ABN: 92 540 451 770

PO Box 2567
CARLINGFORD COURT NSW 2118

Office: (02) 9871 1530

# ARBORICULTURAL ASSESSMENT REPORT

**SITE ADDRESS:** 5 Clive Road Eastwood (NSW)

**CLIENT:** Mrs S French

**PREPARED BY:** ArborSkills Arboricultural Consultancy

**REFERENCE:** RPT21-13.1

**DATE:** 27 December 2021

I acknowledge the First Nations peoples of this nation.  I acknowledge the traditional custodians of the lands on which I live and do business, the Eora people, and pay my respects to ancestors and Elders, past and present. I am committed to honouring the First Nations peoples' unique cultural and spiritual relationships to the land, waters and seas as well as their rich contribution to society.

# 1. INTRODUCTION /METHODOLOGY

Mrs Sylvia French, owner of the property, commissioned ArborSkills Arboricultural Consultancy to provide a report on a tree, located within the property identified as 5 Clive Road Eastwood (NSW).

Only those plants which qualify as a 'tree' under the provisions of the relevant consent authority's tree management policy have been included in this report. Details of other plantings may be provided where such detail is considered appropriate or relevant. Where 'trees' have been identified on site but do not appear on the provided survey plan, indicative locations have been provided in Appendix 3 of this report. As required, trees located within 3 metres of the common boundary but on adjoining sites have been considered as part of this report. Trees, located on an adjoining property, that are further than 3 metres from the common boundary and where their Tree Protection Zone may overlap with the subject site have also been included in this report.

A Visual Tree Assessment (VTA) was conducted from ground level employing techniques developed by Mattheck, Claus and et al. Principle explanations and illustrations are contained within the publication, *The Body Language of Trees* by Mattheck and Breloer (1994). No aerial inspections or root mapping was undertaken. Relevant additional diagnostic testing was recommended and/or commissioned where the results of the VTA indicated it to be appropriate.

Tree heights and canopy spreads were visually estimated. Unless otherwise stated, Diameter at Breast Height (DBH), indicated using the mathematical symbol for diameter, was measured using a diameter tape and taken at 1.4 meters above existing ground level. The Diameter at Base is measured in accordance with the provisions of AS4970-2009. Where a variation to this occurs, the height at which the measurement was taken is shown with the relevant figure.

Structural Root Zones and Tree Protection Zones were calculated using the Australian Standard 4970 - Protection of Trees on Development Sites, 2009. Where a diameter measurement is not available, the Structural Root Zone or Tree Protection Zone is calculated using the relevant AS formula and the available measurements, either the Diameter at Breast Height or Diameter at Base. Tree Protection Zone calculations which fall below the minimum radial distance permitted under the provisions of AS4970-2009 (ie. 2 metres) have been amended to reflect the minimum radial distance indicated by the standard. As the Structural Root Zone formula within AS4970-2009 does not apply to palms, the acknowledged and arboriculturally accepted alternative formula for transplantation has been used to calculation of the Structural Root Zones for palms.

All pruning specifications are written in compliance of, and should be carried out in accordance with, Australian Standard 4373, Pruning of Amenity Trees, 2007 and Safe Work Australia, 'Guide to Managing Risks of Tree Trimming and Removal Work', 2016. Definitions for all terminology used in this report are taken from AS4373 – Pruning of amenity trees, 2007, AS4970-Protection of trees on development sites, 2009 and the International Society of Arboriculture's *Glossary of Arboricultural Terms*. All symbols used are standard mathematical symbols.

## AIM

### 2.1 Report Background and Content

The tree was inspected on Monday, 8 November 2021.

The aim of the inspection was to:

1. identify the subject trees,
2. assess their health and structural condition and
3. to make site observations relevant to assessing the arboricultural impact of proposed construction works on the site.

This report:

1. details the findings of the site visit,
2. provides an arboricultural assessment of the identified trees, including recommendations for removal or retention regardless of any proposed works on site,
3. provides an assessment of the potential impact of proposed works on the identified trees,
4. discusses possibilities for impact mitigation and
5. outlines appropriate tree protection methods for use during construction work.

### 2.2 Proposed Works

The proposed work involves:

a) Removal of a Parramatta Wattle (*Acacia parramattensis*),

b) Removal of a Native Daphne (*Pittosporum undulatum*).

