

Peter Wood
C/O Gartner and Trovato
Suite 13, L1 Pittwater Place, Park Street
MONA VALE NSW 2103



ABN 14 631 973 638

3 April 2024

Dear Peter,

SITE ADDRESS: 23 – 25 & 33 Bassett Street, Mona Vale, New South Wales, 2106.

PROJECT - Addendum to Arboricultural Impact Assessment (AIA) in relation to alterations and additions.

At your request, I have reviewed the recently supplied, amended plans in relation to the proposed alterations and additions at 23-25 and 33 Bassett Street, Mona Vale. Specifically, changes in design within the south-eastern corner of the site impacting two (2) subject site trees. All tree numbering and details are taken from the previous UFA Arboricultural Impact Assessment, dated February 2020.

Documents/information reviewed in relation to this report include:

- Arboricultural Impact Assessment (AIA) for 23-25 Bassett Street, Mona Vale, Urban Forestry Australia, dated February 2020.
- Survey Plan, Job Ref. 15006, dated 4/3/2016, Rev 1, prepared by Bee and Lethbridge Pty Ltd.
- Revised Architectural Plans, Project no. 1816, dwg no. DA2-00-DA2-12, Revision A, dated April 2024, authored by Gartner and Trovato Architects.
- Landscape Plans, Job Ref. 2403, dwg no. DA02-L01 to DA2-L04, dated 28/3/2024, authored by Trish Dobson Landscape Architecture.
- Chapter 2 Vegetation in Non-Rural Areas of the State Environmental Planning Policy (Biodiversity and Conservation) 2021 'The SEPP'.
- Section B4 Controls relating to the Natural Environment, Pittwater 21 Development Control Plan (P21DCP).
- AS4970-2009 Protection of trees on development sites, Standards Australia (AS4970).
- AS4373-2007 Pruning of amenity trees, Standards Australia (AS4373).

Also attached is the following:

- Appendix A— Photographs.
- Appendix B— Marked up Excerpt of Survey Plan.
- Appendix C – Tree schedule for Tree 5 and 6.

LIMITATIONS

No Hydraulic Plans were viewed as part of this assessment. All data has been verified as far as possible; however, I can neither guarantee nor be responsible for the accuracy of information provided by others.

Information contained in this report only reflects the condition of the trees at the time of the original inspection (14th February 2020), no further tree inspections have occurred. Trees are dynamic, living things which can be subject to change without notice in certain circumstances.

Treeism Arboricultural Services Pty Ltd		
Consulting Arboriculturist	Church Point NSW 2105	Mobile: 0403 935 419
Email: chantalle@treeism.com.au		

POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT ON TREES TO BE RETAINED – Tree 5 and Tree 6

Under the Australian Standard 4970-2009 Protection of trees on development sites (AS4970), encroachments less than 10% of the Tree Protection Zone (TPZ) are considered to be minor. No specifications are provided in AS4970 for potential impacts of 10% or greater. This 10% is interpreted as the threshold figure, if the proposed encroachment is greater than 10% of the TPZ or inside the SRZ, the project arborist must demonstrate that the tree(s) would remain viable.

When determining the potential impacts of encroachment into the TPZ, the project arborist should consider the following items listed under Clause 3.3.4 of AS4970-2009:

- (a) Location and distribution of the roots to be determined through non-destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar). Photographs should be taken, and a root zone map prepared.
- (b) The potential loss of root mass resulting from the encroachment: number and size of roots.
- (c) Tree species and tolerance to root disturbance.
- (d) Age, vigour and size of the tree.
- (e) Lean and stability of the tree. NOTE: Roots on the tension side are likely to be most important for supporting the tree and are likely to extend for a greater distance.
- (f) Soil characteristics and volume, topography and drainage.
- (g) The presence of existing or past structures or obstacles affecting root growth.
- (h) Design factors.

Disturbance within the Structural Root Zone (SRZ), and extent of encroachments into the TPZ's of prescribed trees to be retained are summarised in Table 1 below.

Table 1: Estimated encroachments into the SRZ and TPZ of trees proposed for retention.

Tree No.	Tree Species	Tree located on site	SRZ affected	TPZ area (m ²)	TPZ encroachment (approx. m ²)	TPZ encroachment (approx. %)
5	Cook Pine	✓	x	191	10.8	5.6
6	Chinese Elm	✓	x	206	33.9	16.5

Tree 5 – Cook Pine – Located within the subject site.

