



# *Tree Assessment & Management Report for Development Application*

May 2021

**Site:** Lot 17 in DP 9362  
143 Balgowlah Road  
BALGOWLAH, NSW

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# 1 Summary

Pasa Saglam & Nonie Vaness as the property owners, via Scope Architect's (Xu KHA) have commissioned *Aura Tree Services Pty Ltd* to prepare an "Tree Assessment & Management Report" for one (1) tree within the road reserve at the front of the property known as 143 Balgowlah Road, Balgowlah, (from herein the subject site).

The subject site is currently developed to contain a single structure residential dwelling. One existing vehicle parking area is via Balgowlah Road.

The subject site is within the Northern Beaches Council-Local Government Area (from herein NBC).

The NBC is the sole consent authority relative to the one (1) tree discussed within this document. The discussed tree is located within the front of subject site road reserve.

The discussed tree is subject to the Northern Beaches Council (from herein NBC) 'Tree Management Provisions'. The discussed tree is very long term planted (i.e. greater than twenty-five years).

The soon to be lodged Development Application relative to tree management proposes construction of a new dual occupancy structure with two (2) driveway crossovers.

Kyle Hill, Practicing & Consulting Arborist AQF Level 5 & 8, has prepared this document based on onsite observations & discussion on Friday, 21 May 2021.

This document based on our site assessment & interpretation of data provided by the by Scope Architects will support the proposed works. Two Options are discussed relative to the management of the discussed tree. Both Options discussed will require a post DA determination Site Specific "Plan of Tree Management" to be prepared.

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## 2 Introduction

NBC is the local government area primary consent authority relative to development & tree management for the discussed site.

The one (1) discussed tree is identified as being a *Bauhinia variegata* (Orchid Tree). From herein, the tree will be known as the *B.v.* discussed tree.

The proposed works relative to tree management is for the creation of a second driveway crossing creating two (separate driveway crossings, one (1) for each dwelling.

The discussed *B.v.* tree is a planted exotic specimen (native to SE Asia & the Indian Subcontinent). The *B.v.* forms part of the old Manly Local Environment Plan 'Heritage Item-Landscape (I3).

The subject site is 'Land Zoned' R2 Low Density Residential. As mentioned above the Balgowlah Road (i.e., this section of) is within a listed "Heritage Conservation Area". The subject site & adjoining sites are not listed "Heritage Items". Relative to "Habitat Potential" the discussed tree only has the capacity to support canopy nesting fauna.

Only the one (1) discussed *B.v.* tree is acknowledged as being subject to the tree management policies as defined within the old Manly Council 'Tree Management Provisions'(MDCP 2013) & the current NBC 'Tree Management Provisions'.

This document is based on Visual Tree Assessment (Stage 1) plus observations made when onsite for data collection provided by the clients Architects.

This document explores two (2) options;

1. Total tree replacement &
2. Tree retention.

Post DA determination, which will confirm the strategy preferred by the NBC a Site Specific "Plan of Tree Management" will be required to be prepared.

### 3 Methodology

Assessment of the discussed tree has been by eye from ground level & aerial photography from multiple sources. Implementation of the *Visual Tree Assessment (VTA) Stage 1 principles* developed by Claus Mattheck, et.al is the assessment method & tool chosen for this site. The principles of VTA Stage 1 are explained & illustrated in his publication *The Body Language of Trees (1994)*.

Assessment includes:

- *Inspection of the subject site relative to the proposed works*
- *Tree's current condition & likely ULE.*
- *Perusal of NBC "Tree Management Provisions/Policies".*
- *Perusal of "Heritage Conservation Area" Manly LEP 2013 mapping*
- *Perusal of NBC "Endangered Ecological Community listing" information.*
- *Perusal of "Significant Tree Register".*
- *Discussion of environment where the tree is growing &*
- *Tree's amenity & retention value, related to significance, screening & habitat.*

No root tissue (laboratory) analysis, soil testing, 'Resistograph'<sup>®</sup>, 'ArborTom'<sup>®</sup> assessment or similar was undertaken.

