"GROWING MY WAY"

Tree Consultancy

Established 1977

EXCELLENCE in ALL ASPECTS OF TREE MANAGEMENT

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Construction Impact & Management Statement

Re: New Development Application

December 2020

Site: **Lot 21 & Lot 22 in DP 7577**
12-14 Ponsonby Parade
SEAFORTH, NSW

Client: **Stephen Petesic**
12-14 Ponsonby Parade
SEAFORTH, NSW 2092
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Certificate of Horticulture, TAFE
Certificate Advanced Tree Care TAFE
Founder -Growing My Way Tree Services (1977)
Member of Victorian Tree Industry Organisation (VTIO)
Member of International Society of Arboriculture (ISA)
Member of Arboriculture Australia. (Arb Aus)

1 Summary

Stephen Petesic as the property owner & developer has commissioned the Growing My Way Tree Consultancy (GMW) to prepare a *Construction Impact & Management Statement* to be linked to a soon to be lodged *Development Application Submission* to the *Northern Beaches Council* (from herein *NBC*).

The subject site is known as 12 &14 Ponsonby Parade, Seaforth, (from herein the *subject site*).

The soon to be lodged *Development Application* (from herein *DA*) is for demolition of existing single dwelling residence & construction of new multi–level Unit development with underground garages plus additional underground infrastructure. Nine (9 Units for 'Seniors & Housing for People with a Disability' (SEPP) are proposed.

Ten (10) trees are discussed. The subject site also contains trees not potentially impacted upon & therefore not discussed. All ten (10) discussed trees are *NBC* protected trees. All subject site trees are identified as being within five meters (5.00m) of proposed works. Nine (9) of the ten (10) discussed trees are located within the front (Ponsonby Parade) & rear yard (Ross Street) of the subject sites. One (1) tree is located within the eastern common boundary property, 10 Ponseby Parade The discussed trees are a mix of Australian Native species, (NOT locally indigenous) & Northern Hemisphere Exotic species.

The subject site & all common boundary properties are *R2 Low Density Residential* zoned sites. All common boundary properties are developed to contain single dwelling residences.

Motor Vehicle access is presently vis Ross Street. Pedestrian access is via Ponsonby Parade or Ross Street.

The sole consent authority is the *NBC*.

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

- *Site Survey by Bea & Lethbridge Pty Ltd, dated 07 September 2020;*
- *Plans, Sections & Elevations, by GartnerTrovato Architects, dated 24 November, 2020 &*
- *NBC "Tree Management Provisions".*

The aim of this report is:

1. *To confirm the viability of the discussed trees, relating to their individual health, vigour & condition taking into account any impact foreseen by the proposed development. Six (6) of the six (10) discussed trees are supported to be removed & relaced;*
2. *Provide tree protection specifications for trees retained onsite;*
3. *Provide list of potentially local environment suitable replacement species.*

This document supports (relative to the discussed trees' management) the proposal for redevelopment as per documentation provided by Stephen Petesic.

Kyle A Hill (AQF level 5 & 8 *Practicing/Consulting Arborist* has prepared this report based on "*Visual Tree Assessment" (VTA)* most recently updated on Monday 30 November, 2020.

Table of Contents

2 Introduction

This report contains observations & recommendations intended to assist in the management relative to the nine (9) trees assessed as necessary to be discussed by *NBC* (old *Manly DCP/LEP*) provisions.

This document acknowledges other trees within the subject site as well as trees within adjoining properties. None are determined as being potentially adversely impacted upon & as such are not discussed past this point.

The author acknowledges & confirms to be familiar with the *Manly Council "Tree Management Provisions" i.e. Manly Development Control Plan, 2013 (see MDCP 2013 Amendment 4), Tree Management Policy & Tree Management Strategy*. We additionally confirm to be familiar with the recent *NBC* (August 2017) changes to tree management policy.

The sole consent authority is *NBC*.

The site is NOT within a *Manly Council (LEP)* designated "*Heritage Conservation Area*".

The discussed trees are *NOT within a recognised "wildlife corridor". Discussed trees are additionally NOT listed on any known "significant tree register*".

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

- *Site Survey by Bea & Lethbridge Pty Ltd, dated 07 September 2020;*
- *Plans, Sections & Elevations, by GartnerTrovato Architects, dated 24 November, 2020 &*
- *NBC "Tree Management Provisions".*

This document supports (relative to tree management) the proposal for redevelopment of the subject site.