### 2.3 Legislative and Planning Considerations

- Environmental Planning and Assessment Act, 1979,
- Heritage Conservation Act, 1977,
- State Environment Planning Policy (Vegetation in Non-Rural Areas) [SEPP] 2017,
- Ryde Local Environment Plan 2014,
- Ryde Development Control Plan 2014.

| Planning Control | Relevant | Not Relevant |
|---|---|---|
| Zoning | R2 –Low Density Residential | |
| Acid Sulfate Soils | Class 5 | |
| Heritage Listed Site | | ✕ |
| Heritage Conservation Area | | ✕ |

| | | |
|---|---|---|
| Land Reservation Acquisition | | ✕ |
| Foreshore Building Line | | ✕ |
| Flood Planning | | ✕ |
| Terrestrial Biodiversity | Information Not Publicly Available. | |
| Natural Resource – Biodiversity | Information Not Publicly Available. | |
| Bush Fire Prone Land | | ✕ |
| 10/50 Vegetation Clearing Entitlement Area | | ✕ |

## 2. OBSERVATIONS

### 3.1 Tree Identification and Assessment

For details, please refer to Appendix 2: Tree Schedule, located on page 14 of this report.

## DISCUSSION

### 4.1 The Property

The property is a relatively level, single allotment, located on the northern side of Clive Road, Eastwood. It contains a single level dwelling constructed in the California Bungalow style (c.1915-1940). The dwelling remains largely intact but for a later rear extension. With the exception of the overall layout, the garden has been significantly altered. Stylistic features and plantings, which are now largely Australian natives, would not be considered as in keeping with the original period style of the property.

The dwelling is located toward the western side of the allotment. This arrangement was typical of the Californian Bungalow period and facilitated the newly required driveway down the opposing side of the dwelling. The front garden is typically relatively shallow but, in this instance has been heavily planted in what could loosely be called a Cottage Garden Style but using Australian native plants.

The rear garden has similarly been extensively and densely planted with, predominantly, Australian native species. Some utility spaces and planting, such as a hen house and vegetable garden, have been included. The style of the rear garden could best be described as 'organic' as it does not adhere to any particular stylistic form either in layout, features or planting.

### 4.2 The Trees

Tree 1: Native Daphne (*Pittosporum undulatum*)

This plant is located within the narrow walkway between the western boundary and dwelling and is approximately 1.3 metres from the side wall of the house. To the west, the adjoining property has constructed a carport against the boundary and immediately adjacent to the tree. This has resulted in the canopy being extensively lopped along the western boundary to clear the adjoining property.

As is typical of the species, it has grown with multiple leaders from the base giving it a structure more akin to a shrub than a 'tree'. Due to its height and maximum canopy spread however, this planting does classify as a 'tree' under the local consent authorities definition. The majority of the junctions associated with the principal five leaders are noted to be excluded.

In keeping with the shrub form of the tree, branching occurs at the base however, due to the proximity of the tree to the dwelling, it has been extensively crown lifted to provide clearance along the side of the house and to reduce contact between the dwelling wall and tree branches. Above the eaves however, the tree canopy spreads significantly over the roof line and numerous branches are noted to be in contact with the roof.

Whilst pruning to remove branches which contact the roof is possible, it would be extremely difficult due to the form of the tree and would not be able to be completed in accordance with the provisions of AS4373 Pruning of amenity trees, 2007. By not complying to the provisions of the appropriate standard, the work will result in additional issues that would increase the risk of damage to the roof and would require more intensive, ongoing management to reduce the risk. As pruning would

therefore, only alleviate the issue in the immediate instance and, in the longer term, result in an increased risk of damage and maintenance, it is not considered an appropriate option in this situation. With pruning not being an appropriate option for management of the tree and its contact with the roof of the dwelling, removal is recommended.

Tree 2: Parramatta Wattle (*Acacia paramattensis*)

This tree is located in the rear garden and along the western boundary. It is a specimen planted by the current owner and is clearly in advanced stages of decline. Due to erosion, the root crown of the tree is exposed and the tops of a number of structural roots are visible. A number of these visible roots have large swellings on them. These swellings are likely to be symptomatic of a fungal infection the exact nature of which cannot be determined without additional diagnostic testing and examination.

The tree has grown with a phototropic lean to the south due to the influence of a mature, Lilly Pilly (*Syzygium smithii*) located to the north along the same boundary line. Whilst this lean would normally be of no consequence, evidence indicating the likely presence of a fungal root rot alters this to the tree having an increased risk of failure due to and inadequate root structure.

The tree itself is evidently in decline. There is extensive necrosis of the foliage across the entire canopy and the bole has large areas of exudation, a typical symptom of senescent *Acacia* spp. trees. The pattern of canopy die back, being from the base to the crown, is also symptomatic of a tree in decline due to a compromised root system. Regardless, this species is a one of the many short-lived wattles with a recognised lifespan, particularly in urban environments, of 10-15 years. Based on the available evidence, this tree is in a cycle of decline from which it would be unlikely to recover.

Given the body of evidence indicating that the tree is in decline, and that it is probable that it has a fungal root disease, removal is recommended as the most appropriate management option.

## 4.3 Heritage Considerations

The subject property is listed as being within a heritage conservation area under Schedule 5, Part 2 of the Ryde Local Environment Plan 2014. The listing identifies the property as being within the Eastwood House Estate.

