70
10	2.50	6.72
11	1.97	3.12
12	3.06	7.08
13	1.95	3.78
14	2.28	4.32
15	2.01	2.28
16	3.06	8.40
17	2.30	4.68

All trees require a S.R.Z and a T.P.Z with Australian Standards 4970- 2009 being used as a guideline. Tree 1 has been given an SRZ and TPZ of 2.85 & 9.84 metres in accordance with Australian Standards 4970 - 2009. Tree 1 is located in the neighbouring property. This species is located 0.05 metres to the boundary fence. The trunk of Tree 1 will be located 5.45 metres to the proposed paved area and 6.45 metre to the dwelling. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 5.80 metres from the centre of the trunk to the proposed civil works. The overall loss of TPZ has been calculated at 14.78% that doesn't comply with AS 4970 – 2009. This species is classified as a noxious weed in PSC (DCP – B1). Tree 1 is located in 11 Edinburgh Street. Tree 1 is earmarked for removal before commencement of building works on site.



Figure 6 – showing the location of Trees 1 & 2 in the backyard of the neighbouring allotment. Trees 1 & 2 are classified as noxious weeds. The development as shown will be in close proximity to Trees 1 & 2.

Tree 2 has been given an SRZ and TPZ of 2.76 & 6.48 metres in accordance with Australian Standards 4970 - 2009. Tree 2 is located in the neighbouring property. This species is located 0.10 metres to the boundary fence. The trunk of Tree 2 will be located 4.0 metres to the proposed paved area and 5.10 metre to the dwelling. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 4.30 metres from the centre of the trunk to the proposed civil works. The overall loss of TPZ has been calculated at 8.68% that complies with AS 4970 – 2009. This is based on the proviso that all existing soil levels associated with the POS remain at natural ground levels. This species is classified as a noxious weed in PSC (DCP – B1). Tree 2 is located in 11 Edinburgh Street. Tree 2 is earmarked for removal before commencement of building works on site.

Tree 3 has been given an SRZ and TPZ of 2.95 & 7.92 metres in accordance with Australian Standards 4970 - 2009. Tree 3 is located 0.05 metres to the boundary fence. The proposed development will be located 3.05 metres to the trunk. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 3.43 metres from the centre of the trunk to the proposed development. The overall loss of TPZ has been calculated at 15.79% that doesn't comply with AS 4970 – 2009. In order to construct the development will require the removal of Tree 3.



Figure 7 – showing the location of Tree 3 in relation to the subject property of 31 Phillip St. Tree 3 will be located 3.43 metres to the development from the centre of the trunk.

Tree 4 has been given an SRZ and TPZ of 2.59 & 3.96 metres in accordance with Australian Standards 4970 - 2009. Tree 4 is a small tree that is located in the backyard of 35 Philip St. Tree 4 is located 0.6 metres to the proposed rain water tank and associated excavation works. Attached to this will be Unit 7 and associated excavation works. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 0.78 metres from the centre of the trunk to the proposed excavation works. The proposed development is outside of the TPZ. The overall loss of TPZ has been calculated at 0.58% that complies with AS 4970 – 2009. The minimum requirement or setback from the trunk is 2.45 metres. This is the area that is to be set aside where no excavation or earthworks are to take place in order to retain Tree 4. If this can be achieved will allow the retention of Tree 4. Tree 4 is considered exempt in accordance with PSC DCP (Section B1). This species is a fruit tree grown for fruit production therefore meets the requirements of an exempt species. Tree 4 is earmarked for removal before commencement of building works on site.



Figure 8 – showing the location of Trees 4 – 6 inside the backyard of 35 Phillip Street.

Tree 5 has been given an SRZ and TPZ of 3.15 & 9.72 metres in accordance with Australian Standards 4970 - 2009. Tree 5 is located inside the proposed development. In order for the development to proceed in its current format will require the removal of Tree 5. Tree 5 is earmarked for removal before commencement of building works on site.

Tree 6 has been given an SRZ and TPZ of 2.61 & 5.94 metres in accordance with Australian Standards 4970 - 2009. Tree 6 is located inside the proposed car parking section of the development. In order for the development to proceed in its current format will require the removal of Tree 6. Tree 6 is earmarked for removal before commencement of building works on site.



