



EARTHSCAPE HORTICULTURAL SERVICES
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ARBORICULTURAL IMPACT ASSESSMENT REPORT

PROPOSED SCHOOL

1 ROSEMEAD ROAD, HORNSBY

April 2020

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1 INTRODUCTION

- 1.1.1 This report was commissioned by Blue Gum Community School to assess the health and condition of one-hundred and sixteen (116) trees located within or immediately adjacent to 1 Rosemead Road, Hornsby. The report has been prepared to aid in the assessment of a State Significant Development Application (SSD-10444) for the alterations and additions to the existing dwelling within the property for adaptive reuse as a new school.
- 1.1.2 The purpose of this report is to assess the potential impact of the proposed development on the subject trees, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact. The report also provides recommended tree protection measures to ensure the long-term preservation of the trees to be retained where appropriate.
- 1.1.3 This report has been prepared in accordance with Hornsby Council's *Arboricultural (Tree) Report Guidelines* (March 2016), Section 11 of Councils *Development Application Submission Guideline 2013* and Sections 2.3.2-2.3.5 of the Australian Standard for *Protection of Trees on Development Sites* (AS 4970:2009).

2 THE SITE

- 2.1.1 The subject property is a residential allotment known as Lot A in DP 327582, being 1 Rosemead Road, Hornsby (also known as 'Mount Errington'). For the purposes of this report, the subject allotment will be referred to as 'the site'. The total area of the site is 3,623 m². The site is zoned Low Density Residential [R2] under the *Hornsby Local Environmental Plan 2013* (HLEP). The site contains an existing two-storey dwelling located centrally within the lot, together with a free-standing garage near the southern corner and former (grass) tennis court in the south-eastern portion of the site. The site is relatively flat with established lawns and gardens. The site contains numerous mature and semi-mature trees that have been planted over successive time periods, including a variety of locally-indigenous, non-local native and exotic (introduced) species.
- 2.1.2 The soils of this area are typical of the Lucas Heights Soil Landscape Group (as classified in the *Soil Landscapes of the Sydney 1:100,000 Sheet*), consisting of "moderately deep (500-1500 mm) hardsetting *Yellow Podzolic and Yellow Soloth soils and Yellow Earths*" on the outer edges of crests.¹ The site is located within the transition between Wianamatta Shale and Hawkesbury Sandstone. The landscape of the area is typically gently undulating terrain with level to gently inclined slopes of less than 10% grade.
- 2.1.1 The original vegetation of this area consisted of transitional forest, most of which was cleared for timber getting from early in the nineteenth century then later for agriculture (mainly orchards and market gardens) and more recently for urban development.² The dominant locally-indigenous tree species found in this area include *Eucalyptus pilularis* (Blackbutt), *Angophora costata* (Sydney Red Gum) and *Syncarpia glomulifera* (Turpentine). Other species occurring in this vegetation community may include *Eucalyptus paniculata* (Grey Ironbark), *Eucalyptus resinifera* (Red Mahogany) and *Eucalyptus globoidea* (White Stringybark).

3 SUBJECT TREES

- 3.1.1 The subject trees were inspected by Earthscape Horticultural Services (EHS) on the 15th October 2019. Each tree has been provided with an identification number for reference purposes denoted on the attached Tree Location Plan (**Appendix 5**), based on the survey prepared by Hammond Smeallie & Co. Pty Ltd, Dwg. Ref No. 14645 [C] dated 05/09/2019. The numbers used on this plan correlate with the Tree Assessment Schedule (**Appendix 3**). Tree No.s T24, T32, T33, T48,

T53a, T60, T72, T77, T93, T98 & T104, were not shown on the original survey and have been plotted on the drawing in their approximate positions by taking offsets from existing features.

4 HEALTH AND CONDITION ASSESSMENT

4.1 Methodology

4.1.1 An assessment of each tree was made using the Visual Tree Assessment (VTA) procedure.³ All of the trees were assessed in view from the ground. No aerial inspection or diagnostic testing has been undertaken as part of this assessment.

