# TREE INSPECTION REPORT.

## **On:** Tree Specimen
## **Location: 79 Ashworth Avenue Belrose NSW 2085**

TREEHAVEN ENVIRONSCAPES.
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For. Mr. Luca Mastroianni
On. 28/4/2025

CONTENTS



# DISCLAIMER


Whilst every attempt is made to be accurate and factual with regard to references used in this document no liability is assumed for the work done by others.
Please note that trees are living organisms which are subject to natural growth, change and also to 'Acts of God' such as storms and lightning strikes. This report contains empirical data gathered on the day for the purpose of tree assessment in terms of their health and long term viability. Given the transitory nature of living things such data only gives a 'snapshot' of the organism on the day and cannot be applied to future events, 'Acts of God', mechanical, pathogen attack or chemical damage to the organism after that time.
The information supplied herein is given in good faith and to the best available scientific and industry standards which apply to the Author's level of education and experience.

# 1 INTRODUCTION

**1.1** The property at 79 Ashworth Avenue Belrose NSW 2085, henceforth referred to as the Site, is owned by Mr. Mastroanni who is considering a development on his property it is proposed to demolish the existing dwelling and construct 2 units on the Site which are connected by a common driveway (See Site plan Appendix 2b).

**1.2** The property is within the jurisdiction of Northern Beaches Council, (NBC), which has in place development controls on regard to the Preservation of Trees and Vegetation (PTV)[1] which prohibit the pruning, removal, ringbarking, topping, lopping, injury or wilful destruction of trees over 5m without Council's written consent. Further to this Council has requested further information as follows;

1. Clarification of Trees to be removed or impacted
An Arboricultural Impact Assessment Report, prepared by a qualified AQF5 (or higher) arborist, must be submitted when works are proposed within 5m of a tree irrespective of property boundaries, or a tree is proposed for removal. No Arborist Report is required for trees and species within the development site that can be removed without approval (i.e. Exempt Tree Species and trees under 5m in height).

Consequently Mr. Mastroanni have engaged Mr. Stephen McLoughlin of Treehaven Environscapes, to visit the site examine 21 specimens growing on or near the Site and prepare this report.

**1.3** This report details my site visit on 11/4/2025 to gather data so as to provide an Arboricultural Impact Assessment (AIA) for Council in determining the consent for the development.

**1.4** This report contains empirical data collected regarding the tree specimens supported by digital photos, a Discussion regarding the relevance of the specimen and presents Conclusions and Recommendations as to the future treatment of the tree.
Tables and plans relating to this report are included as Appendix 1 & 2 at the end of the document.
This document pays heed to PCC's PTV and utilizes the Australian Standards 4790-2009 *Trees on development sites* and 4373-2007 *Pruning of Amenity Trees* as a set of guiding principles.

[1] Former Warigah Council Development Control Plan C2 2.1 Preservation of Trees and Vegetation.

## 2. SITE DESCRIPTION

**2.1** The land on which the trees are sited is on a rectangular shaped block on a Southwesterly facing slope with a medium gradient heading towards Borgnis Reaserve and is within the Frenches Creek Catchment.

**2.2** The block presently has a dwelling with a driveway entrance from the Northeast of the Site (see Fig. 1).

**2.3** There is one Council street tree on the nature strip to the North of the property that is designated **T1**.

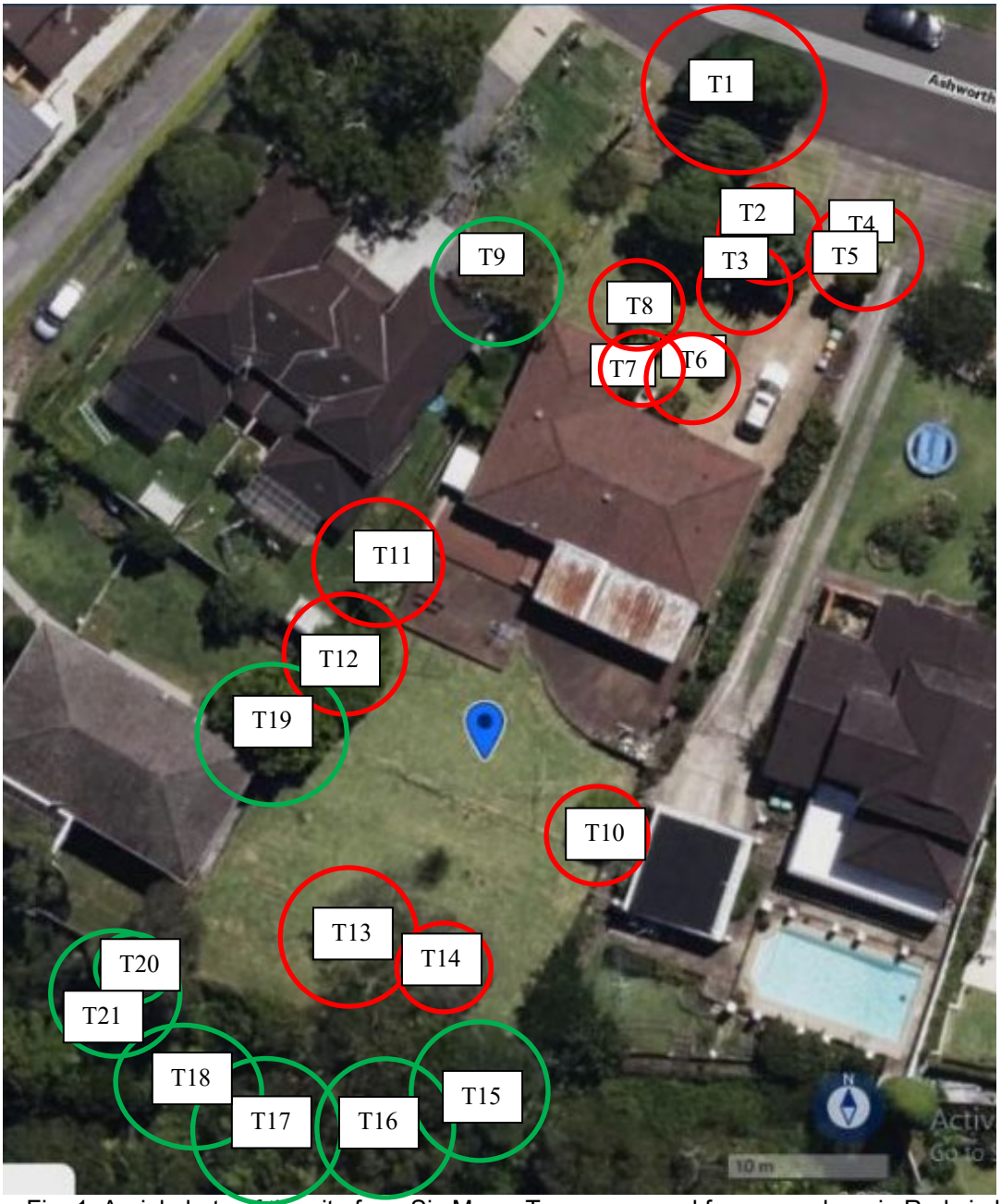


Fig. 1. Aerial photo of the site from Six Maps. Trees proposed for removal are in Red circles and those to be retained are in Green circles.

## 3. METHODOLOGY.

**3.1** The tree specimens were visually assessed using non-destructive means by employing the Visual Tree Assessment (VTA) as developed by Matteck and Broeler (2006).

The information gathered was used to

i) Calculate Tree protection Zones (TPZ) and Structural Root Zones (SRZ) with reference to the Australian Standard (AS) 4970-2009 and

ii) Provide a qualitative assessment of the tree utilizing Jeremy Barrell's Safe Usable Life Expectancy (SULE) of which a table outlining the different categories appears in Appendix 3 of this document.

**3.2** No invasive procedures, such as coring or drilling, were used in the examination of the specimen.

**3.3** Structural Root Zone (SRZ) calculations provided in section **3.3.5** of Australian Standard 4970 -2010 are given as

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

Where D is the diameter of the tree as measured just above the root buttress and the result is the radius of a circle enclosing the tree. This is referred to as the tree's Diameter at Ground Level (DGH) in the table in Appendix 1.

Also section **3.2** Tree Protection Zones (TPZ) is given as,

$$TPZ = DBH \times 12$$

Where DBH is the diameter of the trunk of the trunk measured at 1.4m from the ground.

In the case of trees which have multiple stems at 1.4m from the ground, DBH was determined by using the following formula as advised in AS4970-2009

$$\text{Total DBH} = \sqrt{(DBH1)^2 + (DBH2)^2 + (DBH3)^2}$$

**3.4** The position of the trees has been determined by survey plans as forwarded from RJK Architects

**3.5** Minor & Major Encroachments are defined in AS 4970-2009 as being up to 10%, for the former, and greater than 10% for the latter of a tree's TPZ.

**4. DESCRIPTION OF THE TREEs** (See Appendix 1)**.**

**4.1** Tree **T1** is a *Lophostemon confertus* or 'Queensland Brushbox' which is a native species endemic to Northern NSW and Southern Queensland. The tree has been planted in the nature strip to the North of the Site (see Fig. 2).
The tree was in good health and vigour at the time of inspection and has been subjected to regular pruning to accommodate power lines.
**Impact of the development;**
Tree **T1** will be subjected to a Major Encroachment from the new driveways and footpath crossovers.
I am advised that the Eastern driveway, footpath crossover and layback are to remain intact and so there will be nil impact from this area.
The location of the proposed Western driveway, footpath crossover and layback will subject the tree to a Major Encroachment of 11.5% which includes a portion of its SRZ (Appendices 2b & 2e). The location of the driveway is further constrained by the presence of a power pole located to the Southwest of the tree which leaves limited space for the proposed driveway works. It is estimated that an excavation of 200mm depth and removal of the existing kerb and gutter is required in order to establish a new driveway footpath crossover and layback.

**4.2** Tree **T2** is a *Cupressus lusitanica* or 'Mexican Pine' which is an exotic conifer endemic to Central America. The tree has been planted in the front yard in the Northern portion of the Site to the right hand side of the existing driveway (see Fig. 3).
The tree was in good health and vigour at the time of inspection. Further it is noted that *Cupressus* species are listed in NBC's list of undesirable species and are exempt from protection in the TVP controls.
**Impact of the development;**
Tree **T2** is scheduled to be removed in the new landscaping plan for the Site and is proposed to be replaced with new vegetation (See Appendices 2b & 2c).

**4.3** Tree **T3 & T6** are both *Syzygium leuhmannii* or 'Riberry' which is a native species which have both been planted in the Northern portion of the Site. The trees were in good health and condition at the time of my inspection and are less than 5m in height and exempt from protection under the TVP controls (See Figs. 4 & 6).
**Impact of the development;**
Both of these specimens are proposed to be removed and replaced with new vegetation in the landscape plan for the Site (See Appendix 2b & 2c).

**4.4** Tree **T4** is a *Sheflerra actinophylla* or 'Umbrella Tree' which is a native species which has been planted in the front of property in the Northeast portion of the Site and to the left hand side of the existing driveway (See Fig. 6).
The species is listed as exempt from protection in the TVP controls
**Impact of the development;**

The tree is scheduled to be removed and replaced in the new landscaping for the Site (See Appendix 2b & 2c).

**4.5** Trees **T5** is a *Cryptomeria japonica* or 'Japanese cedar' which is growing in the Northeast portion of the Site to the left of the existing driveway (See Fig. 5).

**Impact of the development;**

This tree is scheduled to be removed and replaced in the new landscaping for the Site (See Appendix 2b & 2c).

**4.6** Tree **T7 & T10** are both *Camelia japonica* or 'Large leaved Camelia' which is an exotic species endemic to China & Japan. Both trees have been planted on the Site (see Figs. 7 & 11).

