Moore Trees
Arboricultural Services
ABN 90887347745

ARBORICULTURAL IMPACT ASSESSMENT REPORT

459 Chapel Road
Bankstown NSW 2200

Date: March 2025
FINAL

Prepared for: Anglican Church Growth Corporation
c/o Sustainable Development Group Limited

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Summary

This report has been compiled for Anglican Church Growth Corporation c/o Sustainable Development Group Limited. The report concerns a portfolio of sites proposed to be used as affordable housing through the Housing Australia Future Fund. This Pre-development Tree Assessment report refers to fourteen (14) trees at 459 Chapel Road, Bankstown NSW 2200.

This report contains the following information for the Stage 2 Arboricultural Impact Assessment:

1) All trees were assessed for Useful Life Expectancy (ULE).
2) Genus and species of each tree.
3) Impact of the proposed development on each tree.
4) Impact of retaining each tree on the proposed development.
5) The Tree Protection Zone (TPZ) calculated for each tree.
6) Any branch or root pruning that may be required for trees.
7) List trees within fifteen (15) metres of the site boundary.

Based on the plans provided Trees 1-7, 11 and 12 will be removed for the purpose of the project. The street trees are possible to retain however will require canopy reduction pruning for the colonnade that has been brought forward. As such, these trees will require canopy reduction pruning so as not to abut the building façade.

Trees 13 and 14 located on the adjoining car park will require canopy reduction pruning due to the extent of canopy over hanging the clients fence line.

The five (5) trees that are proposed to be retained will require tree protection. A Tree Protection Plan, included in this report, shows the trees proposed to be retained and protected for the duration of the works. This plan is attached in Appendix 1.

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VERSION CONTROL

Date of Issue	Details
31/10/2024	Draft 1 issued
06/03/2025	Final issue
27/03/2025	Updated final issue

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1 INTRODUCTION

1.1 This Arboricultural Report is submitted to the Department of Planning, Housing and Infrastructure (DPHI) on behalf of the Anglican Church Property Trust Diocese of Sydney under Sydney Anglican Property (SAP) in support of a State Significant Development Application (SSDA) (SSD-79709963) for a mixed-use development, comprising social and affordable housing at 459-461 Chapel Road, Bankstown (the site).

1.2 This Arboricultural Impact Assessment (AIA) report has been conducted to assess the health and condition of fourteen (14) trees located at 459 Chapel Road, Bankstown NSW 2200 (Diagram 1). This report has been prepared for Anglican Church Growth Corporation c/o Sustainable Development Group Limited as required for proposed development works at this site.

The purpose of this report is to collect the appropriate tree related data on the subject trees and to provide advice and recommendations to the design and possible construction alternatives to aid against any adverse impacts on the health of the subject trees to be retained. The site trees have been previously assessed in a report titled Predevelopment Tree Assessment (PTA) Report by Moore Trees dated December 2023.

The subject trees were assessed for their health and condition. This report also includes tree protection measures that will help retain and ensure that the long term health of the trees to be retained are not adversely affected by the proposed development in the future.

As specified in the Canterbury Bankstown Council Development Application guidelines the following data was collected for each tree:

1) A site plan locating all trees over five (5) metres in height, including all street trees.
2) All trees were assessed for Useful Life Expectancy (ULE), health and amenity value.
3) Genus and species identification of each tree.
4) Impact of the proposed development on each tree.
5) The Tree Protection Zone (TPZ) calculated for each tree.
6) Any branch or root pruning that may be required for trees.

However, some of this information is not relevant for this site. Also noted for the purpose of this report were:

- Health and vigour; using foliage colour and size, extension growth, presence of deadwood, dieback and epicormic growth throughout the tree.
- Structural condition using visible evidence of bulges, cracks, leans and previous pruning.
- The suitability of the tree taking into consideration the proposed development.
- Age rating; Over-mature (>80% life expectancy), Mature (20-80% life expectancy), Young, Sapling (<20% life expectancy).

1.3 Location: The site is located at 459-461 Chapel Road, Bankstown within the Canterbury-Bankstown Local Government Area (LGA). It is located 500m of the Bankstown Station and City Centre and as such, is located within the Bankstown TOD Accelerated Precinct. The site comprises three allotments, which are all owned by the Anglican Church Property Trust Diocese of Sydney and are legally described as Lots 26A, 27A and 28A in DP7058. Combined, the site has an approximate area of 2,179m 2 . It is located on a corner and has a street frontage of 52m to French Avenue to the north and 43m to Chapel Road to the west. Diagram 2 below provides an aerial map of the site. The site currently comprises an existing 350 capacity church building, known as Saint Paul's Anglican Church, as well as an associated ministry building and an additional building containing a range of community uses. The proposed development site from herein will be referred to as "the Site".

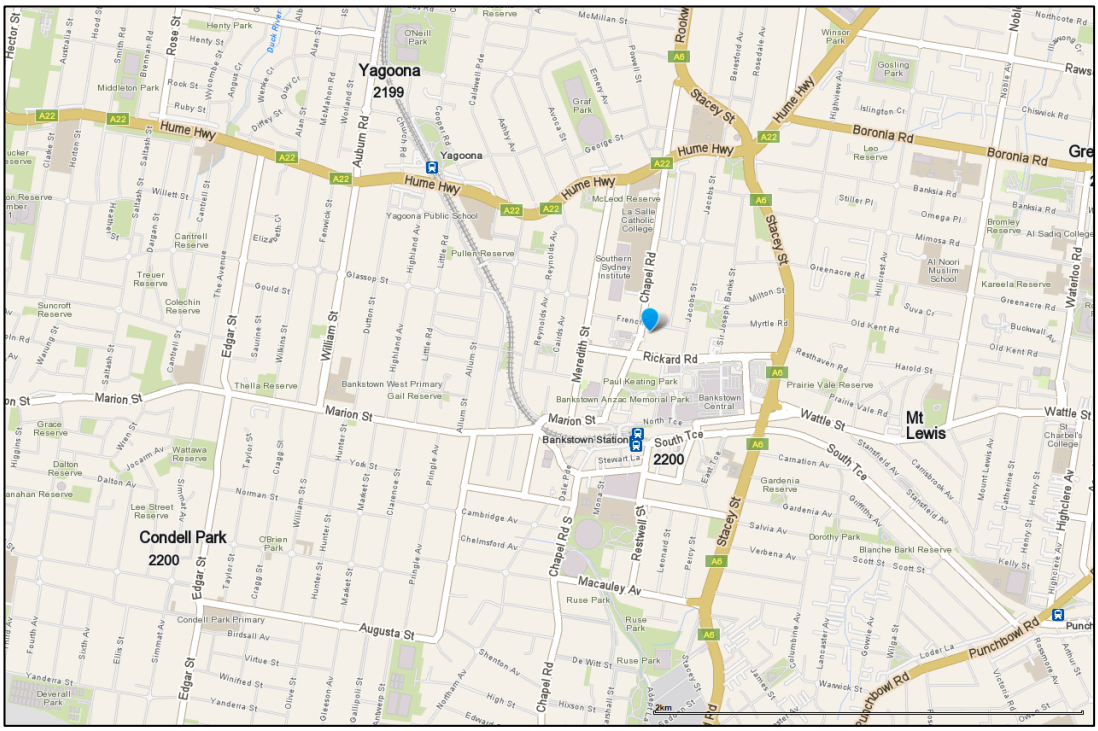


Diagram 1: Location of subject site, 459 Chapel Road, Bankstown NSW 2200 (Blue Marker) (whereis.com.au, 2024)

