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Construction Impact & Management Statement

November 2020

Site:	Lot 5 in DP 16260 1 Yachtview Avenue NEWPORT, NSW
Client:	Paul Godfrey & Vanessa Naderi c/ Michael Finch 1 Yachtview Avenue NEWPORT, NSW 2106
Author:	Kyle A Hill Registered (Arb Aus #1884) Practising & Consulting Arborist Post Graduate Certificate in Arboriculture, Uni of Melb Diploma of Horticulture-Arboriculture TAFE, Grow SA Certificate of Horticulture, TAFE Certificate Advanced Tree Care TAFE Founder -Growing My Way Tree Services (1977) Member of International Society of Arboriculture Member of Arboriculture Australia

1 Summary

Paul Godfrey & Vanessa Naderi (property owners) via Mike Finch (Builder) commissioned the Growing My Way Tree Consultancy (GMW) to prepare a *Construction Impact & Management Statement* relative to the proposed *Alterations/Additions to the existing dwelling* within the property known as 1 Yachtview Avenue, Newport, (from herein the subject site).

One (1) individual tree within the subject site & one (1) adjoining site (2 Yachtview Avenue) informal hedge of group of tree/shrubs have been identified as being required to be discussed relative to the proposal for *Alterations/Additions to the existing dwelling*. Only the one (1) subject site discussed in detail tree is subject to the tree management provisions as defined within the *Northern Beaches Council (from herein NBC) "Tree Management Provisions" plus the new SEPP "Vegetation in non-rural Areas, August 2017*. Multiple other trees are located within both the subject site & adjoining common boundary properties but are not discussed as they are well away from & therefore not impacted upon by the proposed works supported within this document.

The discussed tree is considered as not able to be viably retained. It is supported to be replaced with a more suitable to the local environment locally indigenous tree specie.

The proposal is able to satisfy compliance criteria with the *Australian Standard (AS4970-2009 Protection of trees on development sites)*.

Motor vehicle & pedestrian access is via Yachtview Avenue.

The sole consent authority is the NBC. The old *Pittwater Council Planning Instrument (Local Environment Plan, 2014)* applies at the time of writing.

Information related to the discussed tree was gathered by onsite data collection with cross referencing to:

- *Site Survey by DSP Surveyors & Engineers, dated, 21 January 2020;*
- *Plans, Sections & Elevations, by the Site Foreman, Rev 3, dated, 15 September 2020;*
- *Pittwater Council/NBC "Tree Management Provisions" &*
- *SEPP 'Vegetation in Non-Rural Areas, 25 August 2017.*

The aim of this report is:

1. *To confirm individual tree health, vigour & condition considering any impact foreseen by the proposed demolition & redevelopment.*
2. *To provide a list of potentially suitable to the subject site & its local surrounding environment replacement tree species.*

This document supports (relative to tree management) the proposal for *Alterations/Additions*.

Kyle A Hill (AQF level 5 & 8 *Practicing/Consulting Arborist* has prepared this report based on "*Visual Tree Assessment*" (VTA). Data was collected on Thursday, 19 November 2020.

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2 Introduction

This report contains observations & recommendations intended to assist in the management of the one (1) individual tree & one (1) group of tree/shrubs identified as necessary to be discussed by virtue of their location & proposed works, i.e. *Alterations & Additions*.

Built form within the subject site is a single dwelling residence, with hard & soft landscaping & an inground (rear yard) swimming pool.

This document supports the proposed *Alterations/Additions* with respect to tree management issues.

We confirm to be familiar with both the old *Pittwater Council* & now NBC “*Tree Management Provisions*” plus the new SEPP “*Vegetation in non-rural Areas, August 2017*”.

The sole consent authority is NBC.

The subject site is NOT within a NBC designated “*Heritage Conservation Area*”. The subject site is confirmed to NOT be a listed “*Heritage Item*” nor are any of the discussed trees known to be listed on any “*Significant Tree Register*”. No tree discussed is captured as being subject to the protection provisions within the state legislated ‘NSW Scientific Committee’-final determination, (*Threatened Species Conservation Act*) which identifies & protects the ‘*Pittwater spotted gum forest-endangered ecological community listing*’ under ‘NSW legislation’. The subject site is confirmed to be within a ‘C01’, “*Wildlife Corridor*” as defined within the *Pittwater 21 DCP* (see page 8).

