



MONACO
DESIGNS PL

ARBORICULTURAL IMPACT REPORT

For:

C/o- Brickwood Homes

Site Address:

8 Cousins Rd.,
Beacon Hill,

Site Inspection Date:

15.11.2022

Report Issue Date:

01.12.2022 - DA Issue

Job No:

6338

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Code of Ethics – Value – Honesty - Efficiency

ARBORICULTURAL REPORTS
LANDSCAPE PLANS

IMPORTANT NOTES – Trees on development sites (and neighbouring properties) can potentially render it undevelopable, or reduce potential yield. Developers and builders should obtain advice from a Consulting Arborist prior to purchasing a site, or engaging a Building Designer. A simple site analysis of significant trees and determining their TPZ's could save all parties involved significant time and money.

Many trees contain internal defects, of which many cannot be determined without dissection. These defects could be from genetic, human or environmentally influenced factors that may be hazardous to persons or property. Although deaths are rare from falling trees, common sense should prevail in extreme weather conditions.

This report was not written with the intention of being used in a court of law.

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1. Executive Summary – Key points

- 1.1. Trees to be retained – T1-T5
- 1.2. AS 4970-2009 ‘Protection of Trees on Development Sites’ (here after ‘The Standard’) – Section 2.3.5 – states ‘...*the location of tree protection measures should also be shown on other documents such as demolition, bulk earth works, construction and landscape plans.*’
- 1.3. Appointment of Project Arborist is not required.

2. Introduction

- 2.1 This report has been commissioned by Mr Geoff Dib of Brickwood Homes to assess the species, health, general condition and retention value of the trees located at the pre-mentioned address, (hereafter ‘The Site’).

3. Documents Provided

- 3.1 Survey – Helensburg Surveying Services – ref 22-066
- 3.2 Site Plan - EsDrafting – stripped dwg file.

4. Method and Limits

- 4.1 Observations and recordings of the trees were made using the Visual Tree Assessment (VTA) at ground level during the site inspection as dated. The VTA ‘*interprets the body language of trees, linking internal defects to the trees own repairs structures....so trees that are apparently dangerous should be distinguished from trees that are really dangerous...*’ (Mattheck 2007). No invasive, or explorative tests, ie dissections, excavation, probing, coring or aerial inspections were undertaken.
- 4.2 As the scope for the report is limited to development impact and retention value, a thorough VTA was not conducted for hazard reduction purposes.
- 4.3 Photographs included within this report were taken at time of initial inspection, unless noted otherwise.
- 4.4 Construction will be concrete slab and brick veneer.
- 4.5 DBH’s that are rounded (units of 10’s) up have been measured as a straight diameter. DBH’s with units of 1’s have been determined by measuring the trunk circumference for more accuracy.
- 4.6 Terminology used in this report is explained in Section 10.
- 4.7 Crown spreads are taken as an average of the radii, unless the crown is severely distorted or the issue requires more accurate dimensioning.

4.8 The Australian Standard AS 4970-2009 'Protection of Trees on Development Sites' is utilised where applicable for determining minimum clearances where works encroach the tree protection zone (TPZ). However, distances may be varied by the Consulting Arborist once other factors are taken into consideration, including but not limited to; *individual species tolerance to disturbance, soil geology and topography, meso / microclimate, proposed construction / engineering methods and potential Arboricultural techniques that could be utilised.*

5. The Site

5.1 The site is a residential allotment. The site is typical of a residential setting.

6. Tree Assessment and Impact Schedule for Trees Proposed to be retained

ASSESSMENT												IMPACT (RETAINED TREES ONLY)			
No	Scientific Name	Age Class	Health	Condition	Height (m)	Spread (m)	D BH (mm)	(On / Off Site)	Disease	Retention Value	Proposed to be removed or retained	TPZ – AS 4970 (rad. m)	SRZ – AS4970 (rad. m)	Encroach TPZ / SRZ	TPZV (TPZ Variation)
1	<i>Lophostemon confertus</i>	M	G	G	15	18	792	Off	Y	Very High	Retained	9.51	-	4.87%	Yes
2	<i>Cotoneaster sp.</i>	Exempt species													
3	<i>Ficus benjamina</i>	S	G	A	8	10	200/180	Off	Y	Mod	Retained	n/a	-	No	No
4	<i>Pittosporum undulatum</i>	M	A	A	6	4	300 App	Off	Y	Mod	Retained	No	-	7%	No
5	<i>Polyspora axillaris</i>	M	G	G	8	8	300 Base App	Off	-	Mod	Retained	No	-	No	No

* Refer to section 10 for explanation of terminology – Age Class – I=Immature - S=Semi Mature - M=Mature - O=Over mature
Health / Condition / Construction Tolerance – G=Good – A=Average – P=Poor. General - Y=Yes – N=No. (as)=assumed.