The trees were in good health and vigour at the time of inspection and has formed multiple stems to form a shrublike habit. Both specimens are less than 5m in height and therefore exempt from the TVP controls.

**Impact of the development;**

Both of these trees are scheduled for removal and replacement in the Architectural and Landscapes plans for the Site (See Appendix 2b & 2c).

**4.7** Tree **T9** is a *Lagerstroemia indica* or 'Crepe Myrtle' which is an exotic species from India. The has been planted in the neighbouring property to the West of the Site. The tree was in good health and condition at the time of my inspection (See Fig. 10). The tree has been planted in close proximity to the dwelling and will have formed an asymmetric rootplate as a result[2].

**Impact of the development;**

The tree will experience a Minor Encroachment from the proposed development of approx. 7% from the new driveway, stormwater pipes and a proposed Agricultural pipe within its TPZ (See Appendix 2b). The tree does not have a figure for an SRZ as it has an asymmetric rootplate.

**4.8** Tree **T11** is a *Pittosporum eugenioides 'variegatum'* or 'Variegated Pittosporum' which is a hybridised native species which is growing in the rear of the property to the West of the Site. The tree was in poor health and condition at the time of my inspection (See Figs. 12 & 13). The tree is under 5m in height and therefore exempt from the PTV.

**Impact of the development;**

This tree is scheduled to be removed and replaced in the new landscaping for the development (See Appendices 2b & 2c).

**4.9** Tree **T12** is a *Magnolia figo* or 'Portwine Magnolia which is an exotic species endemic to China (See Figs. 14 & 15). The tree has formed multiple stems and is located adjacent to the Western border in the rear yard of the Site. The specimen is less than 5m in height and exempt from the TVP controls.

**Impact from the development**

[2] The formula for calculating SRZs does not apply to trees with asymmetric rootplates.

This tree will be subjected to multiple encroachments from the building footprint of Unit 1 and stormwater and agricultural pipes (See Appendix 2b & 2c). Consequently it is proposed for removal.

**4.10** Trees **T13 & T14** are both *Callistemon viminalis* or 'Weeping Bottlebrush' which is a native species belonging to creeks and rivers in Northeastern NSW. Both of these trees are planted specimens and are located in the Southern portion of the Site. These trees were in good health and condition at the time of my inspection. They are less than 5m in height and exempt from the TVP controls.

**Impact from the development**

Both of these specimens are scheduled for removal and replacement in the new landscaping for the development (See Appendices 2b and 2c).

**4.11** Tree **T15** is a *Pittosporum undulatum* or 'Native Daphne' which is an endemic species belonging to the Sydney Region and the NBC's LGA. The tree is growing in the rear of the property to the South of the Site. The tree was in good health and condition at the time of my inspection (See Fig. 21). The tree is listed in NBC's list of undesirable species if under 8m in height. This tree is approx. 6m tall and therefore exempt from the PTV.

**Impact of the development;**

This tree located well outside the development site and unlikely to be damaged as a result of Site construction works (See Appendices 2b & 2c).

**4.12** Tree **T16** is a *Ligustrum lucidum* or 'Large leaved Privet' which is an exotic species from China. The tree is growing along with a self set *Acer buergeranium* or 'Trident Maples' which is also an exotic specimen. Both trees are located in the neighbouring property to the South of the Site. The genus *Ligustrum* is listed in NBC's list of undesirable species and therefore exempt from the PTV. (See Figs. 22 & 23)

**Impact of the development;**

These trees are located well outside the development site and unlikely to be damaged as a result of Site construction works (See Appendices 2b & 2c).

**4.13** Tree **T17** is a *Corymbia gummifera* or 'Red Bloodwood' which is an endemic species belonging to the Sydney Region and the NBC's LGA. The tree is growing in the neighbouring land to the South of the Site. The tree was in good health and condition at the time of my inspection (See Fig. 24).

**Impact of the development;**

This tree is located well outside the development site and unlikely to be damaged as a result of Site construction works (See Appendices 2b & 2c).

**4.14** Tree **T18** is dead (See Fig. 25).

**Impact of the development;**

This tree located well outside the development site and unlikely to be damaged as a result of Site construction works (See Appendices 2b & 2c).

**4.15** Tree **T19** is a *Ficus benjamina* or 'Weeping Fig' which is a native species endemic to Northern Australia and Southeast Asia. The tree is growing in the neighbouring property to the Southwest of the Site. The tree was in good health and condition at the time of my inspection (See Fig. 16). The genus is listed in NBC's list of undesirable species and therefore exempt from the PTV. This specimen has the potential to grow into a very large tree with a highly invasive root system.

**Impact of the development;**

This tree will be subjected to a Major Encroachment of 15% from the Onsite Stormwater Detention (OSD) tank and associated pipe work. (See Appendices 2b & 2c). Over time this specimen has the potential to become very large

**4.16** Tree **T20** is a *Callistemon citrinus* or 'Red Bottlebrush' is a native species belonging to creeks and rivers in the East coast of Australia. The Tree is a planted specimen that is located in the neighbouring property to the southeast of the Site. The tree was in good health and condition at the time of my inspection. The specimen is less than 5m in height and exempt from the TVP controls.

**Impact from the development**

This tree is relatively small and unlikely to be affect by the development. (See Appendices 2b and 2h).

**4.17** Tree **T21** is a *Melaleuca quinquinervia* or 'Broad leaved Paperbark' which is an endemic species common in the Sydney region and the Northern Beaches LGA. The tree is has been planted in the neighbouring property to the Southwest of the Site. The tree was in good health and condition at the time of my inspection (See Fig. 16). The genus is listed in NBC's list of undesirable species and therefore exempt from the PTV. This specimen has the potential to grow into a very large tree with a highly invasive root system.

**Impact of the development;**

This tree will be subjected to a Minor Encroachment of approx.4% from a stormwater pit and associated pipe work within its SRZ (See Appendices 2b & 2h). Alternatively the pipes and pit could be re directed outside the SRZ.

## 5. DISCUSSION

**5.1** In regard to tree **T1** (See Appendix 2e)**,** AS4970-2009 advises that Major Encroachments into the TPZ require a Tree Root Investigation (TRI) in order to assess the size and distribution of tree roots in the affected area. In undergoing such a process it is anticipated that significant structural roots will be encountered.
In order to minimise damage to the tree's root system one approach would be raise the driveway elevation so that existing ground levels are largely left intact. This would have the effect of arching the driveway over the roots and in doing so it is recommended that a subsurface layer in the form of a Structural Gade Soil[3] be placed beneath the concrete to allow for gaseous exchange between the tree roots and the atmosphere. Alternatively it is proposed that this tree be removed and replaced with a small to medium sized tree such as a *Callistemon viminalis* (Weeping Bottlebrush) or a *Tristainiopsus laurina* (Water Gum) to be positioned mid way between the driveways.

**5.2** Tree **T7**, the neighbour's *Lagerstroemia* will be subject to a Minor Encroachment of approx. 4% from the driveway and trenching for stormwater pipes (See Appendix 2f). It is recommended that any trenching for plumbing works be conducted using hand tools with the objective of avoiding or minimising damage to tree roots >30mm Ø and under the supervision of the Project Arborist (PA).

**5.3** Tree **T19** is an exempt species which will grow into a very large tree[4] with a wide spreading and highly invasive root system. Consequently it is recommended to approach the neighbour regarding its removal as this tree would have an adverse impact on his property and services also. Alternatively, at this stage plans for the development indicate a 15% Encroachment into its TPZ (See Appendix 2g) which could be alleviated by design modifications to the OSD and plumbing work. It is recommended that any trenching for plumbing works be conducted using hand tools with the objective of avoiding or minimising damage to tree roots >30mm Ø and under the supervision of the Project Arborist (PA).

**5.4** Trees **T2, T3, T4, T5, T6, T7, T8, T10, T11, T12, T13 & T14** are all less than 5m in height and are proposed to be removed to allow for the orderly development of the Site.

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[3] Structural soil is a specially engineered soil mixture designed for two distinct purposes;
1. Provide a solid structural foundation for the surrounding urban infrastructure.
2. Give trees access to nutrient soil in tricky urban environments.

Structural soil is not your typical soil blend— It's made up of 80% gap-graded materials (crushed stones, etc) and 20% soil. Structural soil is generally compacted under a pavement system like a road or footpath to give structural support, creating minimal void spaces to ensure strength for the above and surrounding infrastructure (Source City Green).

[4] Ficus Benjamina or 'Weeping Fig'. Height up to 30m. Habit rounded dome (Source 'Trees of the World'

**5.5** All plumbing works within the TPZs of trees **T9, T19** and **T21** will need to be by means of hand tools and under the supervision of a AQF5 level Arborist. Alternatively, pipes and pits could be relocated to avoid or minimise contact with tree roots >30mm Ø

**5.6** It is proposed to plant 25 trees in compensation for the specimens scheduled for removal as follows;

**Tree Schedule**

| ID | Qty | Latin Name | Common Name | Scheduled Size | Approx. Mature Height |
|---|---|---|---|---|---|
| BaIn | 1 | Banksia integrifolia | Coastal Banksia | 100L | 6 - 10m |
| BeNi | 2 | Betula nigra | River Birch | 100L | 5 - 10m |
| LaInNa | 2 | Lagerstroemia indica 'Natchez' | Crepe Myrtle | 200L | 5 - 10m |
| PyCaCa | 21 | Pyrus calleryana 'Capital' | Capital Flowering Pear | 200L | 10 - 15m |

## 6. CONCLUSIONS & RECOMENDATIONS

**6.1**. For the development to proceed as planned trees **T2, T3, T4, T5, T6, T7, T8, T10, T11, T12, T13, T14** will need to be removed. Trees **T9, T15, T16, T17, T18, T20** and **T21** are to proposed to be retained.

**6.2** Given the constraints posed by Council's street tree **T1** it is considered to be a better outcome for the orderly development of the Site to remove this tree and replace it with an appropriate specimen in keeping with Council's Street Tree strategy.
Further to this it is recommended that the neighbour at 83 Ashworth Avenue be contacted in regard to the removal of tree **T19,** a *Ficus microcarpa* which is an exempt species that can grow into a large specimen with very invasive root system. The reason for its removal is that it can cause damage to both the dwellings at 83 Ashworth and the proposed dwelling at 79 Ashworth.

**6.3** It is advised by AS4970-2009 that a Project Arborist (PA) of a minimum AQF level 5 accreditation be engaged to advise on and document tree protection measures and report on the retained trees health and vigour**.**

Yours sincerely 

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## 7. THE AUTHOR'S QUALIFICATIONS AND EXPERIENCE

Stephen McLoughlin obtained a Horticultural Certificate (1982) with Arboriculture as the third year elective whilst an employee of 10 years service with Baulkham Hills Shire Council (BHSC) now The Hills Council. Most of this time employed in the Council's Parks and Gardens and street tree plantings and, later, managing the Council's Nursery. This was augmented with a Bush Regeneration Certificate (1987) where he studied native plant communities, the means necessary to protect and restore them and the identification and eradication of weed species. Additional to this he obtained a Bachelor of Environmental Science Degree (1997) involving the study of natural environments, Ecology, data collection, analysis and documentation, report writing as well studies in relevant Common Law, current Environmental and Heritage Legislation. Since obtaining his degree Stephen writes reports on a regular basis covering Environmental, Heritage and Horticultural / Arboricultural subjects.

Further to this he upgraded his qualifications to that of Arborist Qualification 5 (AQF5) having completed the Associate Diploma of Horticulture / Arboriculture, a standard of qualification which is currently expected by many Local Government and statutory bodies.

Stephen also has a current NSW Structural Landscaper's Licence and has been involved in regular landscape construction works as both Principle and Sub Contractor on many Public, Private and Commercial ventures since commencing his contracting business in 1989. He has many garden and estate maintenance contracts, and Bush Regeneration projects involving large scale properties with many trees under his care, including the providing of advice and practical solutions to the issues of Bush Fire Asset Protection Zones.

