

Arboricultural Impact Assessment & Tree Protection Plan

27 August 2026

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Prepared for:

Urban Planning Services

Site Located at:

25 & 27 Vista Street & 2959 Surfers Paradise Boulevard Surfers Paradise



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1 Introduction

This Arboricultural Impact Assessment (AIA) and Tree Protection Plan (TPP) report has been commissioned by Urban Planning Solutions and is concerned with potential impacts on existing mature size Street Trees proposed for retention and removal in Vista Street within and immediately adjacent to the proposed development at 25 & 27 Vista Street & 2959 Surfers Paradise Boulevard Surfers Paradise.

This AIA and TPP assesses these two existing mature size Street Trees proposed for retention in the road reserve immediately adjacent to the proposed development and associated earthworks that may be impacted by these works in relation to **Australian Standard 4970:2025 “Protection of Trees on Development Sites”**. The report provides recommendations and guidance to minimise impacts on existing tree assets being retained within and adjacent to the locations of proposed works.

The results of the inspection the site and trees are presented. An assessment of the current condition of the trees being retained within and adjacent to the locations of the proposed works is made, the findings of the inspection are interpreted, and the best course of action to pursue to abate any problems identified is recommended.

The report provides comment on the potential negative impacts of the proposed works associated with construction works. Recommendations for any action required to manage the trees being retained will be provided.

Recommendations of required tree protection measures in accordance with **AS4970 - 2025 Protection of trees on development sites** will be provided to mitigate potential impacts of construction activities on trees proposed for retention and to guide future development and construction activities within the site.

2 Terms Of Reference

Written instructions were received via email correspondence and confirmed on April 20th, 2026, from **Jason McGrath of Urban Planning Solutions** with regards to the proposed development at 25 & 27 Vista Street & 2959 Surfers Paradise Boulevard Surfers Paradise.

The instructions specified that the requires an Arboricultural Report to:

- Provide a review of the documentation identified in Item Nos. 1 & 3 provided.
- Undertake a site inspection.
- A written report on health and longevity of the 4 Norfolk Island Pines in Vista Street.
- Provide a written report on the root and canopy zones needed to keep clear of any of the 4 x Norfolk Island Pines being retained.

A follow-up discussion on 5/5/26 with Council Senior Arboricultural Assessment Officer, Jay Wagner, regarding this project confirmed that CoGC agrees with the proposal to remove the Norfolk Island Pine in poor health (Tree 4, located closest to the light rail) and the bifurcated twin-leader Norfolk Island Pine (Tree 3), as identified in the TPZ location plan below, in favour of advanced-sized replacement plantings of *Araucaria columnaris* (Cook Pine).

Council Senior Arboricultural Assessment Officer also supports canopy reduction back to the boundary for the remaining two Norfolk Island Pines to facilitate scaffolding and construction activity.

This report has been prepared in accordance with those instructions and discussions and has captured four (4) existing mature size Street Trees in Vista Street Road Reserve.

3 Method

Assessment of the trees were made using elements of the 'Visual Tree Assessment' (VTA – see Section 4.1) procedure. Recommendations are in reference to ***“AS4970-2025, Protection of trees on development sites”***.

This report will discuss the current structure and health of the trees and the impact of the proposed development. The report will provide recommendations as to the best management of the trees during the construction process and any necessary actions required to protect the trees and the ongoing viability including alternative construction methods, changes of design, non-invasive excavation, tree protection methods and site supervision.

- No internal diagnostic testing has been completed.
- No sub surface root testing or soil testing has been completed.



- Observations were made from the ground only by a consulting arborist (AQF Level 5 qualified).
- Tree height and canopy spread has been estimated, and stem diameter has been measured with a standard cloth diameter tape.

3.1 Visual Tree Assessment (VTA)

The VTA system is based on the theory of tree biology and physiology, as well as tree architecture and structure. This method is used by arborists to identify visible signs on trees that indicate good health, or potential problems. Symptoms of decay, growth patterns and defects are identified and assessed as to their potential to cause whole-tree, part-tree and/or branch failure.

This system is based around methods discussed in 'The Body Language of Trees'¹. For the purpose of this report, elements of the VTA system will be used, along with industry standard literature, and other relevant studies that provide an insight into potential hazards in trees.

This assessment is a snapshot of what could be reasonably seen or determined from a basic visual inspection. The VTA system is generally used as a means to identify hazardous trees; however, it is important to realize that for a tree to be hazardous there must be a target; a hazard poses no risk if there is no exposure to the target.

Mattheck, C. & Broeler, H. 1994. *The Body Language of Trees*.

3.2 Tree Health

The health and vigour of a tree is assessed by looking at the tree canopy and how it is performing. Certain indicators provide information on which to base the assessment. Abnormally small leaves, chlorosis (yellowing), sparse crown, wilting, and die-back can be signs of ill-health or decline but may also be related to a temporary imbalance due to drought or pest infestations.

Epicormic growth can be a sign of stress and low energy reserves but can also be related to increased light levels through the removal or pruning of adjacent trees. Extension growth can be a good indicator of vigour, but this can vary greatly between species and under differing climatic conditions. For these reasons, each individual symptom or observation needs to be assessed with objectivity and consideration of all available information.

3.3 Tree Structure

The structural assessment of trees is carried out using the basic framework of Visual Tree Assessment. Signs and symptoms of defects are assessed to gauge the likelihood of failure, because not every defect constitutes a hazard e.g. *"...co-dominant stems are a structural defect. The severity of the defect is increased by included bark, large crowns and strong wind."*²

If trees were removed purely on the basis that there were defects present without assessing the likelihood of failure or whether practical mitigation measures are available, the urban forest would cease to exist. A basic visual tree assessment is undertaken from ground level, if defects are suspected further investigation may be required and recommended. "When using the Visual Tree Assessment (VTA) procedure for assessing trees, as the suspicion increases that defects are present, the examination becomes more thorough and searching."

"Some defects, especially some forms of decay, do not give rise to external signs and therefore tend to escape detection in a purely visual survey. If there is no reason for suspecting a hidden defect to occur within a particular part of the tree, there is no reasonable basis for carrying out a detailed internal assessment."

*Although in theory an unsuspected defect might be detectable by the use of specialized diagnostic devices, this would be impracticable in the absence of some external sign to indicate the place which should be probed. Also, internal examination without good reason is undesirable, as it usually causes injury to the tree and is unreasonably time consuming and costly."*³

² Matheny, N. & Clark, J. 1994. *A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas*.

³ Lonsdale. 1999. *Principles of Tree Hazard Assessment and Management*.