7. Discussion / Recommendations

7.1 Tree 1 has been subjected to ongoing crown modification due to power line clearance. Recent kerb replacement is obvious and property owner advised significant storm water issues (blockages) have been an ongoing problem, of which Council will have documentation of file.

7.1.1 The proposed Secondary Dwelling represents a minor encroachment. Boundary fence will adequately act as tree protection barrier. Council may wish to condition trunk protection measures if deemed necessary.

7.2 Trees 2 and 3 are located on a rock ledge and will not be affected by the proposed development.

7.3 T4 has a moderate retention value by virtue of being located off site. If it was located on the subject site, it would have a low retention values due to health and condition.

7.3.1 Specimen is tri-trunked, with a small percentage of dieback and sooty mould.

7.3.2 Survey has suggested the DBH is 200mm, whilst author estimates closer to 300mm. The RL of the specimen was not provided, however it was located approximately 700mm below adjacent neighbouring approx. RL of 48.00.

7.3.3 Irrespective of the RL. the specimens location ensures no impact by the proposed development. Furthermore, the 'on plan' TPZ encroachment calculates at 7%.

7.4 T5 is not impacted by the proposed development.

8. Tree Protection / Management Requirements

8.1 PRE CONSTRUCTION - DEMOLITION AND TREE REMOVAL

8.1.1 Trees that must be retained and not adversely impacted upon – T1-T5

8.1.2 AS 4970-2009 'Protection of Trees on Development Sites' (here after 'The Standard') – Section 2.3.5 – states '*...the location of tree protection measures should also be shown on other documents such as demolition, bulk earth works, construction and landscape plans.*

8.1.3 Appointment of a Project Arborist is not required.

8.1.4 **NOTE:-** Ensure Councils Conditions of Consent / Notice of Determination are cited prior to works commencing. Council may require additional tree protection measures or specific documentation that may need to be addressed to appease the PCA.

8.1.5 No lopping, topping or spiking of trees proposed to be retained. Any pruning is to be undertaken in accordance with AS 4373 'Pruning of Amenity Trees'. Remove major deadwood / diseased material as a matter of course and is only to be undertaken by AQF 3 Arborist. Stumps are to be ground and not pulled by machines. Retained existing trees are not to be used as anchorages points.

8.1.6 Trunk protection not deemed necessary. However if required by Council Consent, place 100mm x 50mm x 2000mm battens (as a minimum or practical) vertically at 100mm intervals around trunk. Battens are to be secured by metal strapping and buffered from direct contact with tree geo-tech fabric / hessian or similar. Double layer, 100 mm wide top and bottom should be adequate. *Battens are not to be fixed directly to tree with screws / nails etc.*

8.2 DURING CONSTRUCTION

8.2.1 No changes to natural ground level (NGL) are permitted within unless approved on Council stamped plans.

8.2.2 Cranes must be located where no damage to canopy will occur (onsite and neighbouring). For sites with tight aerial access, the Project Arborist to be present for advice on possible canopy reduction and / or remedial pruning.

8.2.3 Roots greater than 10 mm in diameter must be cleanly cut rather than torn by machinery.

8.3 POST CONSTRUCTION

- 8.3.1 Only approved changes to NGL will be accepted. That includes Landscape works. Project Arborist and Landscape Consultant to ensure final works comply prior to issue of Certification.
- 8.3.2 Proposed hard surfacing within TPZ should preferably utilise permeable materials, ie dry jointed paving layed on a granular base with screeded sharp sand.
- 8.3.3 Retaining wall construction should give preference to gravity masonry wall or timber that reduces the need for concrete footings and increases permeability and movement. Backfill with an inert granular material ie washed river sand. Use of root deflection barriers may be appropriate.

9. Conclusion

- 9.1 All specimens are located off site, and any impacts are within the allowance set by AS4970-2009.

Regards
Paul Monaco



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Quantified Tree Risk Assessment (QTRA) – No. 3923

Limitation of liability

This report has been prepared by the arborist and must be accepted on the basis that all reasonable attempts have been made to identify factors and features relevant to the tree(s) specified. Unless otherwise stated, observations have been made by eye from ground level (VTA).

It must be noted that any opinions given by the arborist relating to the health, desirability, or significance of any tree will not necessarily coincide with the opinions of the relevant Council Officer.

Surveys are not undertaken by Monaco Designs Pty Ltd, therefore we cannot confirm their accuracy.

