AUSTRALIS
Tree Management

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Ms Sue Cai
PMDL
Level 17, 124 Walker St,
NORTH SYDNEY NSW 2060

15 November 2022
ATM 20231940.2

Dear Ms Cai,

Re: Arboricultural Impact Addendum
for Trinity Grammar School Renewal Project

Australis Tree Management has been commissioned by PMDL on behalf of their client, The Council of Trinity Grammar School to complete an *Addendum* for *AIA_Trinity Grammar School, Renewal Project.pdf* regarding the modified car park extension at the site. This addendum aims to identify potential impacts from proposed works and to provide recommendations regarding tree retention, protection or removal. Tree No.'s 39 to 49 were not included in *AIA_Trinity Grammar School, Renewal Project.pdf (Appendix M - Amended AIA - SSD 10371.pdf).*

The development proposed is for the construction of a basement car parking facility and associated works. All calculations and impacts are based on drawing - *2808-DA150.pdf.*

The following pages describes current tree health and condition as well as potential impacts from the proposed works and structures already obstructing root zones.

For Tree Protection Specifications please see *AIA_Trinity Grammar School, Renewal Project.pdf (Appendix M - Amended AIA - SSD 10371.pdf).*

Signed,

Meredith Gibbs. Dip. Hort. (Arb.)
Australis Tree Management

Discussion

1 Tree No. 3 *Lophostemon confertus* (Queensland Brush Box)

1.1.1 This native tree is located on site and is protected by council. The tree is mature and growing in a dominant class. It is expected to increase in size by approximately 10% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10% with no significant issues sighted. The root zone is predominantly grass with a fence and pathway nearby. The nearby trees provide minor protection from strong winds.

1.1.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

1.1.3 The proposed development is located level with the base of the tree approximately 5m from the trunk, inside the 7.2m TPZ with a 15% encroachment. There are no proposed works within the 2.7m SRZ. The proposed encroachment is considered major in accordance with AS4970-2009. The tree is likely to tolerate the proposed root system disturbances to structural, lower order and non-woody roots provided roots smaller than 40mm in diametre are pruned correctly with the tree protection being mulch and regularly irrigated. Canopy pruning is not expected for the proposed works.

2 Tree No. 39 *Lophostemon confertus* (Queensland Brush Box)

2.1.1 This native tree is located on site and is protected by council. The tree is mature and growing in a codominant class. It is expected to increase in size by approximately 40% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10%. The structural condition appears to be fair. The root zone is predominantly mulch with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

2.1.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

2.1.3 The proposed basement car park is located approximately 3m from the trunk, inside the 3.6m TPZ with a 4% encroachment. There are no proposed works within the 2.1m SRZ. The proposed encroachment is considered minor in accordance with AS4970-2009 and worthy of retention. There is compensatory natural ground to the north and south of this tree that will aid in increasing the protected root zone. The proposed encroachment may cause root system disturbances to lower order and non-woody roots. Any detrimental impacts will be significantly reduced if hand excavation occurred within the 3.6m TPZ. The root system must be protected during the proposed excavations, preventing damaged

or severance to any root measuring over 40mm in diameter. Canopy pruning is not expected for the proposed works.

3 Tree No. 40 *Lophostemon confertus* (Queensland Brush Box)

3.1.1 This native tree is located on site and is protected by council. The tree is mature and growing in a codominant class. It is expected to increase in size by approximately 30% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10% with no significant issues sighted. The root zone is predominantly mulch with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

3.1.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

3.1.3 The proposed basement car park is located down slope from the base of the tree approximately 3.0m from the trunk, inside the 5.4m TPZ with a 12% encroachment. There are no proposed works within the 2.3m SRZ. The proposed encroachment is considered major in accordance with AS4970-2009 and worthy of retention. There is compensatory natural ground to the north and south of this tree that again, will aid in increasing the protected root zone. The proposed encroachment is likely to cause root system disturbances which may cause stress to the tree. Any detrimental impacts will be significantly reduced if hand excavation occurred within the 5.4m TPZ. The root system must be protected during the proposed excavations, preventing damaged or severance to any root measuring over 40mm in diameter. No canopy pruning is required for the proposed works.