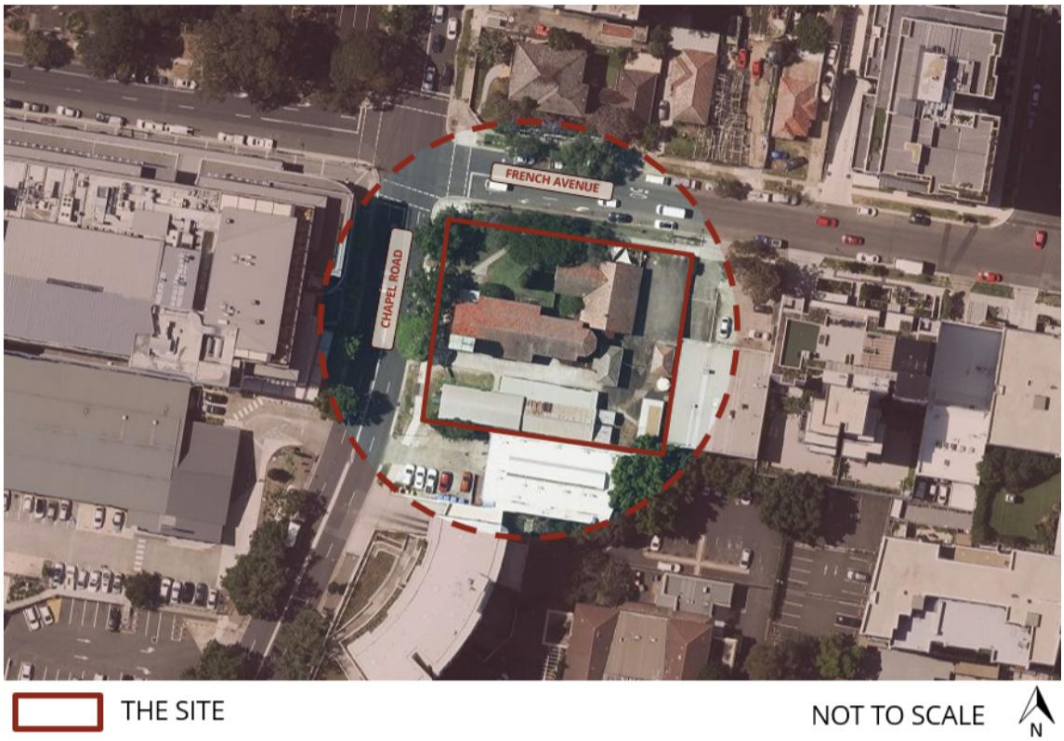


Diagram 2: Aerial view of subject site

1.4 The Proposed Development: This SSDA seeks approval for a new mixed use development comprising social and affordable dwellings, a place of public worship and a variety of commercial and community spaces. Specifically, the proposed development will comprise the following scope of works:

- Site preparation and excavation works, including demolition of all structures on the site.
- Construction of a new mixed-use 23 storey building, comprising the following:
- Ground level retail and Level 1 commercial floor space located on the corner of Chapel Road and French Avenue.
- 2 storey dual use community facility and place of public worship.
- A childcare centre with outdoor open space, which will be shared with the community facility and place of public worship after hours and on weekends.
- Approximately 186 dwellings from Level 2 and above, which will be used for the purpose of social and affordable housing, with the exception of one four-bedroom dwelling located on Level 2, which will be allocated to the church and therefore, is proposed to be ancillary to the place of public worship.
- One storey basement, comprising approximately carparking spaces, plant and loading facilities, which will be accessed via French Avenue. An at-grade shared carpark will be provided along the eastern boundary.
- Associated landscaping and public domain works.
- Extension and augmentation of physical infrastructure and utilities as required.

For a detailed project description, refer to the Environmental Impact Statement prepared by Beam Planning and the Architectural Drawings prepared by Plus.

1.5 SEARs Reporting: The State Government Planning Secretary's Environmental Assessment Requirement (SEARs) for 459 Chapel Road, Bankstown, for a mixed-use development, was issued by the Department of Planning, Industry and Environment. Point 14 – Trees and Landscaping in the Issue and Assessment Requirements SEARs table for this project (application number SSD-#(SSD-79709963)) sets out the arboricultural matters for this report:

14. *Trees and Landscaping*
    - *If the proposal involves impacts to trees, provide an Arboricultural Impact Assessment that assesses the number, location, condition and significance of trees to be removed and retained including:*
        - *any existing canopy coverage to be retained on-site.*
        - *tree root mapping. if the proposal involves significant impacts to tree protection zones of retained trees identified as being significant*

Table 1 SEARs Compliance Table

SEARS Request	Response
1. Statutory Context Address all relevant legislation, environmental planning instruments (EPI's) (including drafts), plans, policies, guidelines and planning circulars.	**The LGA (Canterbury-Bankstown Local Government Area) tree regulations.** **CBC Development Control Plan (DCP) 2023 Chapter 2, 2,3 Tree Management.**
Identify compliance with applicable development standards and provide a detailed justification for any non-compliances.	**Australian Standard *Protection of trees on development sites,* AS 4970, 2009.** **Standards Australia, 2007, *Pruning of amenity trees* AS 4373, 2007**
Provide an explanation of how the development as described in the EIS is consistent with the development as was described in the request for SEARs (including any components that were not SSD) and provide a justification for any differences.	**See Section 1.4 of this report.**
…	

2 METHODOLOGY

2.1 To record the health and condition of the trees, the initial Visual Tree Assessment (VTA) was undertaken on the subject trees on 08/11/2023. This method of tree evaluation is adapted from Matheny and Clark, 1994 and is recognised by The International Society of Arboriculture, Arboriculture Australia and The Institute Australian of Consulting Arborists (IACA). It is also known as a Level 2: Basic Assessment Process as per the International Society of Arboriculture best management practices titled *'Tree Risk Assessment"* (Smiley, Matheny & Lilly, 2011).

2.2 **Tree Protection Zone (TPZ):** The TPZ is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. TPZ's have been calculated for each tree to determine construction impacts. The TPZ calculation is based on the Australian Standard *Protection of trees on development sites,* AS 4970, 2009. The Tree Protection Zones are shown in the Tree Protection Plan (Appendix 1) along with the trees proposed to be retained.

2.3 **Structural Root Zone (SRZ)**: The SRZ is a specified distance measured from the trunk that is set aside for the protection of tree roots, both structural and fibrous. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. For the purpose of this report the SRZ is within the TPZ so no additional fencing will be required. SRZ areas are shown in the Tree Protection Plan (Appendix 1). The TPZ and SRZ are measured as a radial measurement from the trunk. No roots should be severed within the SRZ area. A detailed methodology on the TPZ and SRZ calculations can be found in Appendix 4.

2.4 **Height:** The heights and distances within this report have been measured with a Bosch DLE 50 laser measure.

2.5 **Useful Life Expectancy (ULE)**: The subject trees were assessed for a Useful Life Expectancy (ULE). The ULE rating for each tree can be seen in the Tree Assessment Schedule (Appendix 2). A detailed explanation of ULE can be found in Appendix 3.

2.6 Plans and information provided: For this Arboricultural Report I was supplied the following documents:

- Plan set by SDG marked Job # 20451, Revision 01, dated 09/10/2024.

I have not been provided any plans for engineering specifications or service diagrams for the site.

2.7 Impact Assessment: An impact assessment was conducted on the site trees. This was conducted by assessing the site survey and plans provided by the Client. The plans provided were assessed for the following:

- Reduced Level (R.L.) at base of tree.
- Incursions into the Tree Protection Zone (TPZ).
- Assessment of the likely impact of the works based on the Australian Standard *Protection of trees on development sites,* AS 4970, 2009.
- Location of sediment controls in relation to TPZ areas
- Location of stockpile areas in relation to TPZ areas
- Canopy clearance for scaffolding Australian Standard (Scaffolding) 1576.1, 2010 and Scaffolding Code of Practice 2009-Safe work Australia.