Structural Root Zone impacts:

- All works are located outside the calculated SRZ of this specimen.

Tree Protection Zone impacts:

- An encroachment of 5.6% (see Figure 1 next page) has been estimated for the proposed pathway and built form with basement. This level of encroachment is considered *minor* under AS4970 and impacts on tree health/condition are likely to be negligible.

Pruning impacts:

- No pruning of this tree will be required as the canopy is held high over the proposed built form and is naturally narrow.

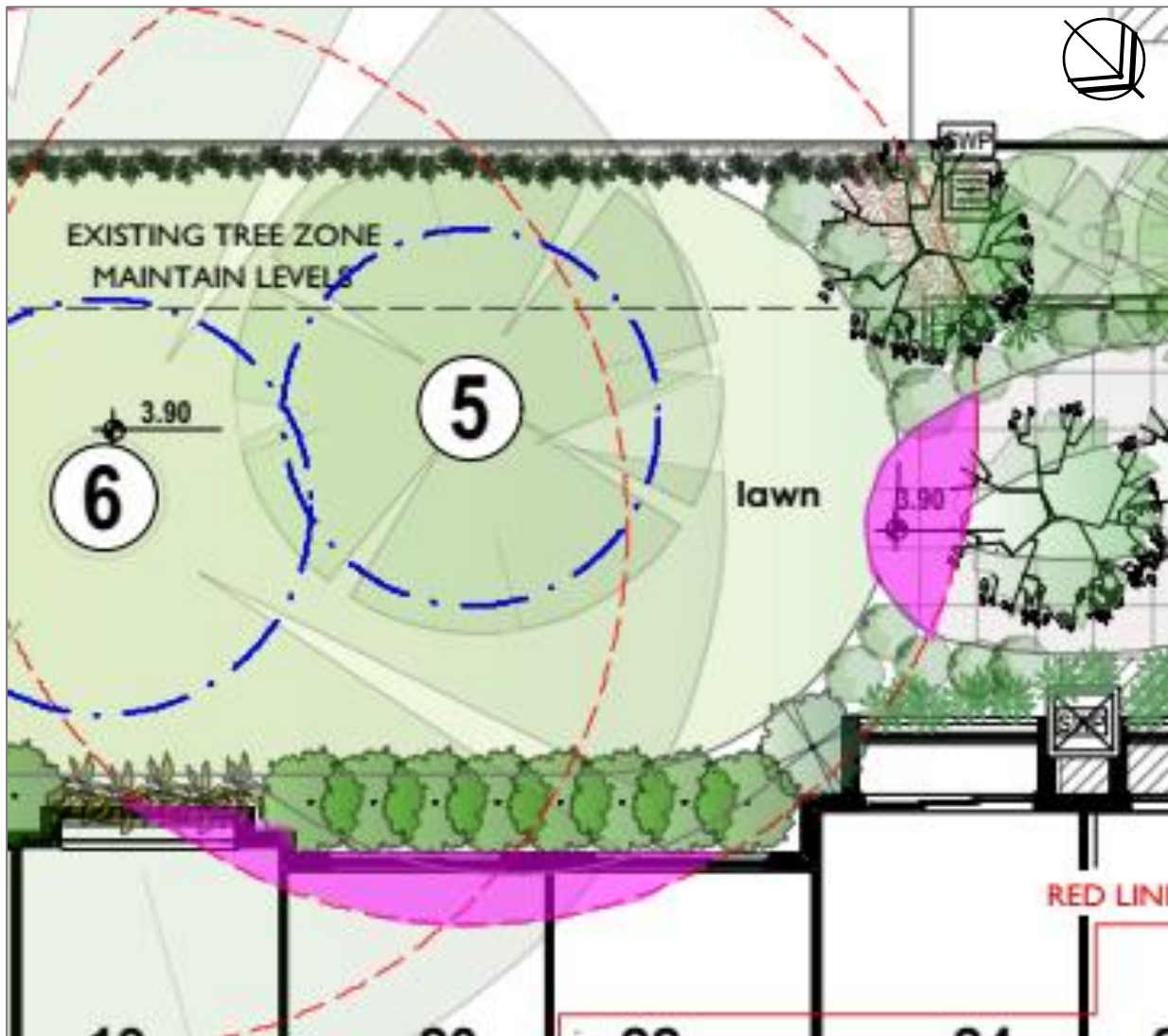


Figure 1 - **Tree 5 encroachment calculation** – Excerpt of Landscape Plan, Project 2403, dwg no. DA2-L01, 28/3/24 authored by Trish Dobson Landscape Architecture. Red hashed circle indicates TPZ, blue hashed circle denotes the SRZ. Pink shading indicates encroachment. NOT TO SCALE. Marked up by C Hughes.