4 The Site

City Plan

2959 Surfers Paradise Boulevard, SURFERS PARADISE, 4217

 Plan Area 421 m²
Lot/Plan 6SP243229



-  Property Specific Planning Scheme Chapters
-  View Full Planning Scheme
-  Flood depth mapping
-  Zoom to selected property
-  Clear selected property

Historic Change

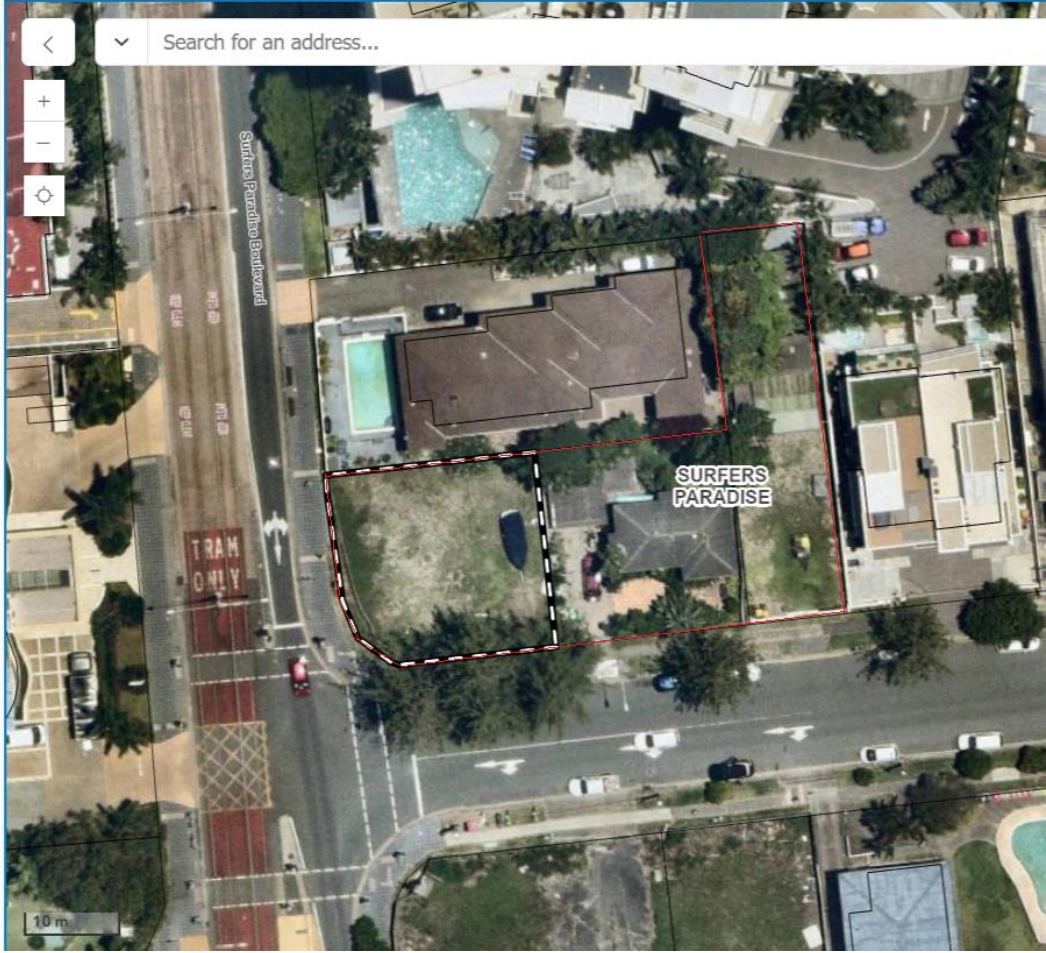
Version: v11
Effective Date: 06 Feb 2024

