ARBORICULTRAL IMPACT STATEMENT

808 Henry Lawson Drive

Picnic Point NSW 2213

31st March 2023

Prepared for
Briony Walker

Presented by
Stephen Warner

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AQF Level 5 Consulting Arborist
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1 Executive summary/abstract

I, Stephen Warner have been engaged to carry out an Arboricultural Impact Statement for Mrs Briony Walker, at 808 Henry Lawson Drive, Picnic Point, NSW, 2213. One (1) tree species was assessed for maturity, vigour, form, structure, defects, pests, disease and significance. All of this information I observed during my visit has been documented in table form, results can be found in section ***7.1 Appendices under Tree Schedule***. This report will also determine the tree retention values.

This assessment determined the following;

Trees suitable for retention:

Tree 1 is considered specimen tree being for high retention value without major change in existing site conditions or major modification within its Tree Protection Zone (TPZ) radiuses.

Information regarding the impact of the proposed development on each tree and recommendations can be found in ***Appendix G: Impact Assessment Schedule.***

Tree protection measures for this tree will reduce the impact of the damage caused by construction work and can be found in section ***5.2 Recommended Tree Protection Measures***.

2 Introduction

I, Stephen Warner have been engaged by Mrs Briony Walker to carry out an Arboricultural Impact Statement. The Report will be carried out on one (1) tree located at 808 Henry Lawson Drive, Picnic Point, NSW, 2213.

2.1 Aim

The Arboricultural impact report that I will be providing will cover, the health and condition of the selected trees and observations I make during my visit to 808 Henry Lawson Drive, Picnic Point, NSW, 2213. This report will also include a recommendations for retention or removal of trees based on the trees condition and a final conclusion to my findings. This report will also determine the tree retention values and assess the potential impact of the proposed development on the subject trees.

2.2 Method

The methods that I will be using during my observations are recognised tree assessment methods used by Institute of Australian Consulting Arboriculturists (I.A.C.A) and the International Society of Arboriculture (I.S.A).

The assessment methods will be used to gain detailed information on: Condition (V.T.A), Life Expectancy (S.U.L.E) and Retention Value (S.T.A.R.S) associated with the trees. These are industry Standards.

The manual tools that I will use during my assessment of the tree are as follows:

- For Height – I will be using a Forest Pro Laser Range Finder;
- For Spread – I will be using a Forest Pro Laser Range Finder

Both are used by professionals within the Industry.

- Diameter at Breast Height (A D.B.H.) – Measured at 1.4 meters using a Diameter Tape
- An app on my Smart phone “Level Tool” to measure the trees lean
- A sounding mallet will also be used to sound out and test for hollows in the tree trunk.

No aerial (climbing) inspection, woody tissue testing or tree root investigation was undertaken as part of this assessment.

Also used as a guideline in my report is the New South Wales State Environmental Protection Policy (N.S.W S.E.P.P) The Canterbury Bankstown Councils Tree Management Policy, The Canterbury Bankstown Councils Local Environmental Plan (L.E.P) and Development Control Plan (D.C.P).

3 Observations/Discussion

Detailed tree results can be found in section ***7.1 Appendices under Tree Schedule***.

3.1 Site

Figure 1 - 808 Henry Lawson Drive, Picnic Point, NSW, 2213. Source: https://maps.six.nsw.gov.au

808 Henry Lawson Drive, Picnic Point, NSW, 2213 is the proposed site for a new development proposal to be constructed within the site.

The land is located in the Canterbury Bankstown Councils Local Government Area with the proposed development area located at 808 Henry Lawson Drive, Picnic Point, NSW, 2213. The tree has been accorded a temporary identification number and is referred to by number throughout this report.

The following was observed and recorded at time of inspection by Stephen Warner (The author, AQF5) on 31st March, 2023.

3.2 Tree 1 – *Eucalyptus punctata*

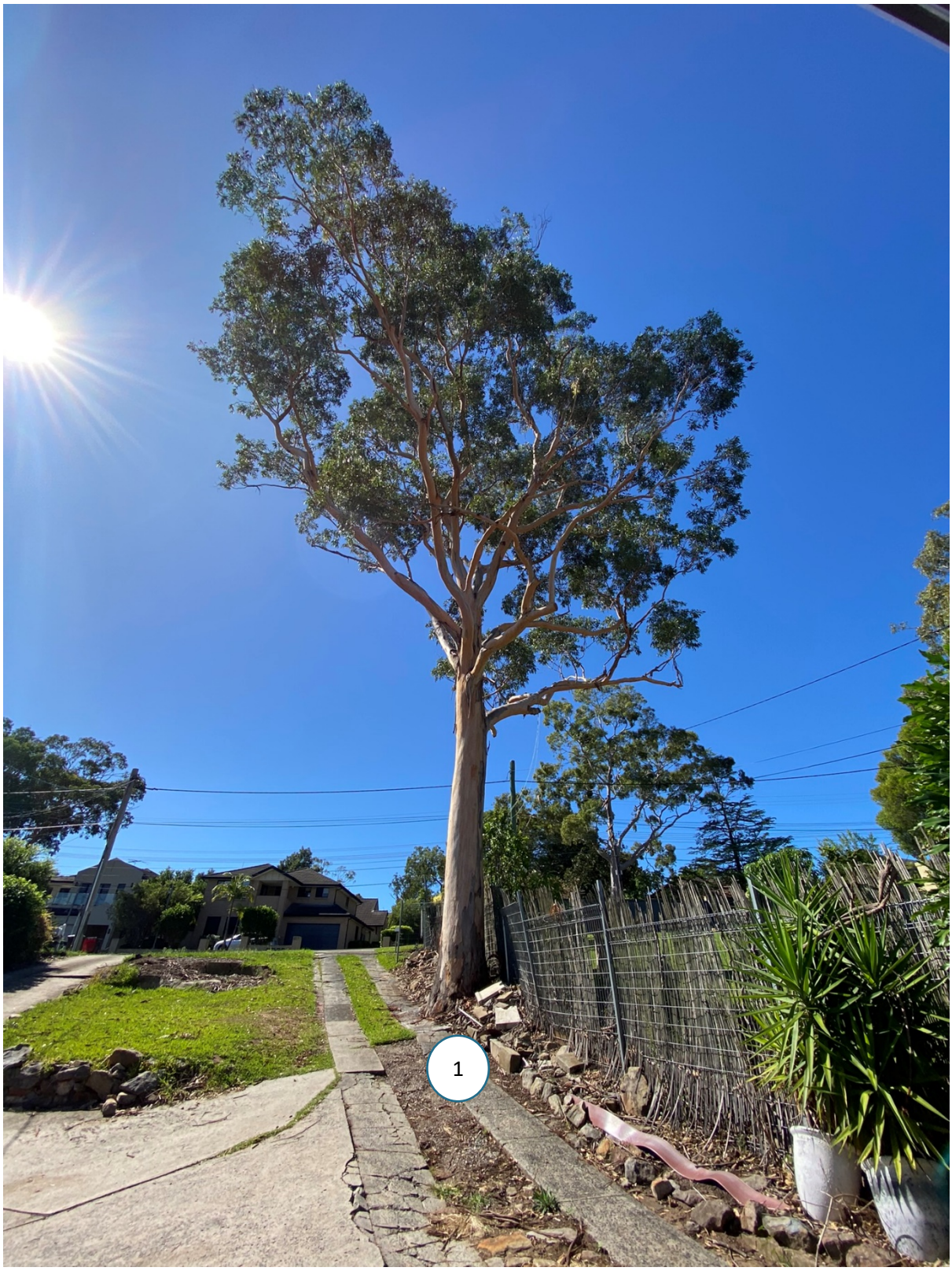


Figure 2 - Tree one (source :- camera)

Eucalyptus punctata (Tree 1) is a mature tree of good habit, with crown form not severely restricted for space and light, physically free from the adverse effects of infection by pests and disease, obvious instability or structural weakness, fungal, bacterial, or insect infestation and is expected to continue to live in much the same condition as at the time of inspection provided conditions do not greatly change.