To address the requirement for Heritage Management documentation to be submitted with a development application for proposed works on a heritage listed item, the following information is provided:

### 4.3.1 Heritage Assessment

*a) Documentary Research*

Available documentary evidence indicates that the area in which this dwelling is located formed part of a land grant to Private John Love, of the NSW Corps, in March, 1795. Over the next few years, the

area changed ownership to William Kent and later to William Rutledge. It was William Rutledge who is believed to have constructed the earliest sections of Eastwood House in approximately 1840. It is from this building, and the associated estate, that the heritage conservation area takes its name.

The house, and its estate, had a variety of owners and occupants over the next sixty (60) years including James Beuzeville and Samuel Terry. At the beginning of the First World War in 1915, the estate was subdivided and sold. Its proximity to the railway line meant that allotments sold and were built upon quickly resulting in a suburb with relatively homogenous architecture and styling. That styling is the Californian Bungalow style. Many of the residences within the area retain the essence of that style and it is for this reason that the area has been identified as having heritage value and listed as a Heritage Conservation Area.

*b) Site Assessment*

The subject site contains the original single storey, California Bungalow style dwelling. The dwelling has had minimal alteration to the front of the building however, an extension of a later period has been added to the rear.

There is little evidence of the landscape styling that would have occurred at the property when it was originally constructed. With the exception of the general layout of the front garden, where there is a dedicated front entry pathway and separate driveway running down the side of the dwelling, stylistic features typical of a garden associated with the Californian Bungalow architectural style have been removed. The majority of plantings, particularly in the front garden, have been replaced with Australian native species, indicative of a later period of garden fashion.

*c) Streetscape Assessment*

This property forms part of a streetscape dominated by California Bungalow style dwellings interspersed with some Federation style buildings. For the most part, dwellings maintain the architectural integrity of their original style with minimal unsympathetic alterations having occurred.

Typical deep frontages have been maintained to most sites. The majority of gardens have been 'renovated', both in style and plant selection, to various later periods however, they do still maintain their strong, planted character. The street maintains its original street tree planting, reflective of the underlying 'Garden Suburb' philosophy of the area.

### 4.3.2 Heritage Impact Assessment

*a) Description of Work*

Proposed works involve:

1. The removal of two (2) trees, identified as:

   Tree 1: Native Daphne (*Pittosporum undulatum*) and

   Tree 2: Parramatta Wattle (*Acacia paramattensis*).

Both trees are located along the western boundary. Tree 1: Parramatta Wattle (*Acacia paramattensis*) is positioned in the rear garden area while Tree 2: Native Daphne (*Pittosporum undulatum*) is located between the dwelling and the side boundary fence.

*b) Design Options*

The proposed removal of Tree 2: Parramatta Wattle (*Acacia parramattensis*) has been initiated to remove a senescent tree and prevent potential damage to structures surrounding it. These structures include the dwelling on the subject site and the boundary fence between the subject property and that adjoining to the west. It is well recognised that many of the Acacia spp. genus are short lived. They grow quickly but, within the urban environment particularly, usually only have a viable lifespan of 10-15 years. These traits, of quick growth, early senescence and death, are adventitious to the genus and their natural environments where they act as 'nursery' plants for other genus and species which are slower to establish. Within the urban garden however, these traits mean that they plants become senescent and die quickly, leaving unsightly and potentially hazardous structures. For this reason, this planting, which has reached the extent of its natural life, has been recommended for removal.

Removal of Tree 1: Native Daphne (*Pittosporum undulatum*) has been proposed based on arboricultural advice. The works applied for are proposed to prevent damage to the roof of the dwelling on the subject site. Currently, branches from the tree are in contact with the tiled roof. It is likely that some degree of damage to the tiles has already been caused by this contact. The level of contact, and resulting impacts to the roof, will only increase as the tree continues to grow. Pruning to provide clearance between the roof and branches will prevent damage in the foreseeable future however, it is not seen as an appropriate, long-term solution to the situation. Given the combination of the location, species and form of Tree 1: Native Daphne (*Pittosporum undulatum*), removal as opposed to pruning has been recommended for arboricultural reasons. Whilst the owners initially proposed pruning, assessment of this option finds that it is not the optimal management action given a variety of factors.

In the first instance, the tree is located between the dwelling and the side boundary fence. As is typical of properties from this historical era, dwellings were located as close as possible to one side boundary in order to facilitate a driveway along the opposing boundary. In this instance, Tree 1: Native Daphne (*Pittosporum undulatum*) is located on the opposite side from the driveway and therefore in a very narrow space adjacent to the dwelling. This proximity to the dwelling raises a number of likely issues in regard to maintenance and ongoing care of the building.

