Birds Tree Consultancy

Consulting Arborist AQF5 • Expert Witness • Environmental Arboriculture • Resistograph Testing

ARBORICULTURAL DEVELOPMENT IMPACT ASSESSMENT REPORT

18 - 28 Simpson Street, Dundas Valley NSW

REVISION A
5th April 2023

Prepared for
Kennedy Associates

Prepared by

Birds Tree Consultancy
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Executive Summary

This Arboricultural Development Impact Assessment Report has been commissioned by Kennedy Associates to report on trees within the site of 18 - 28 Simpson Street, Dundas Valley NSW. The subject trees are located within or adjacent to the boundaries of this site. This site is currently existing public housing residential dwellings. The site is proposed for redevelopment including the demolition of the existing residential buildings and construction of new residential buildings, entry roads, and associated landscape works. This report has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention within the scope of the proposed development. The scope of this report includes all trees within areas that may be impacted by the proposed development.

The subject Trees are preserved under Part 5.4 of Parramatta City Development Control Plan 2011 with the exception of Trees 2, 8, 12, 13, 15, 17, 18, and 19 which are exempt. Trees 15, 17 and 18 are environmental weed species and are recommended for removal regardless of impact.

Tree 2 is dead with no visible habitat and is recommended for removal.

The Tree Protection Zone (TPZ) of Trees 1, 6, 7, 8, 12, 13, 14, 16, 17, 18, and 19 are encroached by the proposed construction and required earthworks by a total or major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites.* These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The TPZ of Trees 4, 5 and 11are encroached by the proposed construction and required earthworks by a minor encroachment as defined by *AS4970-2009* and these trees will remain viable to be retained and protected in accordance with 8.0. This assessment is made on the basis of Kennedy & Associates Cut & Fill and Retaining Wall Plan DA-103 which shows no cut or fill within the TPZ of Tree 11.

All other trees are viable to be retained and are to be protected as defined below.

Tree no.	Species	Recommendations	Comments	Retention Value
1.	*Melaleuca decora*	Remove	Not viable to be retained due to proposed development.	Medium
2.	*Dead tree*	Remove	Dead Tree with no apparent habitat.	Low
3.	*Melaleuca salicina*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
4.	*Melaleuca salicina*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
5.	*Callistemon viminalis*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
6.	*Cupressus spp*	Remove	Not viable to be retained due to	Medium

			proposed development.	
7.	*Lagerstroemia indica*	Remove	Not viable to be retained due to proposed development.	Medium
8.	*Lagerstroemia indica*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
9.	*Acacia decurrens*	Retain	Viable to be retained and protected in accordance with 8.0	High
10.	*Acacia decurrens*	Retain	Viable to be retained and protected in accordance with 8.0	High
11.	*Ceratopetalum gummiferum*	Retain	Viable to be retained and protected in accordance with 8.0	High
12.	*Schefflera actinophylla*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
13.	*Eriobotrya japonica*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
14.	*Cinnamomum camphora*	Remove	Not viable to be retained due to proposed development.	Medium
15.	*Ligustrum lucidum*	Retain	Viable to be retained and protected in accordance with 8.0. Exempt from Parramatta DCP.	Low
16.	*Cinnamomum camphora*	Remove	Not viable to be retained due to proposed development.	Medium
17.	*Ligustrum lucidum*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
18.	*Ligustrum lucidum*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low

19.	*Schefflera actinophylla*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low

Contents

1.0 Scope of Works

This Arboricultural Development Impact Assessment Report has been commissioned by Kennedy Associates to report on trees within the site of 18 - 28 Simpson Street, Dundas Valley NSW. It has been commissioned to outline the health, condition and stability of these trees as well as their viability for retention within the scope of the proposed development. The scope of this report includes all trees within areas that may be impacted by the proposed development.

On the 1st of July 2022, Glenn Bird of Birds Tree Consultancy attended site and inspected the subject trees from the ground. There was no aerial inspection carried out. A Visual Tree Assessment was undertaken in accordance with Visual Tree Assessment (VTA) guidelines (Mattheck and Breloer, 1994). Tree heights were measured using a Nikon Forestry 550 Heightmeter.

2.0 Site Analysis

2.1 Site

The subject site is the proposed 18 - 28 Simpson Street, Dundas Valley NSW. The subject trees are located within or adjacent to the boundaries of this site. This site is currently existing public housing residential dwellings. The site is proposed for redevelopment including the demolition of the existing residential buildings and construction of new residential buildings, entry roads, and associated landscape works.