The trees retention value using the STARS matrix (Appendix C) is of high significance due to its substantial dimensions and contribution to the local amenity. The tree also appears to be retainable at the time of assessment for more than 15-40 years with a medium level of risk to the community giving it a life expectancy rated as medium using the Safe Tree Useful Life Expectancy(SULE) (Appendix B).

Proposed development and excavation works will encroach into the Tree Protection Zone.

Tree protection measures for this tree will reduce the potential impact of the damage caused by construction work and can be found in section ***5.2 Recommended Tree Protection Measures*.**

3.3 - Discussion of trees impacted by development

Information regarding the impact of the proposed development on each tree and recommendations can be found in **Appendix G: *Impact Assessment Schedule***.

3.3.1 - Discussion of trees are to be retained and protected

One (1) tree is to be retained and protected

- The proposed development will impact Tree 1 Tree Protection Zones and will be subject to a major encroachment as per AS4970 – 2009 Section 3, 3.3.3 *Major encroachment* from construction works. The encroachment of the tree protection zone is acceptable and is expected to remain viable and stable with large contiguous soil volumes in other directions. Development and construction techniques are not to encroach or impact the structural root zone. For this tree the potential impacts should be alleviated by the reference of AS4970 – 2009 section 3.3.4 *TPZ encroachment considerations.* This species will tolerate the extent of the encroachment proposed, provided that all excavations and construction techniques are undertaken in accordance with **section 5.2 Recommended tree protection measures.**

- The minimising of impacts should occur by tree sensitive design techniques such as suspended slabs, pier and beam, cantilevered building section, screw piles, contiguous piling and pier and beam construction techniques.

Tree 1 is to be retained as the proposed works will not encroach into the Structural Root Zone (SRZ) of this subject tree.

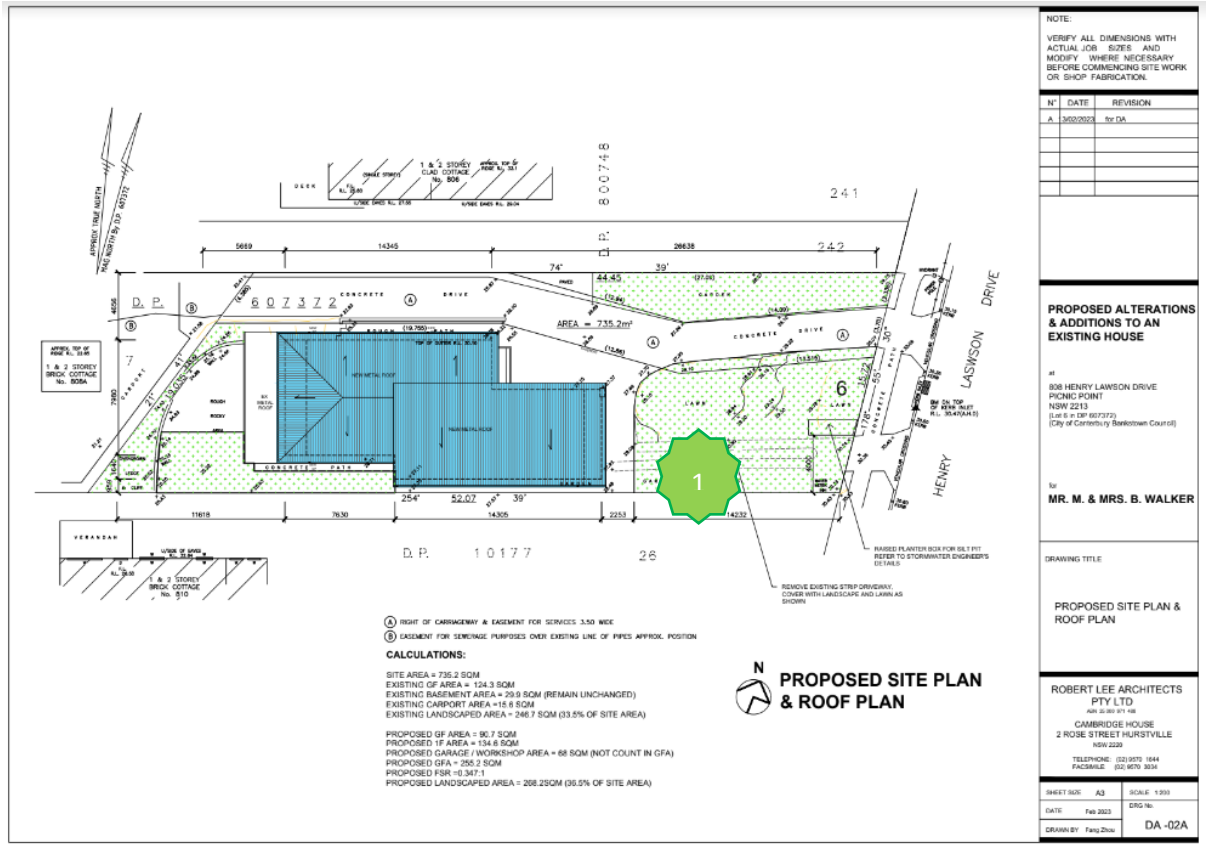


Figure 3 – Tree 1 is to be retained and protected

4 Conclusion

Of the 1 tree species observed and reported on, 1 tree has a suitable retention value.

This assessment determined the following;

The trees suitable for retention:

Tree 1 is considered a specimen tree being for high retention value.

Tree protection measures for this tree will reduce the impact of the damage caused by construction work and can be found in *section* ***5.2 Recommended Tree protection measures*** *and* ***Appendix G-Impact Assessment Schedule***.