The two principal issues that are likely to arise given the proximity of Tree 1: Native Daphne (*Pittosporum undulatum*) to the western wall of the dwelling are direct impacts onto the roof and the effects of matric suction to the soils surrounding the foundations of the building.

The dwelling roof is a tiled structure, the age of which is unknown. Tiles, as they age, become more brittle and prone to cracking and breaking. With a high volume of the canopy of this tree being located over the roof line, it is inevitable that branches will impact the roof and have a high risk of causing cracking or breaking. This can lead to water leaking into the property and causing significant and costly damage. To prevent this, pruning of the canopy to provide a minimum clearance of not

less than 2.0 metres from the roof could be undertaken. To maintain this clearance, it would be necessary to prune the tree approximately every year, a level of maintenance that is considered high.

The presence of a large tree in such close proximity to the foundations of a building can have negative impacts by means of the effects of matric suction. This is the process whereby differential settling is caused by the uneven extraction of moisture from the soil surrounding foundations. As the dwelling was constructed at a time when such impacts were relatively unknown and on a site where the tree did not exist, it is highly unlikely that the foundations were engineered to accommodate such movements. As a result, walls can crack and foundations loose mortar, reducing their structural integrity and potentially resulting in floors slumping.

Given the proximity of the tree to the dwelling, and therefore to the footings and foundations, there are no options to manage the impacts of matric suction on the dwelling. In situations where greater distance to the tree is available, the installation of root barriers can provide some mitigation however, in this instance, the tree is too close to the dwelling and installation of a root barrier would require severance of structural roots. This would then likely render the tree structurally unstable and with an increased risk of failure.

The species of the tree is seen as being problematic in that, although it is a locally indigenous species, it is considered by many local government areas and authorities as an environmental weed. This status is due to the fact that not only is it a very fast-growing species, which often means that it out performs other, more desirable species, but it has a propensity to self-seed. This later habit means that it is known to invade areas where it has not been planted and, its fast growth rate, allows it to out compete many of the established plants. This reduces biodiversity and the overall health of a garden or environment.

The form of the 'tree' is similarly problematic. Having developed a form more typical of a shrub, it has multiple leaders at the base. Many of the main branch junctions are included and their extensions cross and conflict, resulting in a tangled form where abrasion wounds are prevalent. As the plant has previously been crown lifted, to provide access along the side of the dwelling, there are a number of lop sites and epicormic growth. Pruning this specimen to provide clearance to the roof line would be extremely difficult. To prune in accordance with Australian Standard 4373-2007, would result in a substantial percentage (>15%) of the canopy being removed. Whilst on most 'trees' this would be inappropriate, this particular specimen could withstand such extensive pruning however, it would have negative effects on the aesthetic form of the plant and result in the development of additional epicormic growth and crossing and conflicting branches. These would then require consistent, ongoing maintenance to manage the hazards and the risk they posed to surrounding structures both on the subject site and the adjacent property.

*c) Effect of Work*

The proposed works will have minimal, if any, impact on the streetscape of the area. With regard to Tree 2: Parramatta Wattle (*Acacia parramattensis*), its' location within the rear garden means that it is not visible from the street. Removal of this tree would, effectively, not be noticed by anyone except the residents of the property.

Tree 1: Native Daphne (*Pittosporum undulatum*) is visible from the street frontage however, its' removal would also have minimal impact given that there is a very large street tree located outside of the site and extensive canopy within the rear garden of the property. The presence of the Brush Box (*Lephostemon confertus*) street tree is part of an avenue planting that would appear to have been either contemporary with, or completed shortly after, the original subdivision and construction of the dwellings in the street. Examination of the 1943 aerial photographs, available through Six Maps, shows the tree in front of this dwelling as a young specimen. As the street tree now has a fully developed, wide domed canopy, any view of the individual property is largely blocked unless the observer is standing on the footpath. As the property has a high level of canopy, including a very large, mature Lilly Pilly (*Syzygium smithii*) in its rear garden. The presence of this extensive and dense canopy cover serves to reduce the identifiability of any single individual specimen, particularly a medium sized one as Tree 1: Native Daphne (*Pittosporum undulatum*) would be described.

With direct reference to the historical value of the Heritage Conservation Area, neither the location nor the species of Tree 1: Native Daphne (*Pittosporum undulatum*) would be representative of a garden planted in the California Bungalow style. Streetscapes of the relevant period were being influenced by the Garden City movement while garden styles were moving toward

Further, it could be argued that, in a typical California Bungalow style garden, which has strong influences from the Arts and Crafts movement, Tree 1: Native Daphne (*Pittosporum undulatum*) would be out of place. Australian native species were, at that time, not as fashionable as they had been either in the earlier Federation period or would be again later, with the influence of Edna Walling and her contemporaries on garden design. As such, the heritage value of the tree, within the context of a Heritage Conservation Area designated to represent the California Bungalow style, is questionable. From this perspective, it could be argued, that removal of the tree would not only serve to protect the dwelling but would also help conserve a streetscape more typical of the period identified by the Heritage Conservation Area listing.

