

“GROWING MY WAY”

Tree Consultants

Established 1977

EXCELLENCE in ALL ASPECTS OF TREE MANAGEMENT

FULL INSURANCE PROTECTION

PO Box 35, Newport Beach NSW 2106

Mobile: 0412-221-962

E-mail: kyleahill@optusnet.com.au

ABN 97 965 355 200



Arboriculture Impact Assessment Statement & Preliminary Plan of Tree Management

November 2024

Prepared for:

Strata Body for Eurobodalla Village, Newport

267 BARRENJOEY ROAD NEWPORT NSW

Prepared by: 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 (ISA)

Member of Arboriculture Australia

Victorian Tree Industry Organisation (VTIO)

Assisted by: Ao Wang

Master of Protected Area, Governance & Management (Uni of Tasmania)

Environmental Biotechnology (UTS Syd)



1. Summary

This is an updated document version from August 2023.

The Eurobodella Village (as the Property Owner of 267 Barrenjoey Road, NEWPORT, NSW) via Wray & Cutcliffe Architects Pty. Ltd. (Jessica Wray) commissioned the Growing My Way Tree Consultancy (GMW) to prepare an Arboriculture Impact Assessment & Site-Specific Preliminary Plan of Tree Management to be linked to a Development Application for *Alterations & additions –new driveway and parking*.

The site is Land Zoned “R2 Low Density Residential”.

The document relates only to the subject site (267 Barrenjoey Road NEWPORT NSW).

A total of six (6) trees are discussed.

The subject site shares common boundaries with nine (9) same land zoning adjoining properties & one (1) public road (Barrenjoey Road). The subject site is accessed only via Barrenjoey Road. All common boundaries with adjoining properties are developed to contain driveway & other infrastructure.

Motor vehicle & pedestrian access to the subject site are via Barrenjoey Road.

The sole consent authority is the Northern Beaches Council, *from herein NBC*.

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

- *NBC website, online property & environment information website tools*
- *Proposed Plans, Elevations Sections etc by WRAY AND CUTCLIFFE ARCHITECTS, Issue A, dated 06 November 2024*
- *NSW Vegetation Clearance ‘Code of Practice’(SEPP)*
- *NBC “Tree Management Provisions”*
- *NBC Heritage Conservation Area & Land Zoning LEP Maps.*

The aim of this report is:

1. *To confirm the viability of the discussed tree, relating to individual health, vigour & condition considering any impact foreseen by the proposed works.*
2. *Provide a Preliminary Site Specific ‘Tree Plan of Management’.*

This document supports (relative to tree management) the proposal (Option B) as presented with new tree plantings which at a minimum (at maturity) replicate any loss of total site ‘green footprint’.

There is ample room within the subject site to plant new locally indigenous plant community species.

Kyle A Hill - AQF level 5, Diploma of Hort / Arb, (TAFE NSW & other) & AQF level 8, Post Graduate Certificate in Arboriculture, (Uni of Melb) Practicing/Consulting Arborist) with the assistance of Ao Wang (Master of Protected Area, Governance & Management (Uni of Tasmania) & Bachelor of Environmental Biotechnology (UTS, Syd) has prepared this report based on “Visual Tree Assessment” (VTA) / data collection undertaken on Monday, 24 July & Tuesday, 15 August 2023.

Table of Contents

1. Summary	2
Table of Contents	3
2. Introduction	4
3. Methodology	5
4. Observations	6
4.1 The Site	6
4.2 The Proposal	8
4.3 The Trees – Summary Table	11
4.4 Tree & Site Images	13
5. Discussion	16
5.1 General Discussion /Tree Environments:	16
5.2 Preliminary Site Specific “Tree Plan of Management”	19
6. Conclusions	20
7. Conclusions	21
8. Limitations on the use of this report	22
9. Assumptions	22
10. Recommended References	22
11. Selected Bibliography	22
Appendix A – Glossary	23

2. Introduction

This report contains observations & recommendations intended to assist in the management of the six (6) trees identified as necessary to be discussed.

This document only discusses trees within the proposed works envelope whose Tree Protection Zone (TPZ) overlaps with the as proposed works new built form (driveway & carparking). The subject site contains other trees not assessed as likely to be impacted by the proposed works.