See the Appendix A for further information:

- *Appendix A Glossary of Common Arboreal terms*

## 4 Observations

### 4.1 The Site

The approximate total site area for 143 Balgowlah Road, Balgowlah is (Lot 17 in DP 9362) is approximately 490.50m<sup>2</sup> (by NBC Property Information website tool).

The subject site & two (2) common boundary properties are both Land Zoned 'R2' Low Density Residential. The rear boundary is shared with the Manly West Public School.

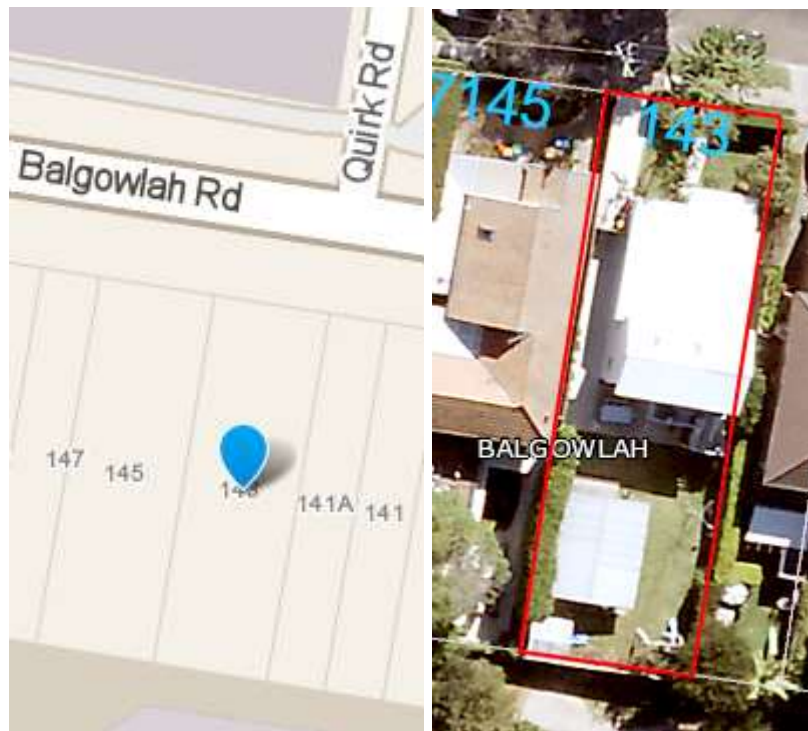


Figure 1: Above information courtesy of Whereis.com & the NBC property information website tools.