Tree 6 – Chinese Elm – Located within the subject site – non prescribed species under P21 DCP.

Structural Root Zone impacts:

- All works are located outside the calculated SRZ of this specimen.

Tree Protection Zone impacts:

- An encroachment of 16.5% (see Figure 2 next page) has been estimated for the proposed built form with basement placing it within *major* encroachment under AS4970 and triggering referral to Clause 3.3.4 of AS4970-2009.
- The primary considerations most relevant for this tree under Clause 3.3.4 of AS4970-2009 in relation to tree retentions are (c) *Tree species and tolerance to root disturbance*, (d) *Age, vigour and size of the tree* and (e) *Lean and stability of the tree*.
- The tree is a species tolerant of root disturbance, whilst it is mature it has plenty of active growth into the future, thus vigour is of such to overcome surrounding site disturbances.

- The tree form is one of fairly straight stem/trunk and a balanced canopy. Tree form is consistent with tolerating the proposed surrounding works.
- It is likely the tree may be impacted somewhat in the short-term but is expected to make a full recovery and thrive into the long term.

Pruning impacts:

- Pruning is likely to be required as the canopy sweeps down low to the ground in the location of the proposed built form. Pruning could be carried out in accordance with AS4373 – Pruning of Amenity Trees.

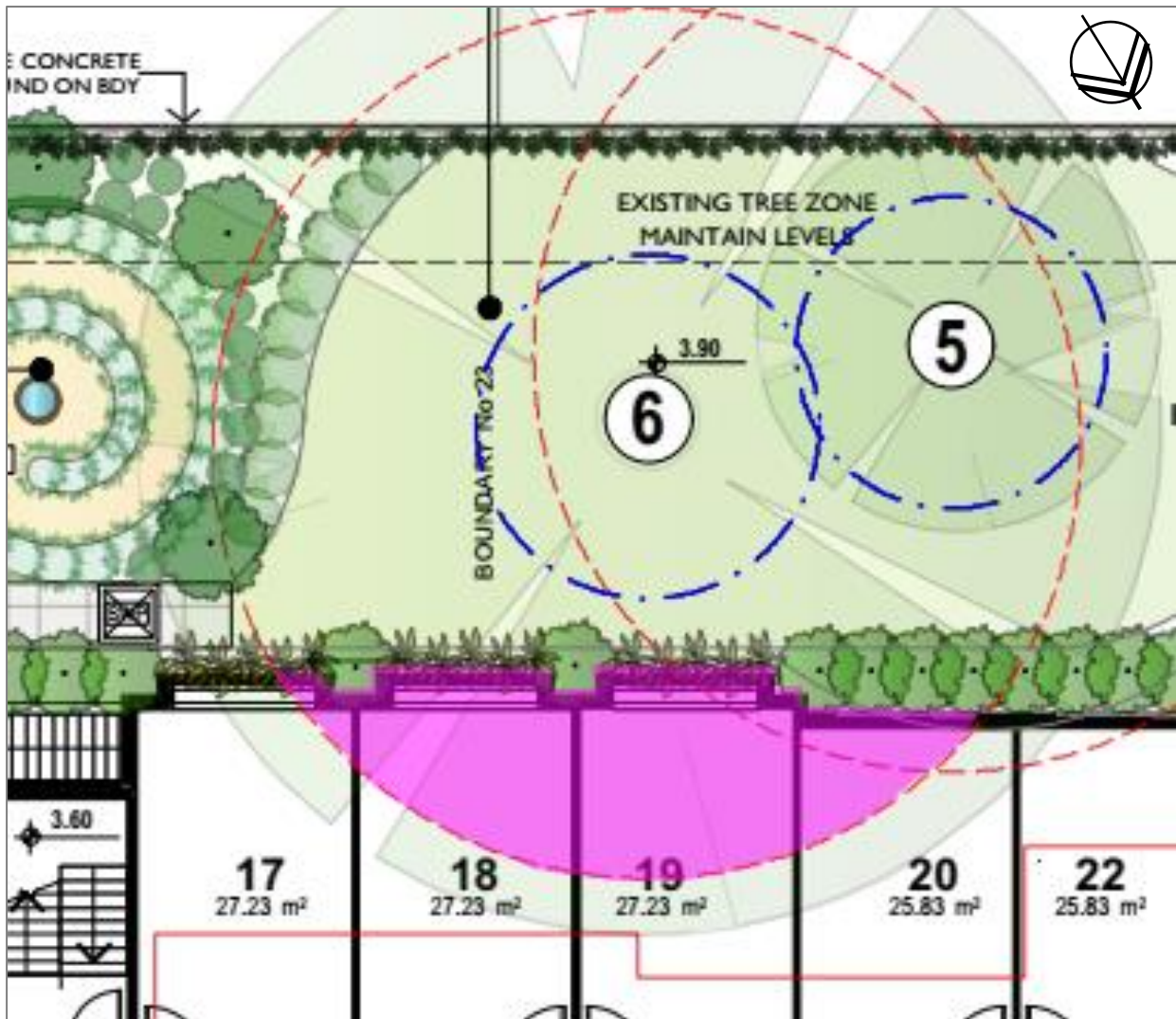


Figure 2 - Tree 6 encroachment calculation – Excerpt of Landscape Plan, Project 2403, dwg no. DA2-L01, 28/3/24 authored by Trish Dobson Landscape Architecture. Red hashed circle indicates TPZ, blue hashed circle denotes the SRZ. Pink shading indicates encroachment. NOT TO SCALE. Marked up by C Hughes.

RECOMMENDATIONS - Minimising Impacts on Trees to be Retained.

Project Arboriculturist

- A Project Arboriculturist (PA) shall be engaged prior to works commencing on the site.
- A **tree specific Tree Protection Plan**, once Councils Conditions of Consent are issued, shall be established to ensure compliance with the relevant Notice of Determination and in line with Construction Plans/Drawings prior to the issue of the Construction Certificate.
- The PA must have a minimum Australian Qualification Framework Level 5 (AQF5) or above in Arboriculture.
- Duties of the PA shall include, but not be limited to:
 - Liaising with the Project Manager/Head Contractor/Site Manager to confirm the tree protection and other specific tree protection requirements prior to site works commencing.
