Arboricultural Impact Assessment

ARBORISTS BY NATURE

REPORT COMMISSIONED BY:
Emma Kaddatz

SUBJECT SITE:
2 Berwick Street Camberwell

REPORT PREPARED BY:

DATE OF ASSESSMENT:
Tuesday, November 04, 2025

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Tuesday, November 04, 2025

Adam Riley
Dip. Arboriculture (AQF5)

Table of context

1 Summary

This report is concerned with for (4) trees located within the subject site. 3 trees to be removed,

It is expected trees proposed to be retained will not be adversely affected by development provided recommendations in section 9 of this document are followed.

Site assumptions have been made based on the design documentation provided at the time of assessment. As the supplied plans were not to scale, all spatial relationships, construction footprints, and proposed works should be considered indicative only. Confirmation and clarification of the actual design intent and feature locations will be required through consultation between the project arborist, design team, and relevant project stakeholders prior to the commencement of works.

1.1 Author / Consulting Arborist

Name
Adam Riley

Company
Arborists by nature

Phone
0468 350 088

Email
Hello@arboristsbynature.com.au

1.2 Client

Name
Barefoot projects

Site Address
2 Berwick St
Camberwell VIC 3124

Intended Audience
- The property/tree owner(s)
- The local council
- The development project manager and associated construction staff

1.3 Brief

The purpose of this report is to provide an independent arboricultural assessment of prominent trees that are located within the subject site and adjoining properties in proximity to a proposed development as shown in the site map in section 5 of this document.

Detail has been requested in relation to the following instructions:

- To provide an objective assessment of the subject trees condition in their current state.
- To provide an objective assessment of the retention value of the subject trees.
- To determine the Tree Protection Zones (TPZ) and Structural Root Zones (SRZ) of the subject trees.
- To determine if the subject trees are expected to remain viable as a result of the proposed development.
- To propose recommendations that are expected to ensure that subject trees proposed for retention would remain viable post construction.

2 Data collection

2.1 Site Visit

- Adam Riley, of Arborists by nature, visited the site for an Arboricultural assessment on Monday the 3rd of November 2025 at 11:30am.

2.2 Method of data collection

- The subject trees were assessed using stage one of Visual Tree Assessment method. (Mattheck & Breloar, 1999)
- Observations were made as viewed from ground level.
- Field notes were documented and stored on a hard drive.
- A Samsung Galaxy smart phone was use to capture the site images and no enhancements have been made.
- A circumference tape measure was used to determine the trunk dimensions of trees within the subject site.
- A Nikon Forestry Pro clinometer was used to determine the height of the trees.

2.2.1 Documents viewed

- Plans (Contour Design Studio 06/07/2023).
- Boroondara City Council Planning Scheme.
- Boroondara City Council RFI (PP23/0570 18/08/23)
- Australian Standard AS4970 – 2025 ‘Protection of Trees on Development Sites’.
- Australian Standard AS4373 – 2007 ‘Pruning of Amenity Trees’.

2.2.2 Siting

- Trees not noted in plans and have been mapped in their approximate locations.

3 Site description

- The subject site is located in a Housing choice and transport zone - Schedule 2 within the Boroondara City Council.
- The subject site planning overlays
  HO - Heritage Overlay
  HO159 - Heritage Overlay (HO159)
  HO17 - Heritage Overlay (HO17)
- The subject trees are located within the subject site.
- The subject site is as an Residential Aged Care facility.

4 Tree data

Tree No.	Botanical Name & Common Name	Age	Origin	Height	Canopy Spread N-S	Canopy Spread E-W	DBH / CA1 / DAB	Health	Structure	ULE	Amenity Value	Retention Value	TPZ Radius (m)	SRZ Radius (m)	Comments
1	Pine. SP (Dead)	Mature	Exotic	16.0 m	6.0 m	6.0 m	0.44 m	Dead	Poor	0 – 5 years	Very Low	Low	5.28	2.35	Specimen in advanced decline. No live foliage observed. structural instability.
2	*Cupressus sempervirens* (Mediterranean cypress)	Mature	Exotic	11.0 m	6.0 m	6.0 m	1.64 m	Good	Fair	20 – 40 years	Moderate	High	15.00	5.09	Fully developed form with sound structure. Some previous pruning evident. Canopy healthy; minor deadwood observed.
3	*Cupressus sempervirens* (Mediterranean cypress)	Semi-mature	Exotic	11.0 m	3.0 m	3.0 m	1.23 m	Good	Fair	20 – 40 years	Moderate	Moderate	14.76	4.44	Developing structure, good vitality. Minor Maintain as a moderate retention specimen.
4	*Araucaria heterophylla* (Norfolk Island Pine)	Mature	Native to Norfolk Island	27.0 m	8.0 m	8.0 m	1.46 m	Good	Good	40+ years	High	High	15.00	4.59	Large, well-developed canopy. Minor lower branch conflicts. Structurally sound and suitable for long-term retention