3 Methodology

Assessment of the discussed 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 impacts of the proposed redevelopment*
- *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, Plans & Elevations*
- *Appendix C* *Tree Management & Protection Prior to & During Construction*

*** *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 the ten (10) trees identified within the subject site.

The site is 2023.00m^2 (as per site survey) in size. The site is linked to two (2) public road & three (3) residential lots.

Common boundary residential lots are developed & contain single dwelling residences.

Map & Aerial photograph courtesy of Whereis.com & SixMaps (website tool)

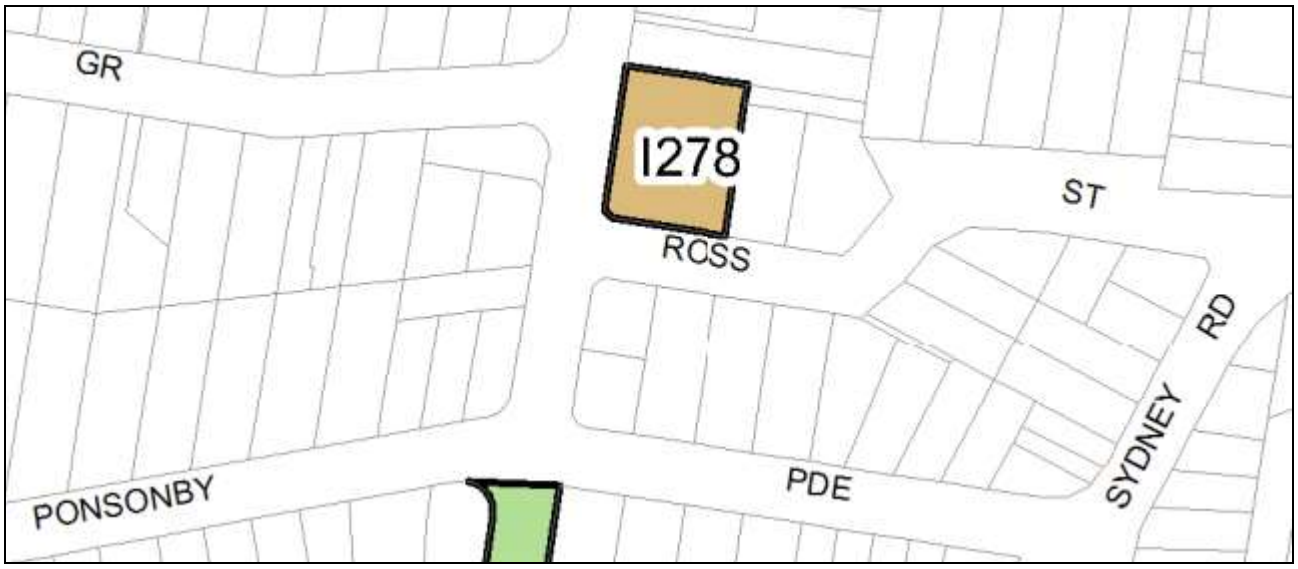


Figure 1: The subject site is NOT within a *Manly Council (LEP)* designated "*Heritage Conservation Area*".