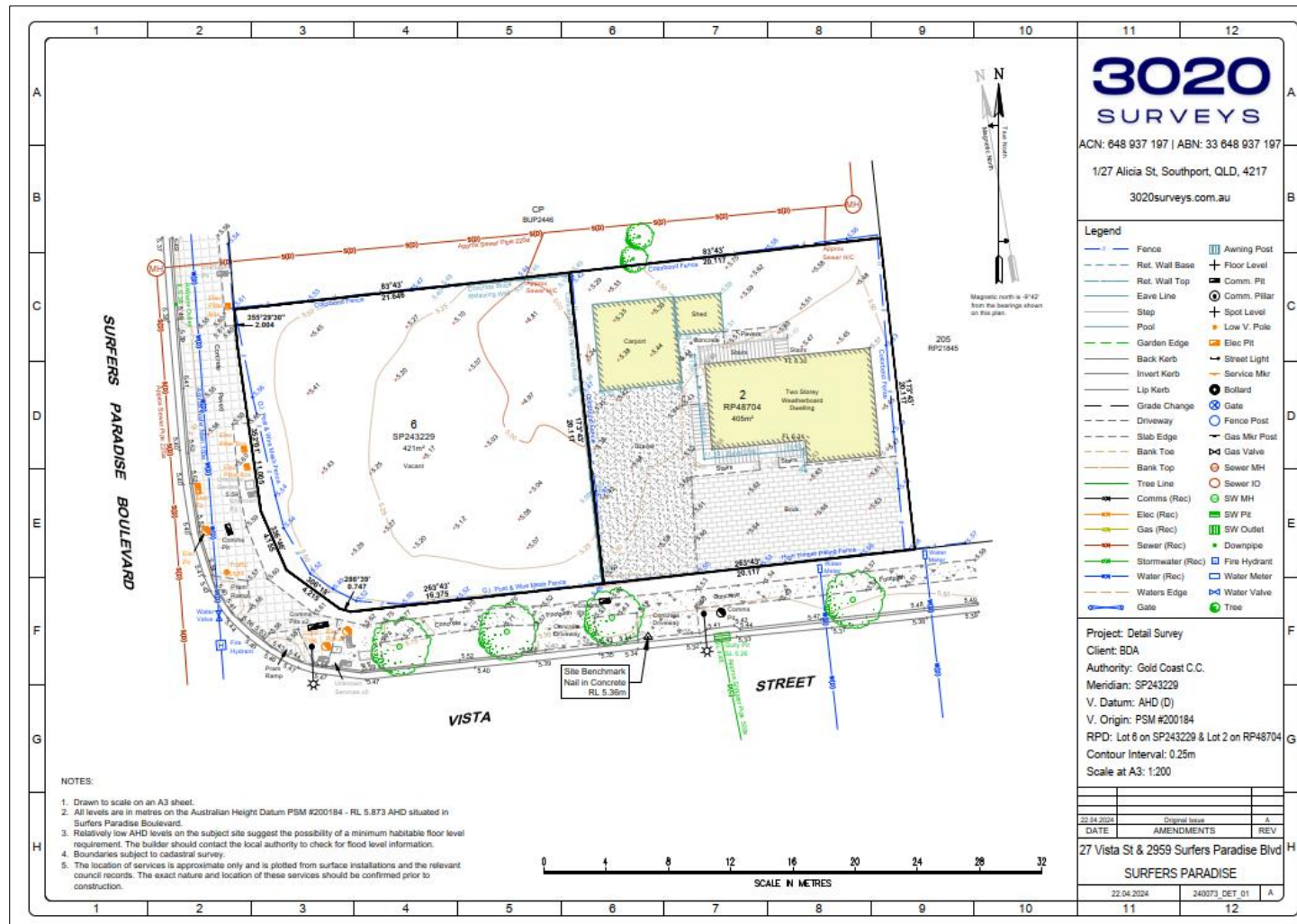
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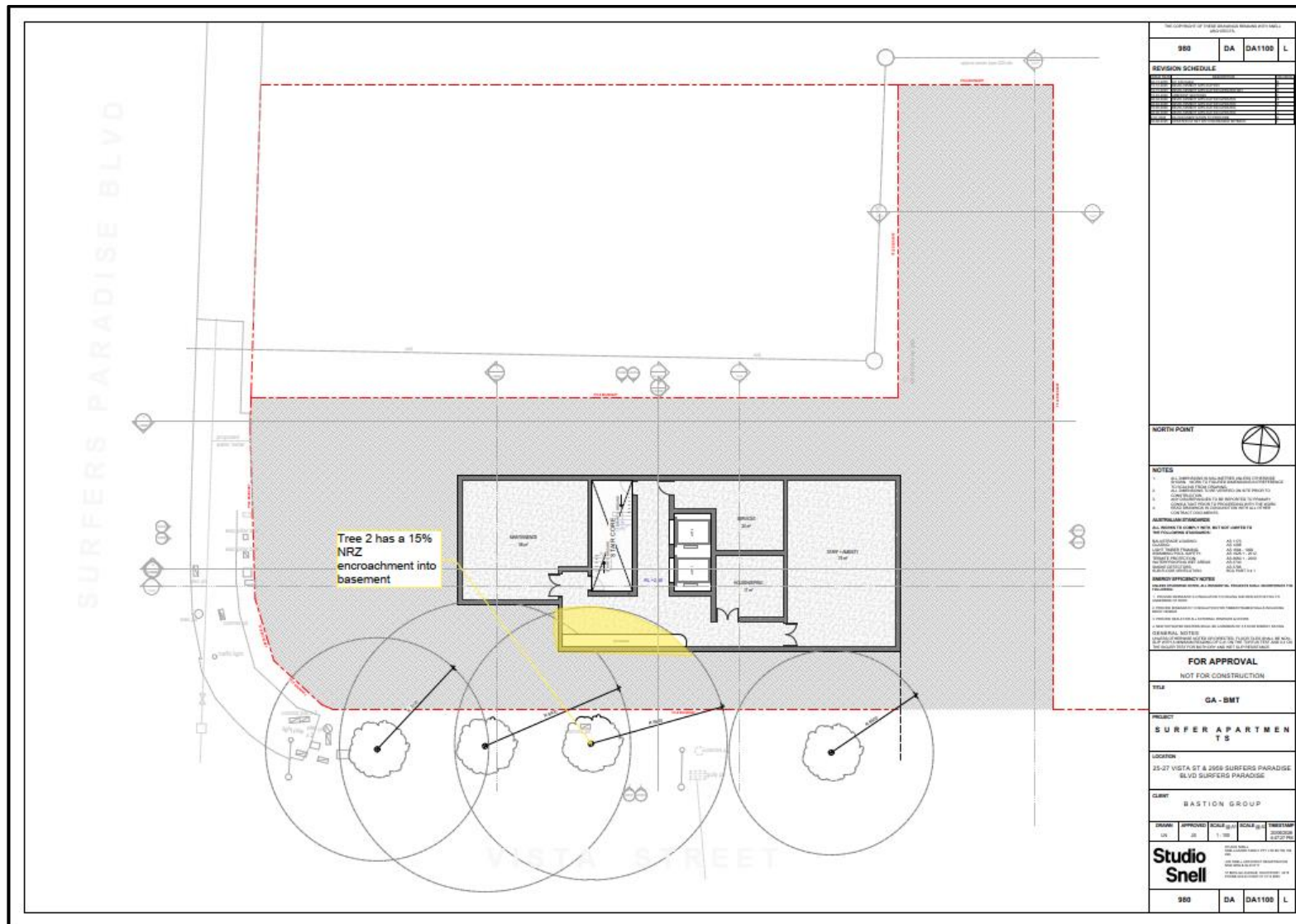
City Plan Zone ^

☒ **High density residential** ■

 View section







6 Tree Identification

On site assessments of the four (4) existing mature size *Araucaria heterophylla* – Norfolk Island Pine Street Trees immediately adjacent to area of works for the proposed development at 25 & 27 Vista Street & 2959 Surfers Paradise Boulevard Surfers Paradise was made using elements of the 'Visual Tree Assessment' (VTA) procedure – see Appendix A. The trees were assessed from the ground only. The inspection and assessments were carried out by Tony Cockram, Australian Qualifications Framework (AQF) Level 5 Arborist on Tuesday 6th May 2026. Data collected during the Arboricultural assessment included:

- Tree ID Number – A unique identification number for each individual tree specimen proposed for retention immediately adjacent to area of works.
- Botanical Name
- Common Name.
- Height – An estimate of the total height of the tree measured in metres.
- Spread – An estimate of the diameter of the tree crown at the widest point measured in metres.
- DSH – Diameter at standard height, measured at a point 1.4 metres above ground level, measured in centimetres to enable TPZ calculation where applicable.
- DAB - Diameter at base just above buttress flare to enable SRZ calculation where applicable.
- Tree Health – An assessment of the general health and condition of the tree specimen as either excellent, good, fair, poor or dead.
- Tree Structure - An assessment of the general structure and form of the tree specimen as either excellent, good, fair, poor or hazardous.

6.1 Tree Survey Data

The tree data presented in **Table 1** below was collected for the four (4) existing mature size *Araucaria heterophylla* – Norfolk Island Pine Street Trees in Vista Street immediately adjacent to area of works for the proposed development.

Data collection was undertaken during a site inspection and visual tree assessment, with reference to the Tree Protection Zone (TPZ) location plan provided. TPZ / NRZ – unless otherwise specified the Tree Protection Zone and the Nominal Root Zone will be the same dimension.

The information includes species identification, tree size, health and structure assessment, and TPZ/SRZ measurements to inform retention and protection measures during the proposed development.