Tree Number	Species	Common Name	Retention Value
1	*Eucalyptus punctata*	Grey gum	HIGH

5 Recommendations

5.1 – Retention Values

RETENTION VALUE	RECOMMENDED ACTION
HIGH	• These trees are considered worthy of their preservation and consideration should be given to their retention as a priority on site. • The placement of proposed buildings and infrastructure during the site design should consider design alteration to avoid any adverse or detrimental impact on these trees. • The extent of the canopy drip-line should also be considered in addition to Tree Protection Zones especially if the proposed development has two or more stories. • Significant pruning of trees to accommodate for the proposed building footprint, site access and temporary scaffolding is not acceptable and must be carried out in accordance with *AS4373 – 2007 – Pruning of amenity trees* if works are required.
MEDIUM	• The retention of these trees is advisable at the time of inspection and should be retained if possible but it is not essential in this instance. • If the subject trees are to be removed for the proposed building development, replacement planting is recommended elsewhere on site to compensate for the loss of amenity on site. • The subject trees should be retained and protected and only removed when all other consideration and alternatives have been exhausted.
LOW	• These trees are not considered to worthy of any special measures to ensure their preservation as deterioration physically by continuous loss of vigour may lead to an increase in pests and disease against which the tree cannot be sustained. The subject trees may recover with remedial works where appropriate. • These trees should not be considered as a constraint to the future of the proposed development of the site. • These trees have a retention value which is of low significance due to the trees fair-poor condition and low vigour.
REMOVE	• These trees are considered potentially dangerous, dead, dying, supressed, very poor specimens, may be environmental or noxious weeds. • The removal of these trees is therefore warranted and recommended to prevent interference of any proposed development.

5.2 – Recommended Tree Protection Measures

5.2.1 Prohibited Activities within the tree protection zone

These activities must be avoided and must not take place within the designated Tree Protection Zones for the extent of the TPZ for each retained tree.

- Soil profile damage, surface grading, compaction or the cultivation of soil
- The use of mechanical plant to removal of vegetation, including the removal of existing tree stumps
- Soil level changes including the placement of fill material
- Storage and movement of plant, building equipment and vehicles (except where ground protection has been approved and installed)
- Construction of site sheds, toilets or work areas
- Installation of signage, barricades or hoardings to trees is strictly prohibited
- Storage of building materials, waste and skip bins
- Stockpiling of bulk materials, such as soil, sand and gravel, demolition waste or road base
- The disposal of waste and chemical materials which include painting products, cleaning products, grey water solvents, cement slurry, fuel, oil and other toxic liquids that may be detrimental to the retained trees.
- Other physical damage by construction equipment to the trunk, branches and root system of the retained trees
- Any other construction or demolition works likely to cause damage to the tree.
- Excavations and trenching (with the only exception of the approved remediation works, underground services, building foundations or pavement sub-grade)

5.2.2 Tree Protection Fencing and other protection measures around retained trees

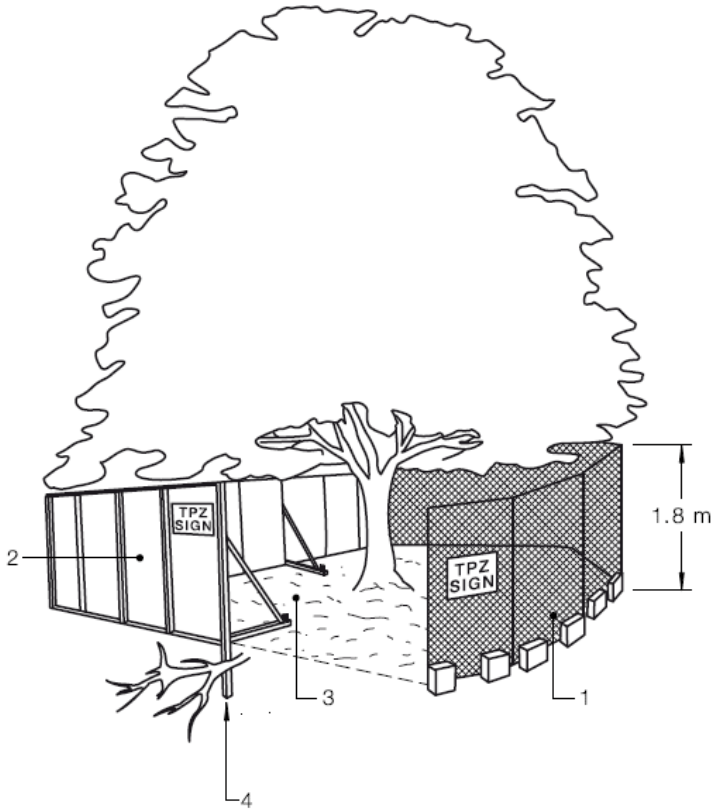
Tree 1 is to be protected prior to commencement of works including the demolition stage and all activities during construction that may result in harmful and have a damaging impacts by installing a suitable protective fence to the full extent of the Tree Protection Zone.

The protective fence should consist of temporary fencing panels of 1.8 metres in height, supported by steel stakes or concrete footings and fastened together which must be supported to prevent sideways movement. The temporary fence must be installed prior to the commencement of any work on-site, including demolition and must be maintained in working condition for the duration of construction project. Where tree protection zones overlap each other, a single continues fence encompassing the area must be used.

The Tree Protection Zone must be secured to restrict access and prevent damage to the trees that are to be retained. Existing site fences and other static structures may also form part of the Tree Protection Zone. Information regarding the location of the tree protection fencing on each tree can be found in ***Appendix H: Tree Protection fencing.***

If it is not possible to install tree protection fencing or the fencing requires temporary removal for construction works, alternate tree protection measures must be used prior to the commencement of construction works. The project arborist is to specify the positioning of the materials used which must also comply with AS4970 – 2009 section 4.5.2 *Trunk and branch protection.*

Advice from the Project Arborist is required if there are any works that may need to take place outside the recommendations in this report.



LEGEND:

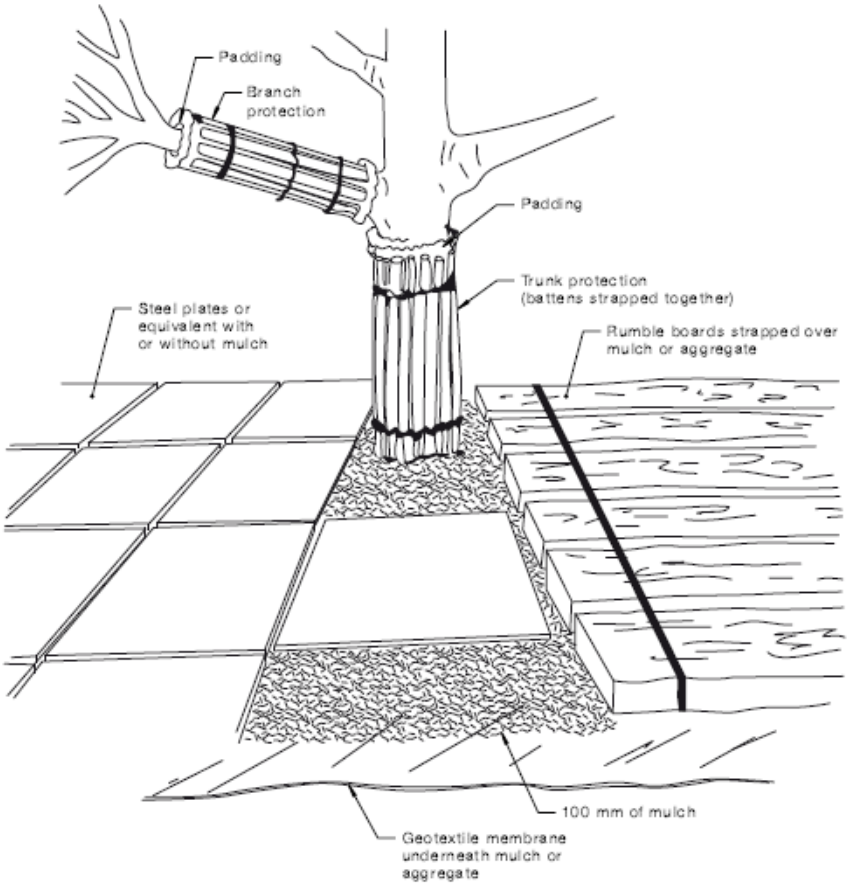
1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.