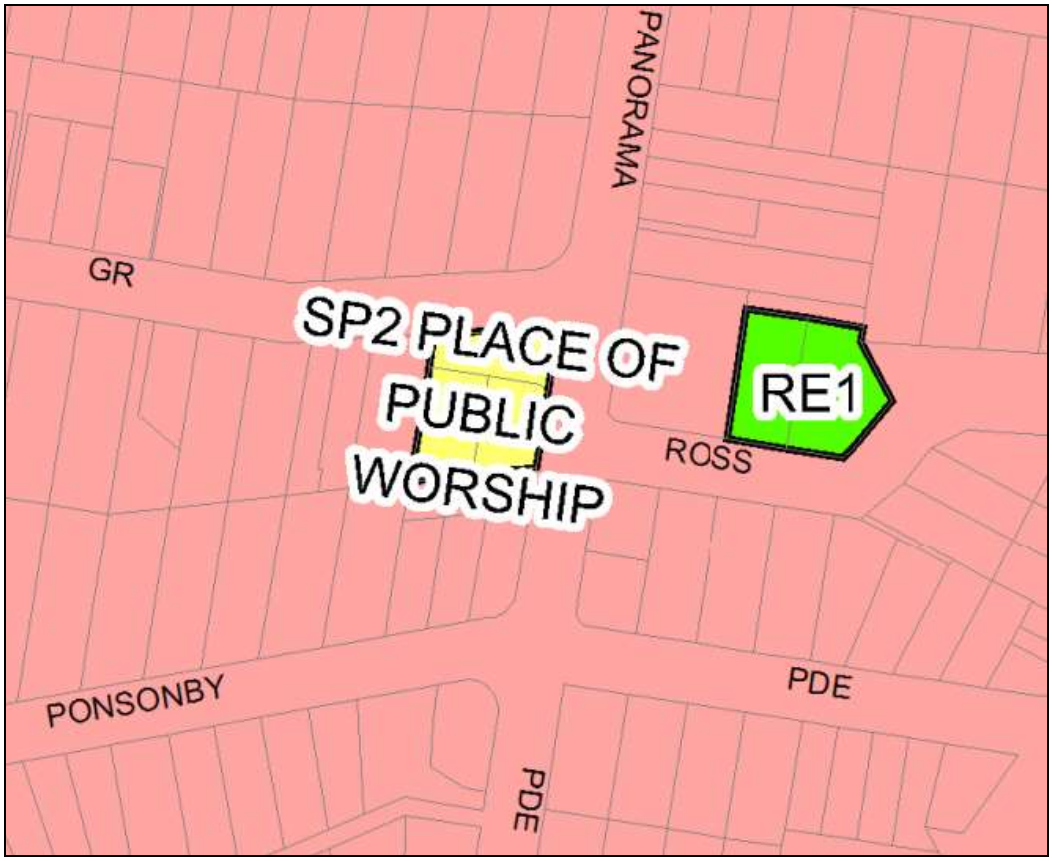
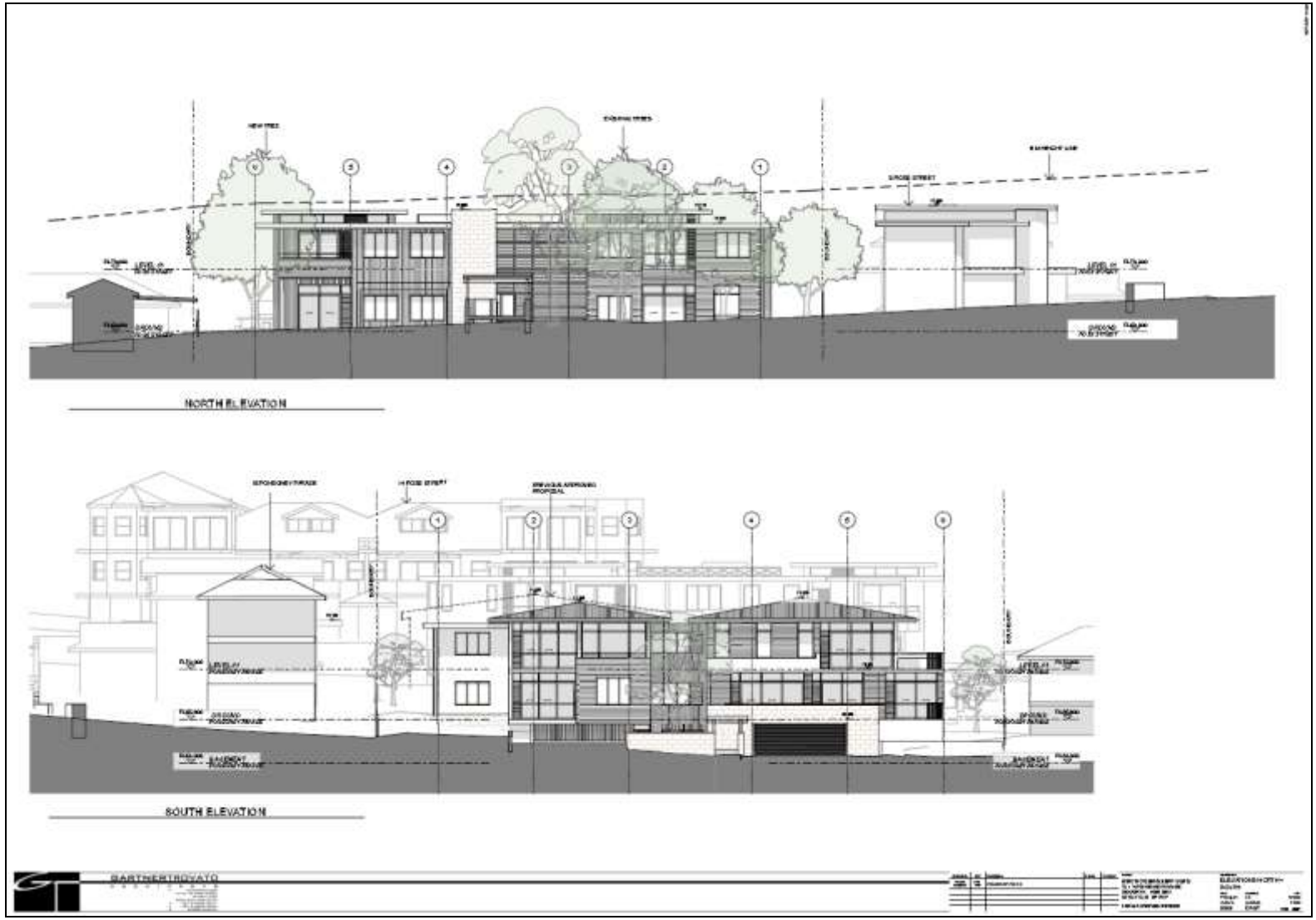