4.1 Photographic evidence

Tree 1

Tree 2

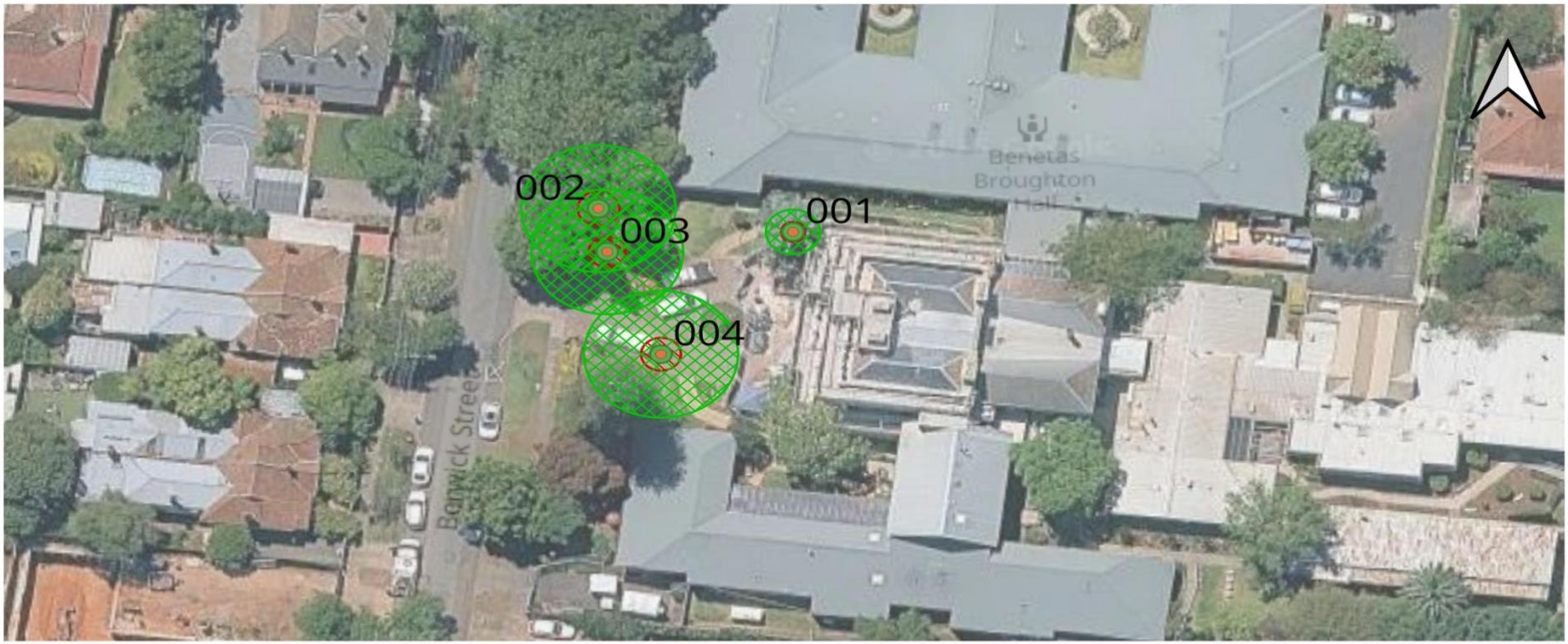
Tree 3

Tree 4

5 Site maps

5.1 Existing conditions

The following map indicates the approximate tree locations in relation to the existing conditions:



LEGEND

- Structural Root Zone (SRZ)
- Tree Protection Zone (TPZ)
- Tree Pin

Google Satellite Immagery

Author / Consulting Arborist	
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Company	Arborists by nature
Phone	0469 350 088
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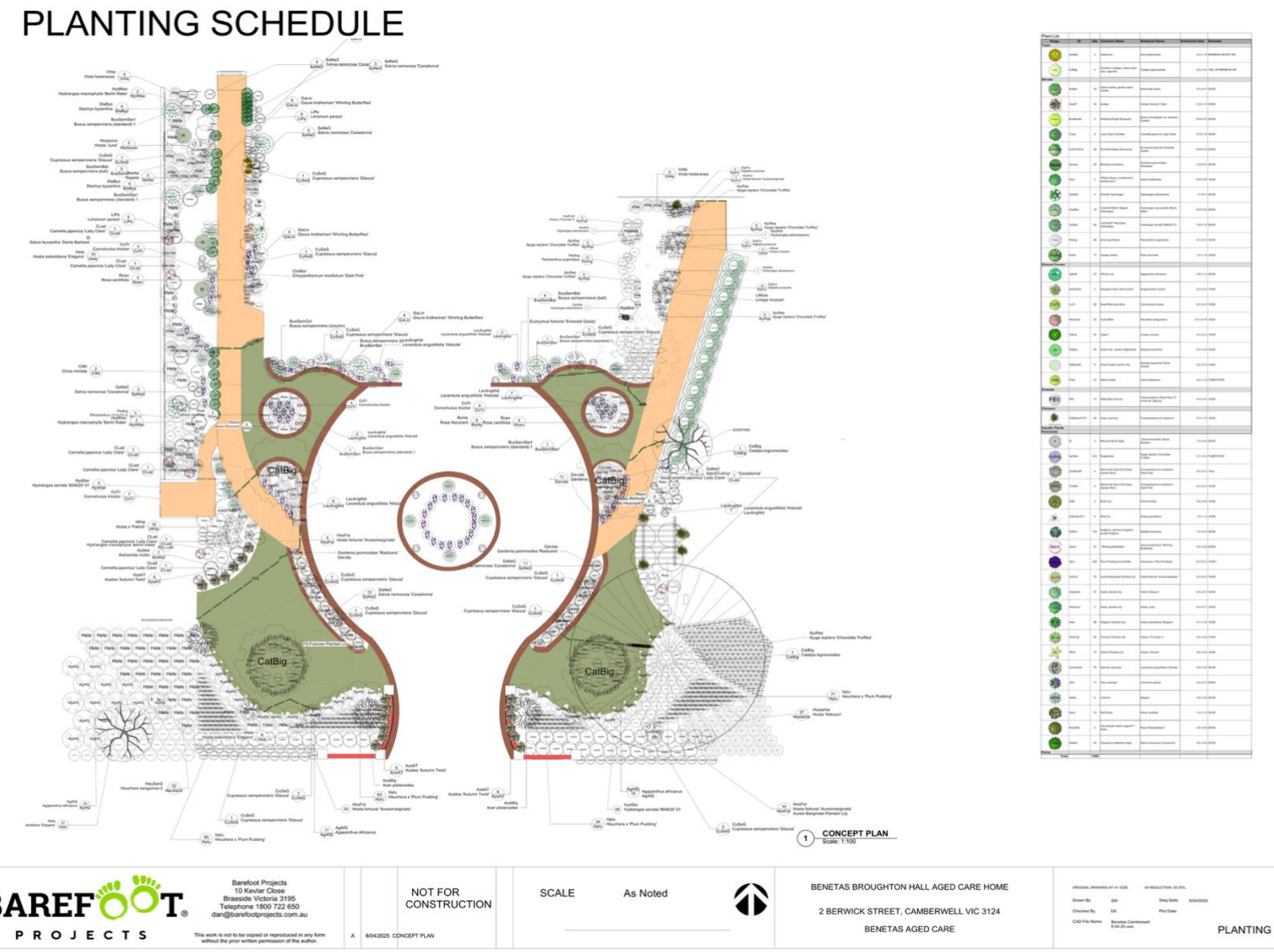
Client	Barefoot projects
Site Address	2 Berwick St Camberwell VIC 3124

5.2 Proposed plan

The following map indicates the approximate tree locations in relation to the proposed plans:



6 Discussion

6.1 Tree Protection zone

The tree protection zone is determined by multiplying the trunk diameter of the tree at breast height, 1.4m from ground level, by 12. A 10% encroachment on one side of this zone is acceptable without investigation into root distribution or offset of the lost area.