4 Tree No. 41 *Lophostemon confertus* (Queensland Brush Box)

4.1 This native tree is located on site and is protected by council. The tree is mature and growing in a codominant class. It is expected to increase in size by approximately 20% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10% with no significant issues sighted. The root zone is predominantly mulch with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

4.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

4.3 The proposed development is located level with the base of the tree approximately 3.5m from the trunk, inside the 6m TPZ with a 15% encroachment. There are no proposed works within the 2.5m SRZ. The proposed encroachment is considered major in accordance with AS4970-2009. The tree is likely to tolerate the proposed root system disturbances to structural, lower order and non-woody roots provided

roots smaller than 40mm in diametre are pruned correctly with the tree protection being mulch and regularly irrigated. Canopy pruning is not expected for the proposed works.

5 Tree No. 42 *Lophostemon confertus* (Queensland Brush Box)

5.1.1 This native tree is located on site and is protected by council. The tree is young and growing in a codominant class. It is expected to increase in size by approximately 50% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being 10%-25% of the canopy with epicormic growth at low and young being 10%-25% with no significant issues sighted. The structural condition appears to
be fair. The root zone is predominantly mulch with a fence, pathway and seating nearby. The adjacent trees provide minor protection from strong winds.

5.1.2 This tree has a *'TreeAZ'* rating of 'Z1' and an estimated life expectancy of 40+yrs. It is considered low in significance (IACA, 2010).

5.1.3 The proposed basement car park is located approximately 3.4m from the trunk, just inside the 3.6m TPZ. The existing concrete stairs at approximately 3.1m are already obstructing the root zone and projected TPZ. Therefore, it is worthy of retention as any proposed works within this area is not expected to cause detrimental impacts on the tree.

6 Tree No. 43 *Lophostemon confertus* (Queensland Brush Box)

6.1.1 This native tree is located on site and is protected by council. The tree is mature and growing in a dominant class. It is expected to increase in size by approximately 30% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10%, again, with no significant issues sighted. The structural condition appears to be fair. The root zone is predominantly mulch with a fence, pathway and seating nearby. The adjacent trees provide minor protection from strong winds.

6.1.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

6.1.3 The proposed development is located down slope from the base of the tree approximately 4m from the trunk. The tree has previously constructed concrete stairs and seating at approximately 3.0m from the trunk. The existing concrete stairs are already obstructing the root zone and projected TPZ. Therefore, it is worthy of retention as any proposed works within this area is not expected to cause detrimental impacts on the tree.

7 Tree No. 44 *Lophostemon confertus* (Queensland Brush Box)

7.1 This native tree is located on site and is protected by council. The tree is mature and growing in a codominant class. It is expected to increase in size by

approximately 30% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10%. The root zone is predominantly mulch with a fence, pathway and seating nearby. The adjacent trees provide minor protection from strong winds.

7.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

7.3 The proposed development is located down slope from the base of the tree approximately 4m from the trunk. The tree has previously constructed concrete stairs and seating at approximately 3m from the trunk. The existing concrete stairs are already obstructing the root zone and projected TPZ. Therefore, it is worthy of retention as any proposed works within this area is not expected to cause detrimental impacts on the tree.

8 Tree No. 45 *Syncarpia glomulifera* (Turpentine)

8.1 This indigenous tree is located on site and is protected by council. The tree is mature and growing in a dominant class. It is expected to increase in size by approximately 20% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being 10%-25%. The tree has suffered from numerous pruning events in the past. The structural condition appears to be fair. The root zone is predominantly mulch with a fence, pathway and seating nearby. The adjacent trees provide minor protection from strong winds.

8.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered high in significance (IACA, 2010).