Consequently Stephen has well grounded experience in both Public and Private tree plantings, the care and maintenance of them as well as hands on experience of what occurs on construction sites and the results of mechanical disturbance to trees on such sites.

The Author is also an accredited Root Barrier Australia ® installer and has been involved with many excavations involving tree roots.

In 2014 Stephen completed his Diploma of Environmental Management at the Ryde campus of North Sydney TAFE involving studies with regard to Bushfire Management, Global Information Systems (GIS), Mapping, Managing Native Fauna (for which he obtained a distinction) and River Restorations.

Also he has completed the Quantified Tree Risk Assessment Course (QTRA), the Tree Risk Assessment Qualification (TRAQ) and the Muddy Boots Biodiversity Assessment Method (BAM) course is accredited for Safe Working under Power lines.

Yours sincerely

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# REFERENCES

Australian Standard 4373 1996 *Pruning of amenity trees.*

Australian Standard 4790 2009 *Trees on development sites.*

Barrell, J. 1996. '*Predevelopment tree assessment'*

Northern Beaches Development Control Plan Former Warigah Council Development Control Plan C2 2.1 Preservation of Trees and Vegetation.

Matteck C and Breloer H. 2006 'The Body Language of Trees'

Six Maps. Aerial view of site (fig 1).

**APPENDIX 1A.** Schedule of trees identified on the site listing condition and physical dimensions of trees on the site.

| Specimen name | Est. Height | Diameter DBH* DGH** | Crown | Comments | SULE *** | TPZ | SRZ |
|---|---|---|---|---|---|---|---|
| T1 *Lophostemon confertus* Common name 'Queensland Brushbox' Age class. 60 years See Fig. 2 | 16m | 76cm 86cm at the base | N 4m E 4m S 4m W 4m | A native tree endemic to Northern NSW and Southern Queensland which is widely used as a street planting and commemorative tree in NSW. The tree has been planted in the nature Strip to the North of the Site. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. | A1 | 9.12m | 3.1m |
| T2 *Cupressus luisitanica* Common name 'Mexican Cypress' Age class. 40 years See Fig. 3 | 8m | 28cm 35cm at the base | N 2m E 2m S 2m W 2m | An exotic conifer endemic to Mexico and Central America. The tree has been planted in the front yard in the Northern portion of the Site. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. *Cupressus* species are listed as exempt from the PTV. | B3 | N/A | N/A |
| T3 *Syzygium leuhmannii* Common name 'Riberry' Age class. 40 years See Fig. 4 | 4m | Multiple stems | N 2m E 2m S 3m W 4m | A native tree endemic to littoral rainforest areas of Northeastern NSW which is widely used as an ornamental plant in NSW. The tree has been planted in the front yard in the Northern portion of the Site. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. The tree is less than 5m in height and exempt from the PTV | A5 | N/A | N/A |
| T4 *Schefflera actinophylla* Common name 'Umbrella Tree' Age class. 10 years See Fig. 5 | 9m | Estimate 40cm 48cm at the base | N 3m E 4m S 3m W 2m | A native specimen endemic to Northern Australia, New Guinea & Java. The tree has been planted in the front yard in the Northern portion of the Site. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. The species is listed as an undesirable species and is exempt from the PTV | B3 | 4.8m | 2.4m |
| T5 *Cryptomeria japonica* Common name | 7m | 20cm 25cm at the base | N 1m E 1m S 1m | An exotic conifer endemic to Japan. The tree has been planted beside the driveway in the Northeastern corner property. At the time of inspection the specimen was in | A4 | 2.4m | 1.85m |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 'Japanese Cedar'<br>Age class. 40 years<br>See Fig. 5 | | | W 1m | good health condition with no significant pathogens or signs of mechanical damage. The tree has co dominant stems which adjoin in a 'V' shaped union at approx.1.6m from the ground. | | | |
| T6 *Syzygium leuhmannii*<br>Common name 'Riberry'<br>Age class. 40 years<br>See Fig. 6 | <5m | Multiple 25cm at the base | N 1.5m<br>E 1.5m<br>S 1.5m<br>W 1.5m | A native tree endemic to littoral rainforest areas of Northeastern NSW which is widely used as an ornamental plant in NSW. The tree has been planted in the front yard just to the North of the dwelling. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. The tree is just under 5m in height and exempt from the PTV | A5 | 3m | 1.85m |
| T7 *Camelia japonica*<br>Common name 'large leaved Camelia'<br>Age class. 40 years<br>See Fig. 7 | 3m | Multiple 20cm at the base | N 1m<br>E 1m<br>S 1m<br>W 1m | An exotic species endemic to China and Japan. The tree has been planted just to the immediate North of the dwelling. At the time of inspection the specimen was in good health condition with no significant pathogens or signs of mechanical damage. The tree is less than 5m in height and exempt from the PTV | A5 | N/A | N/A |
| T8 *Livistona australis*<br>Common name 'Cabbage tree palm'<br>Age class. 20 years<br>See Fig. 8 | 3m | 28cm<br>38cm at the base | N 2m<br>E 2m<br>S 2m<br>W 2m | An endemic species endemic to East Coast NSW. The tree has been planted in the front yard in the Northern portion of the Site. At the time of inspection the specimen was in good health condition with no significant pathogens or signs of mechanical damage. The tree is just under 5m in height and exempt from the PTV. The specimen could be transplanted. | A5 | N/A | N/A |
| T9 *Lagerstroemia indica*<br>Common name 'Crepe Myrtle'<br>Age class. 40 years<br>See Fig. 9 | 6m | 3 x 8cm<br>3 x 10cm<br>30cm at the base | N 2m<br>E 2m<br>S 0m<br>W 2m | An exotic tree endemic to India. The tree is growing in the neighbouring property to the West of the Site. At the time of inspection the specimen was in good health condition with no significant pathogens or signs of mechanical damage. The tree has a bias in its crown towards the North and, due to its proximity to the neighbour's dwelling, will have formed an asymmetric roots plate.. | A1 | 2.17m | Asym metric |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| T10 *Camelia japonica*<br>Common name 'large leaved Camelia'<br>Age class. 40 years<br>See Fig. 10 | 16m | 2 x 50cm<br>120cm at the base | N 4m<br>E 5m<br>S 3m<br>W 4m | An exotic species endemic to China and Japan. The tree has been planted in the rear yard to the Southeast of the dwelling. At the time of inspection the specimen was in good health condition with no significant pathogens or signs of mechanical damage. The tree is less than 5m in height and exempt from the PTV | A5 | N/A | N/A |
| T11 *Pittosporum eugenioides variegatum*<br>Common name 'Variegated Pittosporum'<br>Age class. 40 years<br>See Fig. 11 & 12 | 4m | N/A | N/A | A hybridised native specimen. The tree is in poor health and condition. The tree is less than 5m in height and exempt from the PTV | A4 | N/A | N/A |
| T12 *Magnolia figo*<br>Common name 'Port Wine Magnolia'<br>Age class. 60 years<br>See Fig. 14 | <5m | Multiple stems<br>100cm at the base | N 2m<br>E 2m<br>S 2m<br>W 3m | A native specimen endemic to China. The tree has multiple stems and is located adjacent to the Western border fence. The tree is less than 5m in height and exempt from the PTV | A5 | N/A | N/A |
| T13 *Callistemon viminalis*<br>Common name 'Weeping Bottlebrush'<br>Age class. 40 years<br>See Fig. 18 | 5m | Multiple Stems<br>20cm at the base | N 3m<br>E 3m<br>S 3m<br>W 3m | A native specimen endemic to Northern NSW and Queensland. The tree has been planted in the rear of the site and was in good health and vigour at the time of my inspection. | A2 | 2.4m | 1.68m |
| T14 *Callistemon viminalis*<br>Common name | 4m | 1 x 10cm<br>1 x 12cm<br>20cm at the base | N 4m<br>E 5m<br>S 3m<br>W 4m | A native specimen endemic to Northern NSW and Queensland. The tree has been planted in the rear of the site and was in good health and vigour at the time of my | A5 | N/A | N/A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 'Weeping Bottlebrush'<br>Age class. 40 years<br>See Fig. 19 | | | | inspection. The tree is less than 5m in height and exempt from the PTV | | | |
| T15 *Pittosporum undulatum*<br>Common name 'Native Daphne'<br>Age class. 40 years<br>See Fig. 20 | 6m | Multiple stems<br>45cm at the base | N 3m<br>E 3m<br>S 3m<br>W 3m | A native specimen endemic to the Sydney region and the Northern Beaches LGA. The tree is naturally occurring and growing in the Southern portion of the Site. The species is listed as exempt from protection in less than 8m in height. | B3 | N/A | N/A |
| T16 *Ligustrum lucidum*<br>Common name 'Large leaved privet'<br>Age class. 30 years<br>See Fig. 22 | 6m | 20cm<br>25cm at the base | N 2m<br>E 2m<br>S 2m<br>W 1m | An exotic specimen endemic to China. The tree is assumed to be self set and is growing in the Southern portion of the Site. The species has weedy properties and is listed as exempt in the | B3 | N/A | N/A |
| T17 *Corymbia gummifera*<br>Common name 'Red Bloodwood'<br>Age class. 80 years<br>See Fig. 24 | 16m | 1 x 20cm<br>1 x 25cm<br>40cm at the base | N 5m<br>E 5m<br>S 4m<br>W 6m | A native specimen endemic to the Sydney region and the Northern Beaches LGA. The tree is naturally occurring and growing in the neighbouring property to the South of the Site. At the time of inspection the specimen was in good health and has co dominant stems which adjoin in a 'Saddle' shaped junction. There was approx. 5% deadwood in the canopy. | A1 | 3.8m | 2.25m |
| T18 Dead tree<br><br>See Fig. 25 | | | | | A4 | N/A | N/A |
| T19 *Ficus benjamina*<br>Common name 'Weeping Fig.'<br>Age class. 30 years<br>See Figs. 16 & 17 | 6m | Estimate 40cm<br>48cm at the base | N 3m<br>E 3m<br>S 3m<br>W 3m | A native specimen endemic to Northern Australia, New Guinea and Southeast Asia. The tree has been planted in the neighbouring property to the West of the Site. At the time of inspection the specimen was in good health and condition with no significant pathogens or defects. | B3 | 4.8m | 2.4m |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | The species is listed as an undesirable species and is exempt from the PTV | | | |
| T20 *Callistemon citrinus*<br>Common name 'lemon scented Bottlebrush'<br>Age class. 40 years<br>See Fig. 28 | 4m | Multiple Stems 20cm at the base | N 3m<br>E 3m<br>S 3m<br>W 3m | A native specimen endemic to Northern NSW and Queensland. The tree has been planted in the neighbouring property to the West of the site and was in good health and vigour at the time of my inspection. | A5 | Min TPZ 2m | Min SRZ 1.5m |
| T21 *Melaleuca quinquinervia*<br>Common name 'Red Bloodwood'<br>Age class. 80 years<br>See Figs. 29 & 30 | 12m | 1 x 20cm<br>1 x 25cm<br>40cm at the base | N 5m<br>E 5m<br>S 4m<br>W 6m | A native specimen endemic to the Sydney region and the Northern Beaches LGA. The tree has been planted in the neighbouring property to the Southwest of the Site. At the time of inspection the specimen was in good health and vigour | A1 | 4.8m | 2.25m |

**Table describing trees growing on the development site. Tree numbers correspond with numbers on site plan appendix. 2.**
***DBH Diameter at Breast Height. **DGH Diameter at Ground Height. ***SULE ratings are included as Appendix 3 of this report.**