2.2 Documentation

This Development Impact Assessment Report has been compiled based on the following documentation provided:

1. NSW DPIE Detailed Survey Dated 02/12/2021.
2. Kennedy & Associates Cut & Fill and Retaining Wall Plan DA-103 Revision P8 Dated 30/03/2023
3. Kennedy & Associates Site Plan DA-105 Revision P8 Dated 30/03/2023

2.3 Topography

The site slopes moderately from the highest point on the eastern corner of the site to the lowest point at the western corner and Simpson Street frontage. Refer to detailed survey for detailed levels.

2.4 Identification

Trees are as identified in the attached inspection forms in Appendix C and shown in Tree location Plan A01 in Appendix D.

2.5 Soils

Soil material and horizons were not tested for this report.

3.0 Existing Trees

The following trees were inspected from the ground and the following items identified. Please refer also to the attached inspection data in Appendix C.

3.1. Tree 1. *Melaleuca decora*

This mature tree is approximately 5m tall with a canopy spread of m. It has a single trunk with a diameter at breast height (DBH) of mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.2. Tree 2. *Dead tree*

This is a dead tree with no visible or apparent habitat, and it is recommended for removal.

3.3. Tree 3. *Melaleuca salicina*

This mature tree is approximately 10m tall with a canopy spread of 6m. It has multiple co-dominant trunks from the base with an aggregate DBH of 360mm. This tree is in fair health and condition with a thinning canopy, moderate deadwood and minimal epicormic growth.

3.4. Tree 4. *Melaleuca salicina*

This mature tree is approximately 10m tall with a canopy spread of 6m. It has a single trunk with a DBH of 290mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.5. Tree 5. *Callistemon viminalis*

This mature tree is approximately 9m tall with a canopy spread of 7m. It has multiple (3) co-dominant trunks from the base with an aggregate DBH of 290mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.6. Tree 6. *Cupressus spp*

This mature tree is approximately 11m tall with a canopy spread of 6m. It has multiple co-dominant trunks from the base with an aggregate DBH of 700mm. This tree is in fair health and condition with a thinning canopy, moderate deadwood and minimal epicormic growth.

3.7. Tree 7. *Lagerstroemia indica*

This mature deciduous tree is approximately 7m tall with a canopy spread of 8m. It has multiple co-dominant trunks from the base with an aggregate DBH of 400mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.8. Tree 8. *Lagerstroemia indica*

This mature tree is approximately 8m tall with a canopy spread of 9m. It has multiple co-dominant trunks from the base with an aggregate DBH of 460mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.9. Tree 9. *Acacia decurrens*

This mature tree is approximately 7m tall with a canopy spread of 4m. It has multiple co-dominant trunks from the base with an aggregate DBH of 150mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.10. Tree 10. *Acacia decurrens*

This mature tree is approximately 7m tall with a canopy spread of 4m. It has a single trunk with a DBH of 130mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.11. Tree 11. *Ceratopetalum gummiferum*

This mature tree is approximately 6m tall with a canopy spread of 4m. It has twin co-dominant trunks from the base with an aggregate DBH of 280mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.12. Tree 12. *Schefflera actinophylla*

This mature tree is approximately 10m tall with a canopy spread of 9m. It has a single trunk with a DBH of 400mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.13. Tree 13. *Eriobotrya japonica*

This mature tree is approximately 5m tall with a canopy spread of 5m. It has a single trunk with a DBH of 120mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.14. Tree 14. *Cinnamomum camphora*

This mature tree is approximately 19m tall with a canopy spread of 16m. It has multiple (3) co-dominant trunks from the base with an aggregate DBH of 990mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.15. Tree 15. *Ligustrum lucidum*

This mature tree is approximately 6m tall with a canopy spread of 3m. It has twin co-dominant trunks from the base with an aggregate DBH of 180mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.16. Tree 16. *Cinnamomum camphora*

This mature tree is approximately 7m tall with a canopy spread of 4m. It has multiple co-dominant trunks from the base with an aggregate DBH of 420mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.17. Tree 17. *Ligustrum lucidum*

This mature tree is approximately 6m tall with a canopy spread of 4m. It has a single trunk with a DBH of 80mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.18. Tree 18. *Ligustrum lucidum*

This mature tree is approximately 7m tall with a canopy spread of 5m. It has a single trunk with a DBH of 150mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

3.19. Tree 19. *Schefflera actinophylla*

This mature tree is approximately 4m tall with a canopy spread of 2m. It has a single trunk with a DBH of 100mm. This tree is in good health and condition with minimal deadwood and epicormic growth.

4.0 Landscape Significance of Trees

4.1 Landscape Significance

The significance of a tree within the landscape is a factor of the health and condition of the tree, vitality, the form of the tree, environmental, cultural, amenity and heritage value.