Figure 9 – showing the location of Trees 5 & 6 in the backyard of 35 Phillip Street. Both species are located inside the building footprint.

Tree 7 has been given an SRZ and TPZ of 1.68 & 2.40 metres in accordance with Australian Standards 4970 - 2009. This species is classified as a noxious weed in PSC (DCP – B1). Tree 7 has been removed from the neighbour's property as it is exempt.



Figure 10 – Tree 7 is in a juvenile phase and at this stage can be retained. Tree 7 has been removed since the last inspection.

Tree 8 has been given an SRZ and TPZ of 1.68 & 2.16 metres in accordance with Australian Standards 4970 - 2009. Tree 8 is located in the neighbour's backyard. This species is located 2 metres to the back boundary fence. The proposed development is outside of the scope of works. Tree 8 is earmarked for retention and incorporation into the development.

Tree 9 has been given an SRZ and TPZ of 3.35 & 11.70 metres in accordance with Australian Standards 4970 - 2009. Tree 9 is located outside the front of 35 Phillip Street. This species is at the top end of its maturity and starting to enter into an over mature phase of its life cycle. Tree 9 is located inside the proposed driveway. In order to construct the proposed driveway will require the removal of Tree 9. Tree 9 is earmarked for removal before commencement of building works on site.



Figure 11 – showing the location of Tree 9 is the front yard of the subject property. The proposed development will require the removal of Tree 9.

Tree 10 has been given an SRZ and TPZ of 2.50 & 6.72 metres in accordance with Australian Standards 4970 - 2009. Tree 10 is in poor form and condition with major aborted 1st order scaffold. This species has a live crown ratio of 15 – 20%. This species would not be suited for retention due to being in an over mature phase. Tree 10 is located inside the proposed POS. In order to construct the proposed POS will require the removal of Tree 10. Tree 10 is earmarked for removal before commencement of building works on site.



Figure 12 – showing the location of Tree 10 that is in poor health and condition. This species is not suited for retention.

Tree 11 has been given an SRZ and TPZ of 1.97 & 3.12 metres in accordance with Australian Standards 4970 - 2009. Tree 11 is located 1.2 metres to the corner of the proposed development. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 1.35 metres from the centre of the trunk to the proposed development. The overall loss of TPZ has been calculated at 11.64% that doesn't comply with AS 4970 – 2009. The encroachment into the SRZ on one side has been calculated at 32.07%. This will lead to loss of structural stability. Tree 11 is earmarked for removal before commencement of building works on site.



Figure 13 – showing the location of Tree 11 in the front yard of 37 Phillip Street. Tree 11 and the smaller shrubs as shown will require removal in order to construct the proposed development. Tree 11 is located 1.2 metres to the corner of the proposed development.

Tree 12 has been given an SRZ and TPZ of 3.06 & 7.08 metres in accordance with Australian Standards 4970 - 2009. Tree 12 is considered exempt in accordance with PSC DCP (Section B1). This species is a fruit tree grown for fruit production therefore meets the requirements of an exempt species. Tree 12 is located inside the proposed POS. In order for the development to proceed in its current format will require the removal of Tree 12. Tree 12 is earmarked for removal before commencement of building works on site.



Figure 14 – showing the location of Tree 12 that is identified as a Mango Tree. This species is considered exempt in accordance with PSC DCP.

Tree 13 has been given an SRZ and TPZ of 1.95 & 3.78 metres in accordance with Australian Standards 4970 - 2009. Tree 13 is located inside the proposed development. In order for the development to proceed in its current format will require the removal of Tree 13. Tree 13 is considered exempt in accordance with PSC DCP (Section B1). This species is a fruit tree grown for fruit production therefore meets the requirements of an exempt species. Tree 13 is earmarked for removal before commencement of building works on site.



Figure 15 – showing the location of the Lemon Tree (Tree 13). This species will require removal as it is located inside the proposed building footprint.

Tree 14 has been given an SRZ and TPZ of 2.28 & 4.32 metres in accordance with Australian Standards 4970 - 2009. Tree 14 is located inside the neighbour's backyard. This species is located 0.6 metres to the boundary fence. The proposed development is located 3.1 metres to the fence in line with the trunk. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 3.35 metres from the centre of the trunk to the proposed development. The overall loss of TPZ has been calculated at 6.17% that complies with AS 4970 – 2009. The proposed tiled area will need to be on grade in order to retain Tree 14. The POS from the back boundary fence to the development will also need to be at natural ground levels inside the TPZ. If this can be achieved will allow the retention of Tree 14. Tree 14 is earmarked for retention and incorporation into the development.