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.

- Detail of tree protection Source : AS4970-2009 Protection of trees on development sites



NOTES:

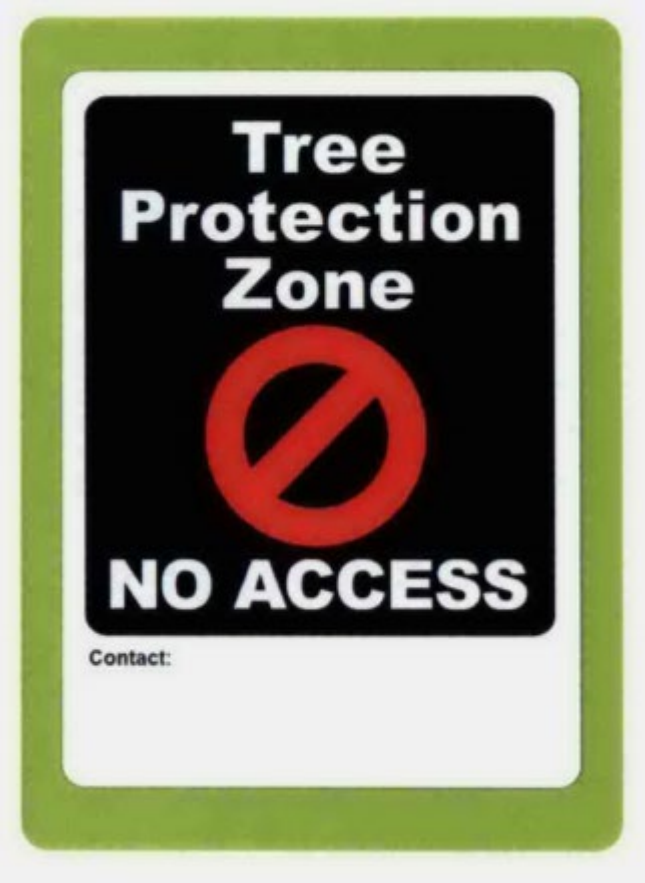
1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.

2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

- Detail of tree protection Source : AS4970-2009 Protection of trees on development sites

5.2.3 Tree Protection Signs for the designated tree protection zones

Signs are to be installed on the Tree Protection fence or on other structures that may also form part of the enclosure to prevent the unauthorised movement of plant and equipment and restrict access to the Tree Protection Zones. The signs must be securely attached to the fence or structure using cable ties or similar. Signs shall be placed at a minimum 8 - 10 metre intervals and the wording and layout of the sign must also comply with AS4970-2009 as shown below.



- Detail of Tree Protection Sign Source : www.google.com

5.2.4 Excavating within a Tree Protection Zone of a retained tree

Excavations within the Tree protection Zones (TPZs) shall be undertaken under the supervision of a qualified Arborist (AQF level 5)

- Prior to any mechanical excavations taking place for the building footprint, which is within the TPZs of impacted trees, Exploratory excavation methods using non-destructive techniques must be undertaken along the perimeter of the structure. Non-destructive excavation methods could include the use of hand-held implements and techniques, air and water pressure. The exploratory excavation for the building foundation must be undertaken within the TPZ to the depth of the foundation or no greater than a maximum of 800mm from surface ground levels to locate and expose woody roots prior to any mechanical plant being used for excavation.
- Diligent care must be undertaken to retain any woody roots over >50mm that are encountered during the exploratory works and are to remain intact and unharmed during the excavation technique's used. Tree roots that are located and discovered that are of less than <50mm in diameter may be cleanly cut with clean sharp pruning implement at the face of the excavation and must be observed by an AQF5 Arborist as a minimum qualification.
- If the excavation is required to be in the location of the Tree Protection Zone of any retained tree, the soil profile must be remain moist to elevate any issue surrounding moisture stress on the subject trees.
- If it is necessary, site design and consideration to construction methods should be used to avoid the severance of any large structural or feeder roots using building techniques which would involve the construction of an elevated structure which would reduce the impact of the development on the retained trees such as pier and beam footing, suspended slab or floor supported on piers, cantilevered slab and up-turned beam for example.

5.2.5 Placement of fill material within the tree protection zones

Placement of fill material within the TPZ of impacted trees by the proposed development must be avoided wherever and whenever possible. When all considerations have been exhausted and placement of fill is unavoidable, the fill material must be a well-drained material, replicating the texture and consistency to the existing site topsoil material found on site. The topsoil should be free from any rocks larger than 5mm, weeds, exotic vegetation and any other material not complying with AS4419 – 2003 *Soil for Landscaping and garden Use.*

The plant and mechanical equipment used (if required) to spread the new topsoil must be located outside the TPZ whenever and wherever possible. If this is unachievable, ground protection must be installed in accordance with Section *5.2.6 - Ground protection* to avoid compaction of the soil profile and Tree Protection Zone.

5.2.6 Ground protection on the construction site

A 100 to 150mm layer of hardwood woodchip mulch must be spread over the Tree Protection Zone of nominated trees suitable for retention to reduce and eliminate the compaction of the rhizosphere and soil profile during the development. A geotextile like material must be a part of the ground protection method which is to be spread by hand underneath the layer of hardwood mulch to further reduce and eliminate any further damage done by construction to the soil profile or root zone.

If ground protection is required for light plant and machinery, site access or highly trafficked areas, ground protection such as rumble boards, track mats, hardwood sleepers or marine play >20mm must be installed and constructed with gaps in the products being no more than 200mm apart with a perforated metal strap or a similar product to hold the ground protection in place as to avoid further damage to the soil profile.

All required ground protection must comply and be installed as per *AS4790-2009 Protection of tree on development sites* prior to any site works which includes the demolition stage and must be maintained in good working condition for the entire duration of the development.

Only once the development has be completed or it is no longer required as part of the protection of the retained tree on site shall the ground protection be removed, this is to be done without mechanical equipment if possible and with as little damage to the rhizosphere and protected soil profile.

5.2.7 Tree damage to retained trees on site

A spotter must supervise any heavy machinery such as drilling rigs, large plant equipment, cranes or equivalent mechanical plant that is required work within or over the tree protection zone of any of the retained trees to reduce and avoid any unnecessary damage. If a retained tree is to become damaged during the construction period, the project arborist must be contacting prior to any further works taking place around the subject tree.