4.2 Methodology of Determining Landscape Significance

For the purpose of this report, the Significance of a Tree, Assessment Rating System (STARS) as developed by the Institute of Australian Consulting Arborists (IACA) has been implemented. Please refer to Appendix A for greater detail of this assessment system. This system defines Landscape Significance for individual trees as High, Medium or Low Significance.

4.3 Landscape Significance of Subject Trees

Based on our assessment of the subject trees and implementation of the IACA Significance of a Tree, Assessment Rating System, the Landscape Significance of the Subject Trees was determined as shown in Table 1.

Tree no.	Species	Landscape Significance
1.	*Melaleuca decora*	Medium
2.	*Dead tree*	Low
3.	*Melaleuca salicina*	Medium
4.	*Melaleuca salicina*	Medium
5.	*Callistemon viminalis*	Medium
6.	*Cupressus spp*	Medium
7.	*Lagerstroemia indica*	Medium
8.	*Lagerstroemia indica*	Low
9.	*Acacia decurrens*	High
10.	*Acacia decurrens*	High
11.	*Ceratopetalum gummiferum*	High
12.	*Schefflera actinophylla*	Low
13.	*Eriobotrya japonica*	Low
14.	*Cinnamomum camphora*	Medium
15.	*Ligustrum lucidum*	Low

16.	*Cinnamomum camphora*	Medium
17.	*Ligustrum lucidum*	Low
18.	*Ligustrum lucidum*	Low
19.	*Schefflera actinophylla*	Low

Table 1 - Landscape Significance

5.0 Subject Tree Retention Value

5.1 Tree Retention Value Methodology

For the purpose of this report, the Tree Retention Values have been assessed by incorporating Landscape Significance Values as determined in 4.0 with the Useful Life Expectancy of the subject trees and assessing the retention values based on the Tree Retention Value Priority Matrix as developed by the Institute of Australian Consulting Arborists (IACA). Please refer to Appendix B for greater detail on this Tree Retention Value Priority Matrix. This matrix defines Landscape Significance for individual trees as High, Medium or Low Retention Value as well as Priority for Removal.

5.2 Retention Value of Subject Trees

Based on our assessment of the subject trees and implementation of the IACA Tree Retention Value Priority Matrix, the Retention Values of the Subject Trees were determined as shown in Table 2.

Tree no.	Species	Retention Value
1.	*Melaleuca decora*	Medium
2.	*Dead tree*	Low
3.	*Melaleuca salicina*	Medium
4.	*Melaleuca salicina*	Medium
5.	*Callistemon viminalis*	Medium
6.	*Cupressus spp*	Medium
7.	*Lagerstroemia indica*	Medium
8.	*Lagerstroemia indica*	Low
9.	*Acacia decurrens*	High
10.	*Acacia decurrens*	High
11.	*Ceratopetalum gummiferum*	High
12.	*Schefflera actinophylla*	Low
13.	*Eriobotrya japonica*	Low
14.	*Cinnamomum camphora*	Medium
15.	*Ligustrum lucidum*	Low
16.	*Cinnamomum camphora*	Medium
17.	*Ligustrum lucidum*	Low
18.	*Ligustrum lucidum*	Low
19.	*Schefflera actinophylla*	Low

Table 2 – Tree Retention Value

6.0 Development Considerations

6.1 Tree Protection Zone

Tree Protection Zones (TPZs) have been defined for the subject trees in order to define the encroachment of the proposed development in accordance with *AS4970-2009*. The TPZs required have been taken as a circular area with a radius 12 x the diameter at breast height of the tree. This requirement is in line with Australian Standard AS 4970-2009 Protection of Trees on Development Sites. This standard defines a maximum of 10% encroachment to be minimal encroachment. Any encroachment over 10% requires the site arborist to give consideration as to the viability of the tree due to the proposed development.

6.2 Structural Root Zone

Structural Root Zone (SRZs) are defined by AS*4970-2009* as the area of root development required for the structural stability of the tree. The SRZ is required to be assessed only when an encroachment greater than 10% is considered.