Section 3.2 of the Australian Standard AS4970 – 2009 Protection of Trees on Development Sites states that the TPZ of Palms, other monocots, cycads and tree ferns should not be less than 1 m outside the crown projection.

6.2 Structural root zone

The structural root zone (SRZ) is the setback required to avoid damage to stabilising structural roots. The loss of roots within the SRZ must be avoided. The SRZ is determined by applying the following formula: $(D \times 50)^{0.42} \times 0.64$ where D = trunk diameter in metres.

6.3 Designing Around Trees

It may be possible to encroach into or make variations to the TPZ of the trees that must be retained. Encroachment includes excavation, compacted fill and machine trenching.

The following is referenced from section 3.3.3 of the Australian Standards AS4970 – 2009 Protection of Trees on Development Sites:

6.3.1 Minor encroachment

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

6.3.2 Major encroachment

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ the project arborist must demonstrate that the trees would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods.

7 Conclusion

7.1 Tree retention value

Tree No.	Botanical / Common Name	Retention Value	Justification Summary
1	*Pine sp.* (Dead)	**Low**	Dead specimen; no live foliage; structurally unsound.
2	*Cupressus sempervirens* (Mediterranean Cypress)	**High**	Mature, good condition, sound structure.
3	*Cupressus sempervirens* (Mediterranean Cypress)	**Moderate**	Semi-mature, developing structure, healthy with minor pruning required.
4	*Araucaria heterophylla* (Norfolk Island Pine)	**High**	Mature, large and healthy, structurally sound, suitable for long-term retention.

7.1.1 High retention value

The following tree is considered to be of high retention value:

- Tree 2
- Tree 4

7.1.2 Moderate retention value

The following tree is considered to be of moderate retention value:

- Tree 3

7.1.3 Low retention value

The following trees are considered to be of low retention value:

- Tree 1

7.2 Permit requirements

Boroondara Tree Protection Local Law
Under the City of Boroondara Tree Protection Local Law (2016), trees meeting the definition of a Canopy Tree or Significant Tree are protected and may not be removed, pruned, or impacted without a permit.

A canopy tree is defined as:

- A tree with a trunk circumference of 110 cm or greater measured 1.4 m above ground level, or
- A tree with a trunk circumference of 150 cm or greater measured at ground level.
- For multi-stemmed trees, the combined circumference of all stems at 1.4 m above ground is used.

A permit is required to remove, destroy, or lop any canopy tree (including dead or recognised weed species); or conduct works within 2 m of the trunk of a canopy tree; or undertake works within the Tree Protection Zone (TPZ) of a significant tree.

Works include, but are not limited to, building, excavation, trenching, digging, filling, compaction, or storage of materials or equipment within the TPZ.
All pruning must comply with AS 4373 – 2007 Pruning of Amenity Trees and be undertaken by a qualified arborist.
Permit summary for subject trees:

Tree 1 – Permit required for removal of canopy tree (dead specimen)
Tree 2 – Permit required for works within the TPZ of a protected tree
Tree 3 – Permit required for works within the TPZ of a protected tree
Tree 4 – Permit required for removal or impact to canopy tree

All canopy trees on site meet or exceed the Boroondara Local Law threshold for protection. Tree 1, although dead, still requires a removal permit under the local law.

Any works within the dripline or TPZ must follow appropriate tree protection measures in accordance with AS 4970 – 2025 Protection of Trees on Development Sites.

The subject property at 2 Berwick Street, Camberwell VIC 3124 is located within the City of Boroondara Planning Scheme.

7.3 Planning Overlay Controls

The site is affected by the following Heritage Overlays (HO):

- HO – Heritage Overlay
- HO159 – Heritage Overlay (HO159)
- HO17 – Heritage Overlay (HO17)

These overlays provide protection for the built or cultural heritage values of the area but do not include specific tree controls under the current schedule.

Therefore, no planning permit is required for tree removal under the Boroondara Planning Scheme in relation to the above overlays.
However, a Tree Protection Local Law Permit is still required for canopy trees as outlined in Section 8.2.