8.3 The proposed development is located down slope from the base of the tree approximately 3.6m from the trunk. The tree has previously constructed concrete stairs and seating at approximately 3.0m from the trunk. The existing concrete stairs are already obstructing the root zone and projected TPZ. Therefore, it is worthy of retention as any proposed works within this area is not expected to cause detrimental impacts on the tree.

9 Tree No. 46 *Lophostemon confertus* (Queensland Brush Box)

9.1 This native tree is located on site and is protected by council. The tree is semi mature and growing in a codominant class. It is expected to increase in size by approximately 60% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10%. The structural condition appears to be fair. The root zone is predominantly grass with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

9.2 This tree has a *'TreeAZ'* rating of 'Z1' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

9.3 There are no proposed works within its 3m TPZ and no canopy pruning is required and the tree is worthy of retention.

10 Tree No. 47 *Lagunaria patersonii* (Norfolk Island Hibiscus)

10.1 This native tree is located on site and is protected by council for removal not pruning. The tree is mature and growing in a dominant class. It is expected to increase in size by approximately 20% as it matures. This tree has a multi trunked trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being 10%-25% of the canopy with epicormic growth at low and young being 10%-25%. The structural condition appears to be fair. The root zone is predominantly grass with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

10.2 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 40+yrs. It is considered medium in significance (IACA, 2010).

10.3 The proposed development is located down slope from the base of the tree approximately 3m from the trunk. The tree has previously constructed concrete stairs and seating at approximately 3.7m from the trunk. The existing concrete stairs are already obstructing the root zone and projected TPZ. Therefore, it is worthy of retention as any proposed works within this area is not expected to cause detrimental impacts on the tree.

11 Tree No. 48 *Eucalyptus nicholii* (Narrow-leaved Black Peppermint)

11.1 This native tree is located on site and is protected by council. The species is listed under the *Biodiversity Conservation Act* (2016) as being 'Vulnerable' and under the *Environmental Protection and Biodiversity Conservation Act* (1999) as being 'Vulnerable'.

11.2 The tree is mature and growing in a codominant class. It is expected to increase in size by approximately 10% as it matures. This tree has a dominant trunk with the crown showing average (3) health. The amount of deadwood was determined as low and small being 10%-25% of the canopy with epicormic growth at low and young being 10%-25%. The structural condition appears to be fair. The root zone is predominantly grass with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

11.3 This tree has a *'TreeAZ'* rating of 'A2' and an estimated life expectancy of 15-40yrs. It is considered high in significance (IACA, 2010).

11.4 The existing retaining wall is obstructing the root zone by approximately 1.5%. The proposed basement car park is located down slope from the base of the tree approximately 3.8m from the trunk, inside the 6.0m TPZ results in an 2% encroachment. There are no proposed works within the 2.7m SRZ. The proposed

encroachment is considered minor in accordance with AS4970-2009. Therefore, it is worthy of retention.

12 Tree No. 49 *Syncarpia glomulifera* (Turpentine)

12.1 This indigenous tree is located on site and is protected by council. The tree is young and growing in a codominant class. It is expected to increase in size by approximately 70% as it matures. This tree has a dominant trunk with the crown showing average (3) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10% with no significant issues sighted. The structural condition appears to be fair. The root zone is predominantly grass with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

12.2 This tree has a *'TreeAZ'* rating of 'Z1' and an estimated life expectancy of 40+yrs. It is considered low in significance (IACA, 2010).

12.3 There are no proposed works within its 3m TPZ and no canopy pruning is required. This tree is worthy of retention.

13 Tree No. 32 *Lophostemon confertus* (Queensland Brush Box)

13.1 This native tree is located on site and is protected by council. The tree is young and growing in a codominant class. It is expected to increase in size by approximately 70% as it matures. This tree has a dominant trunk with the crown showing good (4) health. The amount of deadwood was determined as low and small being <10% of the canopy with epicormic growth at low and young being <10%. The structural condition appears to be fair. The root zone is predominantly grass with a fence and pathway nearby. The adjacent trees provide minor protection from strong winds.