Tree no.	Species	TPZ Radius (m)	TPZ Encroachment (%)	SRZ Radius (m) Encroached/Not Encroached
1.	*Melaleuca decora*	2.52	100	1.85
2.	*Dead tree*	N/A		N/A
3.	*Melaleuca salicina*	4.32	10	2.43
4.	*Melaleuca salicina*	3.48	5	2.15
5.	*Callistemon viminalis*	3.48	5	2.15
6.	*Cupressus spp*	8.4	100	3.17
7.	*Lagerstroemia indica*	4.8	100	2.47
8.	*Lagerstroemia indica*	5.52	100	2.67
9.	*Acacia decurrens*	1.8	0	1.68
10.	*Acacia decurrens*	1.56	0	1.75
11.	*Ceratopetalum gummiferum*	3.36	5	2.13
12.	*Schefflera actinophylla*	4.8	100	2.37
13.	*Eriobotrya japonica*	1.44	100	1.49
14.	*Cinnamomum camphora*	11.88	30	3.92
15.	*Ligustrum lucidum*	2.16	0	1.68
16.	*Cinnamomum camphora*	5.04	25	2.37
17.	*Ligustrum lucidum*	0.96	100	1.45

18.	*Ligustrum lucidum*	1.8	100	1.79
19.	*Schefflera actinophylla*	1.2	100	1.36

7.0 Recommendations

The subject Trees are preserved under Part 5.4 of Parramatta City Development Control Plan 2011 with the exception of Trees 2, 8, 12, 13, 15, 17, 18, and 19 which are exempt. Trees 15, 17 and 18 are environmental weed species and are recommended for removal regardless of impact.

Tree 2 is dead with no visible habitat and is recommended for removal.

The Tree Protection Zone (TPZ) of Trees 1, 6, 7, 8, 12, 13, 14, 16, 17, 18, and 19 are encroached by the proposed construction and required earthworks by a total or major encroachment as defined by *AS4970-2009 Protection of Trees on Development Sites.* These trees will not be viable to be retained and will be required to be removed due to the proposed development.

The TPZ of Trees 4, 5 and 11are encroached by the proposed construction and required earthworks by a minor encroachment as defined by *AS4970-2009* and these trees will remain viable to be retained and protected in accordance with 8.0. This assessment is made on the basis of Kennedy & Associates Cut & Fill and Retaining Wall Plan DA-103 which shows no cut or fill within the TPZ of Tree 11.

All other trees are viable to be retained and are to be protected as defined below.

Recommendations for tree retention or removal are summarised as follows:

Tree no.	Species	Recommendations	Comments	Retention Value
1.	*Melaleuca decora*	Remove	Not viable to be retained due to proposed development.	Medium
2.	*Dead tree*	Remove	Dead Tree with no apparent habitat.	Low
3.	*Melaleuca salicina*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
4.	*Melaleuca salicina*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
5.	*Callistemon viminalis*	Retain	Viable to be retained and protected in accordance with 8.0	Medium
6.	*Cupressus spp*	Remove	Not viable to be retained due to	Medium

			proposed development.	
7.	*Lagerstroemia indica*	Remove	Not viable to be retained due to proposed development.	Medium
8.	*Lagerstroemia indica*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
9.	*Acacia decurrens*	Retain	Viable to be retained and protected in accordance with 8.0	High
10.	*Acacia decurrens*	Retain	Viable to be retained and protected in accordance with 8.0	High
11.	*Ceratopetalum gummiferum*	Retain	Viable to be retained and protected in accordance with 8.0	High
12.	*Schefflera actinophylla*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
13.	*Eriobotrya japonica*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
14.	*Cinnamomum camphora*	Remove	Not viable to be retained due to proposed development.	Medium
15.	*Ligustrum lucidum*	Retain	Viable to be retained and protected in accordance with 8.0. Exempt from Parramatta DCP.	Low
16.	*Cinnamomum camphora*	Remove	Not viable to be retained due to proposed development.	Medium
17.	*Ligustrum lucidum*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low
18.	*Ligustrum lucidum*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low

19.	*Schefflera actinophylla*	Remove	Not viable to be retained due to proposed development. Exempt from Parramatta DCP.	Low

8.0 Pre-Construction Tree Protection Measures

8.1 General

All tree protection works shall be carried out before excavation, grading and site works commence. Tree protection works shall be inspected and approved by a Consulting Arborist meeting AQF Level 5 prior to construction works commencing.

Storage of materials, mixing of materials, vehicle parking, disposal of liquids, machinery repairs and refueling, site office and sheds, and the lighting of fires, stockpiling of soil, rubble or any debris shall not be carried out within the TPZ of existing trees. No backfilling shall occur within the TPZ of existing trees. Trees shall not be removed or lopped unless specific instruction is given in writing by the Superintendent.

8.2 Identification

All trees to be protected shall be clearly identified and all TPZs surveyed.

8.3 Site Arborist

Prior to all site works commencing, a Site Arborist is to be appointed with the responsibility of implementing all Tree Protection Measures in this report as well as compliance with AS4970-2009 Protection of Trees on Development Sites. The Site Arborist is to hold qualifications equivalent to AQF Level 5.