We acknowledge & confirm to be familiar with the NBC “Tree Management Provisions”, specifically the documents; Pittwater Local Environment Plan, 2014, (from herein Pittwater LEP), Pittwater 21 Development Control Plan (from herein Pittwater 21 DCP), Wildlife Corridor Map)” & the PC 21 DCP clause B4.22 Preservation of Trees & Bushland Vegetation, parts B & C, starting on page 103, recent changes to the NBC DCP plus the new (August 2017) SEPP, Vegetation in Non–Rural Areas.

The sole consent authority is NBC.

The site is NOT within an NBC designated “Heritage Conservation Area”. Neither is the subject site or adjoining properties listed ‘Heritage Items’. The discussed trees are presumed to be both planted & likely ‘bird dropping’ sown.

The subject & adjoining sites are within the Pittwater Spotted Gum Forest in the Sydney Basin Bioregion, an endangered ecological community listing (See NSW Scientific Committee, established by the Threatened Species Conservation Act Final Determination Part 3 of Schedule 1 of the Listing of Endangered Ecological Communities is provided for by Part 2 of the Act.). The subject Site as well as adjoining common boundary properties is not mapped as being of any Habitat Significance, (Pittwater 21 DCP).

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

- *NBC website, online property & environment information website tools*
- *Proposed Plans, Elevations Sections etc by WRAY AND CUTCLIFFE ARCHITECTS, Issue A, dated 06 November 2024*
- *NSW Vegetation Clearance ‘Code of Practice’(SEPP)*
- *NBC “Tree Management Provisions”*
- *NBC Heritage Conservation Area & Land Zoning LEP Maps.*

This document includes a Preliminary Site Specific “Tree Plan of Management”.

3. Methodology

Assessment Methodology for the discussed trees has been from ground level by eye, using *Visual Tree Assessment (VTA Stage 1)*, techniques developed by Claus Mattheck. The principles of VTA are illustrated & explained in his widely used reference textbook “*The Body Language of Trees (1994)*”.

Assessment includes:

- *Tree’s current condition & likely future health*
- *Species tolerance to root disturbance &/or development*
- *Likely present & future risk to persons & property.*
- *Tree’s (public & private landscape) amenity value, considering habitat potential.*

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 term*
- *Attachment B Site Survey (with tree locations, TPZ/SRZ indicative radial distances plotted)*

4. Observations

4.1 The Site

The report discusses trees within the subject site. The subject site is 8222.59 m² in size (by NEARMAP™). The subject site is linked to nine (9) common boundary properties developed to contain residential dwellings & one (1) public road.

No Geotechnical issues are known to exist relative to tree management.

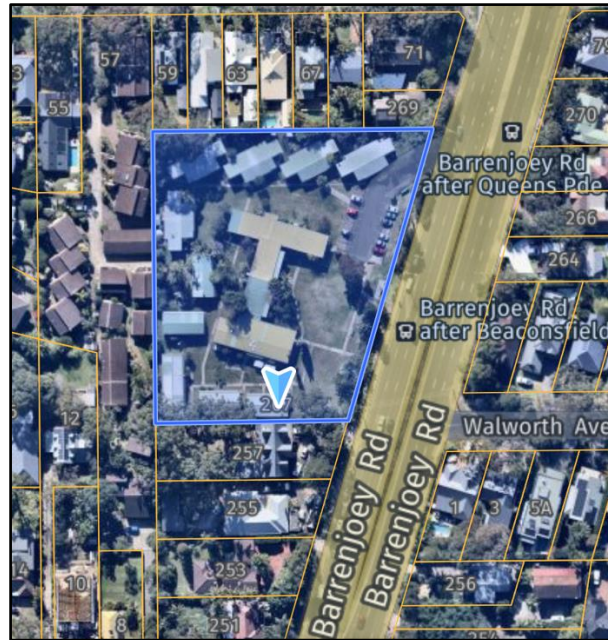


FIGURE 1: ABOVE ILLUSTRATES THE DISCUSSED TREES RELATIVE TO THE SITE 267 BARRENJOEY ROAD NEWPORT NSW. (AERIAL PHOTOGRAPH ON MONDAY 26 JUNE 2023, MAP DATA COURTESY OF NEARMAP™)