13.2 This tree has a *'TreeAZ'* rating of 'Z1' and an estimated life expectancy of 40+yrs. It is considered low in significance (IACA, 2010).

13.3 There are no proposed works within its 4.2m TPZ and no canopy pruning is required. This tree is worthy of retention.

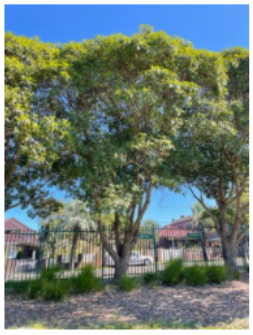
Photographs

3

Lophostemon confertus
(Queensland Brush Box)

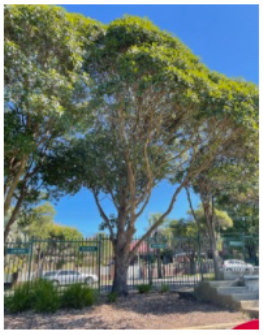
39

Lophostemon confertus
(Queensland Brush Box)



40

Lophostemon confertus
(Queensland Brush Box)

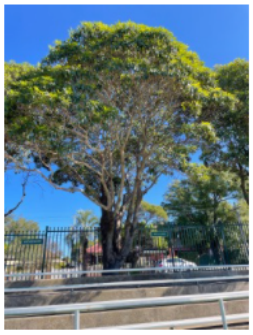


41

Lophostemon confertus
(Queensland Brush Box)

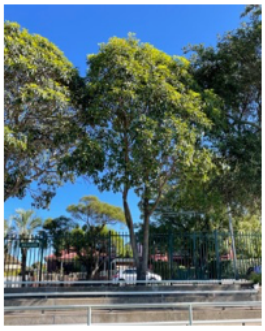
42

Lophostemon confertus
(Queensland Brush Box)



43

Lophostemon confertus
(Queensland Brush Box)



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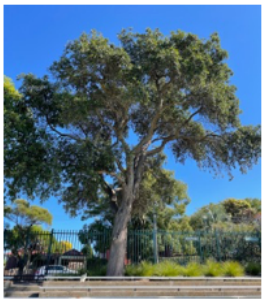
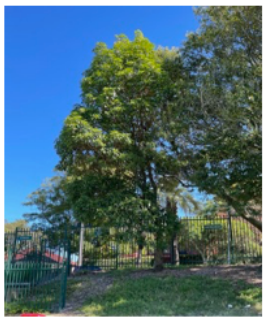
Lophostemon confertus
(Queensland Brush Box)



45

Syncarpia glomulifera
(Turpentine)



46

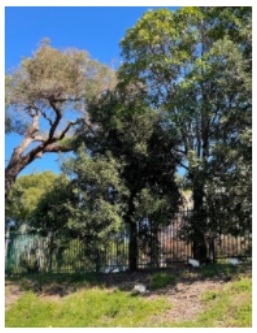
Lophostemon confertus
(Queensland Brush Box)

47

Lagunaria patersonii
(Norfolk Island Hibiscus)

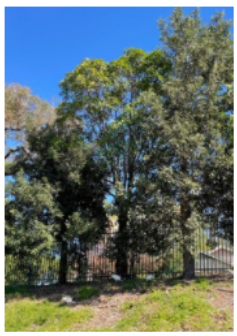
48

Eucalyptus nicholii
(Narrow-leaved Black Peppermint)



49

Syncarpia glomulifera
(Turpentine)