*d) Conservation*

Removal of the trees does not contravene the articles of The Burra Charter, 1999 in that it;

i) does not damage the cultural significance of the (place) property,

ii) changes very little, if any, of the fabric, use, associations or meaning of the site,

iii) does not place unwarranted emphasis on any one value,

iv) is based on appropriate research and information collection allowing for an informed decision,

v) does not alter the use of the place and,

vi) does not damage an existing appropriate visual setting for the heritage item nor facilitate the items relocation or any of its contents.

The proposed works comply with the provisions and intent of articles, 15.1, 15.3, 16, 17, 21.1, 21.2 and 27.1 of the Charter.

*e) Mitigation Measures*

The confined area in which Tree 1: Native Daphne (*Pittosporum undulatum*) is located, is unsuitable and inappropriate for a tree of any substantial size. Any replanting of a tree into this space would, in time, simply recreate the same situation as currently exists. For these reasons, replacement within the are from where Tree 1: Native Daphne (*Pittosporum undulatum*) is proposed to be removed with another plant that would attain dimensions that would classify it as a 'tree' under the local consent authorities Development Control Plan is not recommended. Given the constraints of the location, nothing above a small to medium shrub would be considered appropriate within this particular location.

Taking into account the fact that the property is quite densely planted with numerous trees and a variety of understory shrubs, a requirement to plant replacement or compensatory plantings in lieu of the removal of Tree 1: Native Daphne (*Pittosporum undulatum*) and Tree 2: Parramatta Wattle (*Acacia parramattensis*) is not considered appropriate or necessary. The property has extensive canopy cover, much of which has been planted by the current owner and has developed a unique micro-environment. The residency of a breeding Brush Turkey on the property is a testament to the habitat value of the properties revegetation.

## RECOMMENDATIONS

As a result of inspection and assessment of the subject trees, the following recommendations are made:

1. Tree 1: Native Daphne (*Pittosporum undulatum*), located between the dwelling and the western boundary, be removed.
2. Tree 2: Parramatta Wattle (*Acacia parramattensis*), located in the rear garden along the western boundary, be removed.

Should you require any further information in relation to this report, please contact our office on (02) 9871 1530.

Louise Bennett
**Registered Consulting Arborist**
Graduate Certificate of Arboriculture (with Hons)
University of Melbourne - AQF Level 8.
Diploma Horticulture (Arboriculture) - AQF Level 5
Certificate of Horticulture
Cert IV Training and Assessment
Member Housing Engineering Design & Research Association (HEDRA).

## LIMITATION OF LIABILITY

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

ArborSkills cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been visually assessed from ground level. ArborSkills cannot guarantee that a tree will be healthy or structurally sound under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of ArborSkills services, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. ArborSkills cannot take such issues into account unless complete and accurate information is given prior or at the time of the site inspection. Likewise ArborSkills cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

ArborSkills has no affiliation with any private contractors, associations or companies involved in the tree removal and pruning business. This ensures an impartial approach to all recommendations given regarding tree removals, recommended works and assessments.

In the event that ArborSkills recommends retesting or inspection of trees at stated intervals these works must be carried out within the designated time frame. It is the client's responsibility to make arrangements for an appropriately qualified and experienced person to conduct the re- inspection. Trees can be managed but, they cannot be controlled. To live or work near a tree involves an inherent degree of risk. There is no warranty or guarantee, either expressed or implied by ArborSkills, that problems or deficiencies of the subject trees may not arise at a future time.

Trees are living entities. As such, their health may alter, they will grow and their environmental circumstances may change from the time of the site inspection upon which this report is based. For this reason, this report has a maximum validity time of 1 year from the date of being written. Should there be any alteration to the site, the tree or the trees immediate environment from those current at the time of the site inspection upon which this report is based, the report will become invalid immediately. Such alterations may include wind storms, heavy or extended periods of rain or other natural weather phenomenon.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report. This report remains the intellectual property of ArborSkills. It has been issued to the identified client for the specified and agreed purpose only. Use of this report for any other purpose or by any other individual or company must have the written consent of ArborSkills **PRIOR** to that use. Failure to obtain such consent is deemed a breach of copyright and will result in legal action being undertaken against all parties involved. If this written report is to be used in a court of law or any legal situation ArborSkills must be advised in writing prior to the written assessment being presented in any form to any other party.

Care has been taken to obtain information from reliable sources. All data has been verified wherever possible however, ArborSkills can neither guarantee nor be responsible for the accuracy of information provided by others. It is assumed that all information has been provided by appropriately qualified and experienced persons.

## References and Bibliography


Apperly, R., Irving, R. and Reynolds, P. 1989, *A Pictorial Guide to Identifying Australian Architecture – Styles and Terms from 1788 to the Present*, Angus and Robertson Publishers, North Ryde (Australia).