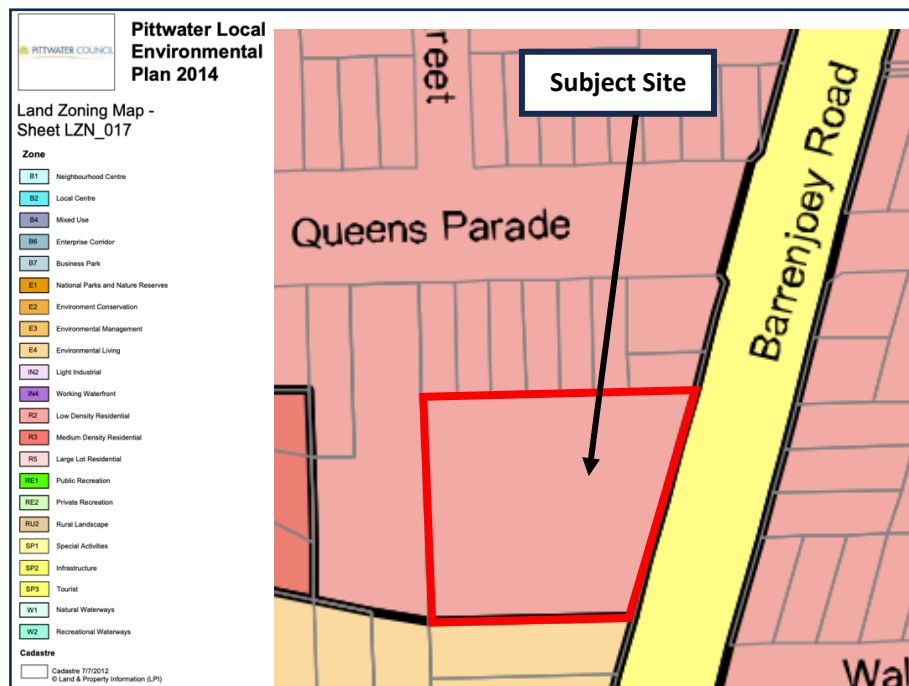


FIGURE 2: CONFIRMS STATUS OF THE SUBJECT SITE RELATIVE R2 LOW DENSITY RESIDENTIAL. (PITTWATER LOCAL ENVIRONMENTAL PLAN 2014, LAND ZONING MAP - SHEET LZN_017).