8.4 Protective Fence

Fencing is to be erected around existing trees to be retained. In addition to this protective fencing within the site, Protective Fencing is to be installed to the full extent of the TPZs within the site. This fencing is to be erected prior to any materials being brought on site or before any site, civil works or construction works commence. The fence shall enclose a sufficient area so as to prevent damage to the TPZ as defined on Appendix D Tree Protection Plan and as defined in 5.1 above. Fence to comprise 1800mm high chain wire mesh fixed to 50mm diameter Galvanised steel posts. Panels should be securely fixed top and bottom to avoid separation. No storage of building materials, tools, paint, fuel or contaminants and the like shall occur within the fenced area.

8.5 Mulching

Install mulch to the extent of all tree protection fencing. Use a leaf mulch conforming to AS 4454 which is free of deleterious and extraneous matter such as soil, weeds, sticks and stones and consisting of a minimum of 90% recycled content compliant with AS 4454 (1999) and AS 4419 (1998). All trees marked as to be removed on the proposed development are to be chipped and reused for this purpose. Place mulch evenly and to a depth of 100mm.

8.6 Signage

Prior to works commencing, tree protection signage is to be attached to each tree

protection zone, displayed in a prominent position and the sign repeated at 10 metres intervals or closer where the fence changes direction. Each sign shall contain in a clearly legible form, the following information:
Tree protection zone.

- This fence has been installed to prevent damage to the trees and their growing environment both above and below ground and access is restricted.
- No Access within Tree Protection Zone
- The name, address, and telephone number of the developer.

The name and telephone number of the Site Arborist.

8.7 Trunk and Branch Protection

Where a tree is to be retained and a Tree Protection Zone cannot be adequately established due to restricted access, the trunk and branches in the lower crown will be protected by wrapping 2 layers of hessian or carpet underfelt around the trunk and branches for a minimum of 2 m or as lower branches permit, then metal strapping secures 38x50 x2000 mm timber battens together around the trunk (do not nail or screw to the trunk or branches). The number of battens to be used is as required to encircle the trunk and the battens are to extend to the base of the tree (AS4970 2009 Protection of trees on development sites, Figure 3 Examples of Trunk, Branch and ground protection).

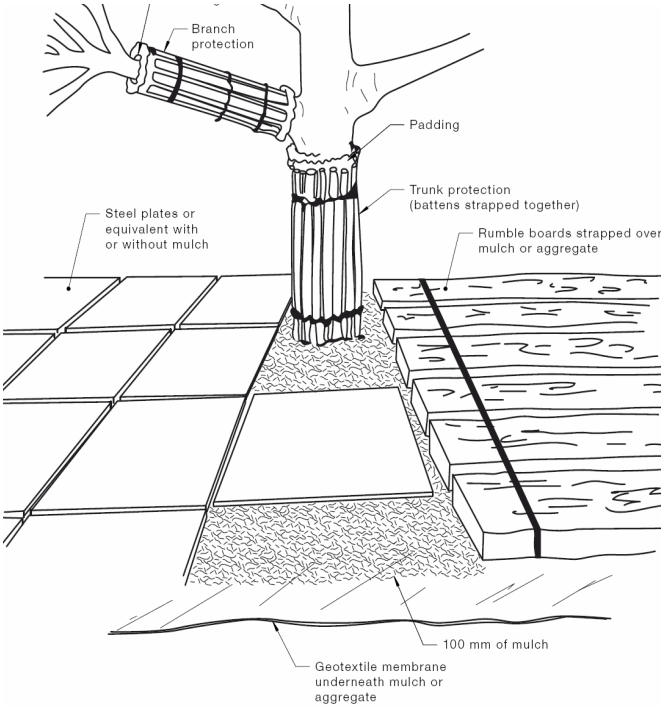


Figure 1 - Trunk Protection

9.0 Site Management Issues

9.1 Soil Compaction

Plant and pedestrian traffic during the construction period will cause significant soil compaction. This will be exacerbated by increased water expected on these soils as result of adjacent construction and weather. Compaction of the soil within the TPZ will reduce the voids between soil peds or particles therefore will reduce the gaseous

exchange capacity of the root system which will slow critical metabolic processes. No pedestrian or plant access is permissible to the TPZ.

9.2 Site Access

Sufficient access is required to enable efficient construction. It is essential to delineate access zones or corridors which will provide suitable access without damaging the existing trees to be retained or causing compaction to the root zone.

9.3 Excavation within Tree Protection Area

No excavation is to be carried out within the TPZs of retained trees without the permission and supervision of the Site Arborist (AQF5)

9.4 Possible Contamination / Storage of Materials

The construction site will require the use of many chemicals and materials that are possible contaminants which if not managed will pose a risk to the existing trees. These possible contaminants include fuels, herbicides, solvents and the like. A site-specific Environmental Management Plan shall be provided, and this specific risk identified and addressed.