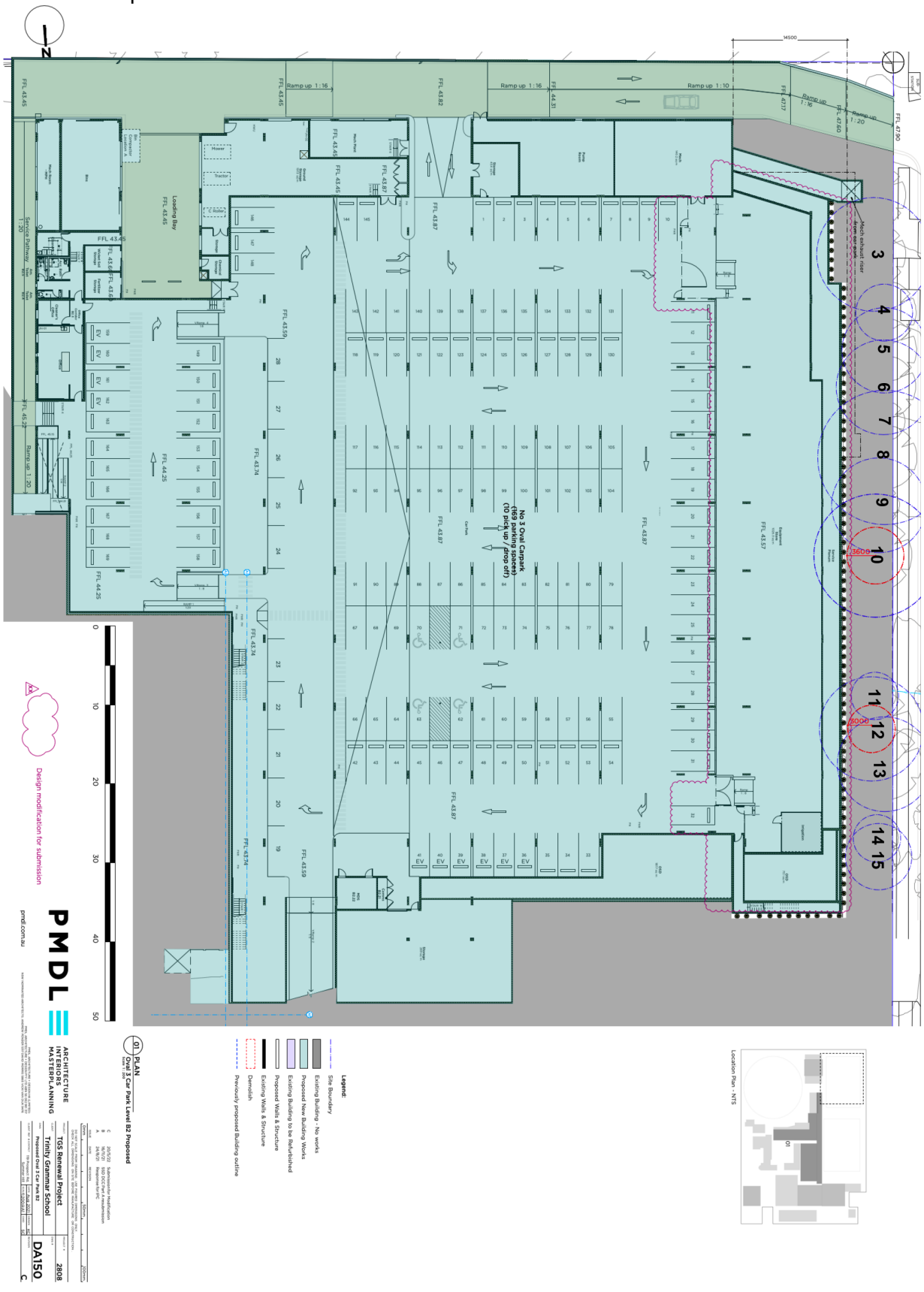


32

Lophostemon confertus
(Queensland Brush Box)

Proposed Plan

2808-DA150.pdf



TreeAZ (Barrell 2016)

TreeAZ field sheet

Heritage: Each tree is assessed by a visual check. If it is a designated heritage tree, then it is automatically categorized as AA, and is not subjected to any of the category ZZ, Z or A considerations.
Category ZZ (unsuitable for retention): Any remaining trees that are severely compromised and unsuitable for retention, even short term, are categorized as ZZ, i.e. Dead; irreversibly declining health; irremediable structural conditions; or, causing severe inconvenience to people or structural damage.
Category Z (low quality): Any remaining trees are systematically reviewed to decide if they fit into any of the four Z subcategory groups listed in the table below.
Category A (moderate quality): Any remaining trees are automatically category A, with the possibility of being promoted to category AA.
Category AA (high quality): If a category A tree is already Large, or has the potential to become so with limited intervention, it can be promoted to category AA, at the discretion of the assessor.