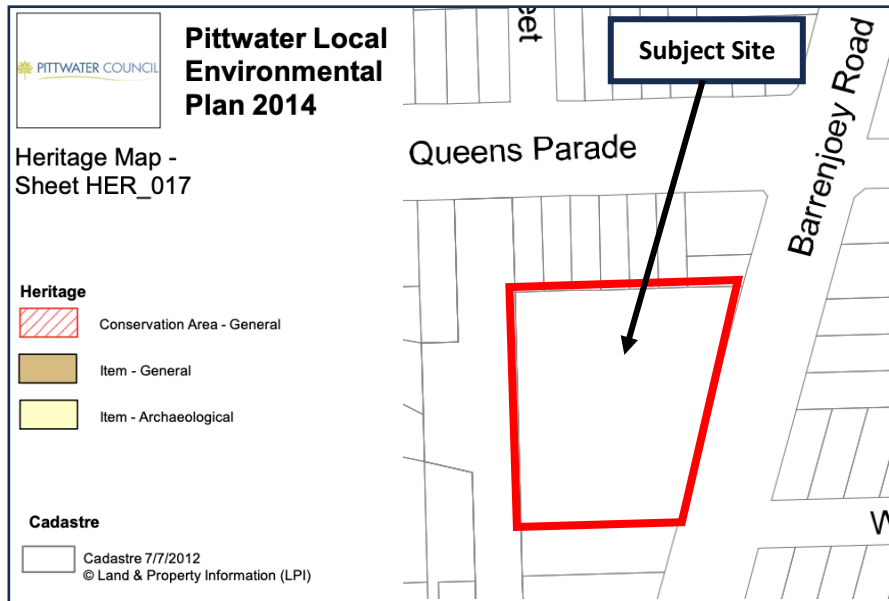
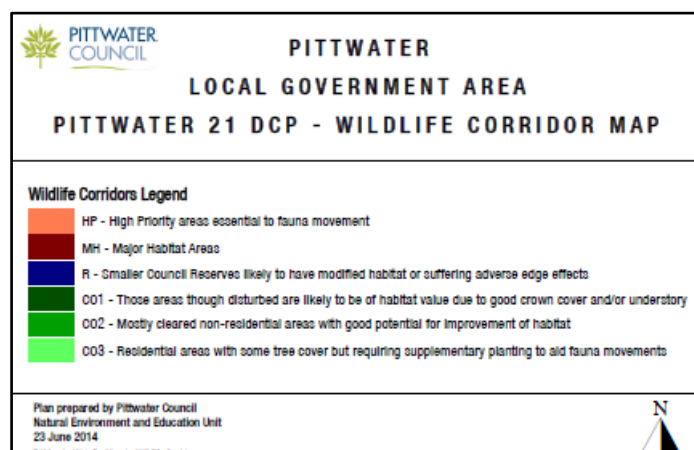
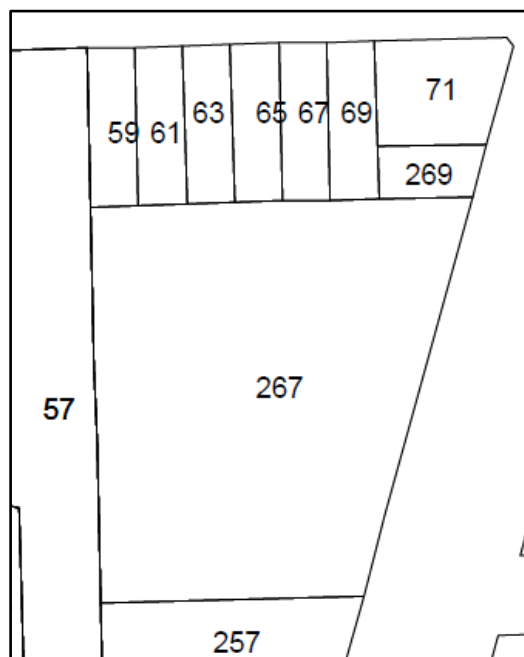