Figure 2: Confirms Land Zoning Status as R2 Low density reidential.

4.2 The Proposal

The lodged *Development Application (DA) relative to tree management* is for:

Construction of a new multi–level Unit development with underground carparking plus other infrastructure. The proposal requires replacement of nine (9) trees.


NORTH ELEVATION
SOUTH ELEVATION

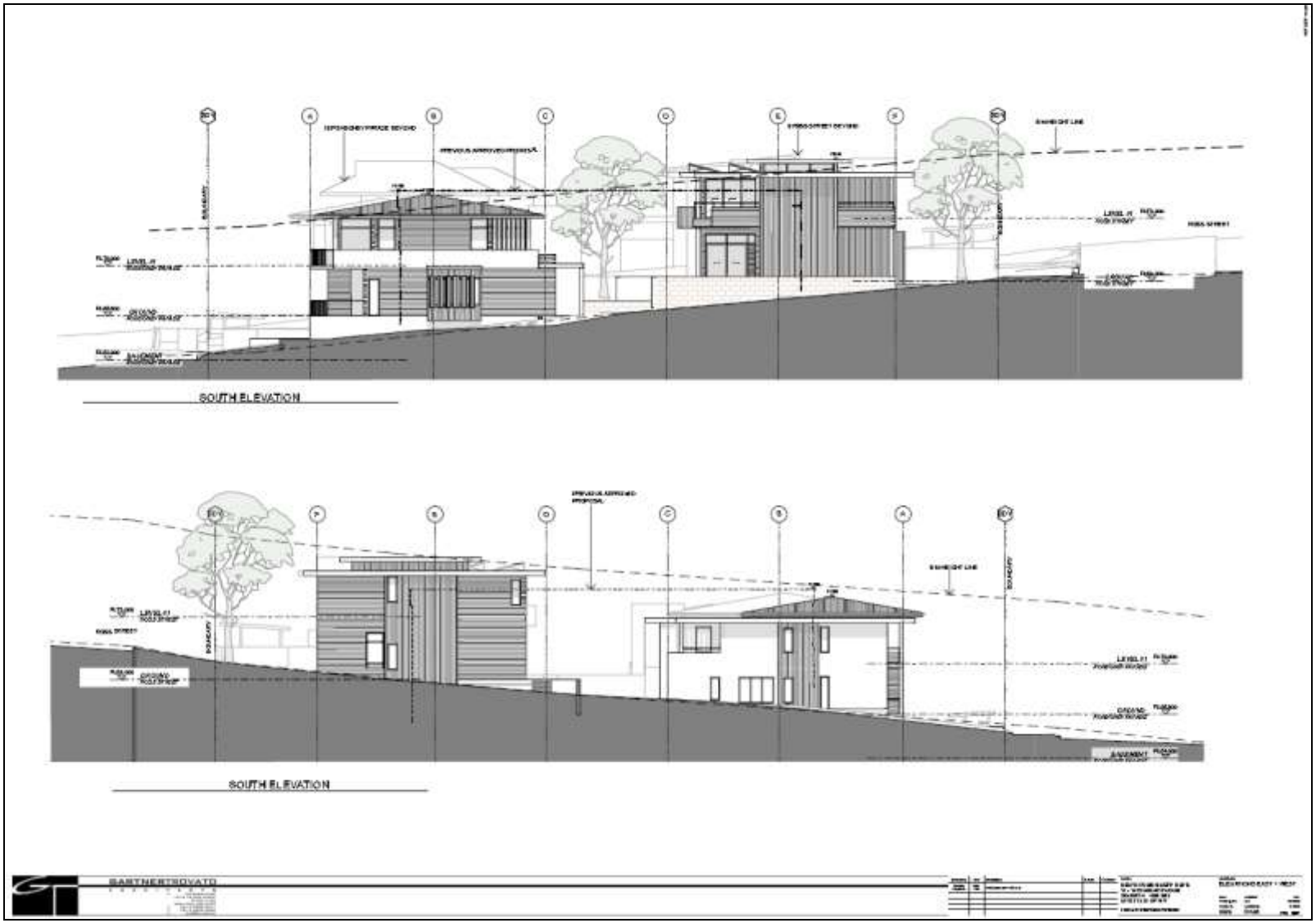


Figure 3: Illustrates (page 8) Proposed Ground Floor Plan with tree locations & proposed Elevations.

4.3 Tree & Site Images

Figure 4: Illustrates Ponsonby Parade road frontage.

Figure 5: Illustrates location of discussed Tree #1 & Tree #2.

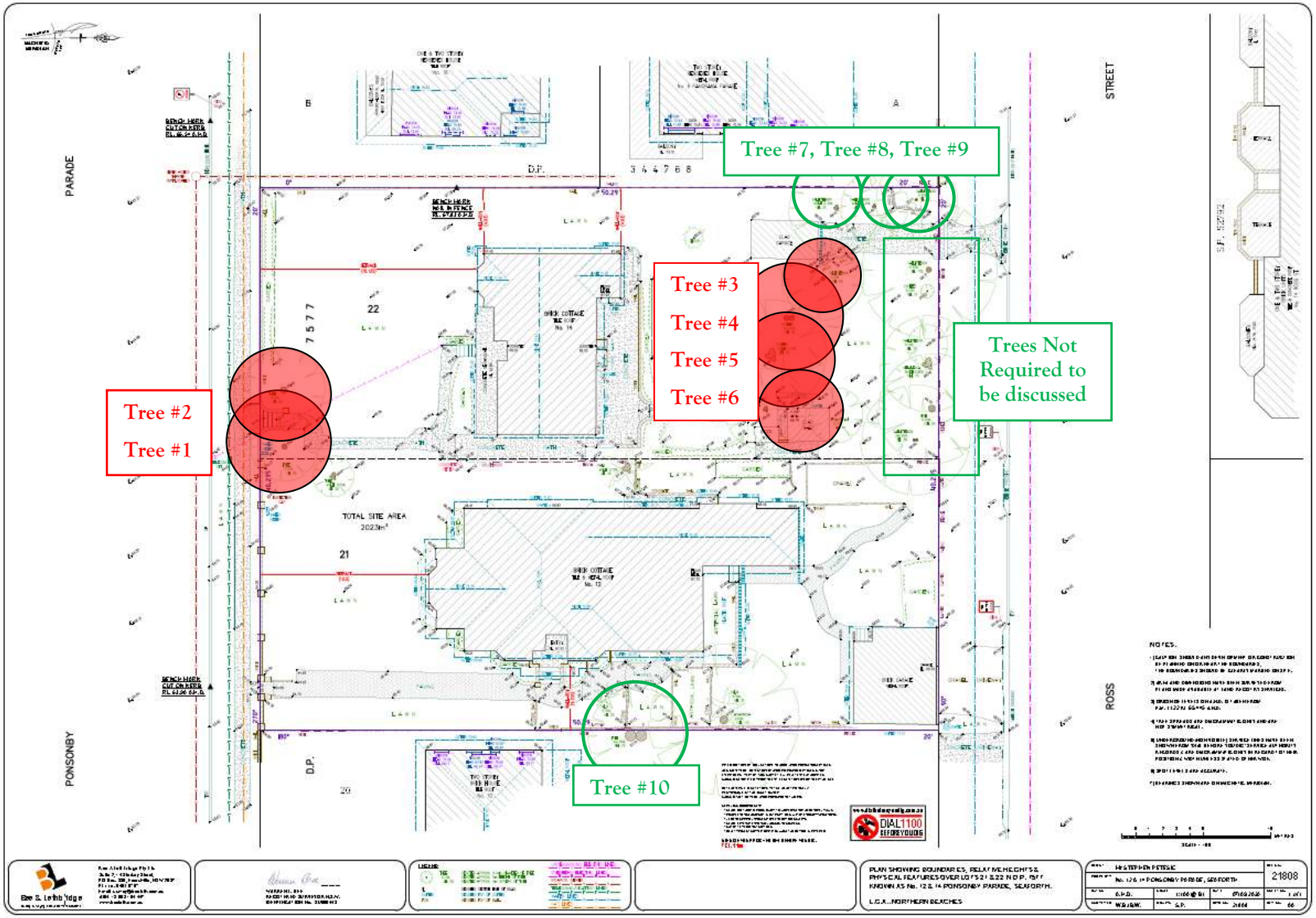
Figure 6: Illustrates location of discussed Tree #3, Tree #4 & Tree #5.