10.0 Tree Protection Measures During Construction

10.1 Maintenance of Pre-Construction Tree Protection Measures

The Pre-Construction Tree Protection Measures identified in 5.0 above are to be maintained in good and serviceable condition throughout the construction period.

10.2 Possible Contaminants

Do not store or otherwise place bulk materials and harmful materials under or near trees. Do not place spoil from excavations within the TPZs. Prevent wind-blown materials such as cement from harming trees. All possible contaminants are to be stored in a designated and appropriate area with secure chemical spill measures such as a bund in place.

10.3 Physical Damage

Prevent damage to tree. Do not attach stays, guys and the like to trees. No personnel, plant, machinery or materials are to be allowed within the tree protection fencing.

10.4 Compaction

No filling or compaction shall occur over tree roots zones within tree protection fenced areas. Where construction occurs close to or the TPZ of trees to be retained it shall be necessary to install protection to avoid compaction of the ground surface. This protection is to be planks supported clear of the ground fixed to scaffolding.

10.5 Trenching

No Trenching should be necessary within the TPZs or within tree protection fencing. No further trenching is to be carried out without the approval of the Site Arborist. Should any further trenching be required within the TPZs identified, this work is to be carried out by hand and under the supervision of a qualified Arborist.

10.6 Irrigation/Watering

Contractor is to ensure that soil moisture levels are adequately maintained. Apply water at an appropriate rate suitable for the species during periods of little or no rainfall.

10.7 Site Sheds / Amenities/ Storage

Site sheds, site amenities, ablutions and site storage shall be in the area clear of all TPZ. Chemicals and potential contaminants are to be stored appropriately and this storage area is to be enclosed by a chemical spill bund to prevent the potential run off of contaminants in the event of a spillage or accident.

11.0 Environmental / Heritage/ Legislative Considerations

None of the subject trees are identified as threatened species or elements of endangered ecological communities within the NSW Biodiversity Conservation Act 2016.

12.0 References

Mattheck, C. Breloer, K. 1993, The Body Language of Trees: A Handbook for Failure Analysis, 12th Impression 2010 The Stationery Office.
AS4970-2009 Protection of Trees on Development Sites: Standards Australia

13.0 Disclaimer

This Appraisal has been prepared for the exclusive use of the Client and Birds Tree Consultancy.
Birds Tree Consultancy accepts no responsibility for its use by other persons. The Client acknowledges that this Appraisal, and any opinions, advice or recommendations expressed or given in it, are based on the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained Birds Tree Consultancy and referred to in the Appraisal. The Client should rely on the Appraisal, and on its contents, only to that extent.

Every effort has been made in this report to include, assess and address all defects, structural weaknesses, instabilities and the like of the subject trees. All inspections were made from ground level using only visual means and no intrusive or destructive means of inspection were used. For many structural defects such as decay and inclusions, internal inspection is required by means of Resistograph or similar. No such investigation has been made in this case. Trees are living organisms and are subject to failure through a variety of causes not able to be identified by means of this inspection and report.

Appendix A Landscape Significance

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.

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.