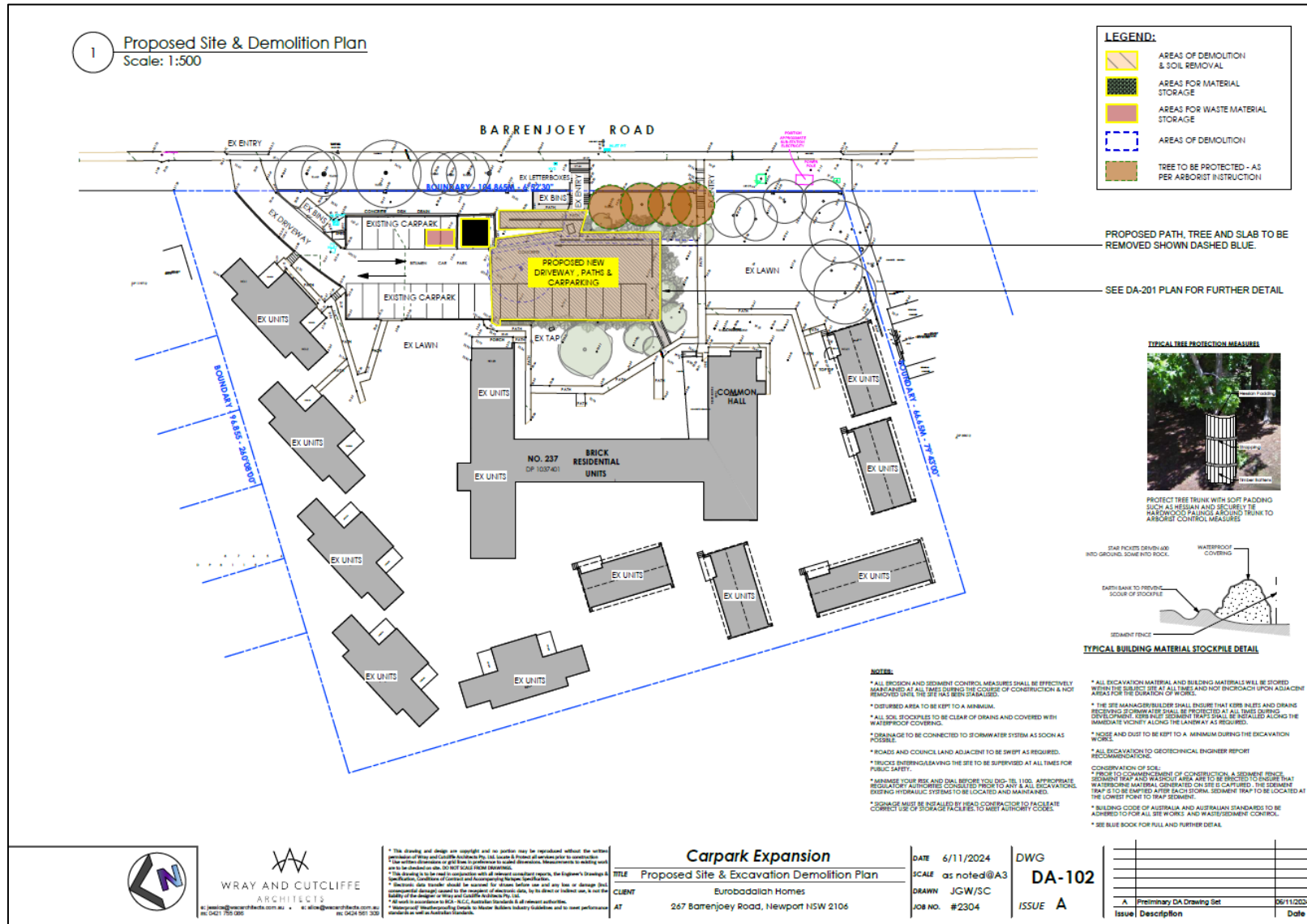
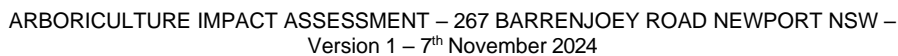