Australia ICOMOS Secretariat, 2000, *The Burra Charter – The Australia ICOMOS Charter for Places of Cultural Significance 1999*, Australia ICOMOS Inc, Burwood, Victoria.

British Standards Institution 2012, *Trees in relation to design, demolition and construction-Recommendations*, BS5837:2012. Available from: British Standards Institute, Macquarie Park (Sydney), Australia.

Google Inc. 2012, Google™ earth(Version 6.2.2.6613) [Software]. Google Inc., Mountain View, CA (USA)

International Organization for Standardization, 2018, *Risk Management-Principles and Guidelines*, (AS/NZS) ISO 31000:2018. Available from: Standards Australia.

International Society of Arboriculture, 2015, *Glossary of Arboricultural Terms*, ISA, Champaign, IL(USA).

Mattheck, C. & Breloer, H. 1994, The Body Language of Trees – A Handbook for Failure Analysis, Her Majesty's Stationery Office, Norwich (United Kingdom).

Ramsay, J. 1991, Parks, Gardens and Special Trees; A Classification and Assessment Method for the Register of the National Trust, Australian Heritage Commission – Technical Publications Series No.2 Australian Government Publishing Service, Canberra.

Standards Australia 2012, Managing Environment-related Risk, HB203:2012. Available from: Standards Australia.

Standards Australia 2009, *Protection of trees on development sites*, AS4970-2009. Available from: Standards Australia.

Standards Australia 2007, *Pruning of amenity trees*, AS4373-2007. Available from: Standards Australia.

Wilson, P. 2013, *AZ of Tree Terms – A Companion to British Arboriculture*, Ethelburga House, Kent (Great Britain).

## APPENDIX 1: TREE RETENTION VALUE CLASSIFICATION©

The table below details the Tree Retention Valuation (TRV) system used by ArborSkills. The intent of the system is to provide the reader with a simple, clear and easily comparable tree reference system. It is designed only as a general aid in the planning processes of tree management. This system does **NOT** provide any indicators as to risk or hazard ratings. This guide operates on the assumption that, unless contra indicated by Visual Tree Assessment, the tree is to be retained.

The retention value is determined by assessment of, but is not restricted to, the following points;

- Tree health
- Structural integrity
- Form
- Visual significance within the subject site, local area and streetscape
- Amenity value to the subject site and local area
- Commonness or rarity of species
- Imported species, indigenous or native species
- Appropriateness to location (viability)
- Capacity for long term retention (sustainability)
- Resources, actions and expenditure required to alter condition/structure of tree and make appropriate for retention

The above points, and any other relevant site constraints or circumstances as determined by the Consulting Arborist, are taken into account and considered in connection with each other in order to achieve what is believed to be an appropriate retention value. It should be noted that the Retention Value is a consideration of **ALL** of the factors and indicators relevant to the site and tree, **NOT** the presence of a single factor or indicator, which determines the retention value.