Figure 7: Illustrates location of Tree #6, Tree #7, Tree #8 & Tree #9.

Figure 8: Illustrates trees acknowledged but not required to be discussed, all will be specified to be isolated from construction process by temporary group protective fencing.

Figure 9: Illustrates the location & condition of Tree #10, note tree trunk defects in rhs photograpgh.

4.4 The Trees – Site Survey with Tree Locations Marked & 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	Significance/ Retention Value	Form/Habit	Comments
1	*Juniperus chinensis* *Chinese Juniper*	<7.00	<5.00	<0.40	4.80	2.30	M	Good & Good	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
2	*Juniperus chinensis* *Chinese Juniper*	<7.50	<5.50	<0.45	5.40	2.40	M	Good & Good	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
3	*Murraya paniculata* *Murraya*	<5.50	<5.00	<0.35	4.20	2.20	M	Good & Good	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
4	*Juniperus chinensis* *Chinese Juniper*	,7.00	<6.50	<0.50	6.00	2.50	M	Good & Good	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
5	*Juniperus chinensis* *Chinese Juniper*	<8.50	<7.50	<0.55	6.60	2.60	M	Good & Good	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
6	*Callistemon viminalis* *Weeping Bottlebrush*	<6.50	<6.00	<0.40	4.80	2.30	M	Fair & Fair	M/M	Typical	**Replace: Tree with proposed footprint of excavation proposed.**
7	*Callistemon viminalis* *Weeping Bottlebrush*	<6.00	<4.50	<0.40	4.80	2.30	M	Good & Good	M/M	Typical	**Retain, Manage & Protect: Tree is considered easily able to be managed.**
8	*Callistemon viminalis* *Weeping Bottlebrush*	<6.00	<4.00	<0.40	4.80	2.30	M	Good & Good	M/M	Typical	**Retain, Manage & Protect: Tree is considered easily able to be managed.**

	Identification	Height (m)	Crown (m)	DBH (m)	TPZ (m)	SRZ (m)	Age	Health/ Vigour	Significance/ Retention Value	Form/Habit	Comments
9	*Callistemon viminalis* *Weeping Bottlebrush*	<0	<6.00	<0.40	4.80	2.30	M	Fair & Fair	M/M	Typical	**Retain, Manage & Protect: Tree is considered easily able to be managed.**
10	*Agonis flexuosa* *WA Weeping Peppermint*	<8.5	<9.00	<0.85	10.20	3.40	M	Fair & Fair	M/M	Atypical	**Retain, Manage & Protect: Tree is considered easily able to be managed.**

- M/M: Tree is considered to be of Medium Significance & Medium Retention Values.
- M is Mature by Age Class

5 Discussion

The assessment process for this proposed development was originally in August/September, (2017) & again 30 November 2020 this year. Between this time & the present the new Northern Beaches Council has modified its "*Tree Management Provisions*". Additionally, a new State Environmental Planning Policy (SEPP), '*Vegetation in Non Rural Areas, 25 August 2017*' has resulted in the old Part 5 portion relative to trees/vegetation of the NSW Government *Local Environment Plan (LEP)* standardised template being repealed. These changes do not in any significant manner alter the methodology required for this document.

The proposal to develop the subject site includes an underground garage/storage rooms area requiring significant excavation. The required excavation & proposed above ground footprint of the nine (9) proposed new dwellings compromises trees supported for removal Useful Life Expectancies.

As such, Tree #1, Tree #2, Tree #3, Tree #4, Tree #5, Tree #6, Tree #7 Tree #8 are compromised & proposed to be replaced.