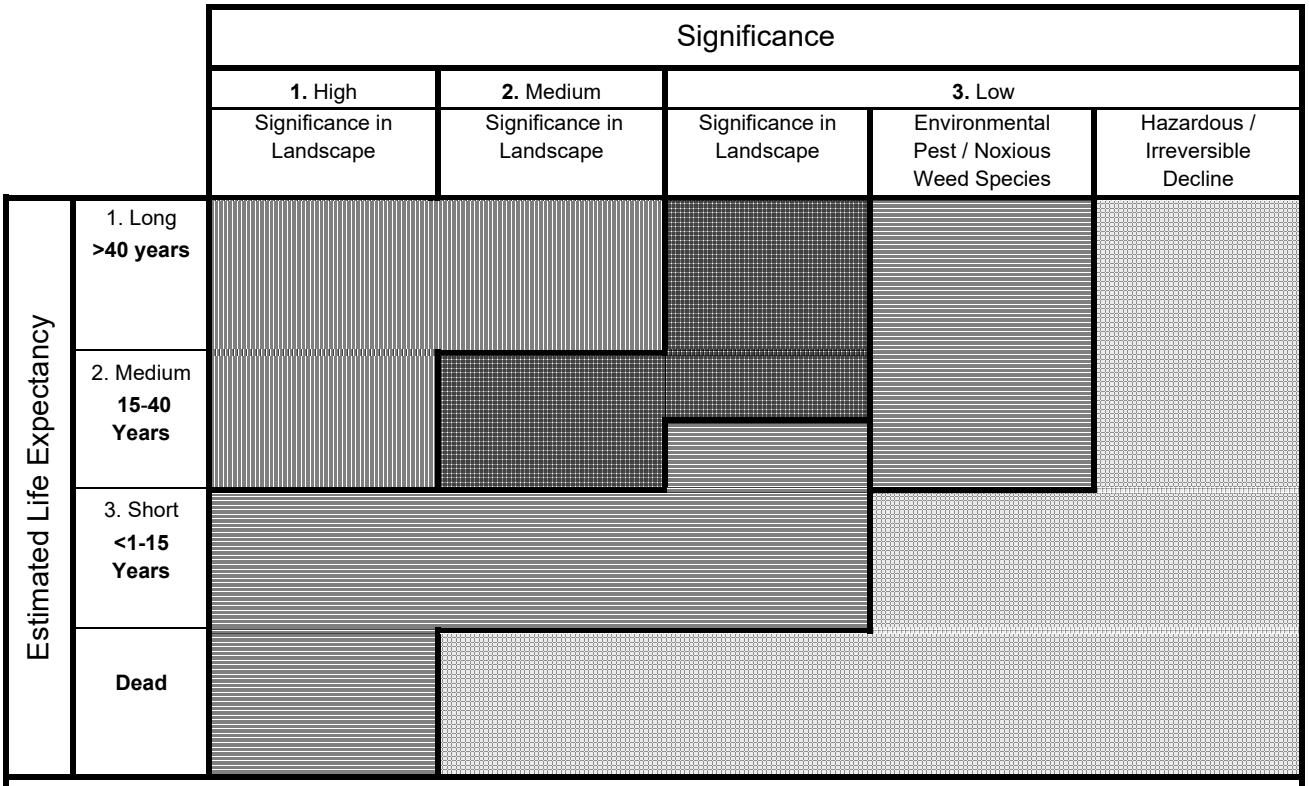
Hazardous/Irreversible Decline

- 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.

Appendix B Tree Retention Values



Legend for Matrix Assessment

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MANAGING URBAN TREES ®

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.