Category Z: Low quality trees not worthy of being material constraint

Z	**Local policy exemptions:** Trees that are unsuitable for legal protection for local policy reasons including size, proximity and species	
	1	**Size:** Young or insignificant small trees, e.g. below the local size threshold for legal protection, etc
	2	**Proximity, hedge or species:** Exempt from legal protection because of proximity to structures, a maintained hedge or unsuitable species, e.g. scheduled noxious weed, out of character in a setting of acknowledged importance, etc
	Deteriorating health/condition: Trees that are likely to be removed within 10 years because of deteriorating health and/or structural condition	
	3	**Health:** Deteriorating health with little realistic prospect of recovery
	4	**Crown instability:** Deteriorating structural conditions where an increasing risk of failure can be temporarily addressed by reasonable intervention, e.g. storm damage, cavities, decay, included bark, wounds, excessive imbalance, etc
	5	**Root instability:** Deteriorating whole tree stability through poor anchorage, increased exposure to weather, etc
	Ongoing nuisance: Trees that are likely to be removed within 10 years because of unsuitable impact on people	
	6	**Inconvenience:** Ongoing and increasing inconvenience to residents to the extent that a locally recognised court or tribunal would be likely to authorise removal, e.g. dominance, debris, interference, etc
	7	**Damage:** Ongoing and increasing structural damage to property to the extent that a locally recognised court or tribunal would be likely to authorise removal, e.g. worsening damage to surfacing and structures, etc
	Good management: Trees that are likely to be removed within 10 years through responsible management of the tree population	
	8	**No future potential:** Poor condition or location with no realistic potential for recovery or improvement, e.g. dominated by adjacent trees or buildings, poor architectural framework, etc
	9	**Benefit nearby trees:** Removal would benefit better adjacent trees, e.g. relieve physical interference, suppression, etc
	10	**Maintenance costs:** Unacceptably high maintenance costs, e.g. structural conditions requiring high levels of regular pruning, etc

NOTE: Although Z trees are not worthy of influencing new designs, urgent removal is not essential and they could be retained in the short term, if appropriate

Categories A and AA: Moderate and high quality trees suitable for retention for more than 10 years, and worthy of being a material constraint

A		All trees that are not categories ZZ or Z that can be retained with limited intervention

NOTE: Category A trees that are already large, or have the potential to become so, with limited intervention, can be promoted to category AA(1), at the discretion of the assessor. Designated heritage trees are automatically category AA(2). Although all category AA and A trees are sufficiently important to be material constraints, category AA trees are at the top of the categorization hierarchy and should be given the most weight in any selection process.

AA	**1**	Single category A trees or small groups which, at the discretion of assessor, can be promoted to category AA because they are already large, or have the potential to become large
	2	Designated heritage tree

Qualifications and Experience

AUSTRALIS
Tree Management

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ABN: 71 324 020 793

Meredith Gibbs (January 2021)

Qualifications:

1999 Advanced Certificate in Urban Horticulture
2002 Horticulture Diploma (Arboriculture) Level 5
2002 Occupational Health & Safety course
2002 Risk Management course
2002 Smart Train 008397
2010 Collecting Catchment Data
2011 Quantified Tree Risk Assessment
2014 Quantified Tree Risk Assessment
2015 Horticulture Diploma (Arboriculture), Level 5
2018 White Card Number 2234996

Practical experience:

1996 - 1998 Nursery Hand - Horticulturist
1988 - 2001 Garden Maintenance - Horticulturist
1997 - 2004 Silver Springs Nursery (Owner/Operator)
2000 - Australis Tree Management (Owner/Operator)