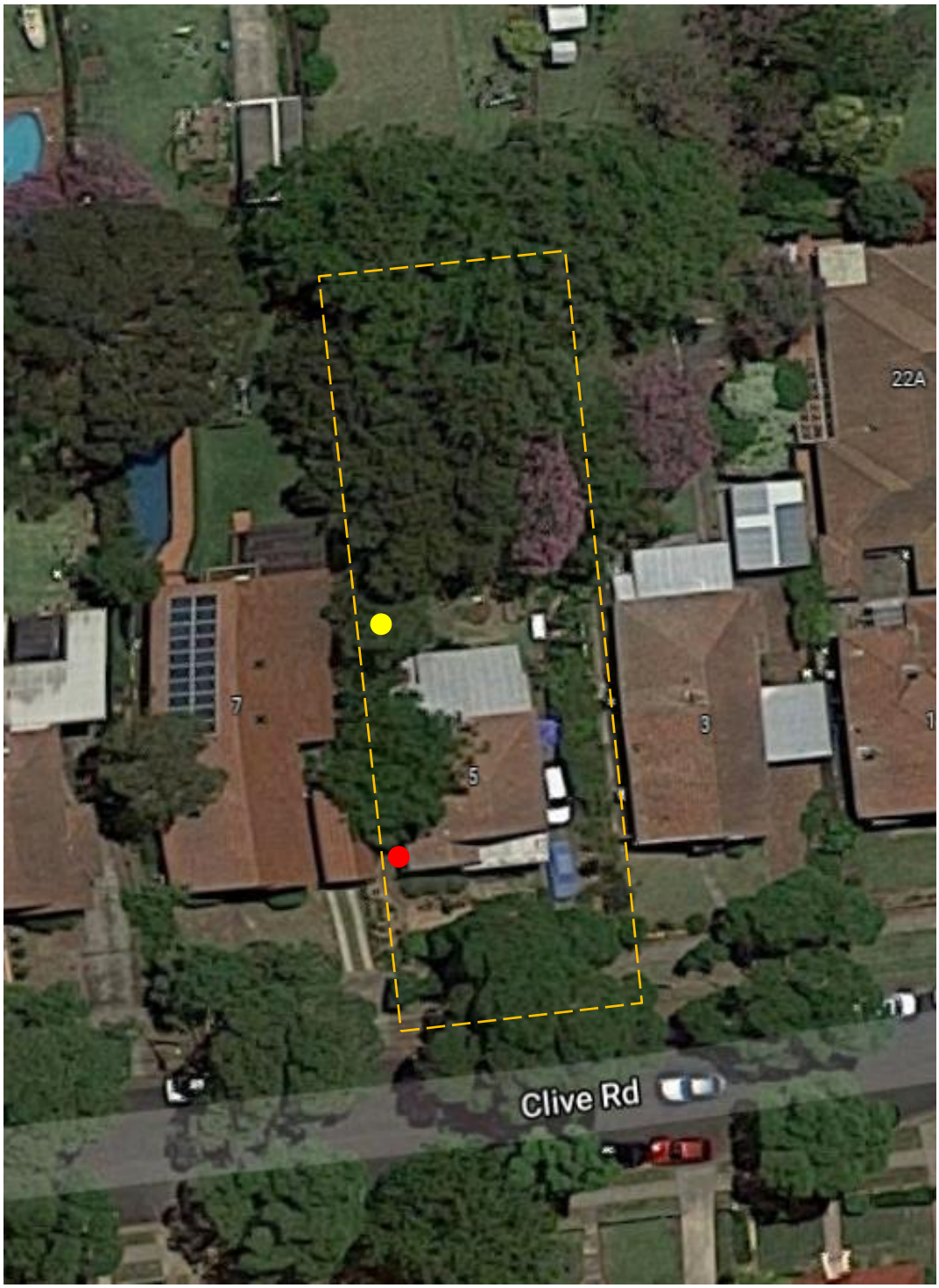
### TREE RETENTION VALUE SUMMARY

| Tree Retention Value | Retention Rating | Description/Indicators*<br>* Other Descriptors/Indicators not listed here may or may not be applicable. The applicability of a single indicator does not necessarily dictate the Value. |
|---|---|---|
| **1** | No Retention Value | • Trees considered dangerous for arboricultural reasons.<br>• Declared Noxious Weeds.<br>• Dead Trees. |
| **2** | Low Retention Value | • Nuisance species exempt from consent authorities Tree Preservation Order or equivalent.<br>• Trees of poor health, form and/or structurally compromised.<br>• Suppressed or inappropriately located trees.<br>• Mature trees with short term viability. |
| **3** | Medium Retention Value | • Trees of fair health, structure and form.<br>• Young trees with good growth potential.<br>• Mature canopy trees with medium to long term viability.<br>• Mature canopy tree within highly tree populated area. |
| **4** | High Retention Value | • Mature canopy trees in less tree populated area.<br>• Species of good health, structure and form.<br>• Visually prominent trees or those with amenity function. |
| **5** | Very High Retention Value | • Rare species.<br>• Locally indigenous species.<br>• Heritage listed tree.<br>• Species of very good or excellent health, structure and form. |

## APPENDIX 2: TREE SCHEDULE

| Tree ID No. | Common Name | Botanical Name | Height (m) | Width N/S (m) | Width E/W (m) | DBH (m) | Health | Structure | Form | Age | Canopy Cover | Foliage Density | Significance | Retention Value | Comments | Recommendation |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Native Daphne | *Pittosporum undulatum* | 8 | 7 | 7 | 0.04<br>0.055<br>0.10<br>0.11<br>0.013<br>0.165 | G | P | VP | M | 60% | 80% | LIS | 2 | • Located between house & western boundary.<br>• 1.3 m from side wall of dwelling.<br>• Multiple (x5) leaders @ base.<br>• Principle stem junctions excluded.<br>• Branches touching roof of dwelling.<br>• Lopped west side of canopy to clear adjacent property. | Remove Tree |
| 2 | Parramatta Wattle | *Acacia parramattensis* | 8 | 4 | 5 | 0.23 | P | F | F | OM | 50% | 60% | LIS | 2 | • Adjacent western boundary, rear garden.<br>• Root crown exposed.<br>• Swellings on roots - possible fungal infection.<br>• Phototropic lean to south due to influence of large Lilly Pilly (*Syzygium smithii*) to north.<br>• In decline.<br>• Epicormic shoots and exudation over entire bole.<br>• Extensive die back across entire canopy, predominantly extending from base to crown – suggestive or root issues.<br>• Die back commencing at base of crown and rising up through canopy. | Remove Tree |

## APPENDIX 3: TREE LOCATION PLAN




**KEY**

NB: The canopy of neither tree can be defined in this aerial photograph.