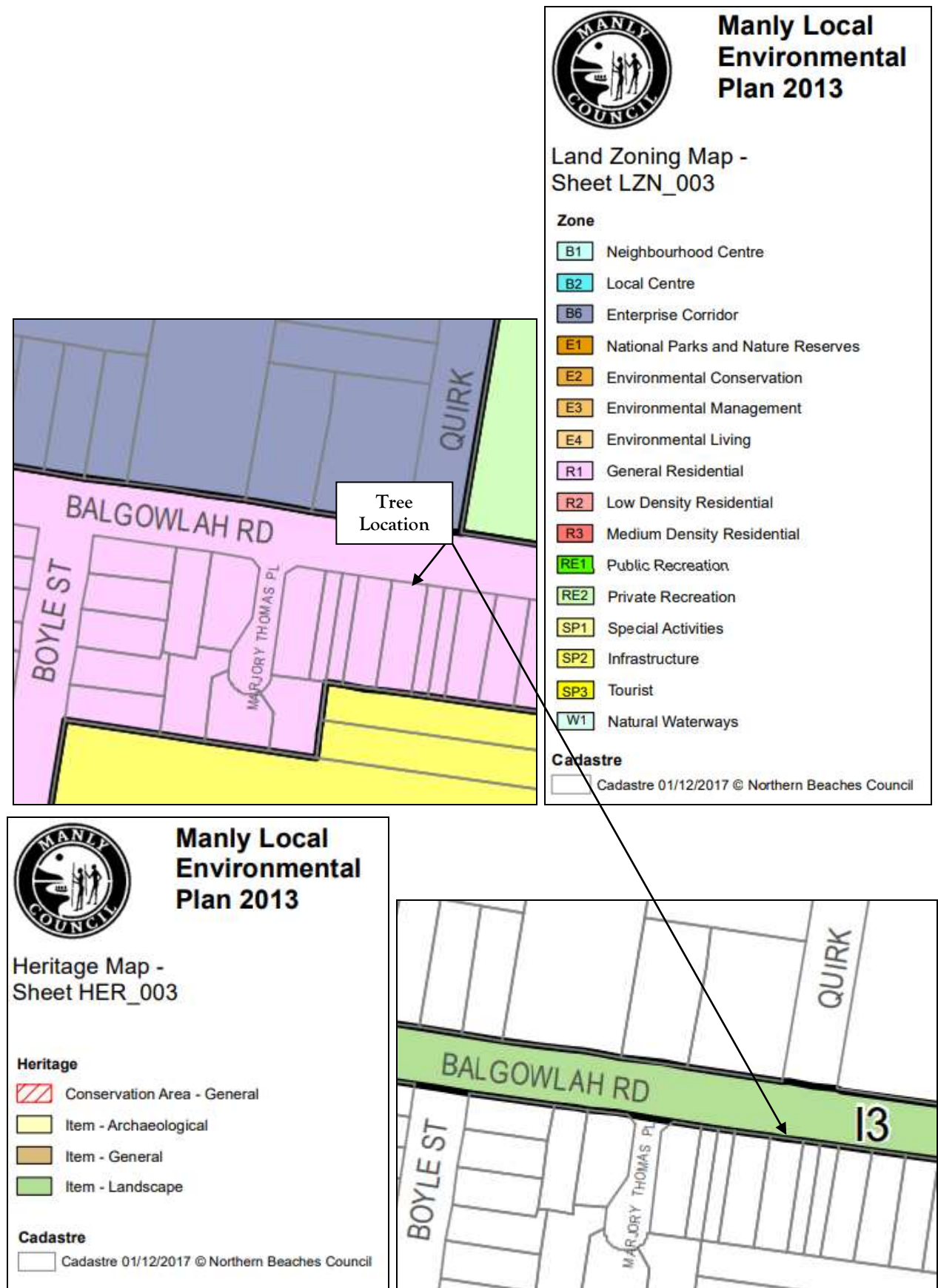


Figure 2: Above confirms 'Heritage Conservation Area & Land Zoning Status'.