7.3.1 Trees that require a permit

A permit is required to remove, destroy, or lop the following trees under Boroondara local law:

Tree 1
Tree 2
Tree 3

A permit is required Conducting works near a protected tree under Boroondara local law.

Tree 4

7.4 Impact assessment

The following table represents the encroachments of the proposed development:

Tree No.	TPZ encroachment	SRZ encroachment	Encroachment category	Proposed retention
1	>10	>10	NA	Remove
2	>10	>10	Major	Remove
3	>10	>10	Major	Remove
4	<10	<10	Minor	Retain

Note: encroachment calculations are approximate and do not consider over excavation

7.4.1 Minor encroachment

The proposed development is considered to be a minor encroachment according to section 3.3 of the Australian Standard AS4970 – The Protection of Trees on Development Sites of the following trees:

Tree 4

The proposed development is not expected to compromise the health and/or structural integrity of the above-mentioned trees.
Less invasive construction measures or development redesign is therefore not required to ensure that these trees remain viable post construction.

7.4.2 Major encroachment

The proposed development is considered to be a major encroachment according to section 3.3 of the Australian Standard AS4970 – The Protection of Trees on Development Sites of the following tree:

Tree 1

To facilitate the proposed works,
Tree 1 is dead and should be removed prior to works commencing.

Tree 2

To facilitate the proposed works,
Tree 2 will need to be removed prior to works commencing.

Tree 3

To facilitate the proposed works,
Tree 3 will need to be removed prior to works commencing.

8 Recommendations

8.1 Tree retention

The following trees are proposed to be retained:

- Tree 4

The following is recommended in order to ensure that retained trees are adequately protected:

- Comply with construction measures (8.4)
- Comply with tree protection measures (8.4)

8.2 Tree removal

The following trees are proposed to be removed:

- Tree 1
- Tree 2
- Tree 3

The following is recommended:

- Tree removal should be undertaken prior to construction commencing (including demolition).
- Written consent from the responsible authority must be obtained prior to tree removal (if required).
- To be conducted by an AQF 3 Arborists.

8.3 Less invasive construction measures

Paving

- Limit any excavation to surface scraping for levelling purposes only within the TPZ of Tree 5, unless stated otherwise by a suitably qualified arborist (AQF Level 5).
- Engage a suitably qualified arborist (AQF Level 5) to supervise any surface scraping for the paving within the TPZ of Tree 5.
- Construct paving via permeable materials of pH neutral composition which allows water to penetrate through the surface and into the soil profile within the TPZ of Tree 5.

8.4 Tree Protection Measures

8.4.1 Pruning

- Pruning for clearance may be required and must be under the supervision of the project arborists.
- Any pruning is to be conducted by an AQF 3 Arborists.

8.4.2 Encroachment Controls:

- New planting within the Tree Protection Zone (TPZ) shall be deemed an encroachment unless approved by the project arborist.
- Where understorey planting is proposed, it must be hand-dug, use tube stock ≤ 140 mm, and avoid disturbance to surface roots or soil compaction.
  All planting within the TPZ must be supervised or approved by the project arborist.

8.4.3 Tree protection fencing

- Tree protection fencing (TPF) should be installed for Trees 6,
- TPF should be installed as close to the TPZ as practically possible provided that it does not encroach onto the road, footpath, crossover or proposed works.
- The existing site perimeter fencing may be used as TPF for neighbouring trees.
- TPF should be erected prior to machinery being brought onsite for the demolition of the existing dwelling.
- TPF should be a minimum 1.8m high and comprised of wire mesh (or similar) supported by concrete feet (or similar).
- TPF should remain intact for the duration of the project.
- TPF should only be removed or shifted with the approval of the Project Arborist and the Responsible Authority.

8.4.4 Tree protection signage

- The signage on the TPF should be placed on TPZ fencing at regular intervals so that it is visible from any angle outside the TPZ.
- Signage should state 'Tree Protection Zone, No Access' or similar.
- Signage should be greater than 600mm X 400mm in size.

8.4.5 Ground protection

- In the event that ground protection is recommended by the project arborist it should consist of a layer of permeable membrane such as geotextile fabric beneath a 100mm thick layer of mulch or single-grade (no fines) crushed rock, then cover the mulch or crushed rock with a layer of strapped rumble boards.