6.1.1 Table 1: Tree Data

Tree ID	Scientific name / Common name	Age class	DSH / DAB (cm)	Height / Crown spread (m)	Health / Form	NRZ / SRZ radius (m)	NRZ / SRZ area (m ²)	Distance to development (m) / Observations	NRZ encroachment (%)	Retain / Remove
1	<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Mature	55/61	17/15	Good/Good	6.6/2.6	136/22.7	3m straight edge on grade/Typical form roots lifting footpath.	23% Major >20%	Retain
2	<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Mature	73/79	22/7	Good/Fair	8.8/2.9	241/28	5m straight edge on grade/Phototropic lean-to northwest, lifting footpath.	30% Major >20%	Retain
3	<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Mature	78/83	24/7	Fair/Poor	9.4/3	275/29	2.4m straight edge/ Bifurcated lean-to northwest, lifting footpath.	34% Major >20%	Remove
4	<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Mature	60/65	22/6	Poor/Poor	7.2/2.7	62/23	4.8m straight edge/Reduced vigour, tree in major decline prior to demolition.	10.9% Moderate 10-20%	Remove



7 Tree Protection Zone Encroachments

The Tree Protection Zone (TPZ) is the principal means of protecting trees on development sites. The TPZ comprises both the root zone and canopy area requiring protection and is established to isolate trees from construction-related disturbance to maintain their ongoing health and structural stability. The TPZ incorporates the Structural Root Zone (SRZ), which represents the area critical to tree stability.

In accordance with AS 4970-2025 Protection of Trees on Development Sites, limited encroachment into the calculated Notional Root Zone (NRZ) and the TPZ may be permissible where appropriately assessed and justified. Encroachment may include excavation, installation of services, compacted fill, trenching, and building foundations.

While all NRZ calculations were undertaken in accordance with AS 4970:2025, it should be noted that in coastal foreshore environments, mature Norfolk Island Pine specimens growing in sandy soil profiles typically exhibit lateral structural roots extending approximately 2.4 metres from the centre of the trunk before descending steeply for anchorage and to access the water table. This root architecture can significantly reduce the effective NRZ diameter, thereby reducing the potential impact to structural roots.

7.1.1 Encroachment Assessment

In accordance with AS 4970–2025 *Protection of Trees on Development Sites*, encroachment is considered minor where it is less than or equal to 10% of the Nominal Root Zone (NRZ) area and moderate where it is 10- 20% encroachment. In addition, the standard is considered a guideline, as stated above mature Norfolk Island Pine specimens growing in sandy soil profiles typically exhibit far smaller NRZ with lateral structural roots extending approximately 2.4 metres from the centre of the trunk.

The proposed development layout results in the following Tree Protection Zone (TPZ)/Nominal Root Zone (NRZ) encroachments:

- **Tree 1: 23% major** on grade encroachment of the calculated TPZ area. However as stated above will have no impact on the root system.
 - This loss can be offset by a compensatory area elsewhere, provided it remains contiguous with the TPZ.
- **Tree 2: 30% major** on grade encroachment of the calculated TPZ area. However as stated above will have no impact on the root system.
 - This loss can be offset by a compensatory area elsewhere, provided it remains contiguous with the TPZ.

Variations to the TPZ have been assessed by the Project Arborist with regard to the relevant considerations outlined in **Clause 3.3.4** (NRZ Encroachment) of the Standard. The two (2) existing mature size *Araucaria heterophylla* – Norfolk Island Pine Street Trees in Vista Street Road reserve

(Trees 1 and 2) nominated for retention were observed to be in good health and good- fair form at the time of inspection.

Both trees currently have lower crown overhang extending up to 2.5m over the property boundary. The proposed building is designed to achieve a clearance of 600mm from the property boundary with scaffolding to boundary, which is expected to accommodate the existing canopy. However, this will require some minor crown pruning and tying back of branches, to be undertaken in accordance with **Clause 3.3.3** (Crown Management) of AS 4970–2025 and AS 4373 *Pruning of Amenity Trees*.

Based on the extent, location, and nature of the proposed encroachments, and subject to the implementation of recommended tree protection measures, **Trees 1 and 2** are considered suitable for retention, with impacts assessed as manageable and acceptable.

8 NRZ and SRZ Calculations

In accordance with **AS4970:2025**, the Nominal Root Zone (NRZ) radius is calculated as:

$$R_{nri} = DSH \times 12$$

Where DSH is the Diameter at Standard Height, measured at 1.4m above ground level. For multi-stemmed trees:

$$R_{nri} = \sqrt{[(DSH_1)^2 + (DSH_2)^2 + (DSH_3)^2]}$$

The NRZ is measured radially from the centre of the stem and must be protected on all sides. The NRZ should not be less than 2m nor greater than 15m (except where crown protection is required).

The Structural Root Zone (SRZ) radius is calculated using the diameter at base (DAB), measured above the basal flare:

$$R_{sri} = (DAB \times 50)^{0.42} \times 0.64$$

The minimum SRZ radius is 1.5m. NRZ and SRZ areas are calculated as $\pi \times r^2$. All values are documented in Table 1 (Section 6.1).

Using the DBH* measurements gathered during the preliminary site inspection with a standard cloth diameter tape and in accordance with the guidelines of **AS4970-2025** the NZZ radius specified for the individual tree assets and as documented in **Table 1** above were calculated using the above formula.

The Structural Root Zone (SRZ) radius is calculated by measuring the diameter of the stem close to ground level, just above the basal flare. This measurement is taken as **D** and then used in the following formula: $R_{SRZ} = (D \times 50)^{0.42} \times 0.64$ and becomes the Structural Root Zone, measured radially from the centre of the stem. AS4970 states “the minimum radius for an SRZ is 1.5m”.

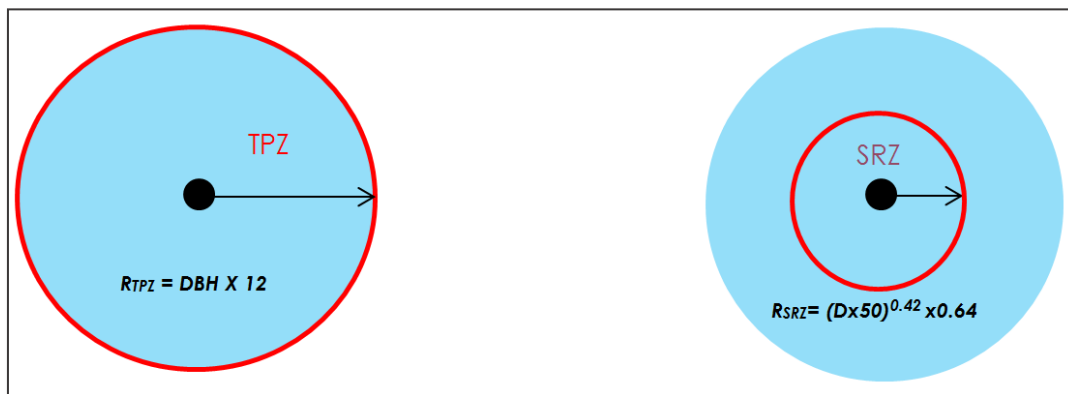


Figure 6 above provides a visual representation of the TPZ and SRZ

The SRZ radius specified for the individual tree assets and as documented in **Table 1** above were calculated using the above formula.