 - Inspection of Tree Protection Devices and supervision of works as recommended in this report or as specified in any Conditions of Consent associated with an approved development application.
 - Provision of Compliance/Occupation Certification if, and when required.

All tree pruning is subject to Council authority permit and shall be accordance with the Safe Work Guide to Managing Risks of Tree Trimming and Removal Work 2016, Work Health and Safety Act 2011, Work Health and Safety (WHS) Regulations 2011, the Code of Practice for the Amenity Tree Industry 1998 and AS4373 Pruning of Amenity Trees.

TREE 5 COOK PINE

- Protect Tree 5 by placing temporary fencing 7.8m from tree stem within the subject site and outside active work zones.
- Works within the calculated TPZ are to be supervised by the Project Arborist.
- Care when planting within the TPZ is required. Hand tools only are to be used and planting positions are to be flexible should the unlikely event roots are uncovered.

TREE 6 CHINESE ELM

- Protect Tree 6 by placing temporary fencing 8.1m from tree stem within the subject site and outside active work zones.
- Works within the calculated TPZ are to be supervised by the Project Arborist.
- All pruning works are to comply with AS4373 Pruning of Amenity Trees and are to be carried out by experience minimum AQF 3 Level Arborists. A maximum 20% of total live canopy is to be removed and limited to a maximum 100mm branch diameter. Project Arborist to determine limit of canopy pruning prior to works commencing.
- Care when planting within the TPZ is required. Hand tools only are to be used and planting positions are to be flexible should the unlikely event roots are uncovered.

Please contact the undersigned via email chantalle@treeism.com.au or phone 0403 935 419 to discuss further if required.

Yours sincerely



Chantalle Brackenridge Hughes

Consulting arboriculturist and horticulturist.

Tree Surgery Certificate

Advanced Certificate Urban Horticulture

Diploma of Horticulture (Arboriculture) *Credit*

ISA Tree Risk Assessment Qualification (TRAQ) 2016, updated 2022

Accredited Member of the Institute of Australian Consulting Arborists (IACA)

Member of the International Society of Arboriculture (ISA)

Affiliate Member of the Local Government Tree Resources of Australia (LGTRA)

APPENDIX A - PHOTOGRAPHS



Plate 1 – Arrow notes Tree 6. INSET – Base/lower stem of Tree 6.