Tree related hazards should be kept in perspective with manmade hazards. Roof materials, advertising material, general rubbish etc can cause serious harm if they fail in extreme weather conditions.

10. Terminology used in this Report

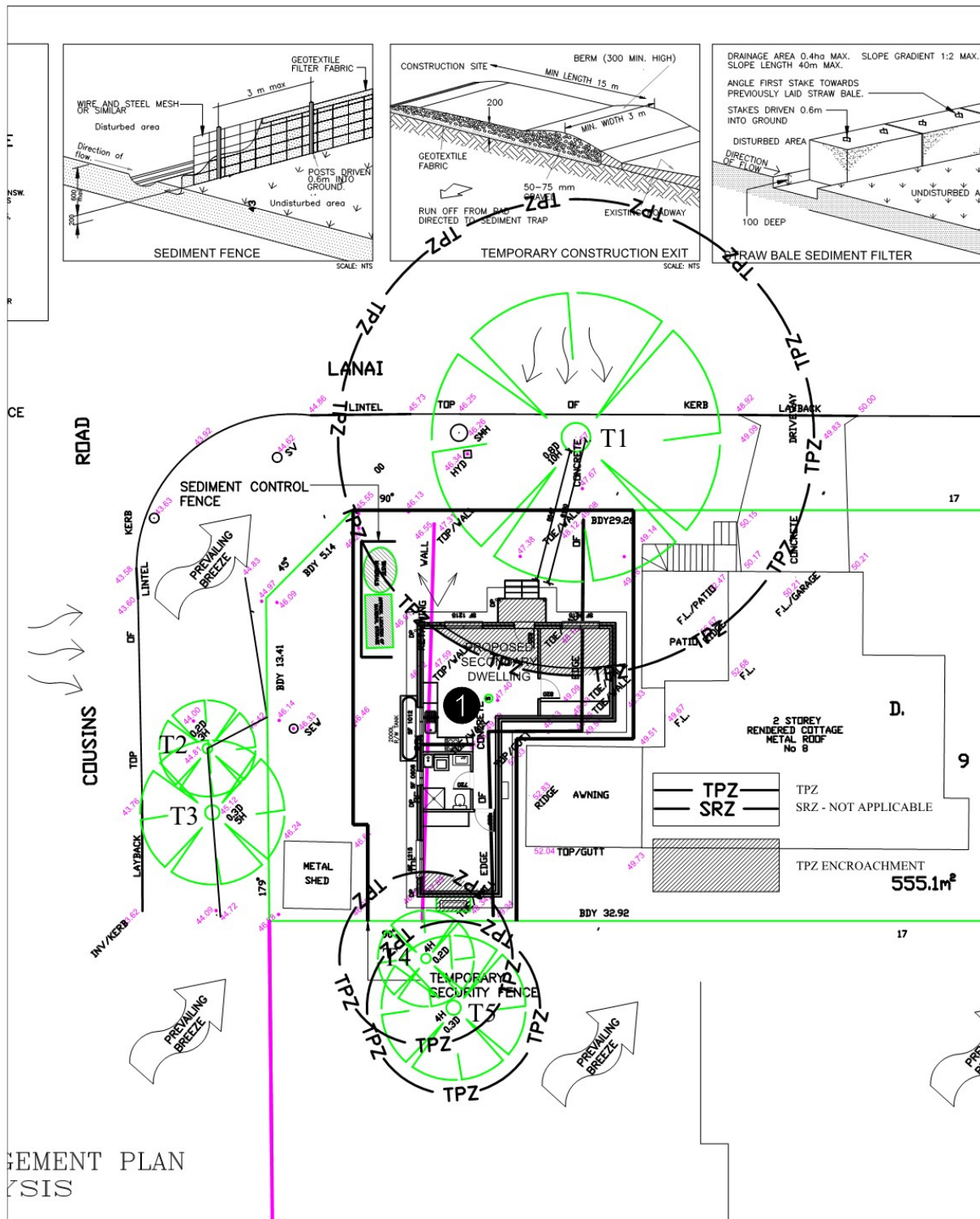
- 10.1 AGE CLASSES: - (I) Immature refers to a juvenile tree. (S) Semi-mature, refers to a tree between growth stages immature and mature. (M) Refers to a tree at full size with some opportunity for further growth. (O) Over-mature, refers to a tree past its peak growth or health and is either in, or about to enter decline.
- 10.2 HEALTH CLASS: - Exhibited by crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion and degree of dieback.
Good (G) / Average (A) / Poor (P) / Deciduous at time of inspection (D).
- 10.3 CONDITION CLASS: - Refers to the trees form and growth habit as a result of its environment (aspect, suppression by other trees and soils). Also takes into consideration potential structural defects such as cavities and weak trunk / branch unions. Good (G)/ Average (A) / Poor (P).
- 10.4 DIAMETER AT BREAST HEIGHT: - Expressed in millimetres, this is the average radius measured at 1400mm from the ground for single trunk specimens. For multiple trunked specimens, the measurement is taken below the flange of the branch collar. Where a tree is trunkless, an average diameter is determined by taking an average of the radius and noted at ground level.
- 10.5 DISEASE: - Includes a range of factors biotic and abiotic in nature that could affect the long term vitality of the specimen, ie pests, pathogens, cankers, soil compaction etc.
- 10.6 FFL / FGL / NGL:- Finished Floor Level / Finished Ground Level / Natural Ground Level.
- 10.7 RETENTION VALUE: - Has been generally determined based on (but not limited to) the following criteria:-
- Zero – Tree is a noxious / environmental weed, diseased or damaged beyond remediation and removal required or exempt from Local Council's TPO.
 - Low – An immature specimen that could be replaced with new tree planting, or a poor representation of the species, negative impact on amenity, or visual significance within the landscape.
 - Moderate – Tree has a fair contribution to visual character, good representation of species, semi-mature / mature specimen, potential habitat relevance.
 - High – Excellent visual character / amenity, representation of species, mature specimen, indigenous / endemic species. Neighbouring or public property.
 - Very High - Endangered or threatened species, heritage / historical or cultural significance, endemic species / remnant vegetation, habitat for endangered or threatened fauna, commemorative planting. Tree on neighbouring or public property.
- 10.8 TREE PROTECTION ZONE (TPZ):- As defined by AS 4970-2009 – 'A specified area above and below ground and at a given distance from the trunk set aside for the protection of a trees roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development'. TPZ = DBH x 12 (represented as radius). Generally speaking, AS4970-2009 states:-
- Minor encroachment is <10%
 - Major encroachment is >10%