Indicative boundary line.

Tree 1: Native Daphne (*Pittosporum undulatum*) – location indicative only.

Tree 2: Parramatta Wattle (*Acacia parramattensis*) – location indicative only.

# APPENDIX 4: ARBORICULTURAL TERMINOLOGY AND SYMBOLOGY

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|---|---|
| **Tree ID No** | A unique identification number assigned to a particular tree and used to identify it throughout the report. |
| **Common Name** | The name in common use and accepted by most persons for that particular species. |
| **Botanical Name** | The taxonomic name, expressed in binomial nomenclature, derived from visual identification features and visible from ground level or specimen collection. |
| **Trees in Group** | The total number of trees included under this specific identification number. |
| **Height (m)** | The visually estimated height of the tree in metres. |
| **Width** | **N/S** = North to South; **E/W** = East to West.<br>The visually estimated maximum width of the canopy in that direction in metres. |
| **Ø (m)** | Diameter at Breast Height (DBH) measured at 1.4m above ground, unless otherwise noted, as outlined in AS 4970 – 2009. |
| **Ø @ Base (m)** | Diameter at Base measured above the root flares and below the DBH as outlined in AS4970-2009. |
| **Health** | **Good** In good, health with no significant health issues visible.<br>**Fair** Some health issues which could be addressed by intervention.<br>**Poor** Significant health issues that could be addressed by intervention.<br>**Very Poor** Significant health issues which are unlikely to be addressed by intervention.<br>**Senescent** Tree has entered a cycle of decline from where it is unlikely to recover regardless of intervention. |
| **Structure** | **Good** No visible defects within the structure of the tree.<br>**Fair** Minor visible defects within the structure of the tree relative to the species.<br>**Poor** Major visible defects within the structure of the tree relative to the species.<br>**Very Poor** Significant visible defects within the structure of the tree relative to the species. |
| **Form** | **Good** A specimen that has attained its full genetic potential and with no physical or environmental impediments to growth.<br>**Fair** A specimen that has generally attained its genetic potential and with some minor physical or environmental impediments to growth.<br>**Poor** A specimen that has attained some of its genetic potential and with significant physical or environmental impediments to growth.<br>**Very Poor** A specimen that has not attained any of its full genetic potential due to major physical or environmental impediments to growth. |
| **Age** | **S** Sapling - young tree, yet to establish, about 1-3 years old.<br>**J** Juvenile – young tree that has established but which has not developed its 'mature' or 'adult' form.<br>**SM** Semi-mature – an established tree but one that has not attained its full genetic potential for size and/or form.<br>**M** Mature – a tree that has attained its full genetic potential in size and/or form.<br>**OM** Over Mature – a tree that is no longer capable of further growth and/or has entered a cycle of decline. |
| **Canopy Cover** | A visual estimation, expressed as a percentage, of the canopy present as compared to a specimen which has attained its full genetic potential and with no physical or environmental impediments to growth. |
| **Foliage Density** | A visual estimation, and expressed as a percentage, of the level of foliage density present as compared to a specimen which has attained its full genetic potential and with no physical or environmental impediments to growth. |
| **Significance** | **AV** *Amenity Value* – a tree which has an identifiable amenity value to the site or its immediate neighbours.<br>**EEC** *Endangered Ecological Community* – a species of tree that is recognised as being indicative of and in a situation which could be an identified Endangered Ecological Community under Federal/State law.<br>**HBE** *Habitat Tree* – a tree which is currently being used by an identified animal or bird species.<br>**HCA** *Heritage Conservation Area* – a tree which is located on a property or in an area |

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| | designated as a Heritage Conservation Area in the local LEP.<br>**HLI** *Heritage Listed Item* – a tree listed as a heritage item or located on a property which is a listed heritage item under the local LEP.<br>**HPA** *Heritage Property Asset* – a tree which is located on a site that is heritage listed but where the tree is not specifically itemised in the heritage data.<br>**IEW** *Identified Environmental Weed* – a tree species which is identified by relevant Federal or State legislation as being a weed species.<br>*NTS* *Native Tree Species* – a species which is native to Australia but which is not necessarily native to the region, local district or locally indigenous.<br>**LIS** *Locally Indigenous Species* – a species of tree which is recognised as being indigenous to the local area.<br>**UFA** *Urban Forest Asset*- Government/Council (Public) owned tree eg. street tree or located in park.<br>**RST** *Registered Significant Tree* – a tree which is listed on the local consent authorities Significant Tree Register.<br>**ST** *Significant Tree* – a tree which is by virtue of size, age, form or other identifiable feature or attribute considered significant. |
| **Retention Value** | Please refer to Appendix 1 for detailed description of this criteria. |