9 NRZ Encroachment Assessment

In accordance with **AS4970:2025**, limited encroachment into the NRZ may be permissible where appropriately assessed and justified. The Standard defines three encroachment categories:

- **Minor Encroachment:** ≤10% of NRZ area, outside the SRZ, with no recent encroachments. Low risk — standard protection measures apply.
- **Moderate Encroachment:** 10–20% of NRZ area. Requires Project Arborist review and documented mitigation measures.
- **Major Encroachment:** >20% of NRZ, or any encroachment into the SRZ. Requires detailed Arboricultural assessment prior to works.

10 Construction Management/Impact Assessment and Mitigation

Both **trees 1 and 2** identified for retention are situated immediately adjacent to the proposed development works and have had their respective Nominal Root Zone (NRZ) and Structural Root Zones (SRZ) assessed. Findings relating to development encroachment are detailed in Section 6.1.1 – Tree Data Table 1.

In accordance with AS 4970–2025 *Protection of Trees on Development Sites*, limited encroachment into the TPZ may be acceptable where appropriately justified. Such encroachments may include excavation, compacted fill, trenching for services, and building foundations.

Based on the extent, location, and nature of the proposed encroachments, and subject to the implementation of recommended tree protection measures, Trees 1 and 2 are considered suitable for retention, with impacts assessed as manageable and acceptable.

Prior to the commencement of works, both trees will be protected in accordance with AS 4970–2025. Tree Protection Fencing (TPF) will be installed along the property boundary adjacent to the nominated TPZ limits and maintained for the duration of construction works. In addition, both trees will require stem protection (wrapping) to prevent mechanical damage.

TPZ Encroachment Assessment

- The proposed Tree 1 (23%) and Tree 2 (30%) encroachments of the calculated NRZ areas while considered major in accordance with AS4970, these encroachments are on grade and unlikely to adversely impact structural stability or overall tree health in this instance. Tree 2 has a 15% basement encroachment of the calculated NRZ area that is considered moderate
- The area lost to encroachment for this tree can be compensated elsewhere, provided the compensatory area is contiguous with the TPZ, in accordance with the Standard.
- Both Trees will require crown reduction pruning of lower branches up to 2.5m to facilitate construction (see image 5), this will to be undertaken in accordance with **Clause 3.3.3** (Crown Management) of AS 4970–2025 and AS 4373 *Pruning of Amenity Trees*.

Any NRZ encroachment will be mitigated by providing compensatory contiguous TPZ areas where feasible and in accordance with the relevant AS 4970-2025 Protection of Trees on Development Sites.

10.1.1 Pruning and Arboricultural Works

Any dead-wooding or remedial pruning works will be undertaken by a suitably qualified AQF Level 3 Arborist under the supervision of the Project Arborist and in accordance with AS 4373-2007 Pruning of Amenity Trees.

11 Tree Protection Measures

11.1 Tree Protection Fencing and Construction Management

The principle means of protecting trees required to be retained on development sites is the installation of appropriate tree protection measures in accordance with the guidelines of Australian Standard 4970:2009 Protection of trees on development sites. These protection measures are required to be installed at the earliest stages of the project to isolate protected trees from the impacts of development and construction activity including demolition and site establishment.

Tree protection measures include standard tree protection fencing. Refer to **Figure 4** for recommended location around the building envelope and **Appendix C** for design.

Access to the fenced work area will be outside of retained trees TPZ. TPZ fencing is proposed in areas without existing fences that protect retained trees such as the property boundary fences. It



has not been proposed in areas outside the extent of works and where the distance from proposed works is considered sufficient protection.

Once hardscape construction works are finished, the fencing may be moved to allow access for manual landscaping works, provided no machinery enters the TPZ of any retained specimen.

11.2 Tree Protection and Construction Management Requirements

- All retained trees are to be protected in accordance with AS 4970-2025 *Protection of Trees on Development Sites*.
- Where possible, all construction work (excluding excavation) undertaken within the TPZ of retained trees is to be undertaken manually to prevent impact to the trees.
- Excavation within the TPZ of retained trees is to be undertaken with non-destructive digging (NDD) methods, e.g. vacuum excavation. This vacuum excavation will occur in the proposed 2m x 2m structural footing locations within the NRZ as identified in the TPZ location plan.
- Any crane lifting of building materials to be done outside of the canopy drip zones of retained trees.
- An AQF Level 5 Project Arborist should supervise all works within the TPZ of retained trees. If roots are exposed during these works within the TPZs they are to be reviewed by the project arborist. Roots less than 75mm diameter can be cut by hand by the arborist with a sharp clean implement. All damaged or cut roots are to be treated with appropriate fungicide, e.g. Mancozeb or similar, as per manufacturer's recommendations.
- Roots over 75mm diameter should be retained where possible and excavated around with the NDD method.
- All retained trees should be irrigated during construction works to promote health and impact repose.

11.3 Prohibited Activities

In accordance with the general guidelines of AS 4970-2025 *Protection of Trees on Development Sites* there are a range of activities that are prohibited within a prescribed TPZ. Where these types of activities are required for construction purposes Arboricultural supervision and consultation is essential to minimise potential impacts.

- *Machine Excavation including trenching.*
- *Excavation for silt fencing.*
- *Cultivation.*
- *Storage.*
- *Preparation of chemicals, including preparation of cement products.*

- *Parking of vehicles and plant.*
- *Refuelling.*
- *Dumping of waste.*
- *Washdown and cleaning of equipment.*
- *Placement of fill.*
- *Lighting of fires.*
- *Soil level changes.*
- *Temporary or permanent installations of utilities and signs.*
- *Physical damage to the tree.*

12 Tree Images



Image 1 – Tree 1 and 2 behind



Image 2 – Base of Tree 1 and 2



Image 3 – Tree 3 Bifurcation



Image 4 – Tree 3 left, Tree 4 in decline centre.



Image 5 – Extent of lower canopy reduction for Trees 1 and 2

13 Conclusion

This Arboricultural Assessment has been undertaken to confirm the species, size, condition, and proximity to proposed works to the four (4) existing mature size *Araucaria heterophylla* – Norfolk Island Pine Street Trees in Vista Street immediately adjacent to area of works for the proposed development (Trees 1-4) located within the footpath of the road reserve. At the time of inspection, both trees 1 and 2 proposed for retention were observed to be in good health and fair-good Form.

Trees 1 and 2 are detailed in Table 1 – Tree Data and are proposed to be retained and managed throughout the construction process in accordance with AS 4970–2025 *Protection of Trees on Development Sites*. **Trees 3 and 4** are proposed for removal and replacement with advanced-sized plantings of *Araucaria columnaris* (Cook Pine).