Of the one (1) individual tree & one (1) group of trees/shrubs discussed, the subject site tree is proposed to be replaced. Other trees, both within the subject site & adjoining side common boundary properties nearby are assessed as able to be retained, managed without any impact relative to the DA proposal, as such no formal protection specification is required.

The subject site is zoned “E4”, ‘*Environmental Living*’.

3 Methodology

Assessment of the trees has been from ground level by eye, using *Visual Tree Assessment*^{*} (VTA) techniques developed by Claus Mattheck. The principles of VTA are explained in his widely-used reference book *“The Body Language of Trees (1994)”*.

Assessment includes:

- Tree’s current condition & likely future health. Species tolerance to root disturbance &/or development
- Likely future hazard potential to persons & property
- Tree’s amenity value, such as significance, screening & habitat.

No root analysis, soil testing, ‘Resistograph’® drilling or aerial canopy inspection was undertaken. See the following Appendices for further information:

- Appendix A Glossary of Common Arboreal terms
- Appendix B Site Survey

^{*} **VTA–Visual Tree Assessment**, as referenced is a systematic inspection of a tree for indicators of structural defects that may pose a risk due to failure. Stage 1 is made from ground level (i.e. no aerial inspection is undertaken). An aerial inspection (Stage 2) is undertaken when there are easily identified visual indicators that suggest such an inspection is merited. Visual indicators are outlined within *The Body Language of Trees (Mattheck & Breloer, 1994)*. VTA is a broadly used relatively standardised approach. More complex (can be invasive) diagnostic fault detection equipment may be recommended once visual indicators of potential defects are confirmed.

4 Observations

4.1 The Site

The report discusses only trees within Lot 5 of DP 16260. The site is 943.20m² by Site Survey in size. The site is linked to one (1) public road & four (4) residential lots.



Figure 1: Aerial photograph with lot boundaries courtesy of NBC website tool.

The subject site is Land Zoned “E4” ‘Environmental Living’.

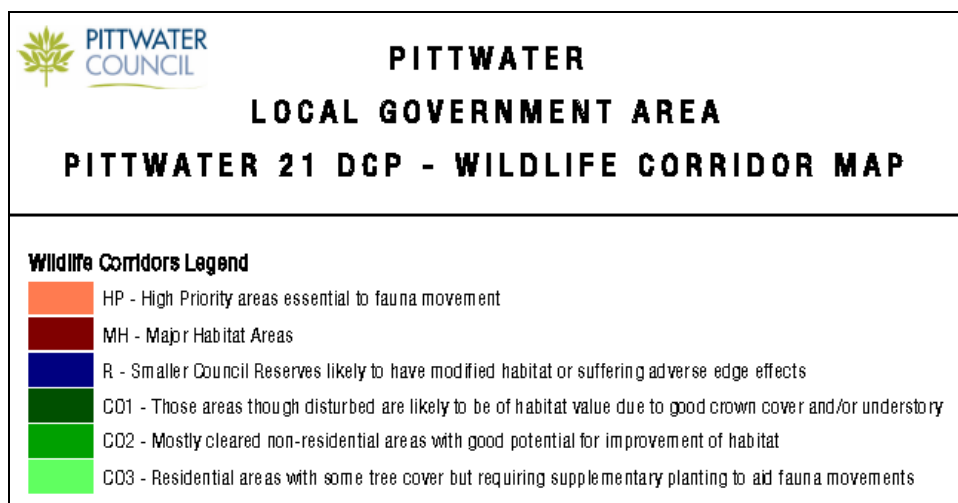
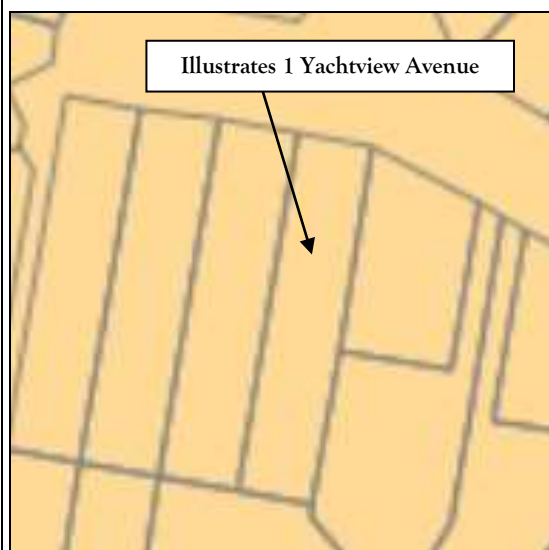


Figure 2: Confirms Pittwater 21 DCP-Wildlife Corridor Status.