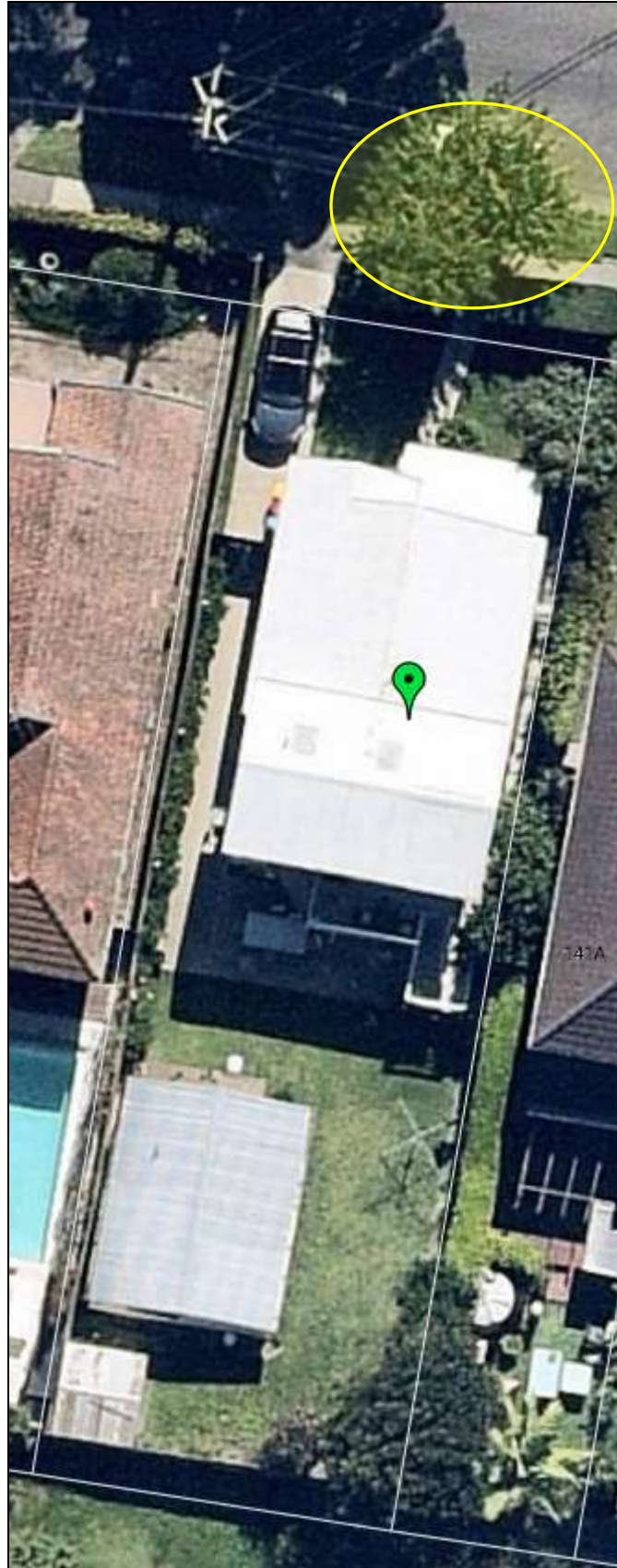


Figure 3: Aerial Photograph of the subject site & discussed tree, dated Saturday, 10 April 2021, (courtesy of NearMap.com website tool).