3 RELEVANT BACKGROUND INFORMATION / TREE IMPACTS

3.1 **Project Background:** SAP was formed on 1 January 2024 to provide a unified, co-ordinated approach to all diocesan property matters. A key objective of SAP is to put the Sydney Anglican Diocese's property on mission by delivering high-quality projects that provide much-needed community infrastructure, including upgraded ministry facilities, affordable housing and childcare. As part of this mission, SAP, in partnership with Anglicare, is working with the Government to deliver a 23 storey 100% social and affordable housing development on its landholdings in the Bankstown City Centre. The affordable housing will be accompanied by community and renewed ministry facilities, childcare and retail and commercial uses within the podium.The site currently contains St Paul's Anglican Church and the Rectory and associated small sheds and buildings.

3.2 The site is located on the corner of French Avenue and Chapel Road Bankstown. The site contains Trees 1 – 7 and Trees 11 and 12 are located within the site office building area. Trees 8, 9 and 10 are large mature street trees on the Chapel Road frontage. Trees 13 and 14 have also been included. Tree 13 is a large specimen that has woody surface roots present in the client's site.

3.3 **Environmental Significance**: Tree Management Controls in the Canterbury Bankstown Council are outlined in Council's Development Control Plan (DCP) 2023 Chapter 2, 2,3 Tree Management to guide the management of trees and vegetation on private and public land within the Canterbury Bankstown LGA. Chapter 2.3 of this DCP applies to the following trees:

(a) all trees that are 5m or more in height; and

(b) all mangroves, regardless of size; and

(c) all trees, regardless of size, listed as Vulnerable or Endangered or a component of an Endangered Ecological Community listed under the Biodiversity Conservation Act 2016; and

(d) all trees, regardless of size, listed under the Environmental Protection and Biodiversity Conservation Act 1999; and

(e) all trees, regardless of size, located on land included on the Biodiversity Map under the Canterbury-Bankstown Local Environmental Plan 2023; and

(f) all trees, regardless of size, located on sites listed as a heritage item in Schedule 5 of the Canterbury-Bankstown Local Environmental Plan 2023; and

(g) all trees, regardless of size, located in the foreshore area under the Canterbury Bankstown Local Environmental Plan 2023.

3.4 **Illegal tree removal:** Damaging or removing trees can result in heavy fines. Local Government does have the authority to issue on the spot fines known as penalty infringement notices (PINS) starting from $3,000 or can elect to have a potential tree damaging incident addressed in the Local Court. Recent cases, for example, include two (2) mature trees removed for development (Sutherland Shire Council (SSC) v Palamara, 2008) costing $4,500 in fines and $5,000 in court costs. SSC v El-Hage, 2010 concerning illegal tree removal of a single tree costing $31,500 in fines and $5,000 in costs. Poisoning trees can also incur substantial fines (SSC v Hill) resulted in a single tree fine that totalled $14,000 plus a $10,000 bond for a replacement tree. All of the above cases resulted in a criminal conviction for the offending parties.

3.5 **The Site Trees:** The site was inspected on 08/11/2023. Each tree has been given a unique number for this site and can be viewed on the Tree Protection Plan (Appendix 1).

3.6 Tree 1 is a large mature White Cedar in good condition (Plate A). It has undergone pruning over the years and as a result has small decay pockets in some of the pruning wounds. Trees 2 and 3 are multi-stemmed Jacaranda specimens growing in the lawn area. These trees appear to have been damaged quite early in their life and, as such, have developed multiple stems at ground level.

Plate A: Image showing Tree 1 that will have incursions to the TPZ and also require extensive canopy pruning for the new structure. P.Vezgoff

3.7 Trees 4 and 5 are two (2) large mature Bhutan cypress *(Cupressus torulosa)* that possibly date from when the church was originally constructed. Trees 6 and 7 are two (2) mature Frangipani trees, both in good health and condition growing close to existing buildings.

3.8 Trees 8, 9 and 10, along the Chapel Road frontage are street trees and, as such, are Council property (Plate B). Trees 8 and 9 are large mature London plane *(Platanus x hybrida)* that are in good health and condition with broad spreading canopies and are codominant with each other. Tree 10 is codominant with Tree 9. Tree 10 is a mature Brushbox *(Lophostemon confertus)* in fair health and condition. It appears to be under a degree of stress as evidenced by the epicormic growth along the first order limbs.

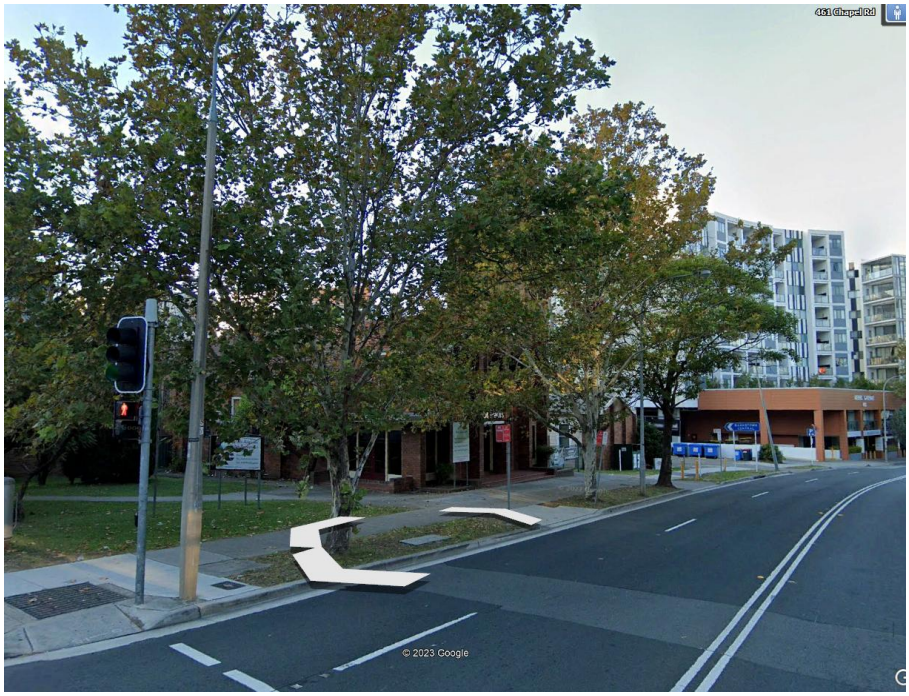


Plate B: Image showing the street trees 8, 9 and 10. Google Earth

3.9 Trees 11 and 12 are located within the rectory building garden area. Tree 11 is an overmature Peppercorn tree in poor health and condition. Tree 12 is an ornamental fruit tree only in fair condition. In terms of significance, none of the site trees would be considered highly significant or be of long-term value.

3.10 Tree 13 is a large mature Hills Weeping Fig growing in the adjoining car park area to the south-east of the site (Plate 3). This tree is approximately twenty-five (25) metres in height with an approximate twelve (12) metre canopy spread that partially overhangs the client's site. Woody roots can be found on the client's site from this tree. Below Tree 13 is Tree 14, a suppressed specimen of Lilly pilly *(Syzygium luehmannii)*, also growing on the edge of the car park. Due to the more vigorous nature of the root system of Tree 13 it is unlikely the roots from Tree 14 have been able to compete and, as such, it is unlikely there will be many roots from Tree 14 within the client's property.

Plate C: Image showing the dominant Tree 13 on the adjoining property. P.Vezgoff

3.11 **Impacts:** Based on the plans provided there will be impacts to trees numbered as 1, 4-14. Trees 8, 9 and 10 will have major incursions to their TPZ distances (>10%). These species are hardy and will tolerate the root loss however canopies will be impacted by the proximity of the structure. Trees located within the proposed building footprint that will be required to be removed are numbered as Trees 1, 4-7, 11, 12.