**APPENDIX 1B.** Figures 2 to 24**.** Photos of the trees on and near the Site.

Fig. 2. Photo of tree T1 a *Lophostemon confertus*

Fig. 3. Photo of T2 a *Juniperus chinensis*

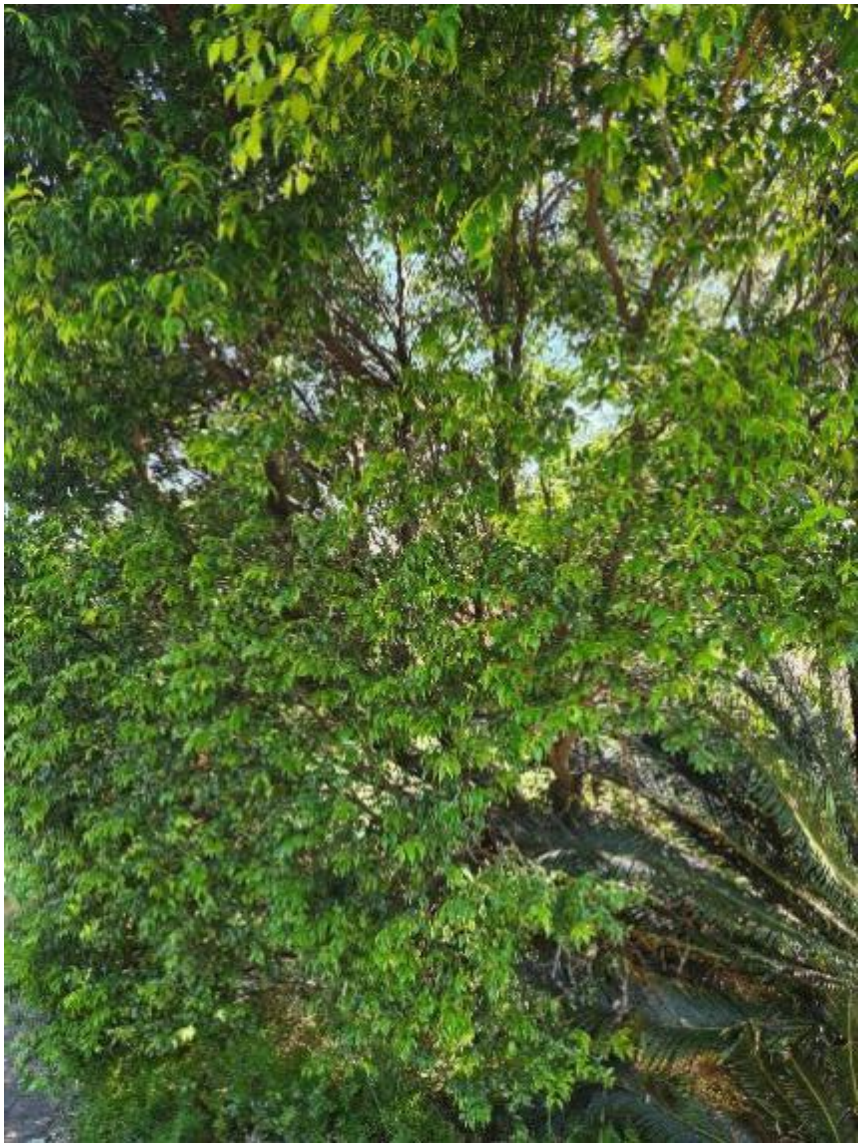


Fig. 4. Photo of tree T3 a *Syzygium* which is under 5m in heig

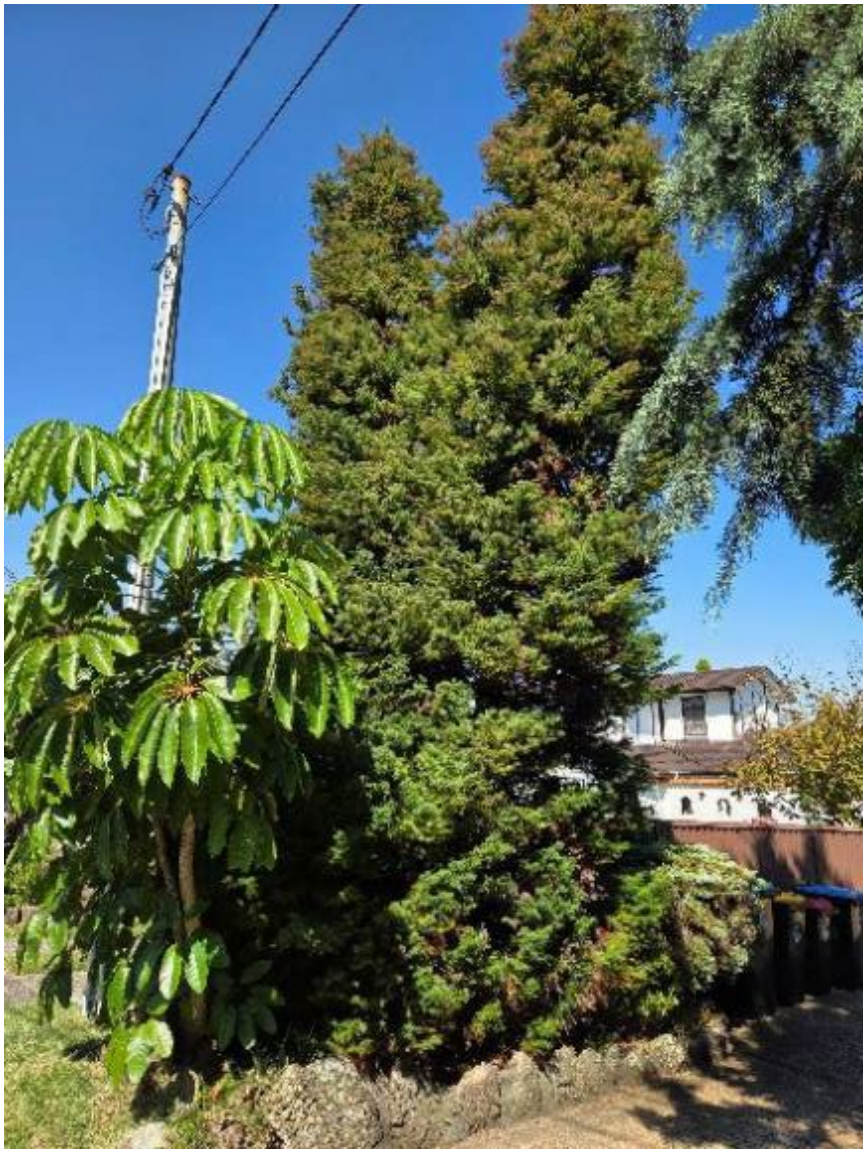


Fig. 5. Photo of tree T5 a *Cryptomeria japonica* with T4 a *Schefflera actinophylla* to the left of the frame.

Fig. 6. Photo of tree T6 a *Syzygium* which is just under 5m in height

Fig. 7. Photo of tree T7 a *Camelia japonica* under 5m in height.

Fig. 8. Photo of T8 a *Livistona australis* which is less than 5m in height

Fig. 9. Photo of an *Acer palmatum* under 5m in height.

Fig. 9. Photo of Tree T9 a *Lagerstroemia indica* in neighbour's land

Fig. 10. Photo of an exempt tree a *Ligustrum lucidum*

Fig. 11. Photo of T10 a *Camelia japonica* which is less than 5m in height.

Fig. 12. Photo of Tree T11 a *Pittosporum variegatum.*

Fig. 13. Photo of borer damage on tree T11

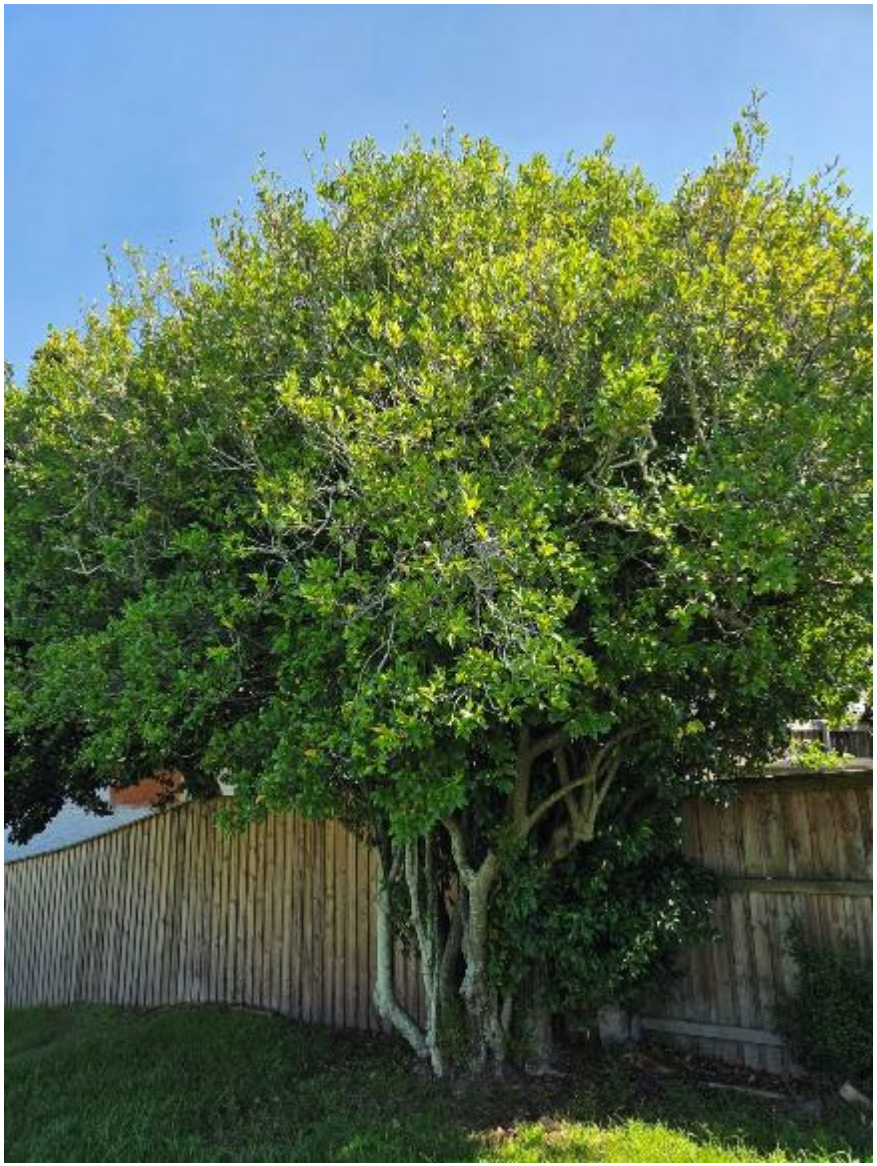


Fig. 14. Photo of tree T12 a *Magnolia figo* less than 5m in height.