FIGURE 3: ABOVE CONFIRMS STATUS OF THE SUBJECT SITE RELATIVE TO CADASTRE (PITTWATER LOCAL ENVIRONMENTAL PLAN 2014, HERITAGE MAP SHEET HER_017). BELOW CONFIRMS WILDLIFE CORRIDOR STATUS



4.2 The Proposal





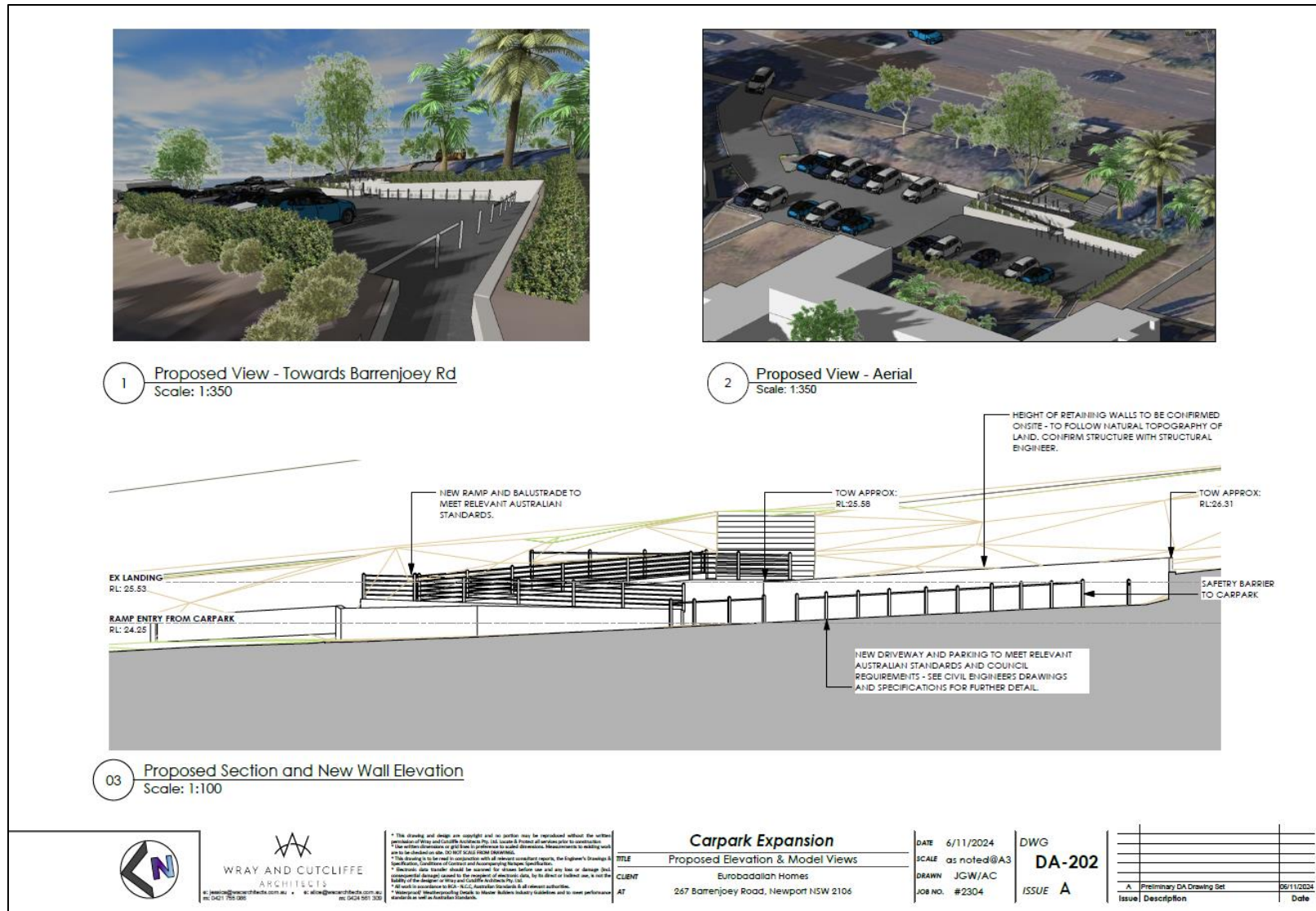


FIGURE 4: PLANS AS PROVIDED 6 NOVEMBER 2024

4.3 The Trees – Summary Table

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

Trees Recommended for removal										Trees Recommended for retention	
Exempt or Weed species										Trees retainable but of low amenity/significance	
	Identification	Height (m)	Crown (m)	DBH (m)	TPZ (m)	SRZ (m)	Age	Health/ Vigour	Retention & Significance Value	Structure/Form	Comments
1	<i>Acacia saligna</i> (Golden Wreath Wattle)										Self-sown Wattle species. Exempt species in the NBC local government area
2	<i>Araucaria columnaris</i> (The Cook Pine)	<14.00	<5.00	0.52	6.24	2.63	M	Good & Good	Typical	Typical	Tree is confirmed as mathematically able to be retained
3	<i>Phoenix canariensis</i> (Canary Island Date Palm)										Exempt species in the NBC local government area
4	<i>Schefflera arboricola</i> (Dwarf Umbrella Tree)										Exempt species in the NBC local government area
5	<i>Acacia saligna</i> (Golden Wreath Wattle) STUMP ONLY										Does not exist

Growing My Way Tree Services

	Identification	Height (m)	Crown (m)	DBH (m)	TPZ (m)	SRZ (m)	Age	Health/ Vigour	Retention & Significance Value	Structure/Form	Comments
6	<i>Melaleuca quinquenervia</i> (Broad-leaved Paperbark)	<11.00	<10.00	0.85	10.20	3.09	M	Good & Good	Typical	Typical	Tree is confirmed as mathematically unable to be supported for retention. Tree is an unacceptable risk relative to potential collision with passing emergency services vehicles, (i.e., tree canopy / vehicles) especially as they are taller than regular small to medium size vehicles using the new carparking spaces.

4.4 Tree & Site Images

(Photographs taken on Tuesday, 8 August 2023 (Canon G1X MkII digital camera))



FIGURE 5: CONFIRMS THE LOCATION OF TREE #1 THROUGH TREE #5



FIGURE 6: ILLUSTRATES THE LOCATION OF TREE #6 AS VIEWED FROM WITHIN AREA OF PROPOSED NEW PARKING SPACES



FIGURE 7: ILLUSTRATES THE LOCATION OF TREE #6 AS VIEWED FROM WITHIN AREA OF EXISTING PARKING SPACES

5. Discussion

5.1 General Discussion /Tree Environments:

The total number of trees discussed is six (6).