3.12 TPZ's have been calculated for each tree to determine construction impacts. Any excavations into the TPZ area is known as an encroachment. The TPZ calculation is based on the Australian Standard *Protection of trees on development sites,* AS 4970, 2009. Should the encroachment be less than 10% this is considered minimal. An encroachment nearing 20% is considered major. On assessment of the plans provided the encroachments have been calculated in Table 2 below.

3.13 Trees 8, 9 are both Platanus species and deciduous. This species will tolerate a degree of root loss provided it does not occur during the main growth period of spring. Tree 10, a Brushbox is a hardy species and will tolerate the encroachment. All three (3) trees will require canopy reduction pruning and based on the size of these trees at maturity will require ongoing pruning to maintain building clearance.

Tree #	TPZ	Encroachment	Comments
1	9.8m	34.1%	Located within building footprint. Removal required.
2	2.4m	100%	Located within building footprint. Removal required.
3	2.4m	100%	Located within building footprint. Removal required.
4	2.8m	100%	Located within building footprint. Removal required.
5	5.2m	100%	Located within building footprint. Removal required.
6	2.2m	100%	Located within building footprint. Removal required.
7	2.2m	100%	Located within building footprint. Removal required.
8	5.4m	20%	**Major encroachment.** This species will tolerate the extent of excavation/root loss. See Tree Protection Plan (Appendix 1) for excavation/root pruning instructions in the TPZ of this tree. Extensive canopy pruning will be

Tree #	TPZ	Encroachment	Comments
			required for the colonnade that will be on the boundary line.
9	5.5m	21.5%	**Major encroachment.** This species will tolerate the extent of excavation/root loss. See Tree Protection Plan (Appendix 1) for excavation/root pruning instructions in the TPZ of this tree. Extensive canopy pruning will be required for the colonnade that will be on the boundary line.
10	5.4m	20%	**Major encroachment.** This species will tolerate the extent of excavation/root loss. See Tree Protection Plan (Appendix 1) for excavation/root pruning instructions in the TPZ of this tree. Extensive canopy pruning will be required for the colonnade that will be on the boundary line.
11	4.6m	>50%	Located within building footprint
12	2.2m	>50%	Located within building footprint
13	15m	13.2%	**Major encroachment.** This species will tolerate the extent of excavation/root loss. Extensive canopy pruning will be required for the colonnade that will be on the boundary line.
14	2m	22.8%	**Major encroachment.** This species will tolerate the extent of excavation/root loss.

Table 2: TPZ encroachments

4 RECOMMENDATIONS

4.1 A Project Arborist should be appointed to oversee the arboricultural related works for the project. The Project Arborist should be used for arboricultural certification services and also used as a point of contact should any questions arise during the project. As specified in AS 4970, 2009, a Project Arborist is a person with a minimum Australian Qualification Framework (AQF) level 5 Diploma of Arboriculture or Horticulture qualification.

4.2 Based on the plans provided Trees 1-7, 11 and 12 will be removed for the purpose of the project. The street trees are possible to retain however will require canopy reduction pruning for the proposed awnings. Trees 13 and 14 located on the adjoining car park will require canopy reduction pruning due to the extent of canopy over hanging the clients fence line.

4.3 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ): The TPZ is implemented to ensure the protection of the trunk and branches of the subject tree. The TPZ is based on the Diameter at Breast Height (DBH) of the tree. The SRZ is also a radial measurement from the trunk used to protect and restrict damage to the roots of the tree.

The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) shall be measured from the centre of the trunk. The following activities shall be avoided within the TPZ and SRZ of the trees to be retained;

- Erecting site sheds or portable toilets.
- Trenching, ripping or cultivation of soil (with the exception of approved foundations and underground services).
- Soil level changes or fill material (pier and beam or suspended slab construction are acceptable).
- Storage of building materials.
- Disposal of waste materials, solid or liquid.

4.4 The proposed excavation to be undertaken within the TPZ of Trees 8, 9, 10 is to be excavated by hand (without the use of heavy machinery) to a depth of four hundred (400) millimetres as specified in the Tree Protection Plan (Appendix 1). Roots encountered while excavating this area may be pruned cleanly with a sharp saw.

4.5 Canopy reduction pruning: Trees 8, 9, 10, 13, 14 will require branches to be uplifted and reduced to allow for scaffolding clearance. These branches should be reduced back so as to maintain the canopy of the tree (ie, no lopping or 'flat topping') however this will be difficult to retain any natural shape due to the scaffolding pruning required. It is preferable that pruning points should be no greater than one hundred (100) millimetres in diameter. This pruning is known as selective pruning and can be read about in more detail in the Australian Standard for the Pruning of Amenity Trees (AS 4373) 2007.

4.6 Building material storage: Areas on the Site shall have to be set aside for the exclusive use of:

- Construction access points
- Position of site sheds and latrines and temporary services
- Storage of materials

These points are to be outside of any TPZ area. Any area set aside for the stockpiling of soil and waste shall have the appropriate erosion control measures around this area as specified by an engineer. These erosion control measures shall be monitored and maintained regularly throughout the construction period of the Site. These measures are to restrict any waste material entering the TPZ areas of the trees to be retained.

4.7 Tree removal: All tree work shall be carried out by a qualified Arborist and work shall be completed following AS4373-2007 *Pruning of Amenity Trees.*

4.8 Damaged trees: If any tree is damaged (bark tear, branch damage, root damage) during construction the Project Arborist shall be notified as soon as possible so that remedial action can be taken. Under no circumstances are construction personnel to repair any damaged trees.

5 TREE PROTECTION SPECIFICATION

5.1 **Trees to be protected: Trees 8, 9, 10** will require trunk protection, installed as per Section 5.3 (Tree Protection – Trunk Protection). Indicative locations of the fencing are shown in the Tree Protection Plan (Appendix 1).

5.2 **Trunk Protection:** Lengths of timber (75mm x 50mm x 2000mm) shall be fastened around the trunk with a geotextile fabric or similar between the timbers and the trunk where they are in contact with each other. These timbers are to be fastened with hoop iron strapping and not fixed directly onto the trunk of the tree. Tree protection signage (sample signage is provided in Appendix 6) is to be laminated and attached to the trunk protection.

5.3 **Tree Damage:** If the retained trees are damaged, a qualified Arborist should be contacted as soon as possible. The Arborist will recommend remedial action so as to reduce any long term adverse effect on the tree's health.

5.4 **Signage:** It is required that signage is attached to the tree protection fencing. A sample sign has been attached in Appendix 6. This sign may be copied and laminated then attached to any TPZ fencing.

5.5 Arborist Certification: It is recommended that the developer to supply Council or the Principal Certifying Authority with certification from the Project Arborist three (3) times during the construction phase of the development in order to verify that retained trees have been correctly retained and protected as per the conditions of consent and Arborist's recommendations. The certification is to be conducted by a Qualified Consulting Arborist with AQF level 5 qualifications that has current membership with either Arboriculture Australia (AA) or Institute of Australian Consulting Arboriculturists (IACA). Arborist certification is recommended:

(1) Before the commencement of demolition or construction to confirm the application of mulch and fencing has been installed;

(2) At mid point of the construction phase;

(3) At completion of the construction phase.

If you have any questions in relation to this report please contact me.

Paul Vezgoff
Consulting Arborist
Dip Arb (Dist), Arb III, Hort cert, AA, ISA

27th March 2025

www.mooretrees.com.au

6 IMAGES

Plate 1: Image showing Tree 1. P. Vezgoff.

Plate 2: Image showing Tree 2 and 3. P. Vezgoff.