Figure 16 – showing the location of Trees 14 & 15 in the backyard of the neighbour's property. The area in red as shown is to be retained at existing soil levels in order to retain Trees 14 & 15. This includes the area from the boundary fence to the development inside the TPZ to remain at existing soil levels.

Tree 15 has been given an SRZ and TPZ of 2.01 & 2.28 metres in accordance with Australian Standards 4970 - 2009. Tree 15 is located 0.4 metres to the boundary fence. This species is located in the front yard of the neighbour's property. The proposed development is located 2.3 metres to the fence in line with the trunk. This leaves a spatial separation of 2.45 metres from the trunk to the proposed development. The TPZ will be located outside of the proposed development. The minimum requirement is 1.73 metres from the back boundary fence inside the TPZ. This is the maximum distance that is allowed in order to retain Tree 15 and comply with AS 4970 – 2009. Tree 15 is earmarked for retention and incorporation into the development.

Tree 16 has been given an SRZ and TPZ of 3.06 & 8.40 metres in accordance with Australian Standards 4970 - 2009. Tree 16 is located 0.2 metres to the existing driveway. The proposed driveway is to be located 4.2 metres to the trunk. This is an additional 4 metres from the existing driveway. This species could be retained on the proviso that the existing concrete associated with the driveway is removed by non-mechanised methods. Proposed hardstand areas will then have to accommodate Tree 16. All root plate exposed will have to be retained and incorporated into the proposed footpath. If this can be achieved will allow the retention of Tree 16. Tree 16 is earmarked for retention and incorporation into the development.



Figure 17 – showing the location of Tree 16 that is situated on the nature strip. The existing concrete driveway is located 0.2 metres to the trunk.

Tree 17 has been given an SRZ and TPZ of 2.30 & 4.68 metres in accordance with Australian Standards 4970 - 2009. Tree 17 is located 0.9 metres to the proposed footpath. AS 4970 – 2009 indicates that the TPZ radius is taken from the centre of the trunk. This leaves a spatial separation of 1.08 metres from the centre of the trunk to the proposed footpath. The footpath will need to be at natural ground levels or raised above natural ground levels in order to retain Tree 17. No below ground excavation works can be carried out including strip footings. If strip footings were undertaken at 1.08 metres from the centre of the trunk would not comply with AS 4970 – 2009. Tree 17 is earmarked for retention and incorporation into the development.



Figure 18 – showing the location of Tree 17 that is situated on the nature strip along Windsor Street. This species is earmarked for retention. The proposed path is to be constructed at natural ground levels. No below ground works are to occur including strip footings.

5.2 Tree Retention Values

Tree retention and values are part of the process when evaluating trees within Port Stephens Council. The significance and the assessment criteria are to be assessed within Port Stephens Technical Specification (PSTS). The 7 step criteria for assessing trees is set out within the TTS. Attachments 1 & 2 of the TTS highlights the guide to compensatory planting on development sites. After determining the tree retention value requires replacement plantings. Table 4 of the TTS outlines the amount of trees to be compensated for as per the retention value (Table 3 – PSTS). This report will follow those guidelines as per Table 4 (PSTS).

Table 4 (PSTS) outlines the number of trees that will be required to be planted when trees are unable to be retained unless otherwise conditioned by, or negotiated with, Council. The pot size of the replacement trees will be determined by Council and is dependent on site characteristics, the species of the tree to be replanted and stock availability. The tree retention table below outlines only those trees that are being removed in order to calculate the appropriate amount of trees for compensatory replanting. Trees of very low to low retention value do not require replacement planting. Trees that are being retained do not require replacement plantings. Trees 1, 2, 4, 7, 12 & 13 (5 in total) are considered exempt from PSC DCP. Trees 1, 2, 4, 12 & 13 do not require replacement plantings. Trees 8 & 14 – 17 (5 in total) are being retained therefore no replacement plantings are required for these species. Trees 10 & 11 have low retention values therefore require no replacement plantings. Trees 3, 5, 6 & 9 are the only trees that have a moderate retention value. A suitable landscape plan will require a replacement of eleven (11) replacement plantings to compensate for the loss of Trees 3, 5, 6 & 9 in accordance with Table 4 (TTS). It is recommended to replace with smaller species such as *Acmena smithii*, *Hymenosporum flavum* or *Elaeocarpus reticulatis* or similar species.