Both trees 1 and 2 proposed for retention have had their respective Tree Protection Zone (TPZ)/Nominal Root Zone (NRZ) assessed in relation to the proposed development. Based on the extent, location, and nature of the proposed encroachments, and subject to the implementation of the recommended tree protection measures, Trees 1 and 2 are considered suitable for retention, with impacts assessed as manageable and acceptable.

All construction works occurring within the TPZ of retained trees are to be undertaken under the supervision of a suitably qualified AQF Level 5 Project Arborist. Where impacts approach or exceed 10% of a tree's NRZ, non-destructive digging (NDD) methods are to be utilised for excavation works. The Project Arborist is to be present on site to supervise these activities and to assess, manage, and appropriately treat any exposed roots in accordance with industry best practice and the requirements of AS 4970–2025.

The care and protection of retained trees is critical to maintaining their health, structural integrity, and long-term viability. All recommended tree protection measures outlined in this report must be implemented and maintained for the duration of the project to ensure appropriate and sustainable outcomes.

Appendix A: Visual Tree Assessment (VTA)

The VTA system is based on the theory of tree biology and physiology, as well as tree architecture and structure. This method is used by arborists to identify visible signs on trees that indicate good health, or potential problems. Symptoms of decay, growth patterns and defects are identified and assessed as to their potential to cause whole-tree, part-tree and/or branch failure. This system is based around methods discussed in 'The Body Language of Trees'.

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occur within a particular part of the tree, there is no reasonable basis for carrying out a detailed internal assessment.

Although in theory an unsuspected defect might be detectable by the use of specialized diagnostic devices, this would be impracticable in the absence of some external sign to indicate the place which should be probed. Also, internal examination without good reason is undesirable, as it usually causes injury to the tree and is unreasonably time consuming and costly.”³

Appendix B: NRZ, SRZ and TPZ — Protection Areas

The diagram below (Figure 3 from AS4970:2025) illustrates the relationship between the Nominal Root Zone (NRZ), Structural Root Zone (SRZ), and Tree Protection Zone (TPZ) in both elevation and plan view.

The NRZ defines the theoretical root area required to sustain the tree's long-term health and viability. The SRZ defines the critical zone for structural stability. The TPZ is the physical on-site protection area implemented through tree protection fencing and site management measures.

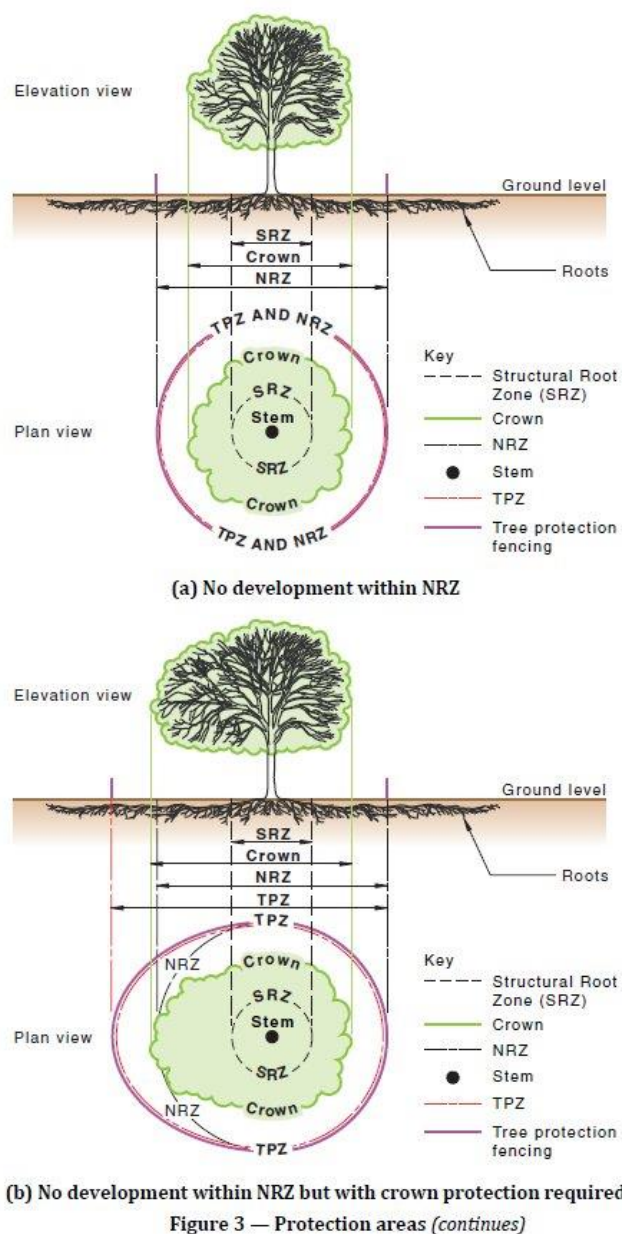


Figure C1 – Protection areas: NRZ, SRZ and TPZ (Source: AS4970:2025, Figure 3, p.16. © Standards Australia. Reproduced for reference purposes.)

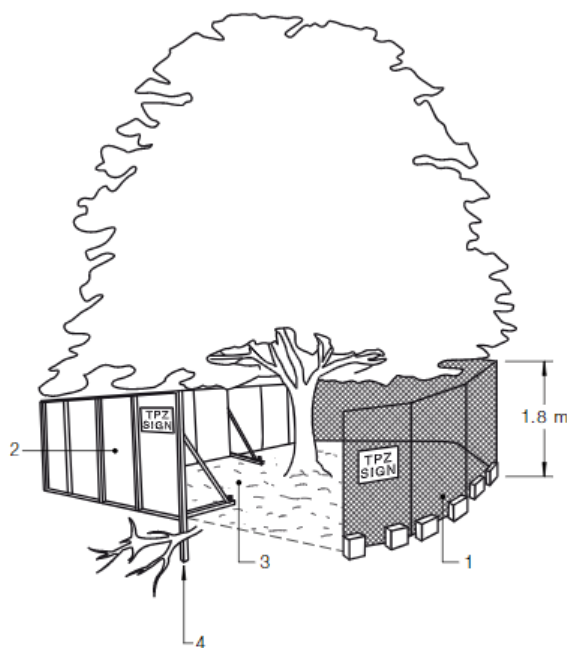
14 Appendix C: Tree Protection Fencing

14.1 C1 Tree Protection Fencing Detail

Tree Protection Fencing (TPF) must be installed in accordance with **AS4970:2025** prior to commencement of any site works. The fencing must be robust, clearly visible, and maintained in good condition for the full duration of construction.