Of the five (5) identified trees parallel to the Barrenjoey Road common boundary with the subject site only Tree #2 is a protected species. We additionally note; Tree #1 is not shown on the plans provided (confirming it to be self-sown), the tree shown as the most southern specimen has been removed. This confirms the likelihood of at least Tree #5 also being a self-sown weed species.

Tree #2 is assessed as a planted specimen. By the *Australian Standard (AS4970-2009 Protection of trees on development sites)* mathematical formula, it is determined as able to be viably retained with management.

With respect to Tree #6, (also a NBC protected tree) the existing driveway is considered as best replaced. It already has cracked (see below photograph) which over time will only get worse. The crack is confirmed to be within its as calculated SRZ radial distance of 3.09m. We additionally note; the eastern side of driveway slab concrete strip to be broken &/or shifting in multiple locations. We have presumed this concrete strip to have been instated to provide better emergency or service vehicles access to the upper level where most of the proposed works are located. (See following page 16 photographs.)

On the basis, that to achieve a structurally sound driveway access for larger, heavier emergency vehicles plus service vehicles as well as normal size vehicles we again reinforce the need for the whole of both structures to be totally replaced as the existing structures have not been designed to be used by larger / heavier emergency & services vehicles.



FIGURE 8: INSIDE THE RED RECTANGLE IS THE WITHIN TREE #6 SRZ RADIAL DISTANCE CRACK TO EXISITNG DRIVEWAY CONCRETE SLAB



FIGURE 9: CONFIRMS DAMAGE AT THE TIME OF ASSESSEMENT TO BOTH THE CONCRETE DRIVEWAY SLAB AS WELL AS THE CONCRETE SIDE OF DRIVEWAY SLAB ADDED ON SECTION.

Consideration of retaining the existing concrete slab driveway / side of driveway is further compromised by the fact two (2) very large diameter 'scaffold branches' already overhang a portion of the existing concrete slab driveway. (See the below photographs.)



FIGURE 10: HEIGHT STICK WAS POSITIONED VERTICALLY ABOVE TH EXISITNG CONCRETE DRIVEWAY EDGE TO ILLUSTRATE PORTIONS OVERHANGING THE ACTUAL EXISITNG STRUCTURE