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

Appendix C - Tree Inspection Data

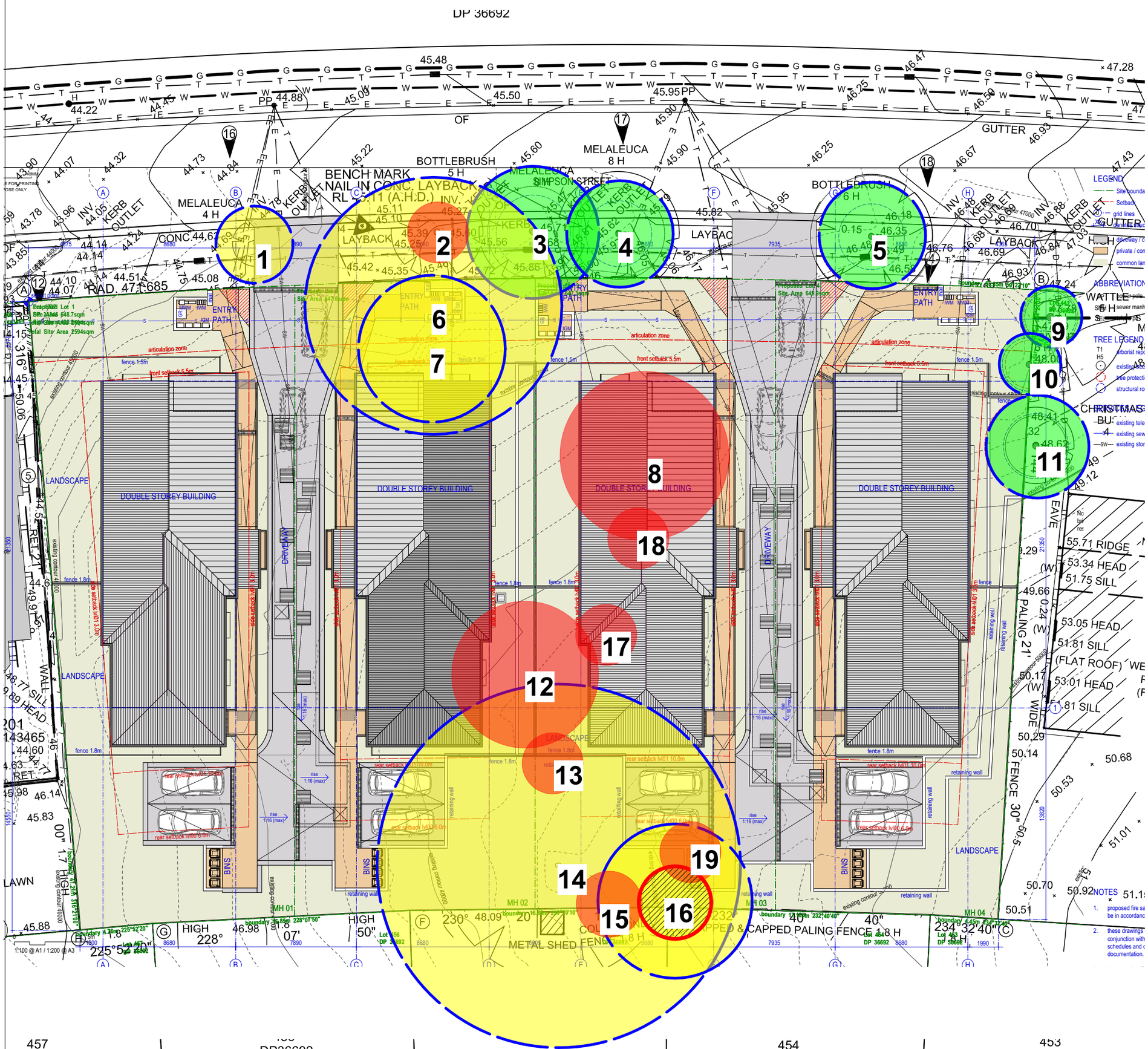
Birds Tree Consultancy

Consulting Arborist• Project Management • Horticultural Consultancy • Landscape Management

Inspection Data 1-Jul-22
Dundas Valley

Tree no.	Species	Height (m)	Spread(m)	DBH (mm)	TPZ Radius (m)	Dia at base	SRZ Radius (m)	Maturity	Trunk (single, twin, multiple @)	Trunk lean	Form/Crown shape	Branching Habit	Crown Distribution	Stability	Branching Structure	Pruning History	Defects	Damage	Overall Health & Vigour	Canopy Density	Foliage	Deadwood	Epicormic Growth	Pest Infestation	Disease	Life expectancy	Env. & Landcape significance	Retention Value
1	Melaleuca decora	5	2	210	2.52	250	1.85	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	Topped, Line clearance	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High
2	Dead tree							Dead	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Dead	Dead	Dead	100%	NIL	No evidence	No evidence	Dead	Low	Low
3	Melaleuca salicina	10	6	360	4.32	480	2.43	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Thinning	Normal	20%	<5%	No evidence	No evidence	15-40y	Medium	Medium
4	Melaleuca salicina	10	6	290	3.48	360	2.15	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Medium	Medium
5	Callistemon viminalis	9	7	290	3.48	360	2.15	Mature	Multiple (3) @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Medium	Medium
6	Cupressus spp	11	6	700	8.4	900	3.17	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Fair	Thinning	Normal	20%	<5%	No evidence	No evidence	15-40y	Medium	Medium
7	Lagerstroemia indica	7	8	400	4.8	500	2.47	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Deciduous	Deciduous	<5%	<5%	No evidence	No evidence	15-40y	Medium	Medium
8	Lagerstroemia indica	8	9	460	5.52	600	2.67	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
9	Acacia decurrens	7	4	150	2	200	1.68	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High
10	Acacia decurrens	7	4	130	2	220	1.75	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High
11	Ceratopetalum gummiferum	6	4	280	3.36	350	2.13	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	High	High
12	Schefflera actinophylla	10	9	400	4.8	450	2.37	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
13	Eriobotrya japonica	5	5	120	2	150	1.49	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
14	Cinnamomum camphora	19	16	990	11.88	1500	3.92	Mature	Multiple (3) @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Medium	Medium
15	Ligustrum lucidum	6	3	180	2.16	200	1.68	Mature	Twin @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
16	Cinnamomum camphora	7	4	420	5.04	450	2.37	Mature	Multiple @ base	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Medium	Medium
17	Ligustrum lucidum	6	4	80	2	140	1.45	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
18	Ligustrum lucidum	7	5	150	2	230	1.79	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low
19	Schefflera actinophylla	4	2	100	2	120	1.36	Mature	Single	NIL	Normal	Normal	Balanced	Stable	Stable	No evidence	Nil	Nil	Good	Normal	Normal	<5%	<5%	No evidence	No evidence	15-40y	Low	Low

Appendix D - Tree Location Plan



Legend

- Tree to be Retained and Protected
- Tree Exempt From Parramatta DCP
- Tree Not Viable to be Retained due to Proposed Development
- Tree Protection Zone (TPZ) in accordance with AS4970-2009

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Project: LAHC Dundas Valley
Client: Kennedy Associates
DWG: A01 REV A
Plan: Tree Location Plan
Date: 5 April 2023 Scale : 1:250 @ A3