Tree Retention Value – As per 7 step criteria (Port Stephens Council - TTS)

Tree	ULE	Landscape Significance	Retention Value
5, 6 & 9	2a, 2d	4	M

6.0 Conclusions

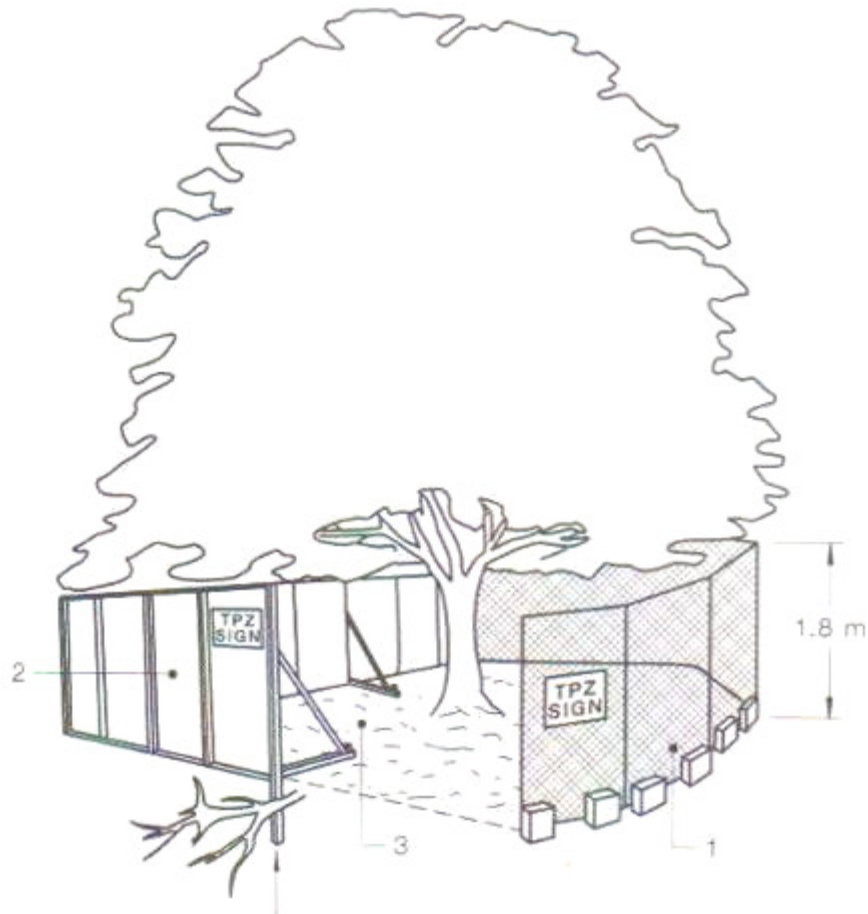
- Abacus Tree Services has been approached by CKDS on behalf of their client (Hume Housing) to undertake an arborist (assessment) report on trees that come under the requirements of Port Stephens Council DCP (Section B1 & Tree Technical Specification) & trees that will be affected by the proposed development. There are sixteen (16) trees that have been assessed within the subject properties identified as 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. Trees 1 & 2 are located within the backyard of 11 Edinburgh Street, Raymond Terrace. Trees 3 & 8 are located in the backyard of 1 Windsor Street, Raymond Terrace. Trees 4 – 6 are located in the backyard of 31 Phillip Street, Raymond Terrace. Tree 9 is located in the front yard of 35 Phillip Street, Raymond Terrace. Trees 10 & 11 are located in the front yard of 37 Phillip Street, Raymond Terrace. Trees 12 & 13 are located in the backyard of 37 Phillip Street, Raymond Terrace. Trees 14 & 15 are located in the front yard of 1 Windsor Street, Raymond Terrace. Tree 16 is located on the nature strip outside the front of 1 Windsor Street, Raymond Terrace. Tree 17 is located on the nature strip outside the front of 37 Phillip Street, Raymond Terrace. The applicant proposes to construct a thirteen (13) unit development within the subject properties identified as 31, 35 & 37 Phillip Street, Raymond Terrace (Appendix 1). Trees 1 - 17 have been assessed in accordance with Australian Standards 4970 – 2009.
- Trees 1 – 6 & 8 - 17 are located wholly within 1 Windsor Street, 11 Edinburgh Street & 31 - 37 Phillip Street, Raymond Terrace. The site is located in the municipality of Port Stephens Council. Trees 1 & 2 have been assessed against the requirements set out in Port Stephens Council's Local Environmental Plan (2013) pursuant to Section 5.9 & 5.9AA (repealed) & Development Control Plan (2014) pursuant to Part B1. I have assessed the property against Schedule 5 (Environmental Heritage) within Port Stephens Council LEP. The property is not listed in accordance with Part 1 (Heritage Items) and is listed in Part 2 (Heritage Conservation Area). All trees have been assessed against the requirements of PSC Technical Specification.
- The subject property identified as 31 - 37 Phillip Street, Raymond Terrace is not located in a Rural Fire Service (RFS) 10:50 area. Therefore all trees have been assessed in accordance with council requirements with no exemptions under RFS 10:50 legislation. The search was undertaken on the 1 February 2023. 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.