Standard TPF components per AS4970:2025:

- Chain wire mesh panels with shade cloth (if required), held in place with concrete feet — minimum 1.8m height.
- Mulch installed across the surface of the NRZ (at the discretion of the Project Arborist) to a depth of 75mm over geotextile fabric where applicable. No excavation, construction activity, grade changes, surface treatment, or storage of any materials is permitted within the NRZ.
- Bracing is permissible within the NRZ provided supports avoid damaging roots.
- TPZ signage must be affixed to all fencing panels at regular intervals — refer to C2 for signage requirements.



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 D1 – Tree Protection Fencing detail, AS4970:2025. Chain wire mesh or paling fence, min. 1.8m height, concrete feet, mulch over geotextile.

14.2 C2 Trunk Protection, Scaffolding within TPZ, and Signage

Where scaffolding is required within the TPZ, it must be designed and installed in accordance with **AS4970:2025 Clause 4.5**. Boards or plywood must be installed over mulch for any access areas within the TPZ. Soleplate over geotextile fabric is required to minimise excavation within the TPZ.

Flexible branches should be tied back rather than pruned where scaffolding erection requires crown clearance. Any pruning required is subject to local regulations and must be conducted by an AQF Level 3 Arborist under Project Arborist supervision in accordance with AS4373.

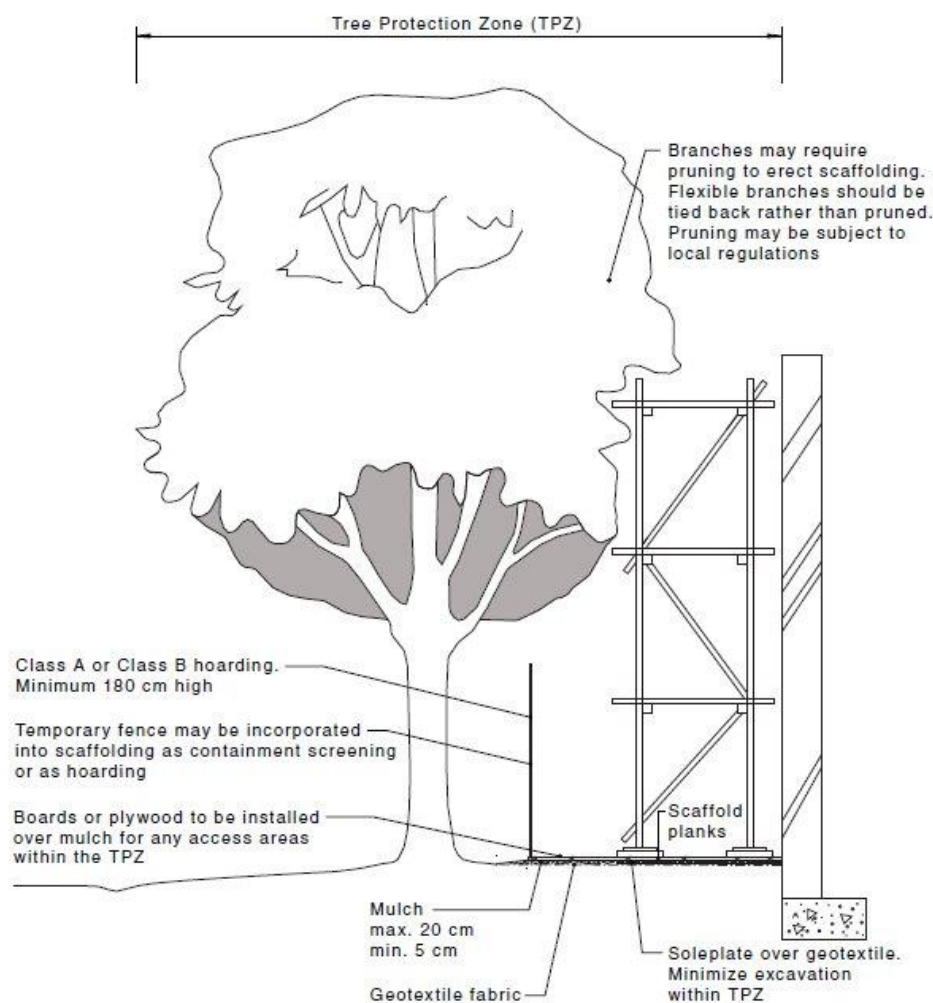


Figure 6 — Indicative scaffolding within a TPZ

4.6 Maintaining the Tree Protection Zone (TPZ)

The TPS should document the necessary maintenance activities for the TPZ throughout the duration of the project. Maintenance may include mulching, temporary irrigation and appropriate weed control.

Figure D2 – Indicative scaffolding within a TPZ (Source: AS4970:2025, Figure 6, p.24. © Standards Australia. Reproduced for reference purposes.)

14.2.1 TPZ Signage

TPZ signage must be affixed to all tree protection fencing at clearly visible intervals. Signage must identify the zone as a Tree Protection Zone, list excluded activities, and provide a contact for the Tree Protection Specifications (TPS).