Advice from the Project Arborist is required if there are any works that may need to take place outside the recommendations in this report.

5.2.8 Demolition Works within the Tree Protection Zones of retained trees

The demolition of existing concrete or paved areas within the Tree protection Zones (TPZs) must be undertaken and observed by a qualified Arborist (AQF level 5 minimum)

- Existing concrete, asphalt or paved areas within the nominated tree protection zones must be demolished (if required) by breaking the subject material into small to medium sections by using a sledgehammer/hammer or similar product. Once the demolished sections have been removed, they must be stored away from the existing soil profile and placed over existing paved areas or designed stockpile areas to reduce disturbance to the existing rhizosphere and soil profile.
- If tree roots have damaged or lifted existing infrastructure that is to be demolished, a spotter must supervisor the demolition process to ensure there is minimal damage to the existing tree roots and soil profile of the retained trees. If non-destructive hand techniques are unachievable and mechanical plant must be used, the mechanical equipment footprint must remain within existing concrete, asphalt or paved areas. When all considerations have been exhausted and the operation of mechanical plant unavoidable, ground protection must be installed in accordance with Section *5.2.6 Ground Protection* prior to any works taking place.
- A spotter must supervise any heavy machinery such as drilling rigs, large plant equipment, excavators or equivalent mechanical plant that is required work within or over the Tree Protection Zone of any of the retained trees to reduce and avoid any unnecessary damage. If a retained tree or the soil profile within the tree protection zone is to become damaged during the construction period, the Project Arborist must be contacting prior to any further works taking place around the subject tree.
- Once the demolition process has been completed and the concrete, asphalt or paved areas have been removed, a replacement fill material must be installed up to the previous height of the site/area prior to any demolition works. The fill material must be a well-drained material, replicating the texture and consistency to the existing site topsoil found on site. The topsoil should be free from any rocks larger than 5mm, weeds, exotic vegetation and any other material not complying with *AS4419 – 2003 Soil for Landscaping and Garden Use.*

5.2.9 Underground services within the Tree Protection Zone

Excavations and associated works within the Tree protection Zones (TPZs) shall be undertaken under the supervision of a qualified Arborist (AQF level 5). Special points of consideration are:

- If underground essential services including storm water pipes are to be installed on site, these services should be located outside the tree protection zone of any retained tree on site. When all considerations have been exhausted and this is unavoidable, non-destructive methods such as Horizontal Directional Drilling, non-destructive hand techniques or above ground methods such as the installation of services attaching them to the building or beneath an elevated floor is possible.
- Prior to any mechanical excavations or trenching taking place for the underground services which is within the TPZs of impacted trees, exploratory excavation methods using non-destructive techniques must be undertaken within the perimeter of the impacted tree protection zone. Non-destructive excavation methods could include the use of hand-held implements and techniques, air and water pressure. The exploratory excavation for the underground services must be undertaken within the TPZ to locate and expose woody roots prior to any mechanical plant being used for excavation.
- Diligent care must be undertaken to retain any woody roots >50mm that are encountered during the exploratory works and are to remain intact and unharmed during the excavation technique's used. Tree roots that are located and discovered that are <50mm in diameter may be cleanly cut with clean sharp pruning implement at the face of the excavation and must be observed by an AQF5 Arborist as a minimum qualification.
- Any woody roots >50mm discovered during exploration must be retained, when all considerations to relocate essential services have been exhausted and this is unavoidable, installation of underground works and services must be carried out by Horizontal Directional Drilling to avoid any further disturbance to the root plate/soil profile.

5.2.10 Pavements and pavement sub-base

Pavements

- Any proposed concrete, asphalt or paved areas within the nominated Tree Protection Zones must be constructed at ground level to avoid any further disturbance to the soil profile and rhizosphere.

Pavement Sub-base

- The building material used for the sub-base within the nominated tree protection zones must be blue metal or similar product, no greater than 20 – 50mm in size. The material is to be able to provide moisture and aeration to the rhizosphere of the tree with a geotextile material installed underneath to provide loss of product into the soil profile.

5.2.11 Canopy and root pruning of retained trees

Canopy Pruning

The Canopy pruning of the retained trees on site must be carried out in accordance with Australian Standard *4373 – 2007 Pruning Of Amenity Trees.*

All pruning works to be undertaken must be carried out by a qualified and experienced arborist (AQF level 3) and in accordance with the *NSW Workcover Code of Practice for the Amenity Tree Industry (1998).* No branches of greater than 100mm in diameter will be removed or pruned without further advice from a Consulting Arborist (AQF level 5).

Root Pruning

If root pruning is required, the roots must be severed with a clean, sharp pruning instrument and retained in moist condition during the entire development using Hessian material or similar if practical. Once roots have be severed, they must be treated with a suitable root growth hormone to stimulate growth of the severed roots.

6 References

Clark, NPM:JR 1994, *A photographic guide to the Evaluation of Hazards in Urban areas*, Urbana , 3 : International Society of Arboriculture.

Clark, HR & Matheny, JA 2004, *Arboriculture - Integrated management of landscape trees , shrubs and vines*, 4th edn, Upper Saddle River , N. J : Prentice hall.

Helliwell, D.R 1990, *Acceptable Level of Risk Associated with trees*, 14th edn, Arboricultural Journal.

Lonsdale, D 1998, *Principles of tree hazard assessment and management*, Stationery Office Books.

Mattheck & Breloar 1994, *The body language of trees : A handbook for failure analysis*, HMSO, London.

Shigo, AL 1991, *Modern Arboriculture: A Systems Approach to the care of trees and their Assciates*, Shigo and Trees Associations, Durham , United States.

AS 4373 – 2007 *Pruning of amenity trees*

AS4970 – 2009 *Protection of trees on development sites*

7 Appendices

7.1 Appendix A - Tree Schedule

Tree Number	Species	Height (m) Approx.	D.B.H(m)	T.P.Z (m)	S.R.Z(m)	Age Class	Condition	Canopy Spread (North, South, East, West)	S.U.L.E	Retention value	Risk rating
1	*Eucalyptus punctata*	26 - 28	0.95	11.4	3.38	M	Good	NS 18.5 EW 16	MED	HIGH	MED

7.2 Appendix B - Safe Useful Life Expectancy

Tree AZ

SULE: Its use and status into the new millennium

Appendix 3
Safe Useful Life Expectancy Categories (Updated 04/01)

This reference sheet should be included as supplementary information with all reports where a SULE assessment is an element. Additionally, it can be copied and covered with a laminated plastic protective sheet and used as a field sheet to help with data collection.

Safe Useful Life Expectancy Categories (Updated 01/04/01)

1: **Long SULE:** Trees that appeared to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.
- **(a)** Structurally sound trees located in positions that can accommodate future growth.
- **(b)** Trees that could be made suitable for retention in the long term by remedial tree care.
- **(c)** Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.