- Protection fencing for Trees 14 - 17 (4 in total) has been considered due to the proximity to the proposed development and to protect both the canopy and root plate. Protection fencing would be impractical for the street trees (Trees 16 & 17). Hoarding or similar will be allocated to those trees that will not inhibit car or pedestrian movement. Trees 8 & 14 - 17 will require retention in accordance with Australian Standards 4970 – 2009. Tree 8 requires no protection fencing as the boundary fence is sufficient to comply with AS 4970 – 2009.
- Trees 8 & 14 - 17 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.
- The applicant has therefore assessed all trees within 5 metres of the proposed development. This includes all trees on neighbouring properties within 5 metres of the proposed development. The applicant has assessed all trees necessary for the development to meet the requirements of PSC DCP (Section B1), PSCTS & Australian Standards 4970 – 2009.
- In order for the development to proceed in its current format will require the removal of Trees 1 – 6 & 9 - 13 (11 in total). This includes all trees inside the proposed development, hardstand areas and those that do not pass the requirements of AS 4970 – 2009. Tree 7 has been removed since the inspection of 31 January 2023. No permission was required to remove this tree as it was exempt from PSC DCP (Section B1). Trees 8 & 14 - 17 (5 in total) can be retained and incorporated into the development. Permission is required from the owners of Trees 1 & 2 as they are located on adjoining allotments. Conditions and recommendations in relation to retained trees will be outlined in section 7 of the report.