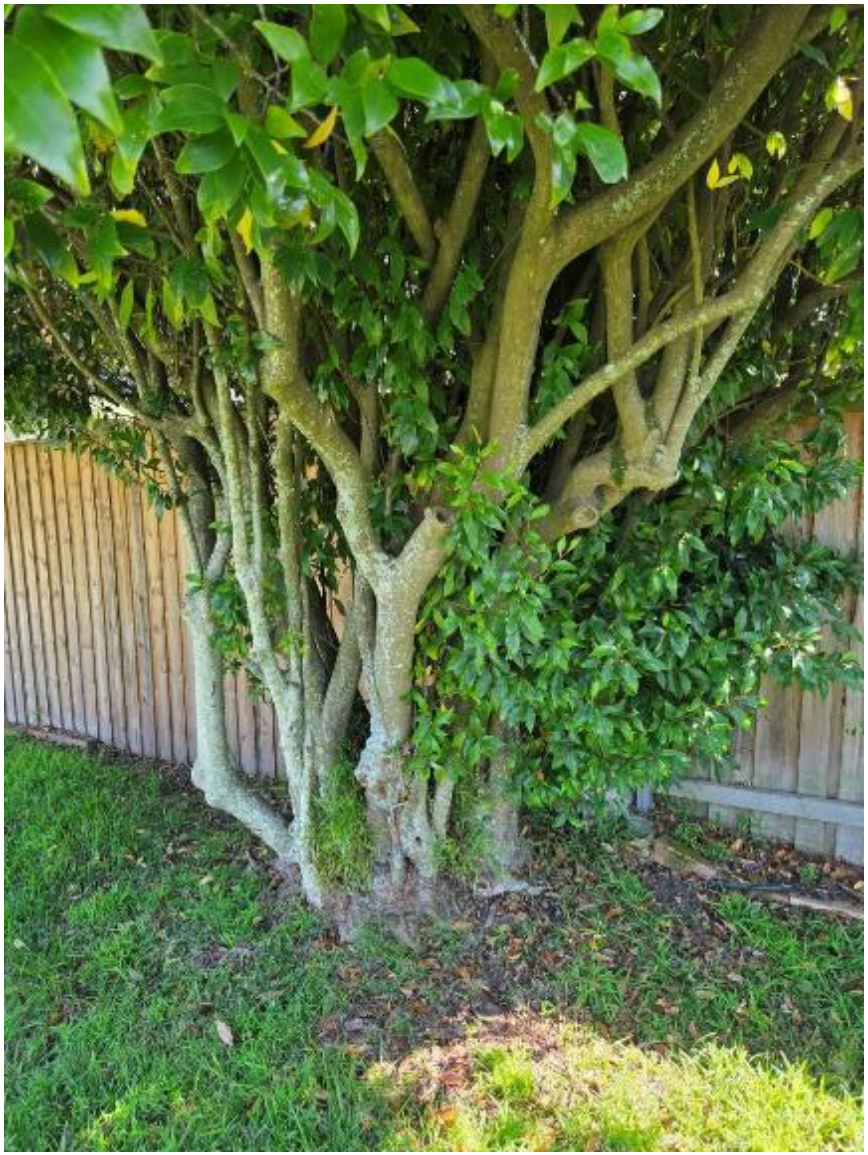


Fig. 15. Photo of T12 with multiple stems.

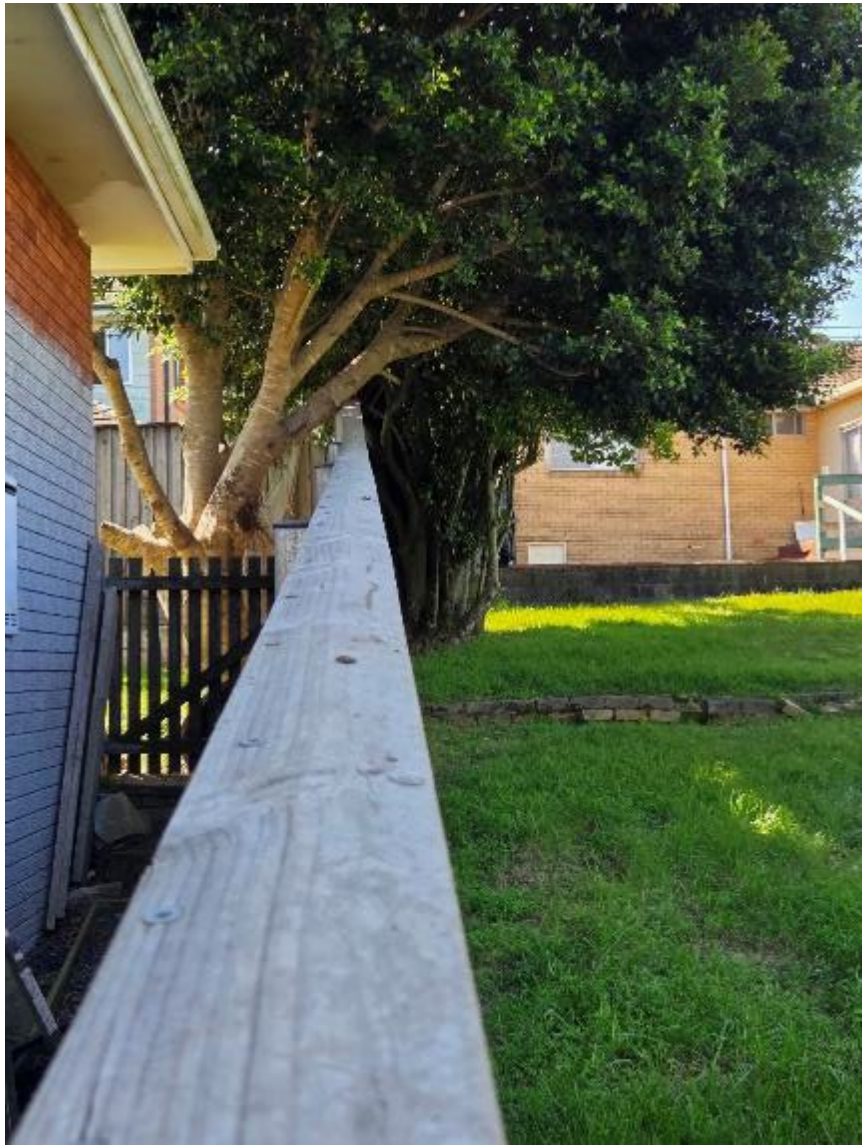


Fig. 16. Photo of T19 a *Ficus benjamina* growing adjacent to the border.

Fig. 17. Photo of tree T19 a *Ficus benjamina*

Fig. 18. Photo of tree T13 a *Callistemon viminalis*

Fig. 19. Photo of tree T14 all *Callistemon viminalis*

Fig. 20. Photo of a *Xanthorea* remnant? In the rear yard of the Site.

Fig. 21. Photo of tree T15 a *Pittosporum undulatum*

Fig. 22. Photo of tree T16 a *Ligustrum lucidum* with *Acer bueurgerianum*.

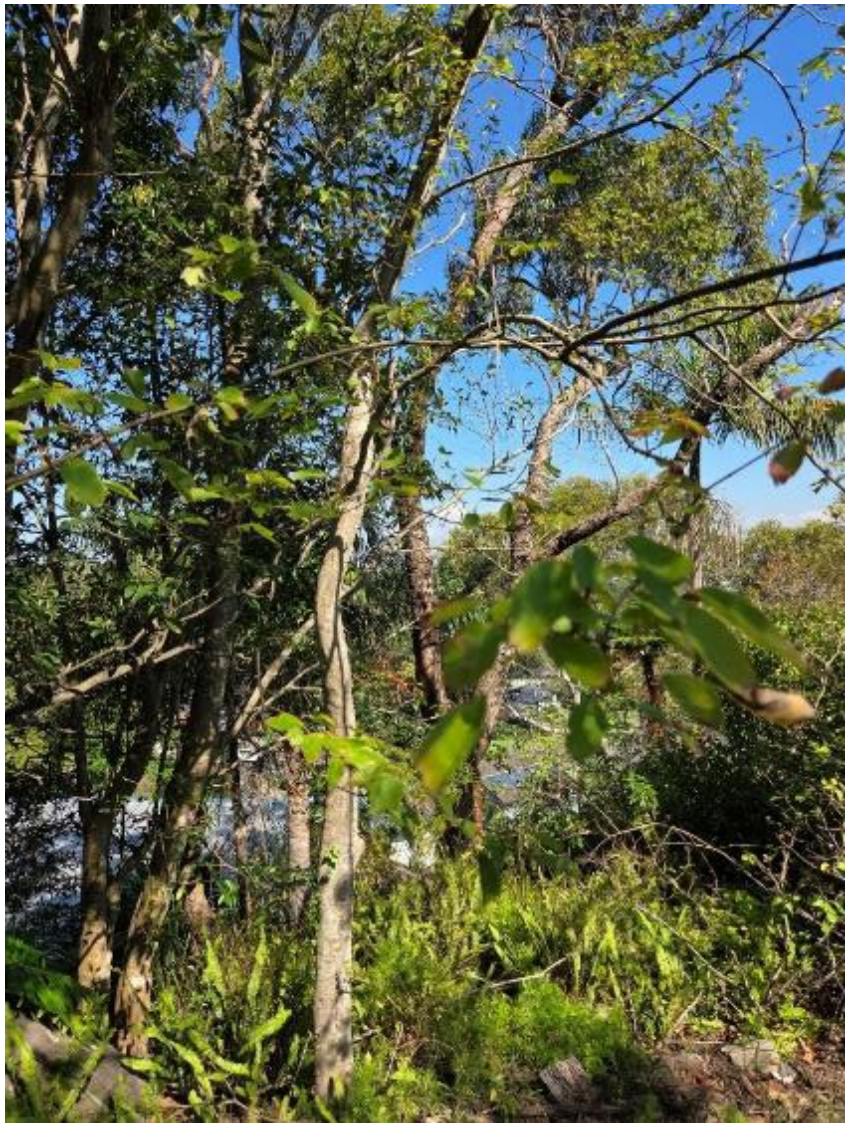


Fig. 23. Photo of tree T17 an *Acer buergerianum*

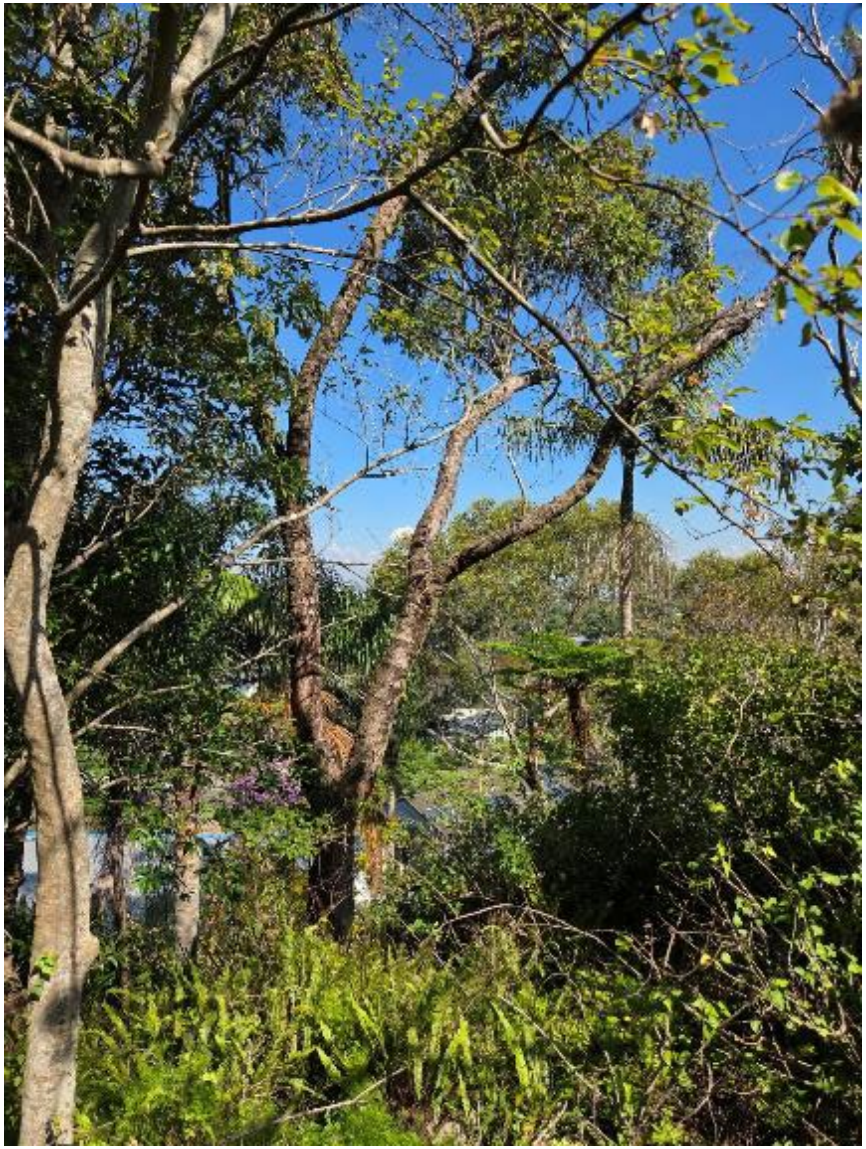


Fig. 24. Photo of T17 a *Corymbia gummiferum*.