Plate 2– Tree 12 - Arrows note stem of Tree 5.



Plate 3– Tree 5 and 6 – Arrow notes subject trees. Both can be seen from street/surrounding area however as Tree 6 is an exempt species the RV is only Medium to Tree 5 High RV.

APPENDIX B – MARKED UP EXCERPT OF SURVEY PLAN.

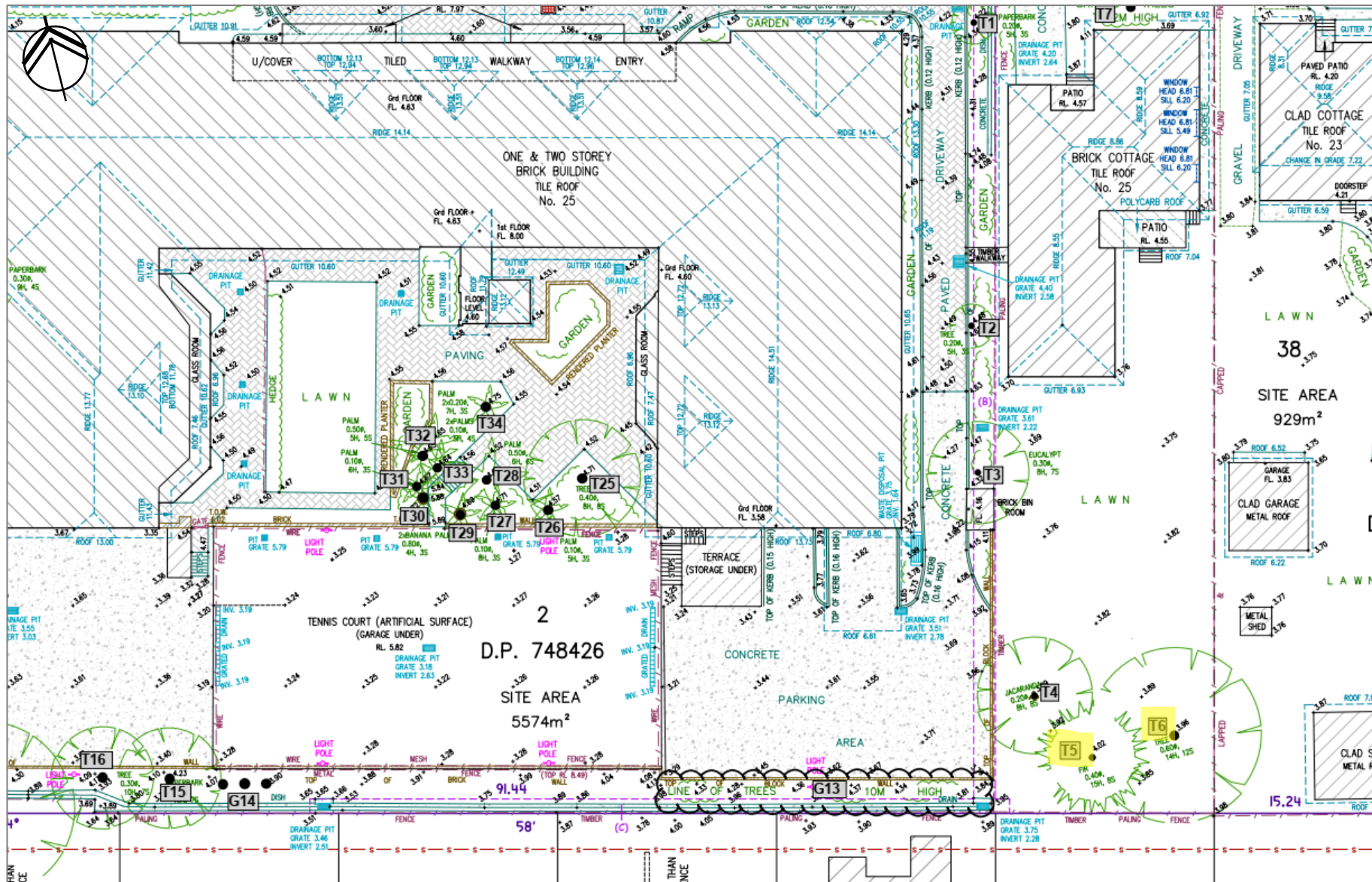
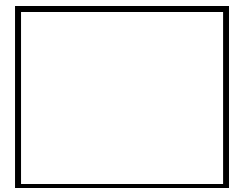


Figure 1 – Excerpt of Survey Plan, Ref no. 15006, dated 4/3/2016, Rev 1, prepared by Bee and Lethbridge Pty Ltd. Marked up by C Hughes, subject trees highlighted. (NOT TO SCALE).