8.4.6 Prohibitions within the TPZ

The following activities are prohibited within the TPZ:

- Parking of vehicles
- Refuelling
- Dumping of waste
- Wash down and cleaning of equipment
- Machine excavation including trenching (unless approved by the Project Arborist, Arborist supervision may be required)
- Storage
- Placement of fill
- Lighting of fires
- Physical damage to the tree
- Pruning or damaging of roots greater than 30mm in diameter.
- Cultivation
- Preparation of chemicals, including cement products

8.4.7 Scaffolding

- When scaffolding must be erected within Tree Protection Zones, cover the ground with a 10cm layer of mulch, and then cover this with boards and plywood to prevent soil compaction.

8.4.8 Drains and services

In the event that any drains or services are included in a greater than 10% encroachment into the TPZ or encroach into the SRZ of trees that are proposed to be retained, the following should be undertaken:

- Drains or services should be installed by non-root destructive means such as horizontal boring at greater than 1100mm in depth or by low pressure hydro-excavation to ensure that the bark of the roots remain intact unless a root investigation determines that the tree(s) would remain viable.

Note: encroachment calculations must consider additional encroachments e.g. site cuts, retaining walls, building footprint.

8.4.9 Site storage

- A designated storage area where building materials, chemicals etc. can be stored should be located outside the TPZ of retained trees.

9 Limitation of Liability

Arborists by nature and their employees are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

Trees are living organisms that fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been made from ground level and limited to accessible components without dissection excavation or probing. There is no guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of this report, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. Such issues cannot be taken into account unless complete and accurate information is given prior to or at the time of site inspection.

The author takes all reasonable care to ensure all referenced material is accurate and quoted in correct context but does not take responsibility for information quoted or supplied.

Information contained in this report covers those items that were examined and reflect the condition of those items at the time of inspection. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the trees or property in question may not arise in the future. Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. The only way to eliminate all risks involved with a tree is to eliminate the tree.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report.

The author shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including the payment of an additional fee for such services.

The author does not assume responsibility for legal matters, and assumes that legal descriptions, titles and ownerships are correct and good.

10 References

Australian Standards. (2007). Australian Standard AS4373-2007 Pruning of Amenity Trees. SAI Global.
Australian Standards. (2009). Australian Standard AS4970 – 2009 Protection of Trees on Development Sites. SAI Global.
Mattheck, C., & Breloar, H. (1999). *The Body Langauge of Trees.* London: The Stationary Office.

11 Definition of terms

11.1 Tree health

- Good
- Fair
- Poor
- Very poor
- Dead

Good: The tree is demonstrating good or exceptional growth for the species. The tree should exhibit a full canopy of foliage and have only minor pest or disease problems. Foliage colour size and density should be typical of a health specimen of that species.

Fair: The tree is in reasonable condition and growing well for the species. The tree should exhibit an adequate canopy of foliage. There may be some dead wood in the crown, some grazing by insect or animals may be evident, and/or foliage colour, size or density may be atypical for a healthy specimen of that species.

Poor: The tree is not growing to its full capacity. Extension growth of the laterals may be minimal. The canopy may be thinning or sparse. Large amounts of dead wood may be evident throughout the crown, as well as significant pest and disease problems. Other symptoms of stress indicating tree decline may be present.

Very poor: The tree appears to be in a state of decline, and the canopy may be very thin and sparse. A significant volume of dead wood may be present in the canopy, or pest and disease problems may be causing a severe decline in tree health.

Dead: The tree is no longer alive.

11.2 Structure

- Good
- Fair
- Poor
- Very poor
- Failed

The definition of structure is the likelihood of the tree to fail under normal condition. A tree with good structure is highly unlikely to suffer any significant failure, while a tree with poor to very poor structure is likely or very likely to fail.

Good: The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunks or the branches. Major limbs are well defined. The tree would be considered a good example for the species. Probability of significant failure is highly unlikely.

Fair: The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance at some branch unions or branches may be exhibiting minor structural faults. If the tree has a single trunk, this may be on a slight lean, or be exhibiting minor defects. Probability of significant failure is low.

Poor: The tree may have a poorly structured crown, the crown may be unbalanced, or exhibit large gaps. Major limbs may not be well defined; branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered major root damage. Probability of significant failure is moderate.