Fig. 25. Photo of a dead tree.

Fig. 26. Photo of showing recent plumbing work at the rear of the Site.

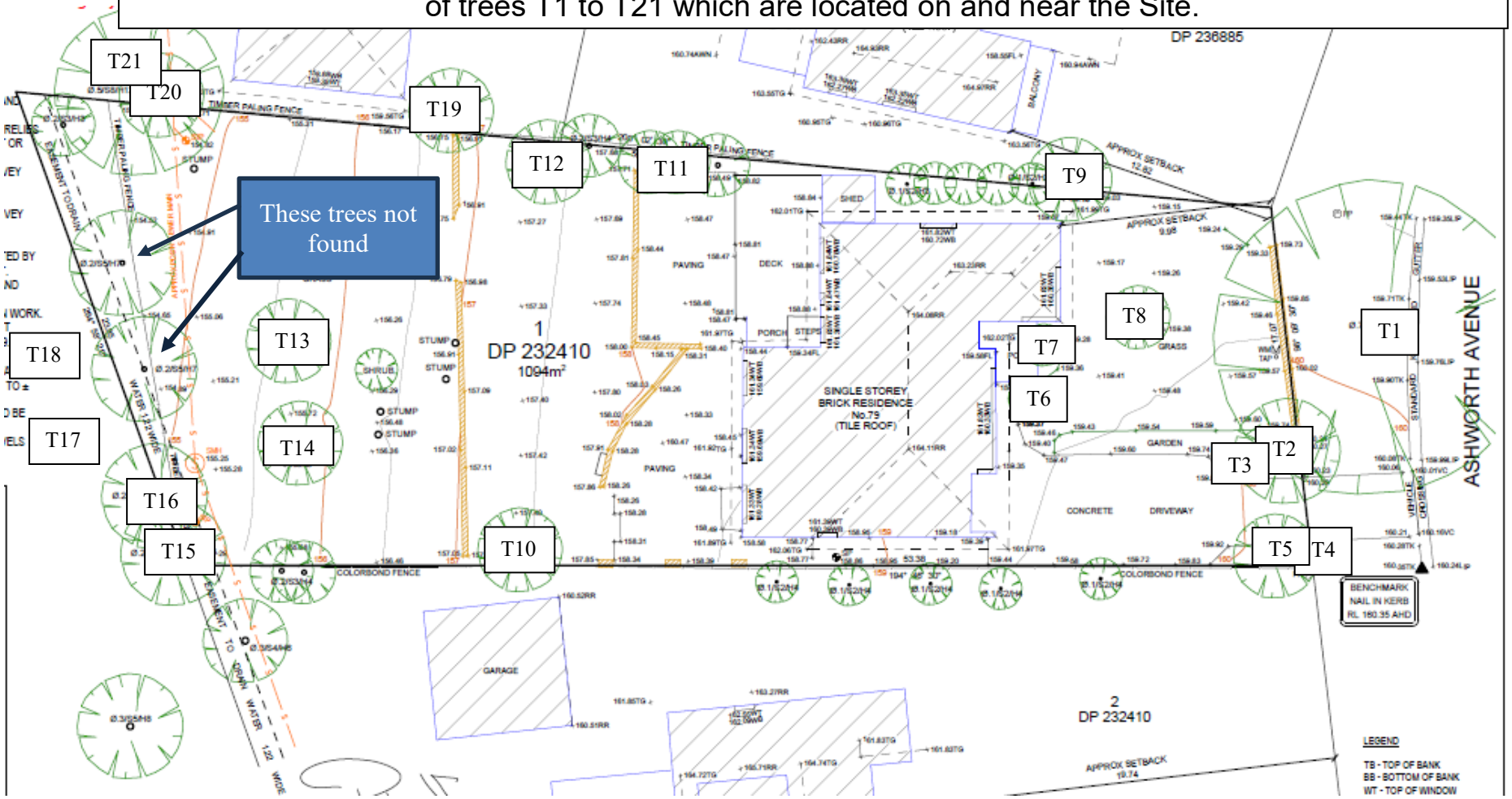
Fig. 27. Photo of tree T20 a *Callistemon citrinus*.

Fig. 28. Photo of showing recent plumbing work at the rear of the Site.

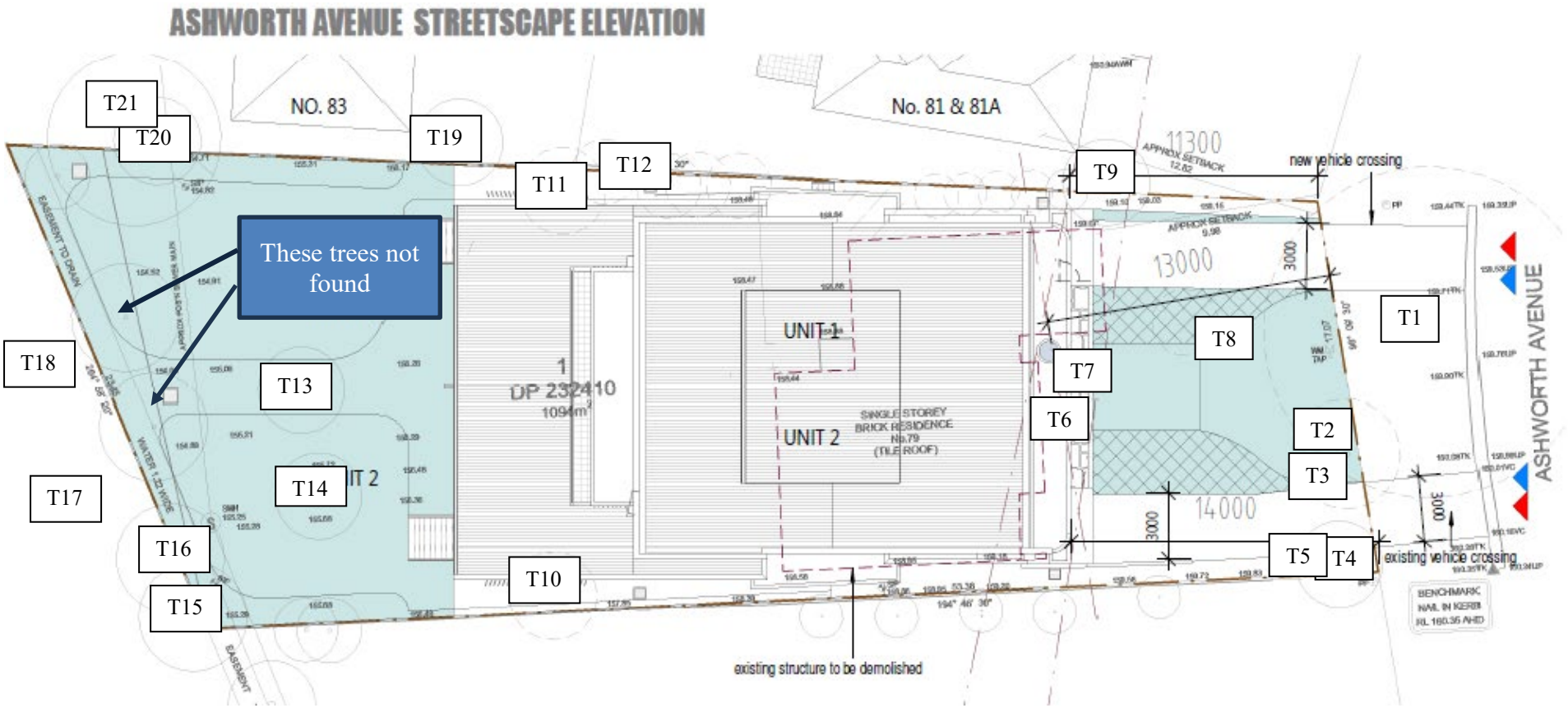
Fig. 29. Photo of tree T21 a *Melaleuca quinquinervia*.

Fig. 30. Photo of the lower stem of T21.

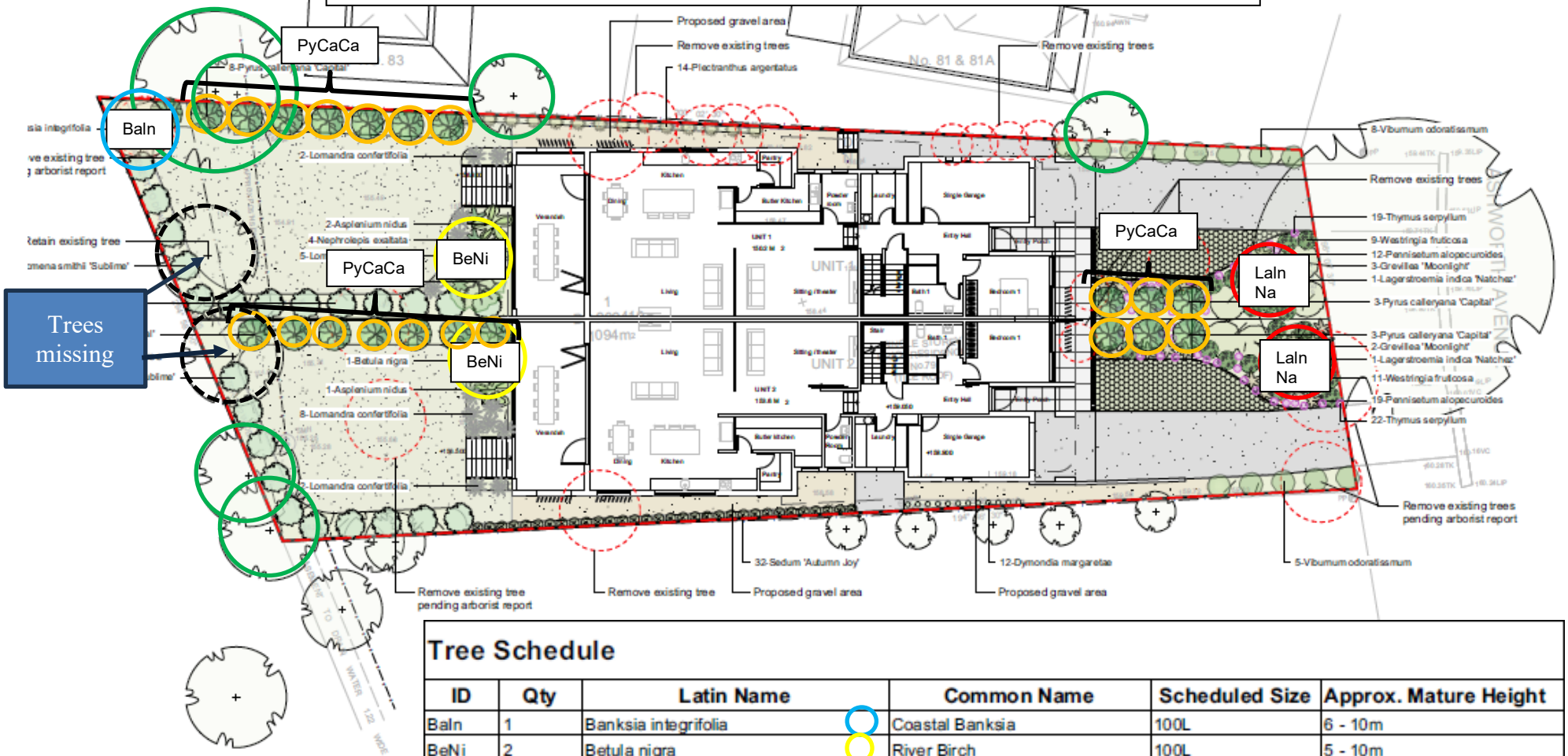
**APPENDIX 2a.** Excerpt from the Site plan showing the proposed building footprint and the locations of trees T1 to T21 which are located on and near the Site.