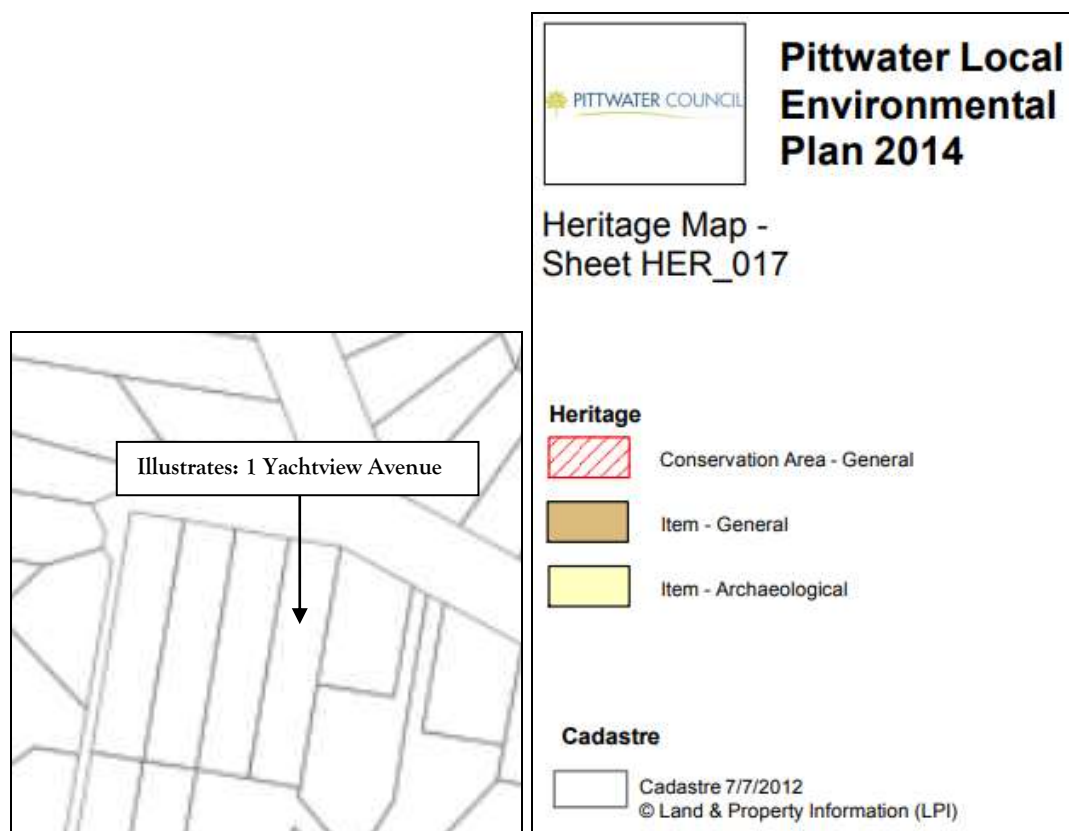


Figure 3: Above & previous page illustrates Land Zoning & Heritage Conservation Area status.

The site is NOT within a NBC designated “Heritage Conservation Area” (see above). The site is also confirmed to NOT be a listed “Heritage Item” nor is it near any listed “Heritage Item”. The discussed trees/shrubs are NOT known to be on any ‘significant tree register’. The subject site & local environs are located within a designated ‘Wildlife Corridor’ CO1 – “Those areas though disturbed are likely to be of habitat value due to good crown cover &/or understory’.