## 5 The Proposal

### 5.1 Plans & Elevations

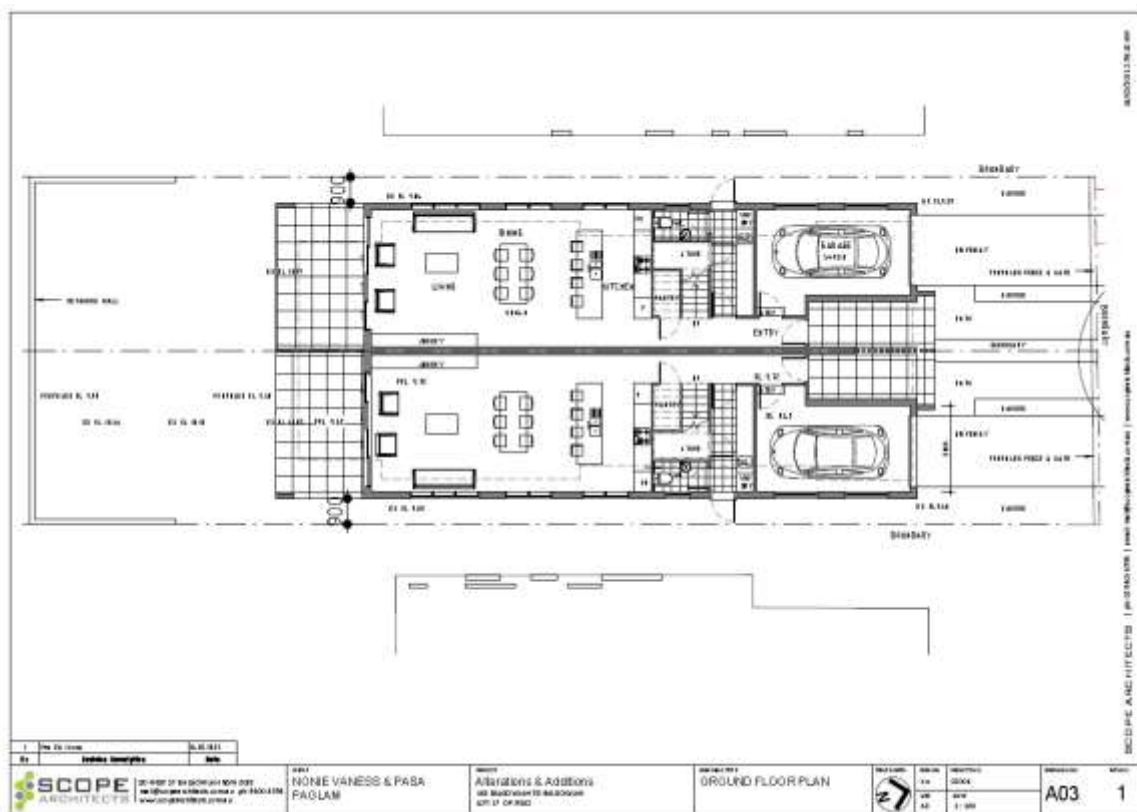
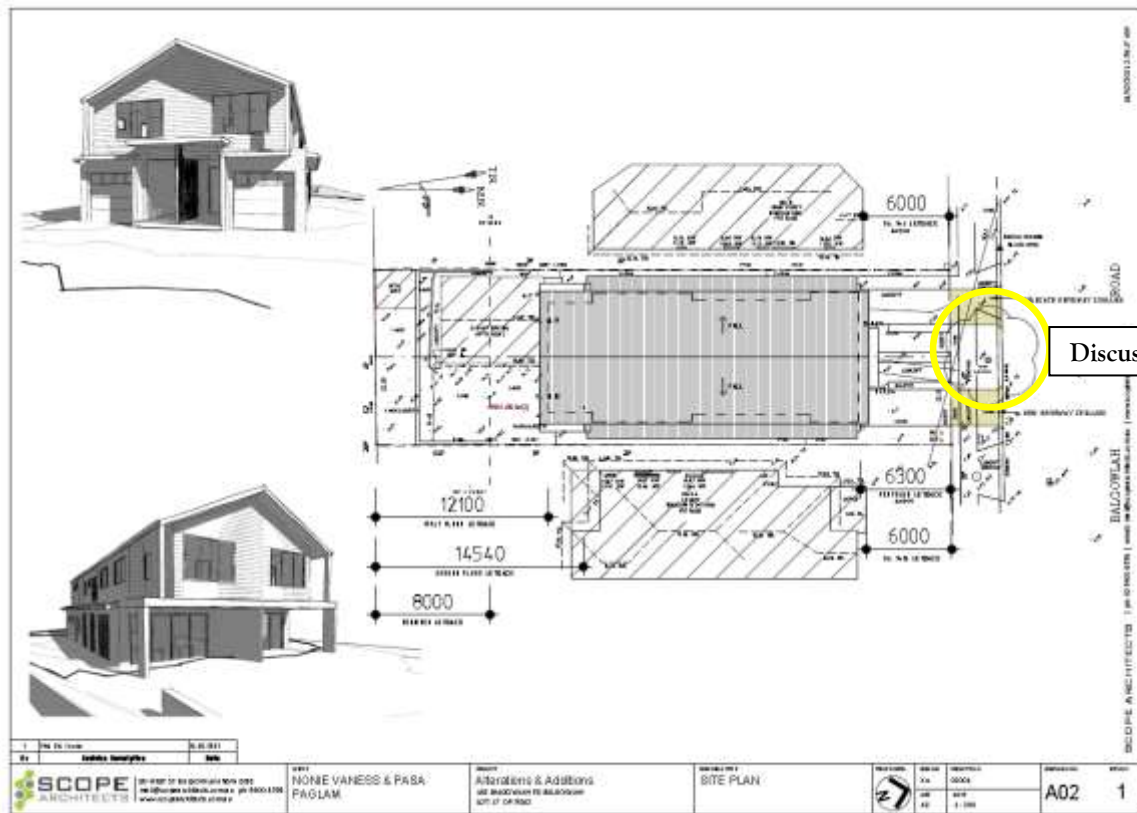




Figure 4: Above & previous page illustrates the as proposed Plans & Elevations.

## 5.2 Tree Description with Site Images:

*Bauhinia variegata* (Orchid Tree)

Approximate height: <7.50m

Approximate canopy spread: <7.50 (very poorly pruned/maintained)

Tree Canopy is 100% epicormic shoots by origin.

Diameter at Breast Height: 0.38m

TPZ (radial distance) 4.56m

SRZ (radial distance) 2.43m

Health: Fair, Vigour: Fair

Tree is confirmed to have genetic structural defects most commonly called co-dominant stems with bark inclusions.