**APPENDIX 2b.** Excerpt from site plan showing the location of the trees in relation to the new building and driveways.



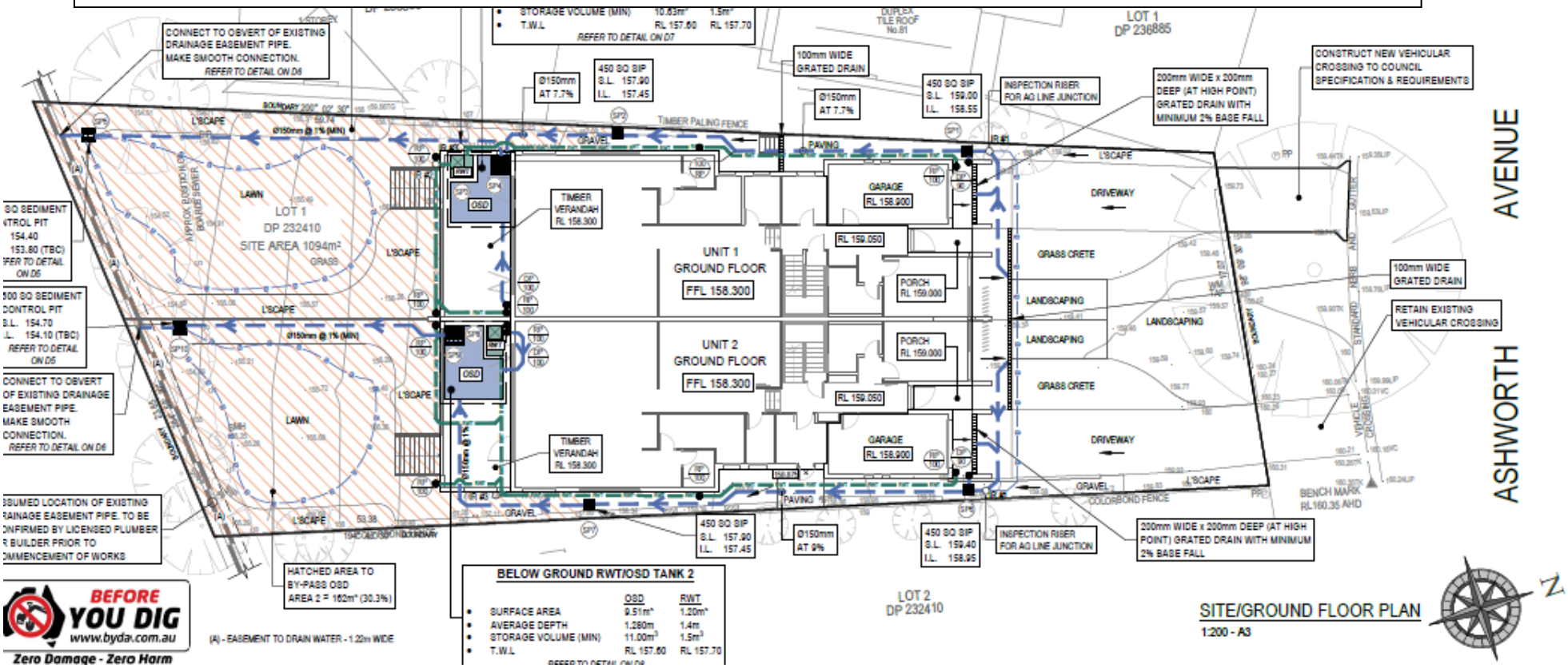
**APPENDIX 2c.** Excerpt from landscaping Plan showing the location new tree plantings on the Site and retained trees in green circles.



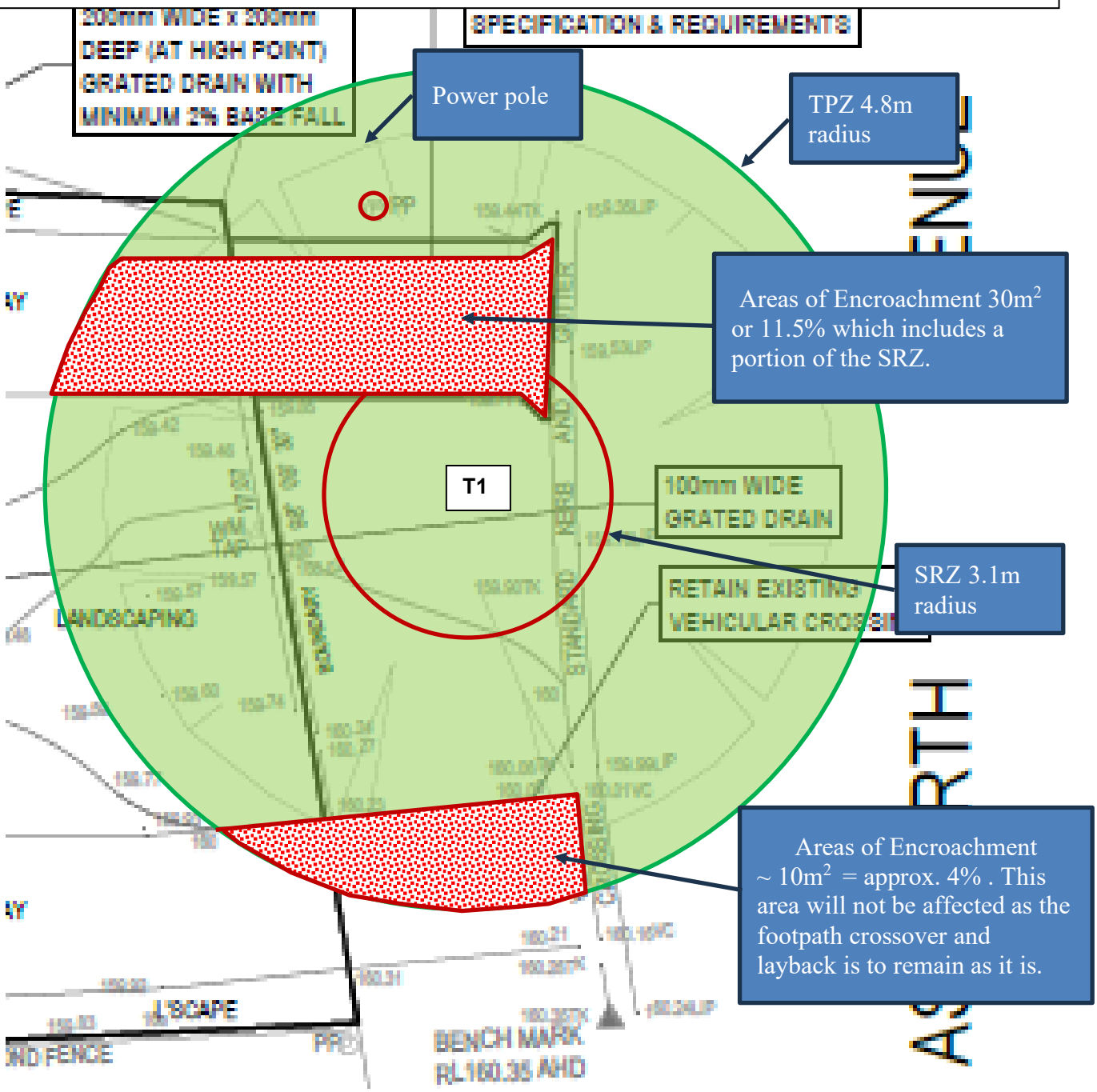

## Tree Schedule

| ID | Qty | Latin Name | Common Name | Scheduled Size | Approx. Mature Height |
|---|---|---|---|---|---|
| Baln | 1 | Banksia integrifolia | Coastal Banksia | 100L | 6 - 10m |
| BeNi | 2 | Betula nigra | River Birch | 100L | 5 - 10m |
| LalnNa | 2 | Lagerstroemia indica 'Natchez' | Crepe Myrtle | 200L | 5 - 10m |
| PyCaCa | 21 | Pyrus calleryana 'Capital' | Capital Flowering Pear | 200L | 10 - 15m |

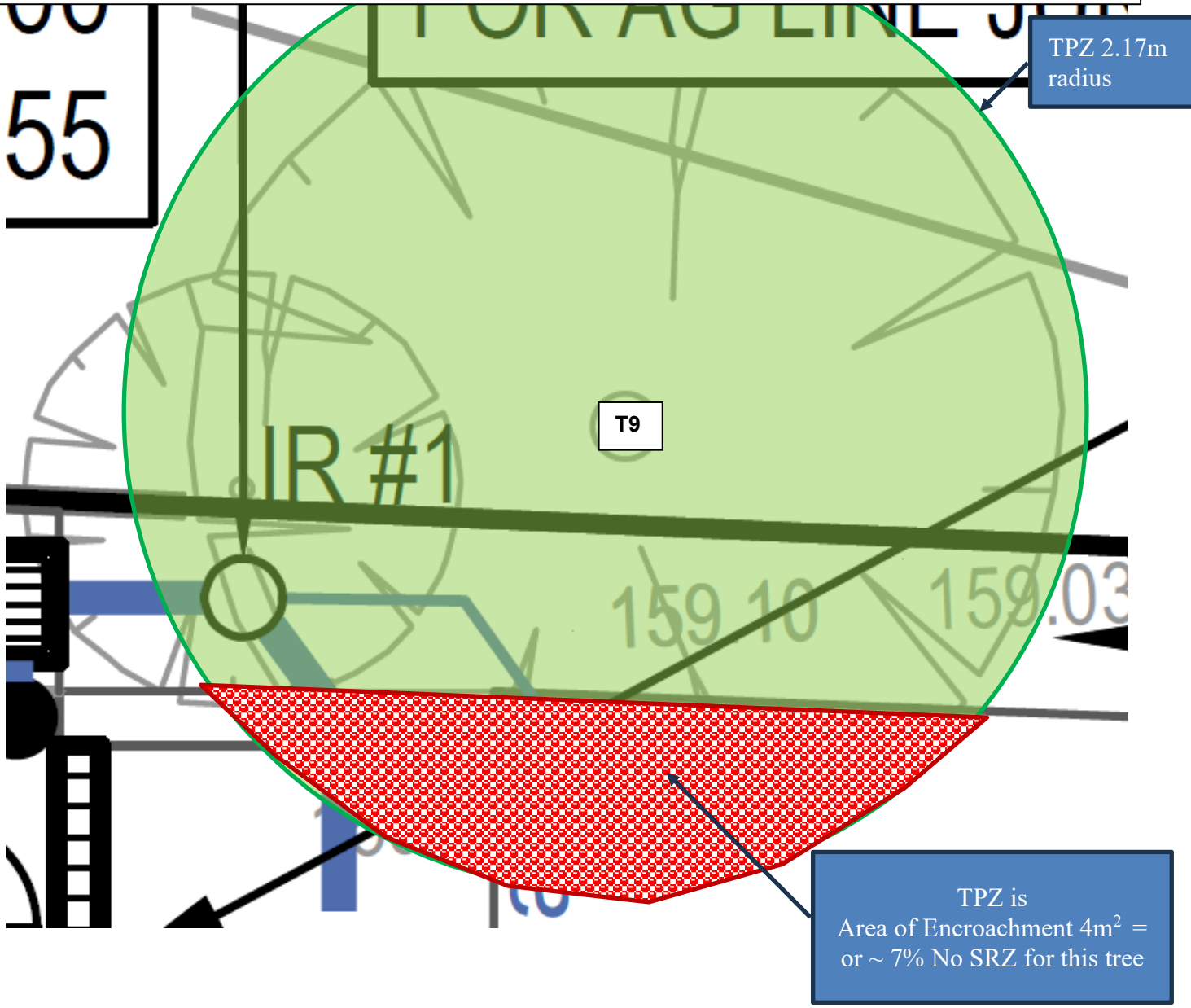
**APPENDIX 2d.** Excerpt from Stormwater Plan showing the location of Stormwater Pits and Pipes in green dashed line and squares. The outlet from the OSD to the rear is marked in blue. Also the TPZs and SRZs of the existing trees are plotted and displayed.