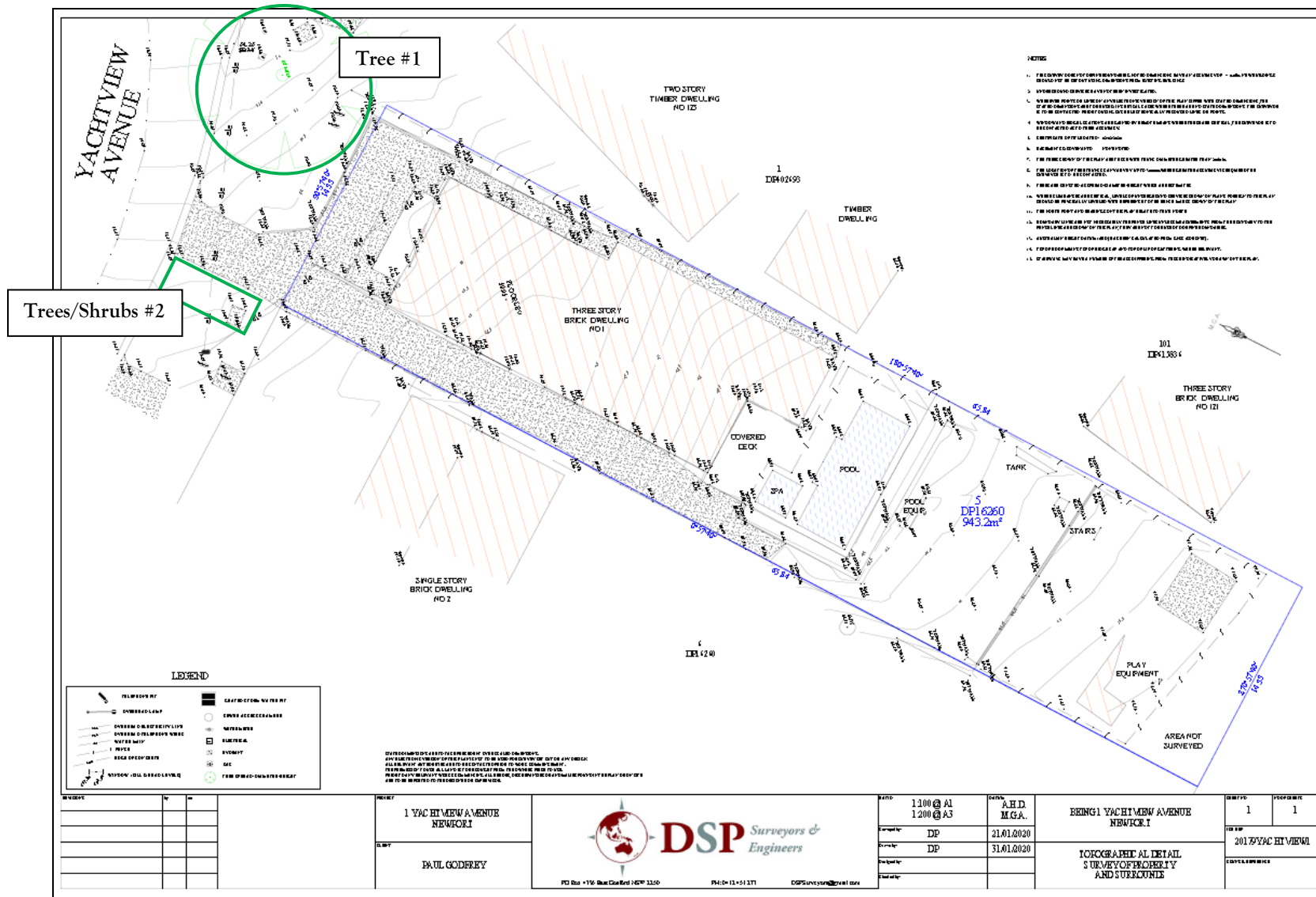
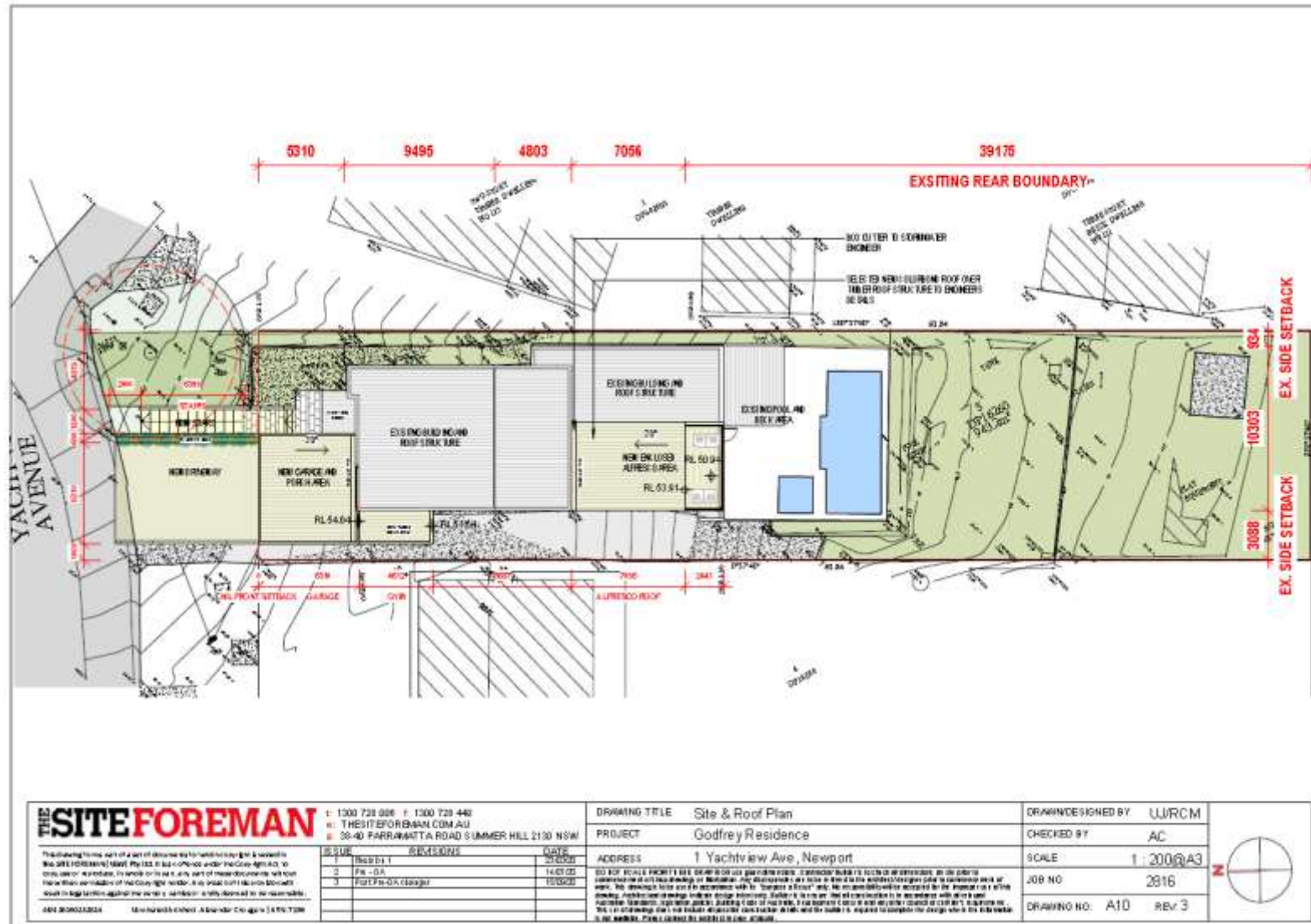
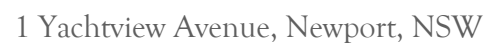