Tree #7, Tree #8, Tree #9 & Tree 10 require an intensive protection 'Plan of Management' **compliant with** *AS4970 2009 Protection of trees on development sites.* **The purpose of the** 'Plan of Management' **is to isolate & protect the tree & below ground level** 'live woody tree roots'**. This protection installation must be signed off as being AS4970–2009 compliant. See Sections 2, 4 & 5 of the standard's document.**

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

- *Angophora floribunda (Rough bark Angophora)*
- *Angophora costata (Sydney Red Gum)*
- *Corymbia maculata (Spotted Gum)*
- *Corymbia gummiferta (Red Bloodwood Gum)*
- *Eucalyptus paniculata (Noerthern Grey Ironbark Gum)*
- *Eucalyptus punctata (Grey Gum)*
- *Glochidion ferdinandi (Cheese Tree)*
- *Banksia integrifolia (Coast Banksia)*
- *Acacia binervia (Coast Myall)*
- *Alphitonia excelsa (Red Ash)*
- *Backhousia myrtifolia (Grey Myrtle)*
- *Backhousia citriodora (Lemon Scent Myrtle)*
- *Melaleuca linariifolia (Snow in Summer)*

6 Site Specific "Tree Management Strategy"

Tree #1: Remove & Replace.

Tree #2: Remove & Replace.

Tree #3: Remove & Replace.

Tree #4: Remove & Replace.

Tree #5: Remove & Replace.

Tree #6: Remove & Replace.

Tree #7: Retain, Manage & Protect. Tree will require individual "temporary metal mesh fencing" placed as close as site restrictions allow to TPZ radial distance of 4.80m. Where this is not practical "rumble boards", "track mats" or similar must be instated on the ground so as to help protect the tree root system.

Installation of TPZ fencing must/ground level tree root protection must be signed off as being AS4970–2009 compliant.

Tree #8: Retain, Manage & Protect. Tree will require individual "temporary metal mesh fencing" placed as close as site restrictions allow to TPZ radial distance of 4.80m. Where this is not practical "rumble boards", "track mats" or similar must be instated on the ground so as to help protect the tree root system.

Installation of TPZ fencing must/ground level tree root protection must be signed off as being AS4970–2009 compliant. (As a group)

Tree #9: Retain, Manage & Protect. Tree will require individual "temporary metal mesh fencing" placed as close as site restrictions allow to TPZ radial distance of 4.80m. Where this is not practical "rumble boards", "track mats" or similar must be instated on the ground so as to help protect the tree root system.

Installation of TPZ fencing must/ground level tree root protection must be signed off as being AS4970–2009 compliant. (As a group)

Tree #10: Retain, Manage & Protect. Tree will require individual "temporary metal mesh fencing" placed as close as site restrictions allow to TPZ radial distance of 4.80m. Where this is not practical "rumble boards", "track mats" or similar must be instated on the ground so as to help protect the tree root system.

Installation of TPZ fencing must/ground level tree root protection must be signed off as being AS4970–2009 compliant.

Trees not discussed along Ross Street boundary: These trees are specified to be isolated from all construction works by "temporary metal mesh fencing" no closer than 5.00m from tree trunk centres. Whilst technically probably not necessary this is considered good insurance relative to preserving "landscape amenity".

7 Recommendations

Relative to the information as presented & implementation of the *GMW Tree Consultancy* site specific "Tree Management Strategy" this proposal is considered ready to be assessed by council officers.

Replacement trees must be sourced from a grower/supplier whose stock is certified to meet the production benchmarks of *AS2303–2015 Tree stock for landscape use*.

Replacement tree must be professionally planted.

Replacement trees must be professionally managed for at least one (1) full Sydney "active" growing season (mid-August thru mid-May).

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 & AQF level 8 Registered with Arboriculture Australia (Reg #1884) 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 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

11 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** *Immature* refers to a refers to a well-established but juvenile tree

SM *Semi-mature* refers to a tree at growth stages between immaturity & full size

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 tree about to enter decline or already declining

LS *Live Stag* 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 x 50)$^{0.42}$ x 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.