Very poor: The tree has a poorly structured crown. The crown is unbalanced or exhibits large gaps. Major limbs are not well defined. Branch unions may be poor or faulty at the point of attachment. A section of the tree has failed or is in imminent danger of failure. Active failure may be present, or failure is probably in the immediate future.

Failed: A significant section of the tree or the whole tree has failed.

11.3 Useful Life Expectancy (ULE)

- 0 years
- Less than 5 years
- 5 to 10 years
- 10 to 20 years
- 20 +

Useful life expectancy is approximately how long a tree can be retained usefully in the landscape providing site conditions remain unchanged and the recommended works are completed. It is based on the principals of usefulness in the landscape and should not reflect personal opinions on species suitability.

0 years: The tree may be dead or failed and/or no longer provides any amenity value.

Less Than 5 years: The tree under normal circumstances and without extra stress should be useful for a maximum of 5 years. The tree will need to be replaced in the short term. Replacement plants should be established as soon as possible if there is efficient space, or consideration should be given to the removal of the tree to facilitate replanting.

5 to 10 Years: The tree under normal circumstances and without extra stress should be useful for a maximum of 10 years. Trees in this category may require regular inspections and maintenance particularly if they are large specimens. Replacement plants should be established in the short term if there is sufficient space, or consideration should be given to the removal of the tree to facilitate replanting.

10 to 20 Years: The tree under normal circumstances and without extra stress should be useful for a maximum of 20 years. During this period, regular inspections and maintenance will be required.

20 + Years: The tree under normal circumstances and without extra stress should be useful for more than years 20 years. During this period, regular inspections and maintenance will be required.

11.4 Tree Retention Value

- High
- Moderate
- Low
- Other Person's Tree
- Council Owned Tree

High: The tree may be significant in the landscape, offer shade and other amenities such as screening. The tree may assist with erosion control, offer a windbreak or perform a vital function in the location (e.g. habitat, shade, flowers or fruit). The tree is free from structural defects and is vigorous. Consider the retention of the tree and designing the development to accommodate the tree.

Moderate: The tree may offer some screening in the landscape or serve a particular function in the location and have minor structural defects. The tree may entering the mature stage of its life cycle. The tree may be retained if it does not hamper the design intent.

Low: The tree offers very little in the way of screening or amenity and may have significant structural defects. The tree may also be mature and entering the senescent stage of its life cycle. The tree may be removed if necessary.

Other Person's Tree: The tree is located within an adjoining private property/land. The tree is to be protected unless written consent from the tree owner(s) and/or responsible authority is obtained. Consider the retention of the tree unless written consent is obtained from the tree owner and/or responsible authority.

Council Owned Tree: The tree is located within Council owned land. The tree is to be protected unless written consent from the responsible authority is obtained. Consider the retention of the tree unless written consent is obtained from the tree owner and/or responsible authority.

11.5 Age

- Young
- Semi Mature
- Mature
- Senescent

Young:	Juvenile or recently planted approximately 1-7 years.
Semi Mature:	Tree actively growing.
Mature:	Tree has reached expected size in situation.
Senescent:	Tree is over mature and has started to decline.

11.6 Amenity Value

Very Low:	Tree makes little or no amenity value to the site or surrounding areas. In some cases, the tree might be detrimental to the area's amenity value (e.g. unsightly, risk of weed spread)
Low:	Tree makes some contribution of amenity value to the site but makes no contribution to the amenity value of surrounding areas. The removal of the tree may result in little loss of amenity. Juvenile trees, including street trees are generally included in this category. However, they may have the potential to supply increased amenity in the future.
Moderate:	The tree makes a moderate contribution to the amenity of the site and/or may contribute to the amenity of the surrounding area.
High:	The tree makes a significant contribution to the amenity value of the site, or the tree makes a moderate contribution to the amenity value of the larger landscape. The amenity value rating considered the impact that the tree has on any neighbouring sites as being equally important to that supplied to the subject site. However, trees that contribute to the general area (e.g. streetscape) are given a greater weight.

11.7 Terms within tree data table

- DBH
- DAB
- CA1
- TPZ
- SRZ

DBH: Diameter at breast height (1.4m from ground level)
DAB: Diameter at base of tree
CA1: Circumference of trunk at 1m from ground level
TPZ: Tree Protection Zone
SRZ: Structural Root Zone