Significance: Value: as Heritage Item = High / Retention Value: as Heritage Item = High

Significance: Value: by species = Low / Retention Value: by presence = Moderate



Figure 5: Illustrates tree health, location & growing environment.



### 5.3 Discussion:

It has to be presumed the NBC prefer this tree to be retained, especially as it forms part of a listed 'Heritage Item - Landscape'.

Two Options are discussed within this document. Option 1 may result in the tree being retained as a viable specimen. Option 2 will support total tree replacement.

By virtue of tree condition, previous management (e.g., pruning) & the fact it has been subjected to likely multiple 'significant diameter live roots' being previously pruned (for concrete footpath repair, see below photographs) for long term sustainability of a tree in the present location of the discussed tree this document will support, total tree replacement.



Figure 6: Above confirms previous footpath repair that likely required supporting live roots to be severed. Below illustrates poor pruning practices undertaken over the long term.



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**OPTION 1:** Undertake manual tree root location investigation so as to locate/confirm the presence or otherwise of any 'significant diameter live roots' being present. In this situation, 'significant diameter live roots' are defined as being greater than 50mm in diameter.

- Live Woody Tree Roots' less than 50mm in diameter can be cleanly pruned without the input of the sites retained Practicing/Consulting Arborist.
- Should any 'significant diameter' 'live woody tree roots' be exposed the sites retained Practicing/Consulting Arborist must be summonsed to assess & prepare a likely root pruning management strategy on a root by root basis.
- Completed line/s of excavation closest to the discussed tree trunk base must be photographed (only the retained Project Arborist can complete this) to confirm the strategy applied/supported relative to 'significant diameter live woody tree roots' required to be managed.

**OPTION 2:** Total tree replacement. This can either be equal distance from east & west driveway crossovers or at a site specified by the NBC.

- Replacement tree must be sourced from a grower/supplier whose stock meets the production benchmarks within the *Australian Standard (AS2303-2015 Tree stock for landscape use)*.
- Tree must be professionally planted.
- Tree must be professionally managed for at least one (1) full coastal Sydney growing season (mid-August thru late-May).

## 6 Conclusion

- **Total Tree Replacement is the best way to extend 'landscape amenity' provided by trees for well into the distant future.**

If you have any questions relating to this report or require the implementation of recommendations, please contact Kyle Hill (Wednesdays or Fridays) on 02 9939 0078.

Yours faithfully,



Kyle A Hill, Practicing & Consulting Arborist (AQF level 8)

## 7 Limitations on the use of this report

This report is to be utilised in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report, may only be used where the whole of the original report (or a copy) is referenced in, & directly attached to that submission, report or presentation.

## 8 Assumptions

Care has been taken to obtain information from reliable resources. All data has been verified insofar as possible; however, AURA Tree Services Pty Ltd, can neither guarantee nor be responsible for the accuracy of information provided by others.

### Unless stated otherwise:

Information contained in this report covers only the trees that were examined & reflects the condition of the trees at the time of inspection; and

The inspection was limited to visual examination of the subject trees without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

## 9 Recommended References

- Barrell, J. 1993. 'Preplanning Tree Surveys: Safe Useful Life Expectancy (SULE) is the Natural Progression', *Arboricultural Journal* 17:1, February 1993,
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- Dr. G. Watson & Dr. D. Neely, 'Trees & Building Sites', ISA Illinois USA 1995,
- Dr. N. Matheny & Dr. J.R. Clark, 'Trees & Development', ISA Illinois USA 1998 ,
- Phillip J. Craul, 'Urban Soil in Landscape Design', J. Wiley & Sons, New York USA 1992,
- Clark, Ross, 'A Guide to Assessment of Tree Quality'. NATSPEC/ Construction Information, Milson's Point NSW, 2003 &
- Clark, Ross. 'Purchasing Landscape Trees', Construction Information Systems Australia Pty. Ltd., Milson's Point NSW, 1996.

## 10 Selected Bibliography

- Hitchmough, J.D. 1994. 'Urban Landscape Management', Inkata Press, Sydney.
- Mattheck, C. & Breloar, H. (1994) 'Body Language of Trees'. The Stationery Office. London.
- AS4373.2007 'Pruning of amenity trees', Standards Australia.
- AS4970.2009 'Protection of trees on development sites', Standards Australia.
- BS5837-2005. 'Guide for Trees in Relation to Construction', Standards Board, UK.