2: **Medium SULE:** Trees that appeared to be retainable at the time of assessment for 15–40 years with an acceptable level of risk.
- **(a)** Trees that may only live between 15 and 40 more years.
- **(b)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.
- **(c)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(d)** Trees that could be made suitable for retention in the medium term by remedial tree care.

3: **Short SULE:** Trees that appeared to be retainable at the time of assessment for 5–15 years with an acceptable level of risk.
- **(a)** Trees that may only live between 5 and 15 more years.
- **(b)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.
- **(c)** Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(d)** Trees that require substantial remedial tree care and are only suitable for retention in the short term.

4: **Remove:** Trees that should be removed within the next 5 years.
- **(a)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.
- **(b)** Dangerous trees because of instability or recent loss of adjacent trees.
- **(c)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.
- **(d)** Damaged trees that are clearly not safe to retain.
- **(e)** Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.
- **(f)** Trees that are damaging or may cause damage to existing structures within 5 years.
- **(g)** Trees that will become dangerous after removal of other trees for the reasons given in (a) to (f).
- **(h)** Trees in categories (a) to (g) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.

5: **Small, young or regularly pruned:** Trees that can be reliably moved or replaced.
- **(a)** Small trees less than 5m in height.
- **(b)** Young trees less than 15 years old but over 5m in height.
- **(c)** Formal hedges and trees intended for regular pruning to artificially control growth.

7.3 Appendix C - Significance of a Tree, Assessment Rating System

IACA Significance of a Tree, Assessment Rating System (STARS)© (IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria* and *Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High*, *Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria

1. High Significance in landscape

- The tree is in good condition and good vigour;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa *in situ* - tree is appropriate to the site conditions.

2. Medium Significance in landscape

- The tree is in fair-good condition and good or low vigour;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa *in situ*.

3. Low Significance in landscape

- The tree is in fair-poor condition and good or low vigour;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa *in situ* - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,
- The tree has a wound or defect that has potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

Hazardous/Irreversible Decline

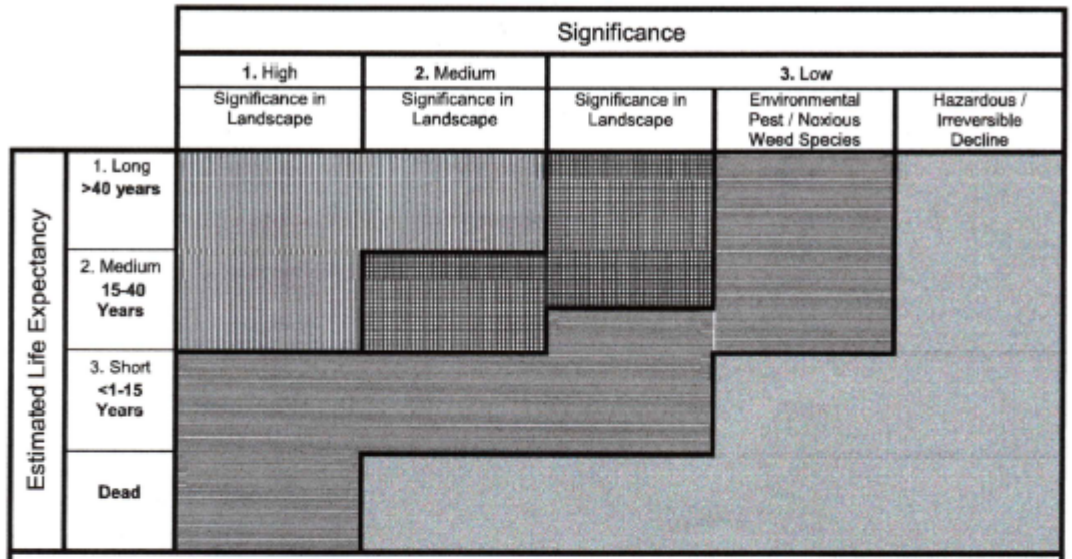
- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au

Table 1.0 Tree Retention Value - Priority Matrix.



Legend for Matrix Assessment

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	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 *Protection of trees on development sites*. Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for Removal (Low) - These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	Priority for Removal - These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

IACA, 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

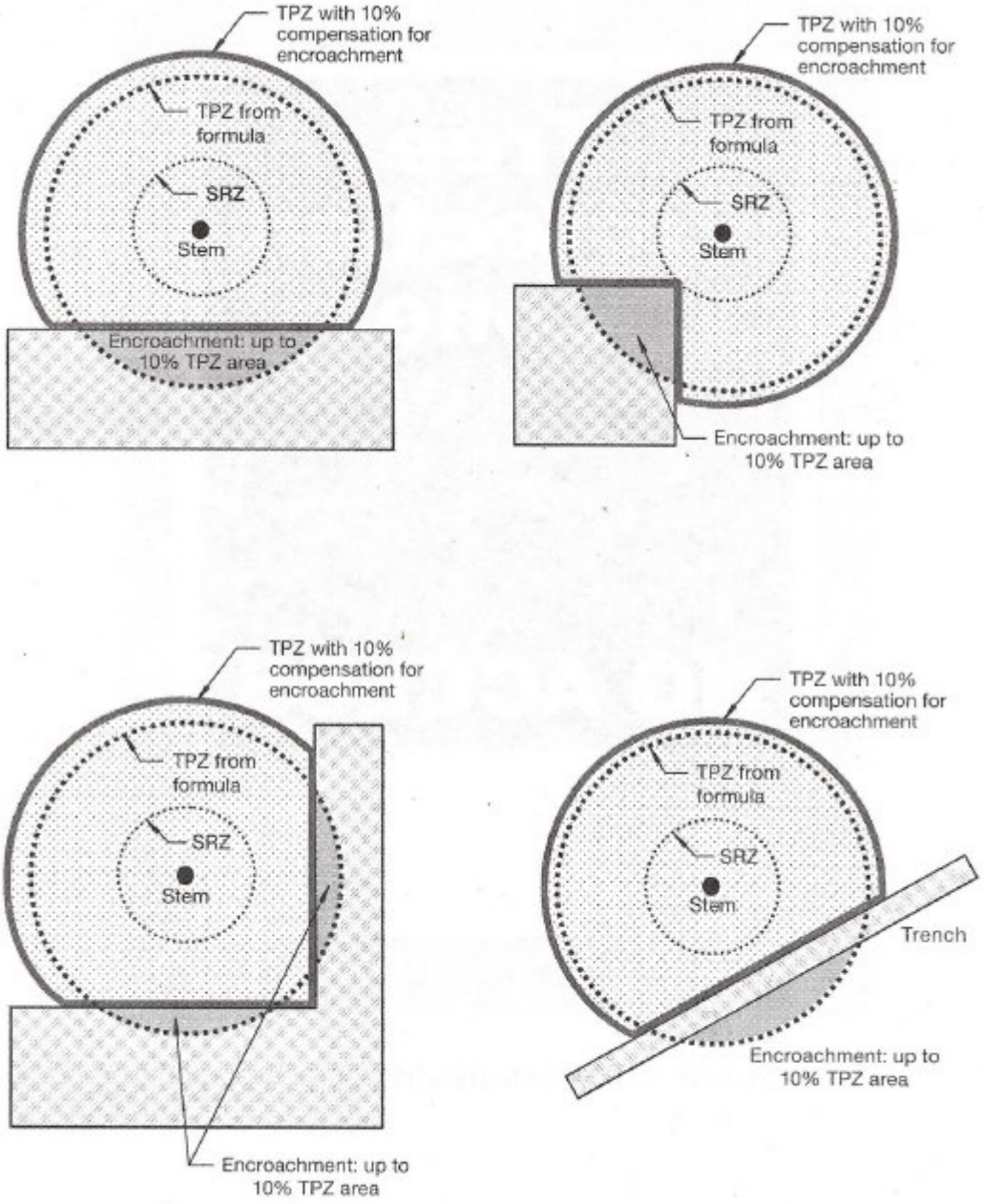
Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