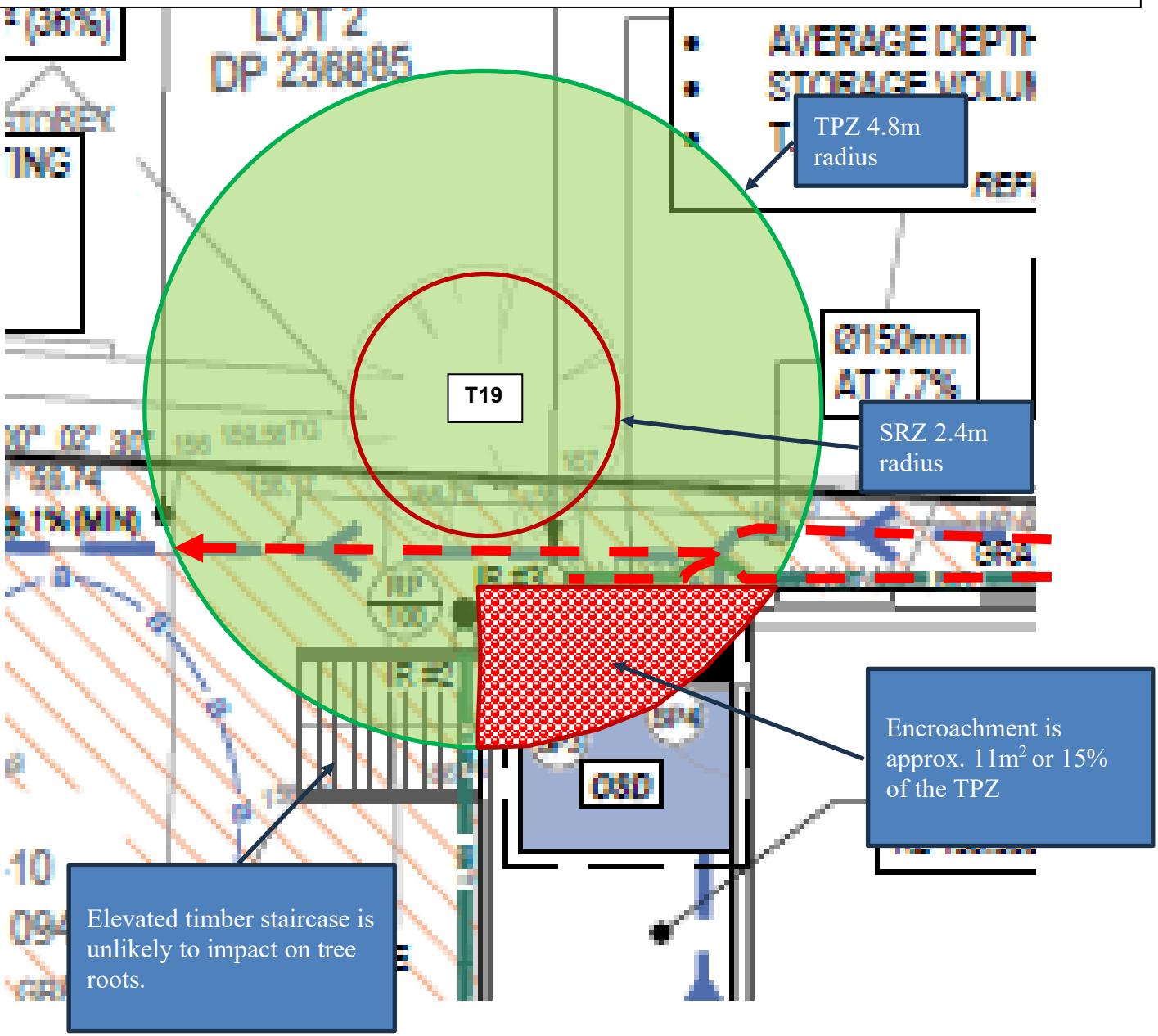
**APPENDIX 2e.** Excerpt from Stormwater Plan showing the location of encroachments from the new driveways within the TPZ and SRZ of T1 of 30m$^2$ & 10m$^2$ totalling 44m$^2$. However the Eastern driveway and layback are to remain intact and so this area is subtracted from the Encroachment calculation.



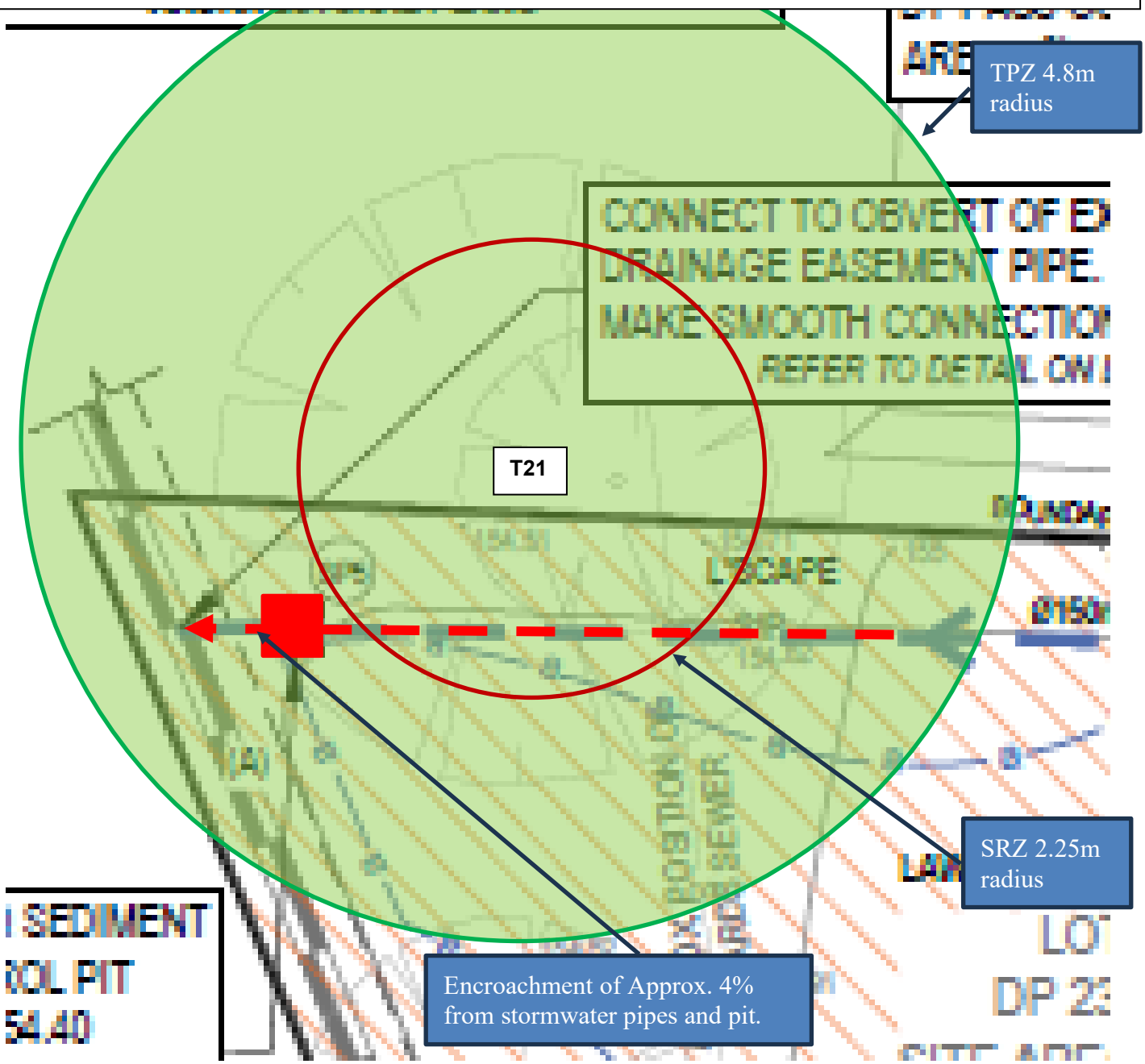
**APPENDIX 2f.** Excerpt from Stormwater Plan showing the location of a Minor Encroachment from the new driveway within the TPZ of T9 of 4m$^2$ which equates to 6.7%. also there are stormwater pipes and an agricultural Pipe which would make the Encroachment closer to 7%.



**APPENDIX 2g.** Excerpt from Stormwater Plan showing the location of a Major Encroachment from the new dwelling and OSD within the TPZ of T19 of approx. 24m$^2$ which equates to around 30%. Also there are stormwater pipes and an agricultural Pipe which would make the Encroachment closer to 33%.



**APPENDIX 2h.** Excerpt from Stormwater Plan showing the location of a Minor Encroachment from the pipes, a pit and connection into the stormwater easement within the TPZ and SRZ of T21 of approx. 3m$^2$ which equates to around 4%.



## **APPENDIX 3.** TABLE 2. SULE CATAGORIES AND SUB-CATEGORIES.

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| | Long SULE: Appeared to be retainable at the time of assessment for over 40 years with an acceptable degree of risk, assuming reasonable maintenance. | Medium SULE: Appeared to be retainable at the time of assessment for 15 to 40 years with and acceptable degree of risk assuming reasonable maintenance. | Short SULE: Appeared to be retainable at the time of assessment for 5 to 15 years with and acceptable degree of risk assuming reasonable maintenance. | Remove: Trees which should be removed within the next 5 years. | Small young or regularly clipped: Trees that can be reliably transplanted or replaced. |
| **A** | Structurally sound trees located in positions that can accommodate future growth | Trees that may only live for 15 and 40 more years. | Trees that may only live for between 5 and 15 more years | Dead, Dying suppressed or declining trees through disease or inhospitable conditions. | Small trees less than 5 m in height. |
| **B** | Trees that could be made suitable for retention in the long term by remedial care. | Trees that may live for than 40 years, but would need to be removed for safety or nuisance reasons | Trees that may live for than 15 years, but would need to be removed for safety or nuisance reasons | Dangerous trees through instability or recent loss of adjacent trees. | Young trees less than 15 years old but over 5m in height. |
| **C** | Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts | Trees that may live for more than 40 years but should be removed to prevent interference with more suitable individuals or to | Trees that may live for more than 15years but should be removed to prevent interference with more suitable individuals or to | Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form. | Trees that have been regularly pruned to artificially control their growth |

| | | | | | |
|---|---|---|---|---|---|
| | to secure their long term retention. | provide space for new plantings | provide space for new plantings | | |
| **D** | | Trees that could be made suitable for retention in the medium term by remedial care | Trees that require substantial remedial care and are only suitable for retention in the short term. | Damaged trees that are clearly not safe to retain. | |
| **E** | | | | Trees that may live for more than 5 years but should be removed to prevent interference with more suitable individuals or to provide space for new plantings. | |
| **F** | | | | Trees that may cause damage to existing structures within 5 years. | |
| **G** | | | | Trees that will become dangerous after removal of other surrounding trees | |

Table 2 Ref Barrell, Jeremy (1996). Predevelopment tree assessment. Proceedings of the International Conference on Trees and Building Sites (Chicago)