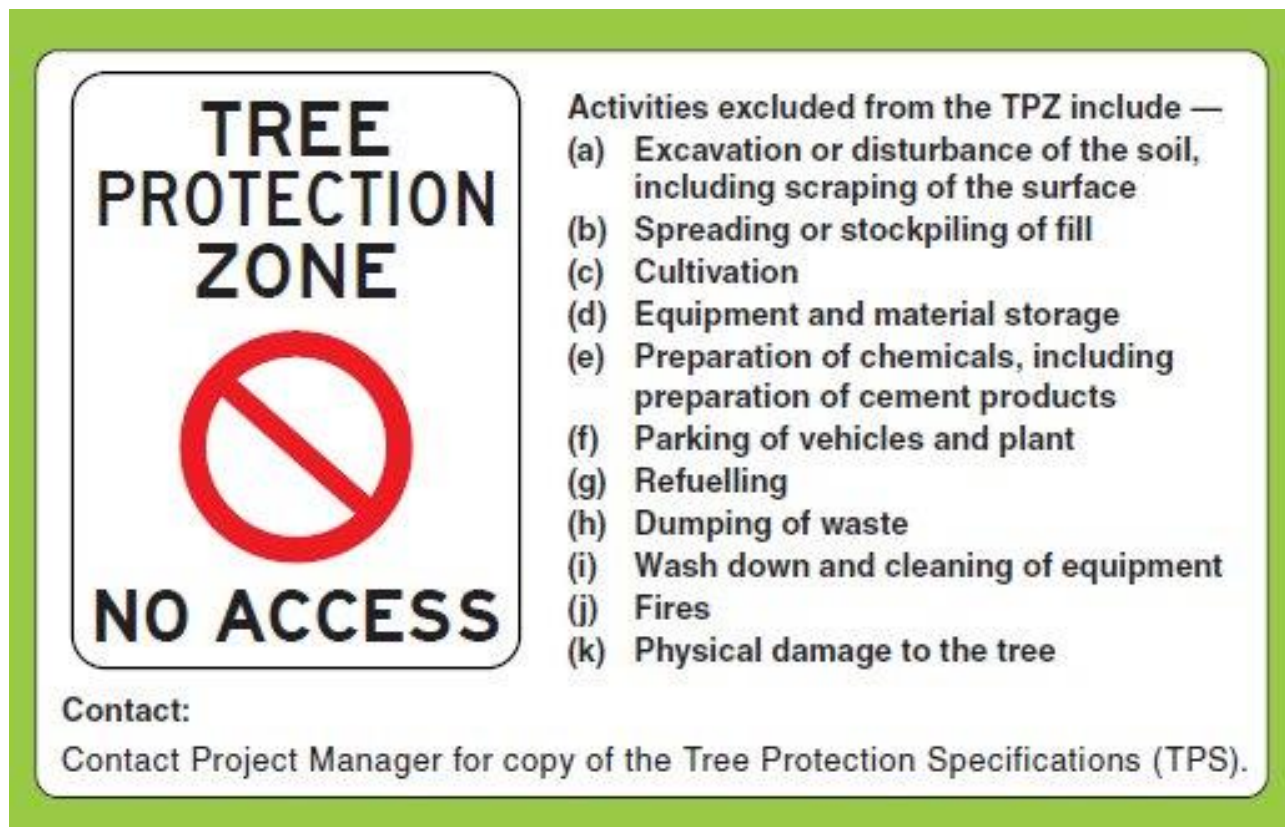


Figure D3 – TPZ signage and excluded activities (Source: AS4970:2025. © Standards Australia. Reproduced for reference purposes.)

Appendix D: References

Australian Standard AS4970:2025 — Protection of Trees on Development Sites. Standards Australia.

Australian Standard AS4373:2007 — Pruning of Amenity Trees. Standards Australia.

Smart Calculator. AS 4970-2025 NRZ/SRZ Calculator.

The Body Language of Trees: a handbook for failure analysis. Mattheck, C. & Breloer, H. (2002). The Stationery Office, London.

A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas. Matheny, N.P. & Clark, J.R. (1994). International Society of Arboriculture, Champaign, USA.

Evaluation of Hazard Trees in Urban Areas. ISA Publications Matheny, N.P. & Clark, J.R. (1994).

Appendix E: Disclosure Statement

I inspected the tree(s) listed in this report on the date of inspection stated herein. The advice given is specific to the tree(s) mentioned in this report only.

An Arboricultural consultant cannot detect every condition that could lead to the structural failure of a tree. Trees are living organisms that fail in ways that are not always predictable. Conditions are often hidden within trees and below ground. Arboricultural consultants cannot guarantee that a tree will remain healthy or safe under all circumstances or for any specified period. Remedial treatments cannot be guaranteed.

Treatments, pruning, and removal of trees may involve considerations beyond the scope of Arboricultural consulting services, including property boundaries, ownership disputes, sight lines, and landlord-tenant matters. The Arboricultural consultant cannot be responsible for issues not disclosed at the time of engagement. The consultant cannot accept responsibility for non-authorisation of recommended treatments.

All trees carry an inherent degree of risk. This evaluation does not preclude all possibilities of failure. Trees can be managed but not fully controlled. The only way to eliminate all risk associated with a tree is to remove it.

This report must be read in its entirety. No part of this assessment may be referred to in isolation from the full written report.

Appendix F: Arboricultural Consulting Assumptions & Limiting Conditions

- 1.** Any legal description provided to Heritage Tree Care is assumed to be correct. Titles and ownerships are assumed to be valid and current. No responsibility is assumed for matters legal in character.
- 2.** Heritage Tree Care assumes that the property/project is not in violation of any applicable codes, ordinances, statutes, or other government regulations.
- 3.** Heritage Tree Care has taken care to obtain all information from reliable sources. All data has been verified insofar as possible; however, the consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
- 4.** Heritage Tree Care shall not be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services.
- 5.** Loss of this report or alteration of any part of this report not undertaken by Heritage Tree Care invalidates the entire report.
- 6.** Possession of this report or a copy thereof does not imply right of publication or use for any purpose by anyone other than the person to whom it is addressed, without prior written consent of Heritage Tree Care.
- 7.** This report and any values expressed herein represent the professional opinion of Heritage Tree Care. The consultant's fee is in no way conditional upon reporting a specified value, stipulated result, subsequent event, or any particular finding.
- 8.** Sketches, diagrams, graphs, and photographs in this report are intended as visual aids only. They are not to scale and should not be construed as engineering or architectural drawings, reports, or surveys.
- 9.** Unless otherwise expressed: (1) information covers only items examined at the time of inspection; and (2) the inspection is limited to visual examination of accessible components without dissection, excavation, or probing.
- 10.** There is no warranty or guarantee, expressed or implied, by Heritage Tree Care that problems or deficiencies identified may not arise in the future.
- 11.** All instructions defining the scope of this report have been included herein. All documents and material the consultant was instructed to consider are included or listed within the report.
- 12.** To the best of the writer's knowledge, all facts, matters, and assumptions upon which the report proceeds have been stated within the body of the report. All opinions are fully researched and referenced; any opinion not duly referenced is based upon the writer's professional experience and direct observations.



Appendix G: Qualifications and Industry Experience

Tony Cockram – Manager/Senior Consulting Arborist

Professional Summary:

Tony Cockram is an **AQF Level 5 Arborist** with **36 years of industry experience**. His career experience includes:

- **President and Executive Committee Member** of the **Queensland Arboricultural Association (QAA)**.
- **Board Member** of **Arboriculture Australia**.
- **Committee Member** of **Queensland Municipal Tree Managers Forum**.
- Over 27 years as a **Team Leader / Senior Consulting Arborist** for Local and State Government.
- **Gold Coast District Manager** and **Senior Consulting Arborist** for **Heritage Tree Care** (Current).
- **Tree Assessor** for the **Queensland Civil and Administrative Tribunal** (Current); and
- **QAA Approved Consulting Arborist** (Current).

Tony's expertise spans Arboricultural assessments, tree management planning, risk assessment, development-related tree protection, and the supervision of complex construction projects adjacent to retained vegetation.

Qualifications/Licenses

Diploma of Horticulture / Arboriculture

Certificate IV Frontline Management

Diploma of Management

Diploma of Work Health & Safety

Diploma of Local Government Planning - Local Government Association of Queensland (LGAQ)

Tree Risk Assessment Qualification (TRAQ) – International Society of Arboriculture

Quantified Tree Risk Assessment (QTRA) Credential ID Licence No 2049

Licence to Perform High Risk Work Credential ID 0003109672 03