Plate 3: Image showing Trees 4 and 5. P. Vezgoff.

Plate 4: Image showing Tree 6. P. Vezgoff.

Plate 5: Image showing Tree 8, 9 and 10. P. Vezgoff.

Plate 6: Image showing Tree 8. P. Vezgoff.

Plate 7: Image showing Tree 9. P. Vezgoff.

Plate 8: Image showing Tree 10. P. Vezgoff.

Plate 9: Image showing Tree 11 and 12. P. Vezgoff.

Plate 10: Image showing the trunk of Tree 13. P. Vezgoff.

Plate 11: Image showing Tree 13. P. Vezgoff.

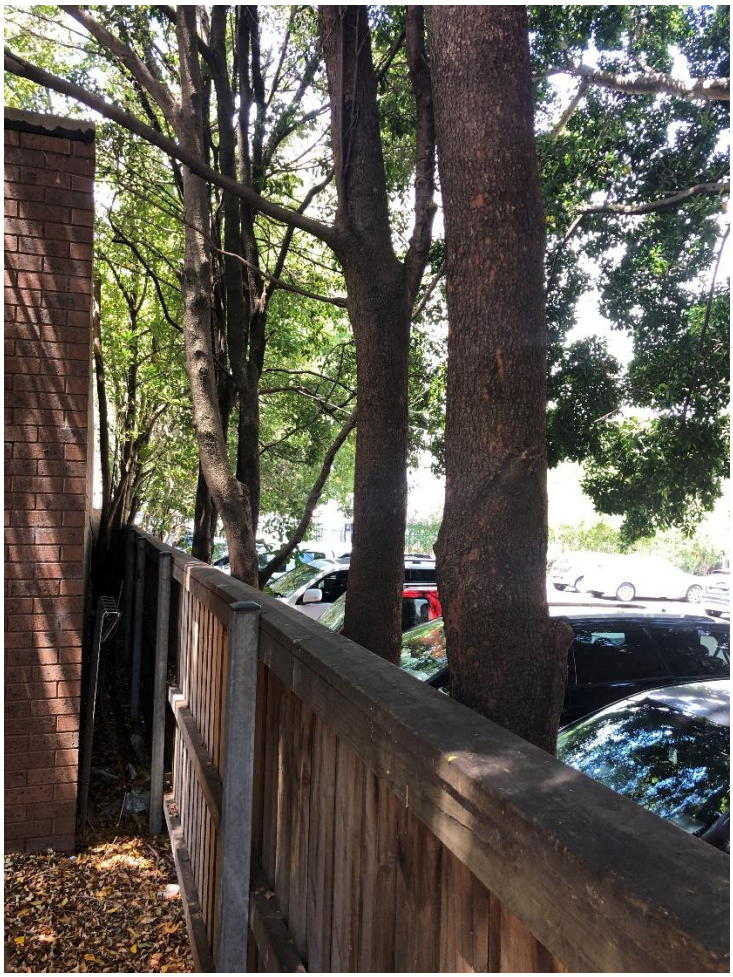


Plate 12: Image showing Tree 14. P. Vezgoff.

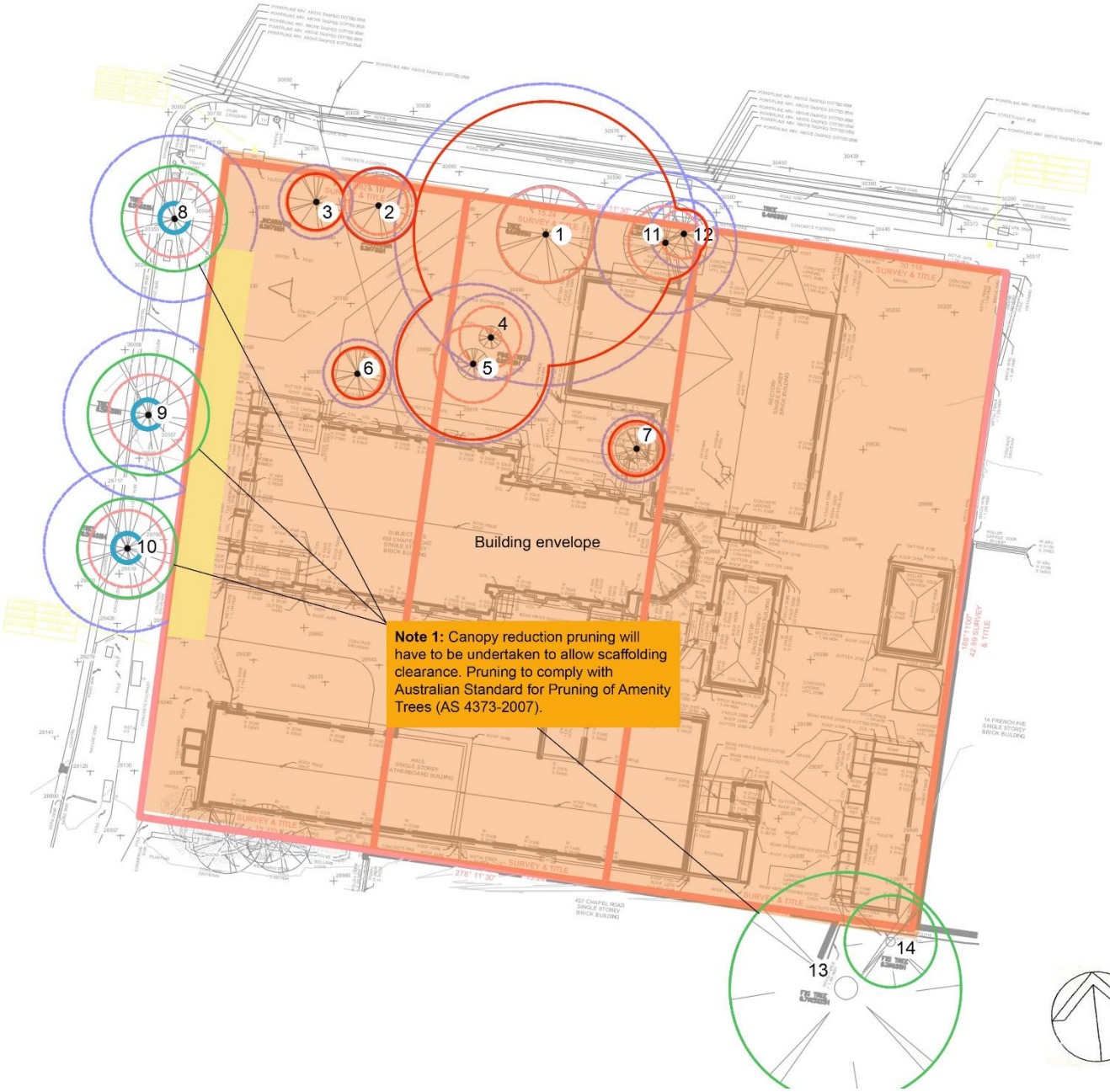
Appendix 1

Plan 1

Tree Protection Plan

Tree protection plan

Moore Trees



Tree to be retained

Tree to be removed

TPZ

Tree Protection Zone (TPZ). TPZ area based on AS 4970. See *Recommendations* and *Tree Protection* section of Arborist Report.

SRZ

Structural Root Zone (SRZ). No roots over 50mm in diametre to be severed within this area. The area within this circle is part of the larger TPZ distance.

Trunk protection. Lengths of timber (75mm x 50mm x 2000) shall be fastened to the trunk or overhead branches that are greater than 80mm in diameter. These timbers are to be fastened with hoop iron strapping and not fixed directly onto the trunk of the tree.