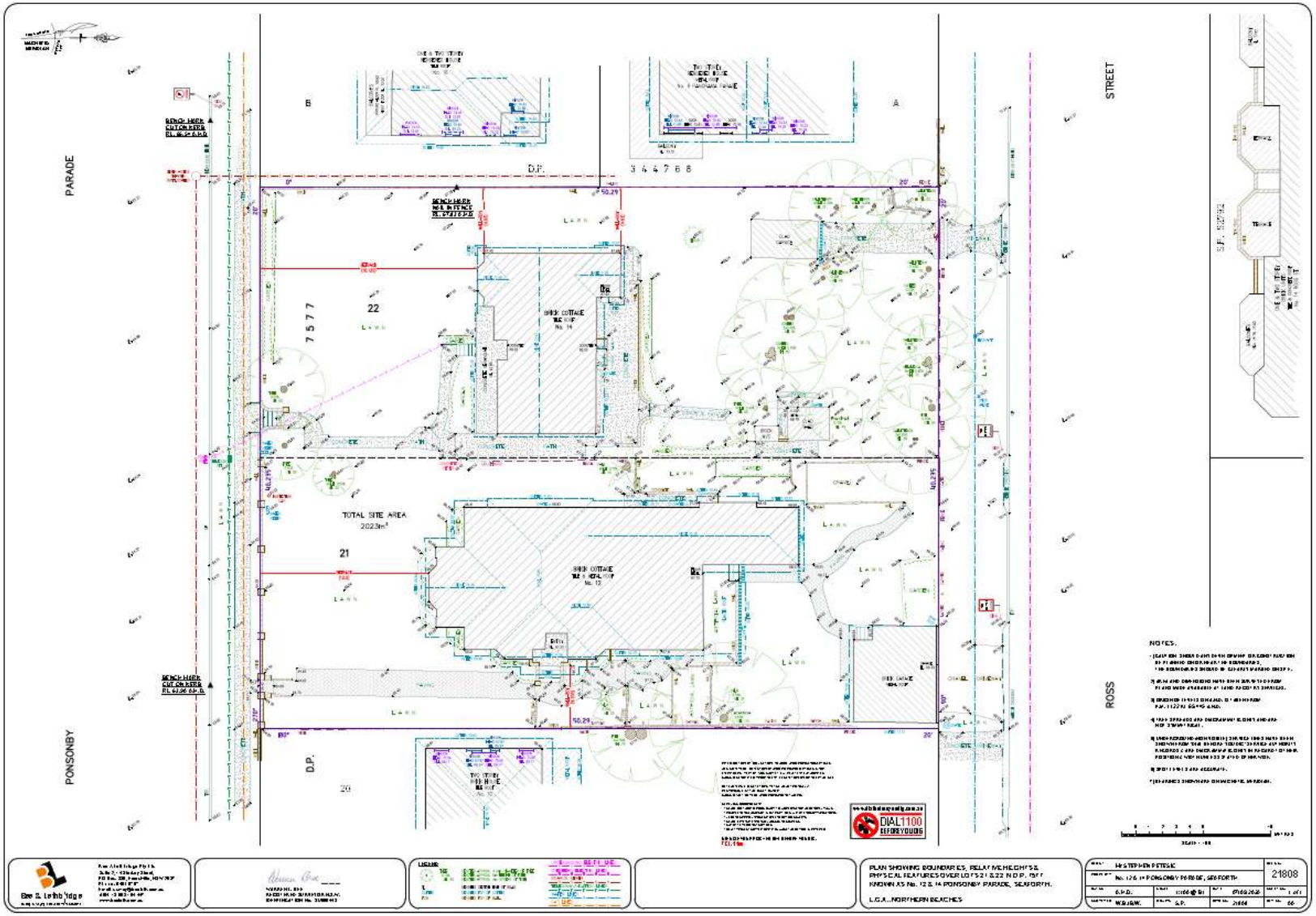
Crown Foliage Density of Potential (CFDP) refers to the density of a tree's crown in relation to the expected density of a healthy specimen of the same species. CFDP is measured as a percentage.

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

Appendix B – Site Survey, Plans & Elevations



Appendix C – Tree Protection/Management Prior to & During Construction

The installation of Tree Protection Zone (TPZ) fencing is to be carried out prior to commencement of all works. The most suitable fencing material is 1.8m tall chain link mesh with 50mm metal pole supports, see **detail 1: tree protection fencing**.

A mulch layer of composted leaf & woodchip to a depth of 75mm is required within the TPZ to aid in retention of soil moisture & to protect soil from contaminants. Water is to be applied by hand held or soaker/leaky hose within TPZ as required & in Accordance with Stage 3 Water Restrictions. Watering is to be carried out by either an Arborist or is to form part of the Builder's/Contractor's contract, with recommended monthly checks by an Arborist.

There is to be no stock piling of building material (including waste), machinery or any other item within TPZ of any retained tree. Access to personnel & machinery, & storage of fuel, chemicals, cement or site sheds is prohibited

Regular monitoring of protected trees during development works for unforeseen changes or decline, will aid in the success & longevity of the retained trees.