## Appendix A–Glossary of Common Arboreal Terms

<b>Age:</b>	<b>I</b>	<i>Immature</i> refers to a refers to a well-established but juvenile tree
	<b>SM</b>	<i>Semi-mature</i> refers to a tree at growth stages between immaturity & full size
	<b>M</b>	<i>Mature</i> refers to a full sized tree with some capacity for further growth
	<b>LM</b>	<i>Late Mature</i> refers to a full sized tree with little capacity for growth that is not yet about to enter decline
	<b>OM</b>	<i>Over-mature</i> refers to a tree about to enter decline or already declining
	<b>LS</b>	<i>Live Stag</i> refers to a tree in a significant state of decline. This is the last life stage of a tree prior to death.

**Hth & Vig** Health & Vigour

**Health** refers to the tree's form & growth habit, as modified by its environment (aspect, suppression by other tree, soils) & the state of the scaffold (ie. trunk & major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health & it is possible for a tree to be healthy but in poor condition/vigour. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

**Vigour** refers to the tree's growth rate/condition as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion & the degree of dieback. **Classes are:**

Excellent (E), V. Good (VG), Good (G), Fair (F), Declining (D), Poor (P), Very Poor (VP)

**Useful Life Expectancy** refers to any trees potential life expectancy (viability) not related to potential disturbances based on VTA assessment, classifications are: **Short, (0 – 5 years), Medium, (5 – 15 years) & Long, (15 or more years).**

**Retention Value** is expressed as Low, Medium, High or of Heritage Importance

**Diameter at Breast Height (DBH)** refers to the tree trunk diameter at breast height (1.4 metres above ground level).

**Significant Diameter Roots** are defined as being woody roots with a diameter greater than 0.05m/50mm. (Unless otherwise specified)

**Structural Root Zone (SRZ)** refers to a radial offset which relates to tree stability. This zone is presumed to be main location of the tree's structural support roots. It is calculated using the formula  $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$ .

**Tree Protection Zone (TPZ)** is ideally a "No Go Zone" surrounding a tree to aid in its ability to cope with disturbances associated with construction works. **TPZ = DBH x 12.** Tree protection involves minimising root damage that is caused by activities such as construction. Tree protection also reduces the chance of a tree's decline in health or death & the possibly damage to structural stability of the tree from root damage

To limit damage to the tree, protection within a specified distance of the tree's trunk must be maintained throughout the proposed development works. No excavation, stockpiling of building materials or the use of machinery is permitted within the TPZ

A TPZ is required for each tree or group of trees within five metres (unless otherwise specified) of building envelopes.

**Stem/bark inclusion** refers to a genetic fault in the tree's structure. This fault is located at the point where the stems/branches meet. In the case of an inclusion this point of

attachment is potentially weak due to bark obstructing healthy tissue from joining together to strengthen the joint

**Decay** refers to the break down tissues within the tree. There are numerous types of decay that affect different types of tissues, spread at different rates & have different affect on both the tree's health & structural integrity

**Point of Attachment** refers to the point at which a stem/branch etc join

**Dead wood** refers to any whole limb that no longer contains living tissues (eg live leaves &/or bark). Some dead wood is common in a number of tree species.

**Die back** refers to the death of growth tips/shoots & partial limbs. Die back is often an indicator of stress & tree health

**One dimensional crown** refers to branching habits & leaves that extend/grow in One direction only. There are many causes for this growth habit such as competition & pruning

**Crown Foliage Density of Potential (CFDP)** refers to the density of a tree's crown in relation to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage

**Epicormic growth/shoots** refers to growth/shoots that are/have sprouted from axillary buds within the bark. Epicormic growth/shoots are a survival mechanism that often indicates the presence of a current or past stress even such as fire, pruning, drought etc

**Over Head Powerlines (OHP)** Over head electricity wiring.

**LVOHP** Low Voltage Over head Powerlines

**HVOHP** High Voltage Over head Powerlines

**ABC** Aerial Bundled Cable