Location of possible root pruning. This area is to be excavated by hand to a depth of 400mm to expose any roots. If roots under 50mm are encountered they can be severed cleanly with a sharp saw. If roots over 50mm are encountered then a qualified arborist should be consulted for further advice.

Date: 04,03,2025
Drawn: P.Vezgoff
Site Address: 459 Chapel Road
Bankstown NSW 2200

Appendix 2

Tree health & condition assessment schedule

TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE – 459 Chapel Road, Bankstown NSW 2200

Tree	Species	Height (m)	Spread Radius(m)	DBH (m)	SRZ basal	Live canopy %	Defects	ULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
1	White cedar (*Melia azedarach*)	11	5.4	0.82	0.92	95	No visual defects	2a May only live for 15-40 years	Fair	Mature	Decay pockets	9.8	3.1
2	Jacaranda (*Jacaranda mimosifolia*)	5.5	3.5	0.2	0.3	95	No visual defects	2c removed for more suitable planting	Fair	Mature	Multi stemmed specimen	2.4	1.9
3	Jacaranda (*Jacaranda mimosifolia*)	5.5	3.5	0.2	0.3	95	No visual defects	2c removed for more suitable planting	Fair	Mature	Multi stemmed specimen	2.4	1.9
4	Bhutan cypress (*Cupressus torulosa*)	9	1.5	0.23	0.33	95	No visual defects	2a May only live for 15-40 years	Good	Mature		2.8	2
5	Bhutan cypress (*Cupressus torulosa*)	9	1.5	0.43	0.53	95	No visual defects	2a May only live for 15-40 years	Good	Mature		5.2	2.5
6	Frangipani (*Plumaria acutifolia*)	5	2.8	0.18	0.2	95	No visual defects	2c removed for more suitable planting	Good	Mature		2.2	1.6
7	Frangipani (*Plumaria acutifolia*)	5	2.8	0.18	0.2	95	No visual defects	2c removed for more suitable planting	Good	Mature		2.2	1.6
8	London plane (*Platanus x hybrida*)	9	4.8	0.45	0.55	95	No visual defects	1a >40 years	Good	Mature		5.4	2.5
9	London plane (*Platanus x hybrida*)	9	4.8	0.46	0.58	95	No visual defects	1a >40 years	Good	Mature		5.5	2.6
10	Brushbox (*Lophostemon confertus*)	8	4.5	0.45	0.55	90	Dead wood >50mm	2a May only live for 15-40 years	Fair	Mature	Epicormic growth on main limbs	5.4	2.5

Tree	Species	Height (m)	Spread Radius(m)	DBH (m)	SRZ basal	Live canopy %	Defects	ULE	Condition	Age	Comments	TPZ (m)	SRZ (m)
11	Pepper tree (*Schinus molle var. areira*)	5.5	4	0.38	0.48	70	Open cavity with evidence of decay	4a Dead, dying or declining.	Poor	Overmature		4.6	2.4
12	*Prunus sp.*	4.1	2.8	0.18	0.2	95	No visual defects	2c removed for more suitable planting	Fair	Mature		2.2	1.6
13	Hill's Weeping Fig (*Ficus hillii*)	17	11	0.55	0.65	95	No visual defects	2a May only live for 15-40 years	Good	Mature	4.3m from boundary fence	15	3
14	Lilly pilly (*Syzygium luehmannii*)	6	1.5	0.2	0.3	95	No visual defects	2a May only live for 15-40 years	Good	Mature	along boundary fence	2	2

KEY

Tree No: Relates to the number allocated to each tree for the Tree Plan.

Height: Height of the tree to the nearest metre.

Spread: The average spread of the canopy measured from the trunk.

DBH: Diameter at breast height. An industry standard for measuring trees at 1.4 metres above ground level, this measurement is used to help calculate Tree Protection Zones.

Live Crown Ratio: Percentage of foliage cover for a particular species.

Age Class:	Young:	Recently planted tree	Semi-mature:< 20% of life expectancy
	Mature:	20-90% of life expectancy	Over-mature:>90% of life expectancy

ULE: See SULE methodology in the Appendix 3

Tree Protection Zone (TPZ): The minimum area set aside for the protection of the trees trunk, canopy and root system throughout the construction process. Breaches of the TPZ will be specified in the recommendations section of the report.

Structural Root Zone (SRZ): The SRZ is a specified distance measured from the trunk that is set aside for the protection of the trees roots both structural and fibrous.

Appendix 3

ULE categories (after Barrell, 2001)[1]

ULE Category	Description
Long	*Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.*
1a	Structurally sound trees located in positions that can accommodate for future growth
1b	Trees that could be made suitable for retention in the long term by remedial tree care.
1c	Trees of special significance that would warrant extraordinary efforts to secure their long term retention.
Medium	*Trees that appeared to be retainable at the time of assessment for 15-40 years with an acceptable level of risk.*
2a	Trees that may only live for 15-40 years
2b	Trees that could live for more than 40 years but may be removed for safety or nuisance reasons
2c	Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide for new planting.
2d	Trees that could be made suitable for retention in the medium term by remedial tree care.
Short	*Trees that appeared to be retainable at the time of assessment for 5-15 years with an acceptable level of risk.*
3a	Trees that may only live for another 5-15 years
3b	Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
3c	Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
3d	Trees that require substantial remedial tree care and are only suitable for retention in the short term.
Remove	*Trees that should be removed within the next five years.*
4a	Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
4b	Dangerous trees because of instability or loss of adjacent trees
4c	Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
4d	Damaged trees that are clearly not safe to retain.
4e	Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide for a new planting.
4f	Trees that are damaging or may cause damage to existing structures within 5 years.
4g	Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
4h	Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.
Small	*Small or young trees that can be reliably moved or replaced.*
5a	Small trees less than 5m in height.
5b	Young trees less than 15 years old but over 5m in height.
5c	Formal hedges and trees intended for regular pruning to artificially control growth.

updated 01/04/01)

1 (Barrell, J. (2001) "ULE: Its use and status into the new millennium" in *Management of mature trees*, Proceedings of the 4th NAAA Tree Management Seminar, NAAA, Sydney.

Appendix 4

TPZ and SRZ methodology

Determining the Tree Protection Zone (TPZ)

The radium of the TPZ is calculated for each tree by multiplying its DBH x 12.

TPZ = DBH x 12

Where

DBH = trunk diameter measured at 1.4 metres above ground

Radius is measured from the centre of the stem at ground level.

A TPZ should not be less than 2 metres no greater than 15 metres (except where crown protection is required.). Some instances may require variations to the TPZ.

The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1 metre outside the crown projection.

Determining the Structural Root Zone (SRZ)

The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree.

The SRZ only needs to be calculated when major encroachment into a TPZ is proposed.

There are many factors that affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture). The SRZ may also be influenced by natural or built structures, such as rocks and footings. An indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula or Figure 1. Root investigation may provide more information on the extent of these roots.

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

Where

D = trunk diameter, in m, measured above the root buttress

NOTE: The SRZ for trees with trunk diameters less than 0.15m will be 1.5m (see Figure 1).