Memberships and affiliations:

Arboriculture Australia
Australian Institute of Horticulture
Australian Plant Society of NSW
Burrendong Botanic Garden & Arboretum
International Society of Arboriculture
Quantified Tree Risk Assessment Registered User
Society of Municipal Arborists
Women in Arboriculture

Insurance:

Professional Indemnity Insurance
Liberty International Underwriters
$5,000,000.00
Policy No. HC-ME-SPC-01-104260

Public Liability Insurance
Liberty International Underwriters
$20,000,000.00
Policy No. 463763

Pro Bono Work:

Middle Dural Public School

Continuing Professional Development:

NAAA Conference, Mature Trees, 2001
Claus Mattheck Seminar 2001
ISAAC Conference - Parramatta 2004
AILA Tree Management Forum 2005
Jeremy Barrell Tree AZ & Report Writing Workshop 2006
A Practitioner's Guide to Visual Tree Assessment – Mike Ellison 2007
Quantified Tree Risk Assessment Workshop – Mike Ellison 2007
ISAAC Conference - Brisbane 2008
ISAAC Conference Workshop Dr. David Lonsdale 2008
ISAAC Conference Workshop Dr. Phillip Gibbons 2008
ISAAC Conference - Newcastle 2009
ISAAC Conference - Adelaide 2010
ISA International Conference Parramatta 2011
ISA International Conference Workshop Dr. Ken James 2011

Disclaimer & Copyright

Disclaimer
Australis Tree Management has no affiliation with any private contractors, associations or nurseries involved in the tree removal and pruning business. This ensures an impartial approach to all recommendations given regarding tree removals, tree hazard inspections and surveys. The Principal of the business, Meredith Gibbs, has a certificate level 5 in Arboriculture obtained from Northern Sydney Institute, Ryde TAFE College, NSW in 2003.

This report/assessment is made solely for the use and benefit of the client named on the front of this report. No liability or responsibility whatsoever, in contract or tort, is accepted to any third party who may rely on the report/assessment wholly or in part. Any third party acting or relying on this report / assessment in whole, or in part, does so at their own risk.

The addressee is required to peruse the report and contact Australis Tree Management within fourteen days for corrections. The addressee is also required to advise if any of the information or data supplied is inaccurate or incomplete, thereby affecting the conclusions and recommendations given in this report.

Any required updates, reassessments or re-examinations of the original report required by any other party will incur a fee.

Because of the nature of living organisms and the circumstances and condition that can affect their health and well-being this report will have a validity of 3 months from the date hereof. Where further information/data is supplied to Australis Tree Management, which nullifies the original report then a further fee will apply.

Any reproductions of this report must be in colour print.

Copyright

References

AS 4373 (2007) *Pruning of Amenity Tree*s, Standards Australia, Standards Association of Australia, NSW, Australia.

AS 4970 (2009). *Protection of Trees on Development Sites*, Standards Australia, Standards Association of Australia, NSW, Australia.

Australian Government Dept of Agriculture, Water and the Environment (1999) *Environmental Protection and Biodiversity Conservation Act*

Barrell, J. & Wadey, M. (2006) *Workshop Manual, Trees on Construction Sites*. Barrell Treecare Ltd, UK.

Barrell, J (2016) *TreeAZ Assessment Rating.* Barrell Treecare Ltd, UK.

Harris, R.W., Clark, J.R., Matheny, N.P. (1999). *Arboriculture Integrated Management of Landscape Trees, Shrubs and Vines.* Third Edition. Prentice Hall, Upper Saddle River, New Jersey, USA.

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

Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees.* Research for Amenity Trees No.4 The Stationary Office, London.

NSW Government Office of Environment & Heritage (2018) *Threatened Biodiversity Profile Search* for *Eucalyptus nicholii* (Narrow-leaved Black Peppermint). Visited 21/02/22 http://www.environment.nsw.gov.au/threatenedSpeciesApp