- 10.9 TREE PROTECTION ZONE VARIED (TPZV):- As defined by Section 3.3 in AS 4970-2009. This variation may be determined by the Project Arborist, or a necessity due to Council approving works without Arboricultural intervention prior to DA approval. Contiguous compensated up to 10% of encroachment as per Appendix D of AS4970-2009 is permissible.
- 10.10 Structural Root Zone (SRZ):- As defined by AS 4970-2009 – ‘*The area around the base of a tree required for the trees stability in the ground*’.
- 10.11 VTA – Visual Tree Assessment – described by Dr Clause Mattheck in ‘*The Body Language of Trees*’. This assessment process is supported by The International Society of Arboriculture, as a system to inspect trees for indicators of structural defects that may pose a risk of failure.

11. Reference / Bibliography

- 11.1 Australian Standard AS 4970-2009 ‘Protection of Trees on Development Sites’.
- 11.2 AS 1319-1994 ‘Safety Signs’.
- 11.3 AS 4373-1996 ‘Pruning of Amenity Trees’.
- 11.4 AS 4687-2007 ‘Temporary Fencings and Hoardings’.
- 11.5 Trees Dispute Between Neighbours) Act 2006 No. 126
- 11.6 Tree (Disputes Between Neighbours) Amendment Act 2010 No. 27
- 11.7 Harris, R.W. et al (2004) ‘Arboriculture – 4th Ed.’, Prentice Hall.
- 11.8 Hoadley, R.B (1990) ‘Identifying Wood – accurate results with simple tools’, The Taunton Press Inc.
- 11.9 MacLeod R D. and Cram W J., (1996) Forces Exerted by Tree Roots, Arboriculture Research Information Note, 134/96/EXT.
- 11.10 Mattheck, C., et al (2015) ‘The Body Language of Trees – Encyclopaedia of Visual Tee Assessment’, Karlsruhe Institute of Technology – Campus North.
- 11.11 Raven, P.H., et al, (1986) ‘Biology of Plants – 4th Ed.’, Worth Publishers.
- 11.12 Roberts, J., Jackson, N., and Smith, M., (2013) ‘Tree Roots in the Built Environment’, Arboricultural Association – Research for Amenity Trees No. 8.
- 11.13 Shigo, A. (1997) ‘A New Tree Biology’, Shigo and Trees Associates.
- 11.14 Shigo, A. (2008) ‘Modern Arboriculture’, Shigo and Trees Associates.

12. Part Site Plan -NTS



13. Assorted Pictures



Plate 1 – T1 SW manhole and kerb renewal



Plate 2 –



Plate 3 – T2 - Cotoneaster



Plate 4 – T3



Plate 5 – T4 base



Plate 6 – T4 – T5