Figure 4: Site Survey with discussed Tree Locations plotted

4.2 The Proposal





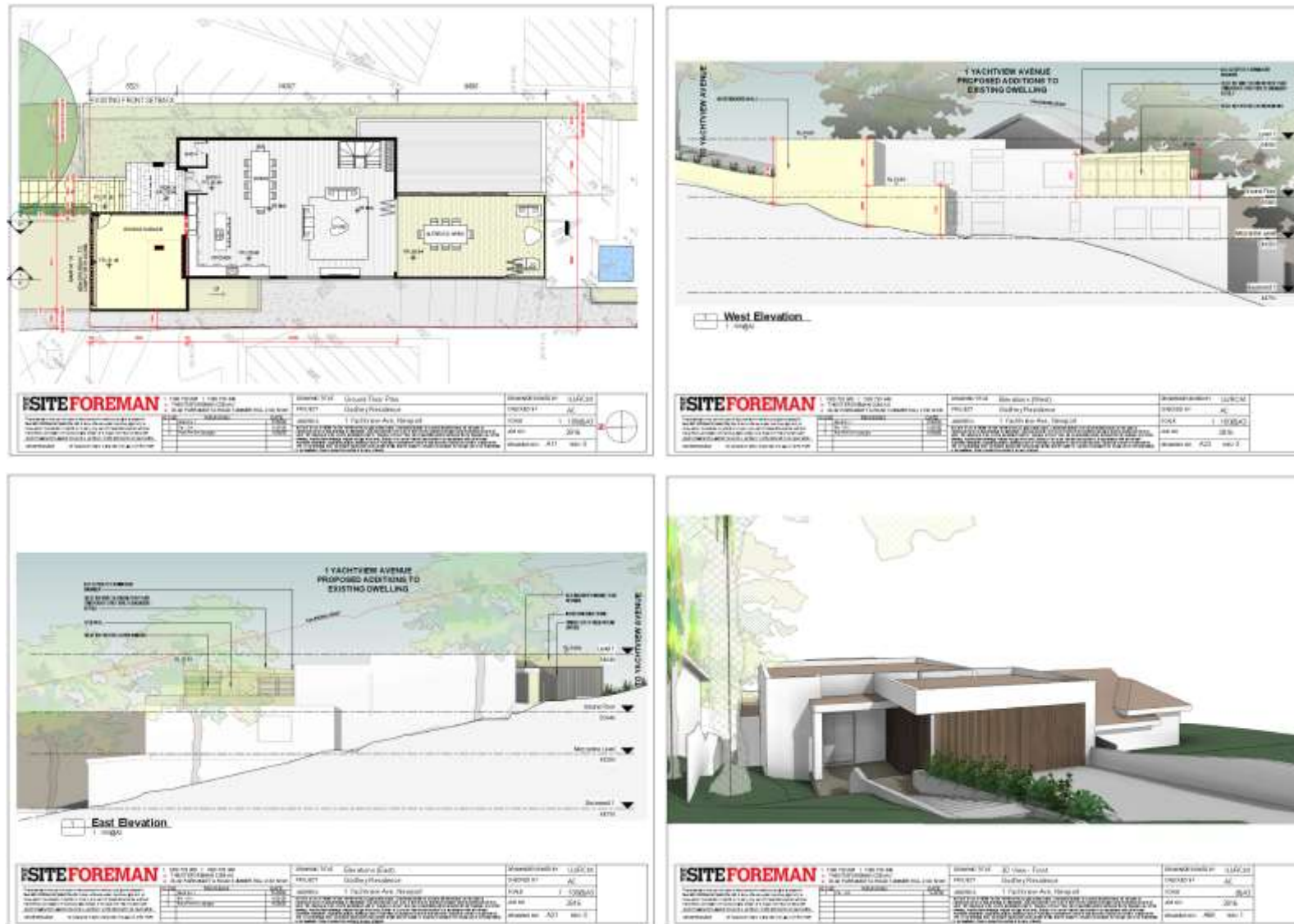


Figure 5: Above & previous pages illustrate the concept, ground floor plan, elevations & 3D image of the as proposed works.

4.3 *Tree Locations & Site Images*



Figure 6: Illustrates condition & location of discussed Tree #1.



Figure 7: Illustrates adjoining property trees/shrubs. Note: existing damage to common boundary masonry retaining wall/subject site concrete driveway.



4.4 The Tree – Summary Table

Read this table in conjunction with Appendix A–Common Arboreal Terms

Trees Recommended for removal

Trees Recommended for retention

Exempt species

Trees retainable but of low amenity

	Identification	Height (m)	Crown (m)	DBH (m)	TPZ (m)	SRZ (m)	Age	Health/Vigour	Structure	Significance/Retention Values	Comments
1	<i>Cedrus deodara</i> Himalayan Cedar	<14.00	<9.00	0.58	6.96	2.78	Mature	Good & Good	Typical/ Crown Raised Pruned	Moderate/ Moderate	Replace: The as proposed works equate to a mathematical ‘major encroachment’ of the total TPZ surface area. This is considered as likely to adversely impact upon the ULE of this tree. As such, the local environment would benefit from a new locally indigenous tree being planted as a replacement within the subject site.
2	<i>Viburnum odoratissimum</i> (x3) Viburnum <i>Radermachera sinica</i> (x1) China Doll	<3.50 <5.00	N/A	N/A	N/A	N/A	Mature	Good & Good	Typical	Moderate/ Moderate	Retain, Protect & Manage: Tree/Shrubs within adjoining lands. Located significantly lower than the existing/proposed subject site ground level changes. No TPZ fencing is specified as existing masonry common boundary retaining wall isolates these plants from the as proposed works.

5 Discussion

The *Australian Standard (AS4970–2009 Protection of trees on development sites)* is the guideline required to be addressed relative to best practice '*Tree Management Principles*'. See Chapters 3, 4 & 5 of this document.