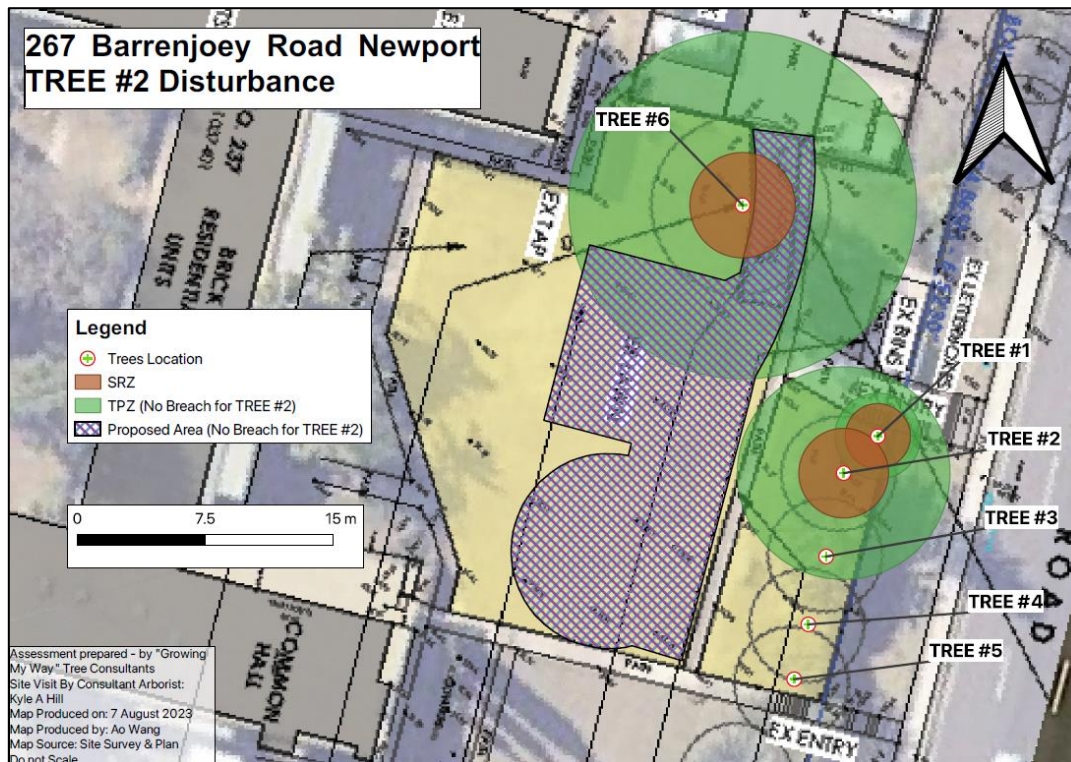
Growing My Way Tree Services

NBC policy when trees have been approved to be removed by impacts of proposed development is to replace those trees with new trees so as that at maturity the new trees at the minimum equals the existing 'green footprint'.

New trees are specified to be sourced from growers/suppliers whose stock is certified to meet the production benchmarks of the Australian Standard (AS23023-2015 Tree stock for landscape use). New trees are to be professionally planted & managed for a minimum of one coastal Sydney growing season (late August through early June).

Tree removal can only be undertaken by suitably qualified practitioners (or those always supervised/instructed by such a person) in compliance with the provisions within the WorkSafe NSW, (old WorkCover NSW) *"Amenity Tree Industry – Code of Practice 1998"*.

TPZ / SRZ TREE DISTURBANCE CALCULATION DIAGRAMS



5.2 Preliminary Site Specific "Tree Plan of Management"

Pre-Commencement of Works

- Remove Tree #1, Tree #3, Tree #4, Tree #5 & Tree #6.
- Grind deeply the stumps to create a greater volume of viable soil for the planting & establishment of new trees.

- *Any tree proposed for removal must be removed by persons that always abide to the "WorkSafe NSW Industry Code of Practice, (1998)".*

Commencement of and During Works

- *No specifications are required.*

Post Completion of Works

- *Source, plant & provide professional management of new trees for at least one (1) full coastal Sydney active growth period, (Mid-August THROUGH Early-June).*

New Tree Generic Specifications:

- *Replacement trees are to be sourced from growers/suppliers whose stock meets the production benchmarks of the Australian Standard (AS2303.2015 Tree stock for landscape use) or NATSPEC specification to produce quality container produced trees.*
- *New tree specimens are to be professionally planted & maintained at least one (1) full coastal Sydney active growth period, (Mid-August THROUGH Early-June).*
- *New tree specimens are to be 45 litre container stock as the local environment has only shallow topsoil. (A lack of natural topsoil depth may dictate smaller than the as specified container size for replacement trees to be more appropriate.)*

6. Conclusions

- This submission in its present format can be submitted to the NBC for review by council officers.
- Trees supported to be replaced are easily accommodated within the subject site.

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

Yours faithfully,



Kyle A. Hill (AQF level 5 & 8 Practicing & Consulting Arborist)

7. Conclusions

- This submission in its present format can be submitted to the NBC for review by council officers.
- Trees supported to be replaced are easily accommodated within the subject site.

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

Yours faithfully,

A handwritten signature in black ink, appearing to read 'K. Hill'.

Kyle A. Hill (AQF level 5 & 8 Practicing & Consulting Arborist)

8. 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.

9. 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.

10. 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 an 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

11. Selected Bibliography

Hitchmough, J.D. 1994. '*Urban Landscape Management*', Inkata Press, Sydney.

Mattheck, C. & Breloer, 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 (i.e., 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 Five years

Medium = Five–Fifteen years

Long = more than Fifteen 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 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 effect 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 (e.g., live leaves &/or bark). Some dead wood is common in several 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 Overhead Powerlines

HVOHP High Voltage Overhead Powerlines

ABC Aerial Bundled Cable

THIS PAGE IS INTENTIONALLY BLANK