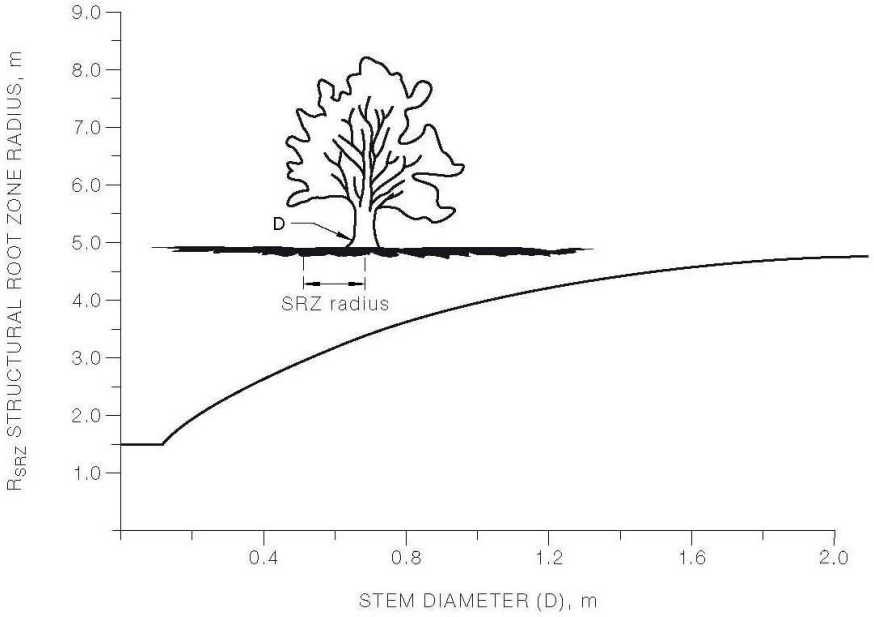


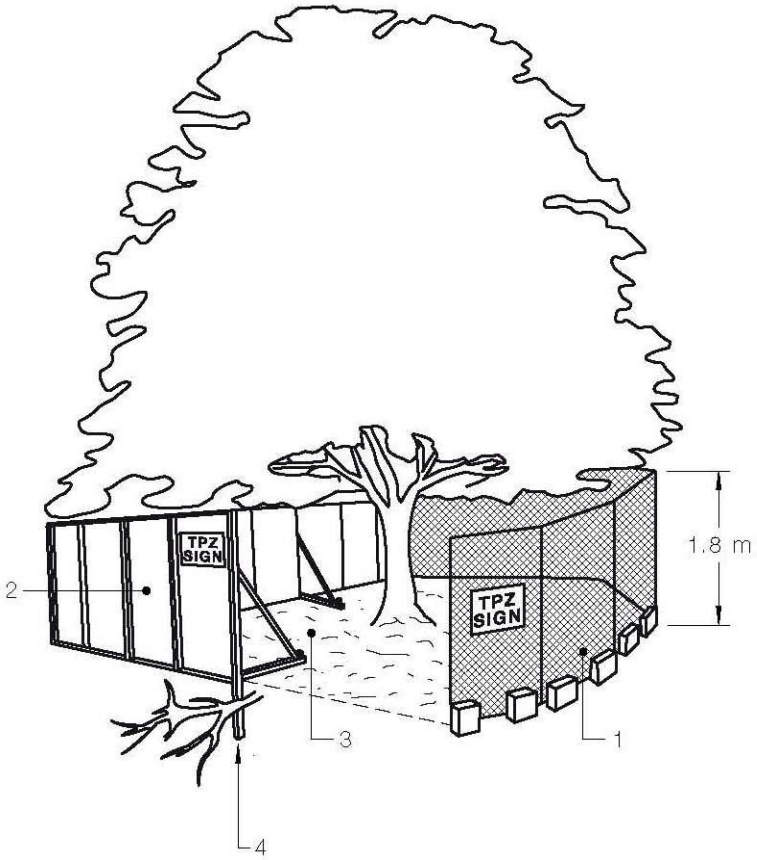
FIGURE 1 - STRUCTURAL ROOT ZONE

Notes:

1 R_{SRZ} is the structural root zone radius.
2 *D* is the stem diameter measured immediately above root buttress.
3 The SRZ for trees less than o.15 metres diameter is 1.5 metres.
4 The SRZ formula and graph do not apply to palms, other monocots, cycads and tree ferns.
5 This does not apply to trees with an asymmetrical root plate.

Appendix 5

Tree protection fencing specifications



LEGEND:

1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
2 Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil entering the TPZ.
3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Figure 1: Protective fencing as specified in AS 4970, 2009.

Appendix 6

Tree protection sign

sign sample

Moore Trees
Tree Consultancy
0411 712 887

Tree Protection Zone

Fence not to be moved without approval from Arborist

Within this fence there is to be

NO

Storage of materials

Trenching or excavation

Washing of tools or equipment

Appendix 7

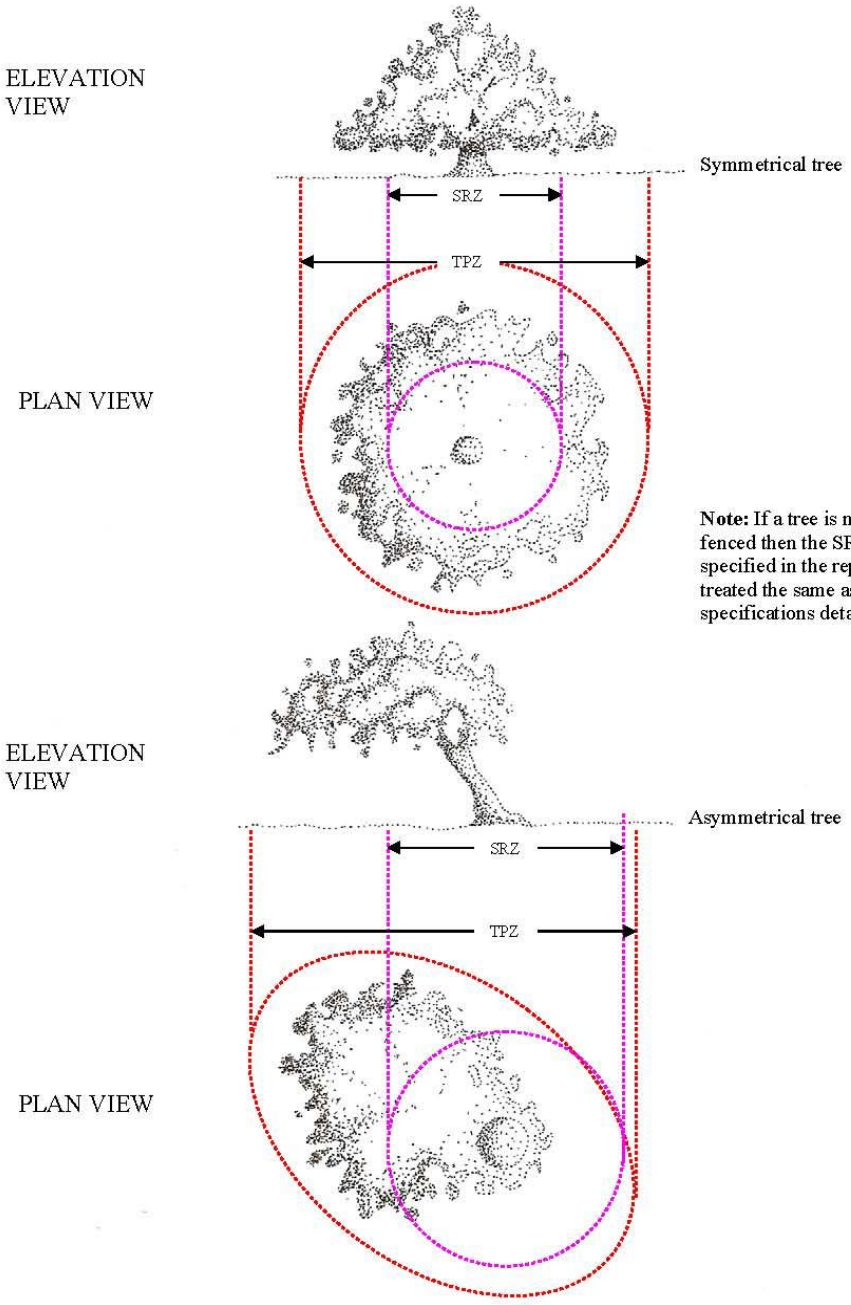


Figure 1: Indicative Tree Protection Zone (TPZ) and Root Protection Zone (SRZ)
Drawn: P. Vezgoff ©