Discussed Tree #1 is confirmed to be approximately 2.55m from the as proposed new entry stairs. The proposed works equate to an *Australian Standard (AS4970-2009 Protection of trees on development sites)* 'Major Encroachment', i.e. way greater than a potentially acceptable 10% of total Tree Protection Zone surface area (152.18m²). Additionally, the proposed works breach the tree's calculated Structural Root Zone radial distance of 2.78m by approximately 250mm (0.25m). This fact, combined with the Tree Protection Zone radial distance of 6.96m being subjected to the described 'Major Encroachment' is at a desktop level unacceptable.

Taking the proposed works & the discussed tree Genus/species into consideration; it is best to propose Tree #1 to be replaced with respect to the as proposed works & the NBC objective of over the long term increasing the total 'Green Footprint' within the NBC local government area.

It is possible this tree may be retained if the required excavation for the as proposed new entry from road reserve to main entry for dwelling does not require the severance of significant diameter (defined as being greater than 50mm in diameter) 'live supporting/structural roots'.

Tree/Shrubs located within the adjoining 2 Yachtview Avenue property are confirmed to be totally separated/isolated from the subject site as proposed works by the existing common boundary masonry retaining wall. As such, no management specification or further discussion is required.

- Tree Removal must be undertaken by suitably experienced & qualified tree removal practitioners in compliance with the abide at all times to the "*WorkCover NSW Industry Code of Practice, (1998)*".
- New tree specimens are to be sourced from growers/suppliers whose stock meets the production benchmarks of the *Australian Standard (AS2303.2015 Tree stock for landscape use)*.
- New tree specimens are to be professionally planted & maintained for a minimum period of six (6) months once installed.

Below is a list of suggested potentially suitable new tree species compatible with the local environment & the subject site.

- *Allocasuarina torulosa* (Forest She Oak)
- *Allocasuarina torulosa* (Black She Oak)
- *Angophora floribunda* (Rough Bark Apple)
- *Corymbia gummifera* (Red Bloodwood)
- *Corymbia maculata* (Spotted Gum)
- *Elaeocarpus reticulatis* (Blueberry Ash)

- *Glochidion ferdinandi* (Cheese Tree)
- *Livistona australis* (Cabbage Tree Palm)

6 Conclusions

- **Relative to the information as presented the GMW consultancy supports the proposed works as presented in documentation reviewed.**
- **The DA submission is lodged for determination by council officers as per plans referenced.**

If you have any questions relating to this report or implementation of recommendations, please contact Kyle Hill on 0412-221-962.

Kyle A. Hill

[AQF level 5 & AQF level 8 Registered Practicing & Consulting Arborist]

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, Growing My Way Tree Services, 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.

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, pp.

Barrell, J. 1995, 'Pre-development Tree Assessments', in Trees & Building Sites, Proceedings of n International Conference Held in the Interest of Developing a Scientific Basis for Managing Trees in Proximity to Buildings, International Society of Arboriculture, Illinois

Dr. G. Watson & Dr. D. Neely, 'Trees & Building Sites', LSA 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

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.

AS 4373:2007, 'Pruning of Amenity Trees', Standards Australia.

AS 4970:2009, 'Protection of Trees on Development Sites', Standards Australia.

BS 5837:2005, 'Guide for Trees in Relation to Construction', Standards Board, UK.

Appendix A – Glossary

Glossary of common Arboreal terms

Age:	I	<i>Immature</i> refers to a refers to a well-established but juvenile tree
	SM	<i>Semi-mature</i> refers to a tree at growth stages between immaturity & full size
	M	<i>Mature</i> refers to a full sized tree with some capacity for further growth
	LM	<i>Late Mature</i> refers to a full sized tree with little capacity for growth that is not yet about to enter decline
	OM	<i>Over-mature</i> refers to a tree about to enter decline or already declining
	LS	<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 (ULE) refers to any individual tree specimen's potential life expectancy (viability) based on VTA assessment, three groups are described,

Short = Less than Fifteen years

Medium = Fifteen – Twenty-five years

Long = more than Twenty-five years

Significant diameter roots are defined as those being greater than 0.05m/50mm in diameter.

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

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 $SRZ\ radius = (D \times 50)^{0.42} \times 0.64$.

Primary Root Zone (PRZ) refers to a radial offset of ten (10) times the trunk DBH measured from the centre of the trunk. This zone often contains a significant amount of (but by no means all of a tree's) fine, non-woody roots required for uptake of nutrients, oxygen & water.

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