APPENDIX C – SCHEDULE OF ASSESSED TREES – TREE 5 & TREE 6.

Tree No.	Genus & species Common Name	Ht (m)	Sp (m)	DBH (mm)	Age	V	C	Comments	ULE	TSR	RV	SRZ (m)	TPZ (m)	TPZ (area)	TPZ encroachment (area %)
5	<i>Araucaria columnaris</i> Cook Pine	18	12	650	M	G	G	Introduced native species. No special problems noted at time of assessment.	1A	H	H	2.9	7.8	191	5.6
6	<i>Ulmus parvifolia</i> Chinese Elm	16	20	675	M	G	G	Introduced exotic species. Exempt under DCP P21 2014 due to species. Low sweeping branches almost touching ground. Large diameter deadwood noted. Diameter of stem at ground level was 900mm. Although unprescribed, tree proposed for retention.	2A	M	M	3.2	8.1	206	16.5

KEY



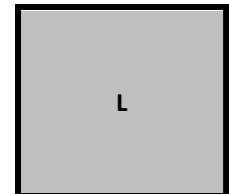
Trees to be retained.



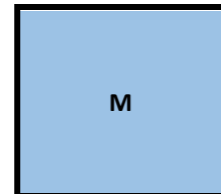
Dead/non-prescribed tree or palm on site that may be removed or retained without Development Consent or Tree Management Permit.



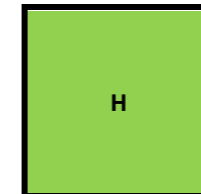
Trees proposed for removal.



Low Retention Value-These trees are not considered important for retention.



Medium Retention Value-These trees may be retained & protected.



High Retention Value -These trees are considered important for retention and should be retained and protected.

* DBH is visually estimated (usually adjoining trees or those that are hard to access). AB – above buttress roots. AGL - above ground level. ECE – Excessive canopy encroachment into proposed built form (could not be pruned to AS4373).

See further explanation in Section 3.2 providing justification on how tree retention is feasible given this level of encroachment.

Figures in brackets indicates the determined DBH and TPZ for a multi-stemmed tree based on the formula shown in Appendix A of AS4970-2009.

NOTE: According to AS4970, the TPZ of palms, other monocots, cycads, and tree ferns should not be less than 1m outside the crown projection. The AS4970 formula for calculating the SRZ of a tree does not apply to palms, other monocots, cycads, and tree ferns.

H refers to the approximate height of a tree in metres, from base of stem to top of tree crown.

Sp refers to the approximate and average spread in metres of branches/canopy (the 'crown') of a tree.

DBH refers to the approximate diameter of tree stem at breast height i.e. 1.4 metres above ground (unless otherwise noted) and expressed in millimetres. Figures in brackets indicate the minimum TPZ allowable as per Section 3.2 Determining the TPZ with AS4970-2009.

Age Y Young refers to an established but juvenile tree.

SM Semi-mature refers to a tree at growth stages between immaturity and full size.

EM Early-mature refers to a tree close to full sized still actively growing.

M Mature refers to a full sized tree with some capacity for further growth.

LM Late-Mature refers to a full sized tree with little capacity for growth that is not yet about to enter decline.

OM Over-Mature refers to a full sized tree with little capacity for growth that is entering or has entered decline.

V refers to the tree's vigour (health).

C refers to the tree's structural condition.

ULE refers to the estimated *Useful Life Expectancy* of a tree.

TSR The *Tree Significance Rating* considers the importance of the tree because of its prominence in the landscape and its amenity value, from the point of view of public benefit.

RV Refers to the retention value of a tree, based on the tree's ULE and Tree Significance.

SRZ Structural Root Zone (SRZ) refers to the critical area required to maintain stability of the tree. The SRZ is calculated on the diameter measured immediately above the root buttress or flare (DAB). Where this measurement is not taken in the field, it is calculated by adding 12.5% to the stem diameter at breast height (a system utilised by Urban Forestry Australia not Treeism).

TPZ Tree Protection Zone (TPZ) refers to the *tree protection zones* for trees to be retained. For palms, cycads, tree ferns or monocot species it is calculated to be no less than 1m outside the crown projection.