Appendix 8

Tree structure information diagram

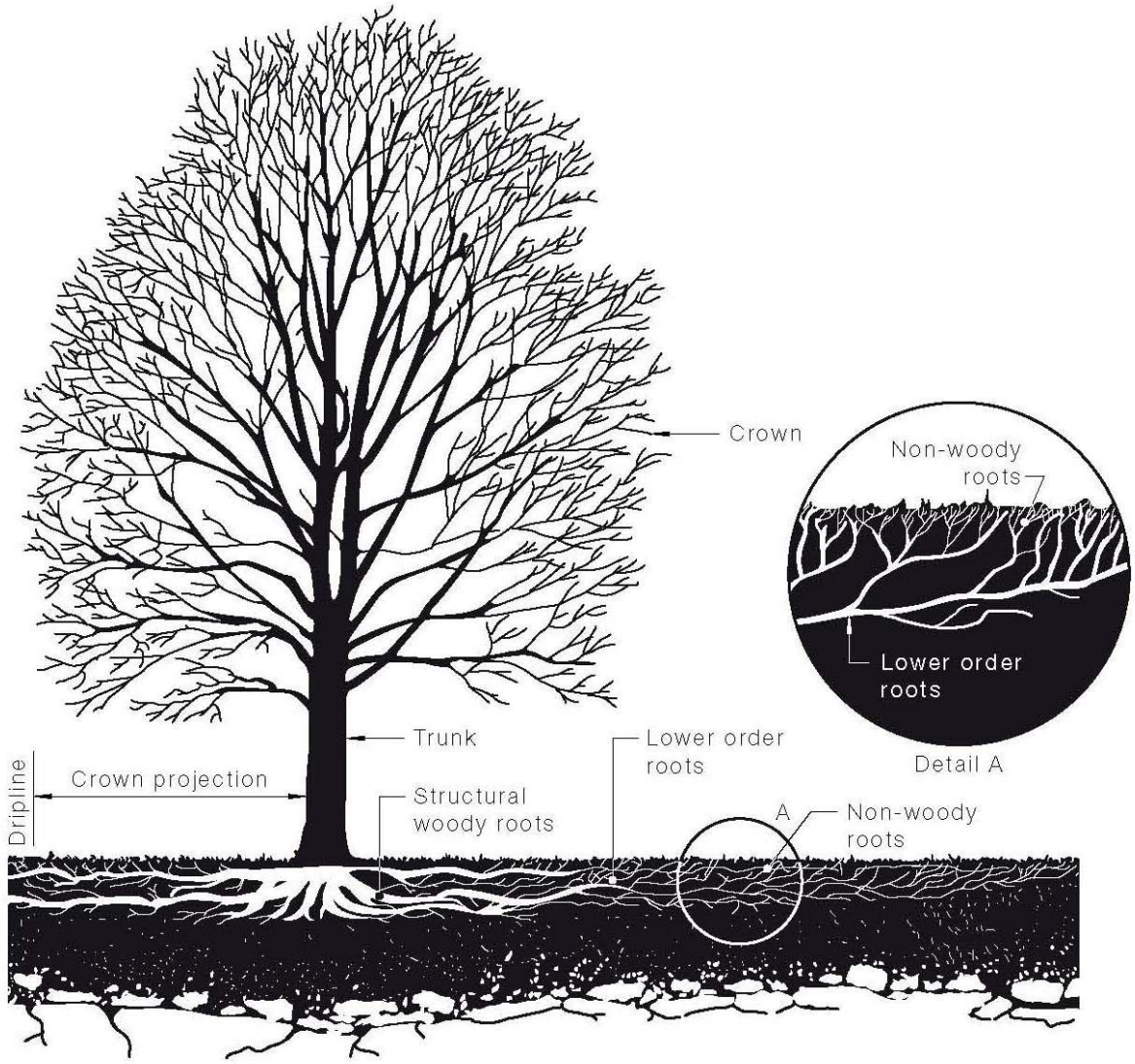


Figure 2: Structure of a tree in a normal growing environment (AS 4970, 2009.).

Appendix 9

Explanatory Notes

- **Mathematical abbreviations:** > = Greater than; < = Less than.

- **Measurements/estimates:** All dimensions are estimates unless otherwise indicated. Less reliable estimated dimensions are indicated with a '?'.

- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicated with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.

- **Height:** Height is estimated to the nearest metre.

- **Spread:** The maximum crown spread is visually estimated to the nearest metre from the centre of the trunk to the tips of the live lateral branches.

- **Diameter:** These figures relate to 1.4m above ground level and are recorded in centimetres. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems.

- **Estimated Age:** Age is estimated from visual indicators and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge.

- **Distance to Structures:** This is estimated to the nearest metre and intended as an indication rather than a precise measurement.

Appendix 10

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EDUCATION and QUALIFICATIONS

- 2013 / 2018 – ISA TRAQ qualification
- 2007 – Diploma of Arboriculture (AQF Cert V) Ryde TAFE. (Distinction)
- 1997 – Completed Certificate in Crane and Plant Electrical Safety
- 1996 – Attained Tree Surgeon Certificate (AQF Cert II) at Ryde TAFE
- 1990 – Completed two month intensive course on garden design at the Inchbald School of Design, London, United Kingdom
- 1990 – Completed patio, window box and balcony garden design course at Brighton College of Technology, United Kingdom
- 1989 – Awarded the Big Brother Movement Award for Horticulture (a grant by Lady Peggy Pagan to enable horticulture training in the United Kingdom)
- 1989 – Attained Certificate of Horticulture (AQF Cert IV) at Wollongong TAFE

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Moore Trees Arboricultural Services **January 2006 to date**
Tree Consultancy and tree ultrasound. Tree hazard and risk assessment, Arborist development application reports
Tree management plans.

Woollahra Municipal Council **Oct 1995 to February 2008**
ARBORICULTURE TECHNICAL OFFICER
August 2005 – February 2008
ACTING COORDINATOR OF TREES MAINTENANCE
June – July 2005, 2006
Responsible for all duties concerning park and street trees. Prioritising work duties, delegation of work and staff supervision.
TEAM LEADER
January 2003 – June 2005
September 2000 – January 2003
HORTICULTURALIST
October 1995 – September 2000

Northern Landscape Services **July to Oct 1995**
Tradesman for Landscape Construction business

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CONFERENCES AND WORKSHOPS ATTENDED

- TRAQ Conference, Auckland NZ / Sydney (2023)
- International Society of Arboriculture Conference (Canberra May 2017)
- QTRA Conference, Sydney Australia (November 2016)
- International Society of Arboriculture Conference (Brisbane 2008)
- Tree related hazards: recognition and assessment by Dr David Londsdale (Brisbane 2008)
- Tree risk management: requirements for a defensible system by Dr David Londsdale (Brisbane 2008)
- Tree dynamics and wind forces by Ken James (Brisbane 2008)
- Wood decay and fungal strategies by Dr F.W.M.R. Schwarze (Brisbane 2008)
- Tree Disputes in the Land & Environment Court – The Law Society (Sydney 2007)
- Barrell Tree Care Workshop- Trees on construction sites (Sydney 2005).
- Tree Logic Seminar- Urban tree risk management (Sydney 2005)
- Tree Pathology and Wood Decay Seminar presented by Dr F.W.M.R. Schwarze (Sydney 2004)
- Inaugural National Arborist Association of Australia (NAAA) tree management workshop- Assessing hazardous trees and their Safe Useful Life Expectancy (SULE) (Sydney 1997).