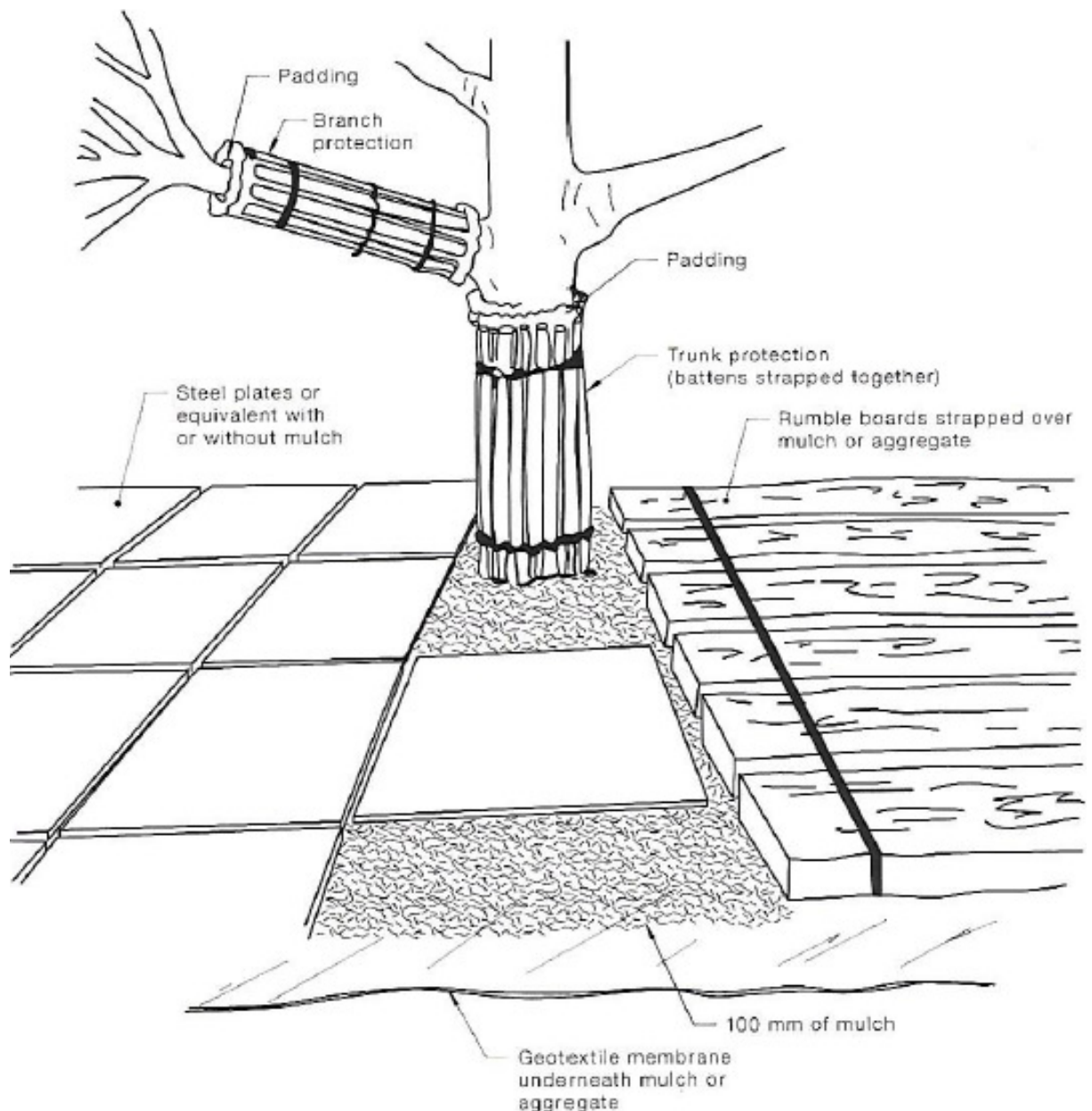
7.0 Recommendations

- It is recommended that Hume Housing embark on a management program for sixteen (16) trees (Trees 1 – 6 & 8 - 17) before commencement of the proposed building and constructions works as follows:
- It is recommended that Trees 1 - 6 & 9 - 13 (11 in total) 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 Hume Housing and the arborist.
- It is recommended that Trees 8 & 14 - 17 (5 in total) be retained and incorporated into the development.
- It is recommended that Tree 14 have an area set aside of 2.77 metres from the back boundary fence inside the TPZ. It is recommended that Tree 15 have an area set aside of 1.73 metres from the back boundary fence inside the TPZ. It is recommended that no change in the soil profile occur in these zones within the TPZ. These offsets are to be areas that are set aside for the tree in terms of root plate, gaseous exchange and water infiltration. No hardstand or excavation works are to occur in these zones if the trees are to be retained. The proposed paved area within the TPZ (Tree 14) is to be at natural ground levels. Removal of the grass in the areas as outlined above are to be undertaken at the landscaping phase after completion of all building and hardstand areas. The existing grass is to be retained in these zones to protect the trees during the civil and building work stages. Replacement grass or garden beds are to be undertaken by non-mechanised methods inside the areas of the TPZ as outlined above. All tree removal including trucks and machinery are to be set up outside of these zones at all times.
- Removal of the existing concrete driveway and paths inside the TPZ of Trees 14, 15 & 16 are to be undertaken in 1 metre sections only. The concrete is to be removed by a diamond saw or similar. Any root plate exposed in this zone when removing the concrete is to remain intact and protected throughout the construction phase. This condition is limited to the hashed area as outlined in Figure 8. All other areas outside of the hashed area can be removed by machinery. It is recommended no changes to the soil levels occur within the hashed area as outlined in Figure 21. Upon removal of the driveway will require a 100mm layer of mulch or similar to be placed within the designated area of TPZ. The protection fencing is to be erected immediately after the removal of the internal driveway and vehicular access crossing.