IACA 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, www.iaca.org.au

7.4 Appendix D - Acceptable Incursions to the Tree Protection Zone (TPZ)

APPENDIX 2 – ACCEPTABLE INCURSIONS TO THE TREE PROTECTION ZONE (TPZ)



NOTE: Less than 10% TPZ area and outside SRZ. Any loss of TPZ compensated for elsewhere.

7.5 Appendix E -Site specific risks assessment

Date: 31st March, 2023
Client: Mrs Briony Walker
Address: 808 Henry Lawson Drive, Picnic Point, NSW, 2213

Assessment performed by:
Name: Stephen Warner
Signature 

HAZARD	ITEM
TREE FACTORS:	Deadwood
	Hangers
	Pest and diseases
	Cavity and decay
ENVIRONMENTAL FACTORS:	Wind loading
	Fungal spores
	Asbestos
	Dust
	Sun
	Birds swooping
	Bee Stings
SERVICES & STRUCTURES:	Underground services
	Power lines
	Uneven ground
	Above ground services
	Trips/slips/falls
	Exposed roots
MACHINERY & EQUIPMENT:	Camera
	Rubber Mallet
	Diameter tape
	Nikon rangefinder forestry pro
OTHER	Allergic reactions to trees

7.6 Appendix F - SWMS

SWMS							
This SWMS has been developed and authorised by:				***This SWMS has been reviewed by:***			
Name:	Stephen warner			**Name:**	Stephen warner		
Position:	Arborist	**Date:**	31st March, 2023	**Position:**	Arborist	**Date:**	31st March, 2023
Signature:		**Mobile:**	0451914316	**Signature:**		**Mobile:**	0451914316
DESCRIPTION OF WORK ACTIVITY: Assessment of trees at 808 Henry Lawson Drive, Picnic Point, NSW, 2213.						**SWMS NO.**281	

COMPANY/CLIENT: Mrs Briony Walker	**CONTACT NAME:**	**PHONE NUMBER:**
SITE ADDRESS: 808 Henry Lawson Drive, Picnic Point, NSW, 2213.	**PROJECT DESCRIPTION:** Tree Assessment	

Person responsible for completing this SWMS:

NAME: Stephen Warner	**POSITION:** Arborist	**SIGNATURE:** 	**DATE:** 31st March, 2023

Health Risks and Likelihood of Damage	How LIKELY is it to be that bad? Note: If a hazard is rated 1, 2 or 3, action must be taken immediately.				
	What damage could it cause?	VERY LIKELY *Could happen anytime*	LIKELY *Could happen sometimes*	UNLIKELY *Could happen, but only rarely*	VERY UNLIKELY *Could happen, but probably never will*
	Death or permanent disability	1	1	2	3
	Long term illness or serious injury	1	2	3	4
	Medical attention or several days off work	2	3	4	5
	First Aid needed	3	4	5	6

How to complete the following form

1. List the step-by-step sequence of tasks required to carry out the work activity from start to finish.
2. Listing of potential hazards associated with each step, and the related WHS risks.
3. Using the risk table, rating the identified risks.
4. List what controls you will implement to reduce the risks to the lowest possible level.
5. Rate the level of risk once those controls have been implemented (must be 4-6 before you can start work).
6. List the names or positions of the persons responsible for ensuring the controls are implemented.

Activity	Potential Hazard	Risk (1-6)	Controls Implemented Note: If the risk rating is still 1-3, do not begin work.	Residual Risk (1-6)	Person Responsible
Soil Sampling	Strains, sprains, damage to your back using the soil auger. Foreign objects in eyes.	3	Keep work area clean & clear of debris. Wear PPE, glasses, gloves, Boots.	5	Stephen Warner
Tree condition & Risk Assessment	Strains, sprains, tripping and falls. Deadwood and branches falling from the trees. Foreign objects in eyes.	3	Be aware of your surroundings. Wear PPE, Hard hat, glasses steel capped boots.	5	Stephen Warner
Vehicle use	Hitting a pedestrian.	2	Drive slowly and carefully into the site, park in designated areas only. Have someone as a spotter as you drive the vehicle in.	5	Stephen Warner

Additional Site-Specific Hazards Identified

Activity	Potential Hazard	Risk (1-6)	Controls Implemented	Residual Risk (1-6)	Person Responsible

Personnel and Qualifications	Duties and Responsibilities:	Training Completed relevant to works:
Qualified Arborist	Tree condition and risk assessment.	AQF level 3 Arborist AQF level 5 Arborist

References

- Work Health & Safety Regulations 2017,
- Work Health & Safety Act 2011,
- Relevant Codes of Practice and Workcover NSW requirements.

I declare that:

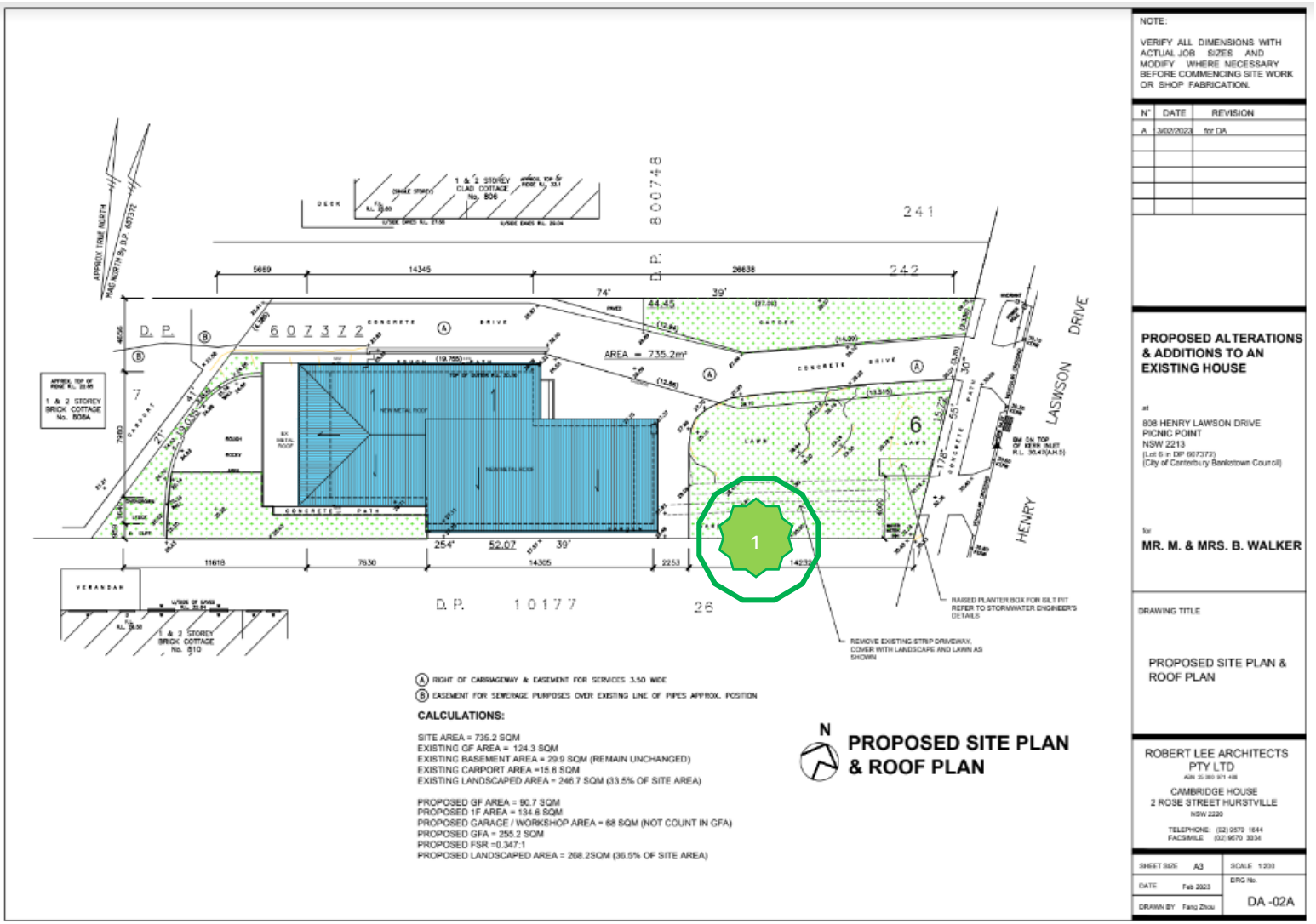
1. I have been consulted on the development of this SWMS
2. I have been provided with a specific site induction with regard to this SWMS
3. I have received all necessary training, instruction and information regarding this SWMS
4. I understand the content of this SWMS and will co-operate with my supervisor to implement the required control measures

NAME	POSITION	SIGNATURE	DATE
Stephen Warner	Arborist		31st March, 2023

7.7 Appendix G - Impact Assessment Schedule

Tree ID	Species	TPZ	SRZ	Incursion	Likely Impact	Recommendation
1	*Eucalyptus punctata*	11.4	3.38	Proposed building will impact the tree protection zone	Extent of the encroachment to the TPZ is within the acceptable limit under AS4970-2009.	Retain in accordance with Section 5.2 Recommended Tree Protection Measures. Undertake all excavations within TPZ in accordance with Section 5.2.4 Excavating within a Tree Protection Zone and 5.2.9 Underground services within the tree protection zone.

7.8 Appendix H – Tree protection fencing



- Tree protection fencing to be installed, if this is not possible trunk protection to be installed as per AS4970-2009

8 Glossary of Terms and Abbreviations

Branch: a secondary shoot or stem in a woody plant generally small than the parent

Condition: Refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils) and the state of the scaffold (i.e. Trunk and major branches), including structural defects such as cavities, crooked trunks or week trunk / branch junctions. These are not directly connected with health and it is possible for a tree to be healthy but in poor condition.

Crown: upper part of a tree, measured from the lowest branch, including all the branches and foliage.

Deadwood: Dead branches or limbs throughout the canopy

Defect: an imperfection, weakness, or lack of something necessary. In trees defects are injuries, growth patterns, decay, or other conditions that may reduce the trees structural strength.

Epicormic Growth: shoot arising from a dormant bud or newly formed adventitious tissue.

Habit: characteristic form or manner

Height: expressed in metres, refers to the overall estimated height of the tree

Included Bark: bark that becomes embedded in a crotch (union) between branch and trunk or between codominant stems. Lacks axillary wood and causes a weak structure.

Risk: the combination of the likelihood of an event and the severity of the consequences. In the context of trees, risk is the likelihood of a conflict or tree failure occurring and affecting the target and the severity of the associated consequences – personal injury, property damage, or disruption of activities.

Root: plant organ, usually underground, that serves as anchorage, and absorbs and conducts water and minerals.

Spread: expressed in metres, refers to the estimated spread of the crown to the dripline.

Tree: woody perennial, usually having one dominant trunk and a mature height greater than five metres.

Trunk: main or central stem of a tree

Vigour: capacity to grow and resist stress. Sometimes limited in reference to genetic capacity.

DBH: Diameter at Breast Height

VTA: Visual Tree Assessment

Tree No – A unique identification number assigned to a tree and used to identify it throughout the report.

Botanical Name – The taxonomic name, derived from visual identification features and visible from ground level or specimen collection.

(DBH MM) – Diameter at breast height (DBH) measured at 1.4M above ground, unless otherwise noted, as outlined in AS4970 – 2009.

9 Disclaimer

Tree Consultants Australia takes no responsibility for actions taken and their consequences associated the tree(s) on this site, subsequent deterioration from modification/s to its growing environment, damage either above or below ground or general demise contrary to our advice. Any legal information provided to Tree Consultants Australia is assumed to be correct and will not be held responsible for the accuracy of the information provided.

This report may not be disclosed or viewed by any other party outside its intended target, with the exception of Local Government Authority, without the prior written consent of Tree Consultants Australia. This report must be read in its entirety, individual use of any section of the report invalidates the whole report. If this report is required for any legal situation or used in a court of law Tree Consultants Australia must be advised in writing prior to any proceedings.

Any standing tree, dead or alive has an unpredictable element of risk, there are many varying factors that can contribute to either branch or total tree failure such as age, location, exposure to the elements, weight, tree species, pests and disease, human intervention, wood densities, fauna creating habitat, soil types, decay and hidden defects/symptoms that can cause failure are not always visible. Trees are natural structures which gives them a natural fail rate.

All the information in this report is obtained using industry best practice method/s of inspection. Basic Tree Assessment and Visual Tree Assessments are limited to visual inspection only preventing the ability to assess the internal structure.

Tree Consultants Australia does not guarantee that health issues, failures or deficiencies will not occur in regard to the tree(s) in the future and will not be held responsible for any works not compliant to Australian Standard or specifications recommended in this report. The information and findings in this report are valid for a 12month period under normal weather conditions.

Any of the following circumstances will invalidate this report:

- Storm or intense weather events which includes heavy rain, strong/gale force winds or lightening events/storms
- If any subsequent works are carried out on the tree outside the recommendations in this report within the 12month period which includes above and below ground, pruning or pest treatment.
- Any alterations on site which include, landscaping, clearing, excavation in and around rhizosphere, construction or site clearing.