- It is recommended that the proposed path be constructed at natural ground levels inside the TPZ of Trees 16 & 17. No below ground excavation works are to occur. No strip footings are to be constructed inside the TPZ of Trees 16 & 17.
- It is recommended that all debris and waste on site within the designated TPZ 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 14 - 17 (4 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 19. Protection fencing is to be installed to the edge of the designated TPZ. This includes the following - (Tree 14 = 2.77 metres) & (Tree 15 = 1.73 metres). Protection fencing is to be installed to the edge of the proposed development inside the TPZ. Protection fencing is to be installed before commencement of all civil & building works and remain in place until the release of the occupation certificate.
- To avoid injury or damage, Trees 16 & 17 must have trunks protected by 2 metre lengths of 75mm X 25mm hardwood spaced at 80mm secured with galvanised wire (not fixed or nailed to the tree in any way. Protection fencing is to be installed before commencement of all civil and building works and remain in place until the release of the occupation certificate.
- It is recommended that all civil contractors that enter the site are made aware of the importance of preserving Trees 8 & 14 - 17 and understand the tree protection measures that are put in place to preserve Trees 8 & 14 - 17.
- All stockpile sites are to be maintained outside of the designated TPZ areas as outlined in Figure 20.
- It is recommended that all parking of vehicles and use of machinery be kept outside of the designated fenced areas during all civil and construction works. No placement or use of machinery is allowed within the designated TPZ fenced area.
- The grass associated with the nature strip on council land is to remain intact. No grass is to be removed in the nature strip within the TPZ of Trees 16 & 17.
- 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 19 – showing the proposed fencing that is to be put in place before the commencement of building works on site (Trees 14 & 15 only).
Source: Australian Standards 4970 - 2009



- Figure 20 – showing the proposed trunk and branch hoarding that is to be put in place before the commencement of building works on site (Trees 16 & 17 only).

Source: Australian Standards 4970 - 2009

Bradley Magus (Member ISAAC & LGTRA)
 Consulting Arborist/Certified Arborist (ISAAC 2007)
 Diploma in Horticulture (Arboriculture) (AQF 5) (Dux)
 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.heritagensw.gov.au

www.rfs.nsw.gov.au

www.portstephens.nsw.gov.au

www.planningportal.nsw.gov.au



Figure 21 - Close up of the subject property and canopy area of Trees 1 – 6 & 8 - 17.
The hashed area represents the fenced zones as outlined in the recommendations section. Not to scale
Source: Stanton Dahl Architects

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 seventeen 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) 4- Severe- Defects are very severe (eg fruiting	Requires specialist knowledge

	bodies, cavity encompassing more than 50% of the trunk)	
Size of defective part	<p>Rates the size of the part most likely to fail. The larger the part that fails the greater the potential for damage.</p> <p>1- Most likely failure less than 150mm in diameter</p> <p>2- Most likely failure 150-450mm in diameter</p> <p>3- Most likely failure 450-750mm in diameter</p> <p>4- Most likely failure more than 750mm in diameter</p>	
Target rating	<p>Rates the use and occupancy that would be struck by the defective part:</p> <p>1. Occasional use (jogging, cycle track)</p> <p>2. Intermittent use (e.g picnic area, day use parking)</p> <p>3. Frequent use, secondary structure (eg seasonal camping, storage facilities)</p> <p>4. Constant use structures (year round use for a seventeen of hours each day, residences)</p>	
Hazard rating	<p>Failure potential + size of part + target rating</p> <p>Add each of the above sections for a seventeen out of 12</p>	<p>The final seventeen 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.</p>
Root Zone	<p>C-Compaction</p> <p>D- Damaged/wounded roots</p> <p>E- Exposed roots</p> <p>Ga- Tree in graded bed</p> <p>Gi- Girdled roots</p> <p>Gr- Grass</p> <p>K-Kerb close to tree</p> <p>L+- Raised soil level</p> <p>L- Lowered soil level</p> <p>M- Mulched</p>	

	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