4.1.2 The following information was collected for each tree:-

- **Tree Species** (Botanical & Common Name);
- **Approximate height**;
- **Canopy spread** (measured using laser distance measurer in four directions and an average taken);
- **Trunk diameter** (measured with a diameter tape at 1.4 metres from ground level);
- **Live Crown Size** (measured by subtracting the total height of the tree from the lowest point of the crown and multiplying by the average crown spread to give a value in square metres);
- **Health & vigour** (using foliage size, colour, extension growth, presence of disease or pest infestation, canopy density, presence of deadwood, dieback and epicormic growth as indicators);
- **Condition** (using visible evidence of structural defects, instability, evidence of previous pruning and physical damage as indicators); and
- **Suitability** of the tree to the site and its existing location (in consideration of damage or potential damage to services or structures, available space for future development and nuisance issues).

4.1.3 This information is presented in a tabulated form in **Appendix 3**.

4.2 Safe Useful Life Expectancy (SULE)

4.2.1 The remaining Safe Useful Life Expectancy⁴ of the tree is an estimate of the sustainability of the tree in the landscape, calculated based on an estimate of the average age of the species in an urban area, less its estimated current age. The life expectancy of the tree has been further modified where necessary in consideration of its current health and vigour, condition and suitability to the site. The estimated SULE of each tree is shown in **Appendix 3**.

4.2.2 The following ranges have been allocated to each tree:-

- Greater than 40 years (Long)
- Between 15 and 40 years (Medium)
- Between 5 and 15 years (Short)
- Less than 5 years (Transient)
- Dead or immediately hazardous (defective or unstable)

4.2.3 SULE ratings are intended to provide a general overview of the long-term sustainability of the trees within the site in consideration of these factors. The allocated ranges are not intended to be absolute. This information is useful in guiding future planning by highlighting the probable lifespan of individual trees, for which a clear pattern may emerge. This information may be helpful in forecasting likely tree senescence and planning for replacement planting to ensure continuity in tree canopy across the site. It should be noted that SULEs *may* be extended or reduced depending on the way trees are managed. Intervention and remedial works may extend the SULE of some trees.

5 LANDSCAPE SIGNIFICANCE

5.1 Methodology for Determining Landscape Significance

- 5.1.1 The significance of a tree in the landscape is a combination of its environmental, heritage and amenity values. Whilst these values may be fairly subjective and difficult to assess consistently, some measure is necessary to assist in determining the retention value of each tree. To ensure a consistent approach, the assessment criteria shown in **Appendix 1** have been used in this assessment.
- 5.1.2 A rating has been applied to each tree to give an understanding of the relative significance of each tree in the landscape and to assist in determining priorities for retention, in accordance with the following categories:-
1. **Significant**
 2. **Very High**
 3. **High**
 4. **Moderate**
 5. **Low**
 6. **Very Low**
 7. **Insignificant**

5.2 Environmental Significance

5.2.1 Tree Management Controls

Prescribed Trees within the Hornsby Local Government Area (LGA) are protected under the provisions of Part 1, Section B.6 of the *Hornsby Development Control Plan 2013* (HDCP) [revised May 2019] made pursuant to Clause 9 of the *State Environmental Planning Policy (Vegetation in Non-rural Areas) 2017* (SEPP VNRA). The HDCP generally protects all tree species with the potential to grow to a height of more than three (3) metres, all trees growing within a Heritage Conservation Area (regardless of their species) and all trees growing within land listed as a Heritage Item under the HLEP. Some exemptions apply. However, all of the trees are protected under the HDCP 2013, being located within a Heritage Conservation Area. Note that T84 (Sydney Red Gum) has been approved for removal by Council as part of a separate Tree Removal Application.

5.2.2 Wildlife Habitat

Allocasuarina littoralis (Black She-oak) [T78, T93, T95, T96 & T98], *Angophora costata* (Sydney Red Gum) [84], *Eucalyptus pilularis* (Blackbutt) [T2, T40, T50, T55, T56, T58, T59, T60, T61, T62, T63, T64, T66, T67, T68, T69, T70, T73, T76, T91, T92, T97, T99, 100 & T105], *Eucalyptus resinifera* (Red Mahogany) [T108] and *Pittosporum undulatum* (Sweet Pittosporum) [T16, T21, T38, T104 & T105] are all locally-indigenous species, representative of the original vegetation of the area and would be of benefit to native wildlife. However, none of the trees contain cavities that would be suitable as nesting hollows for arboreal mammals or birds. A number of trees including T113 (Soulange Magnolia) & T17 (Orchid Tree) exhibit evidence of foraging by Brushtail or Ringtail Possums. There were no other visible signs of wildlife habitation.

5.2.3 Noxious Plants & Environmental Weeds

Cinnamomum camphora (Camphor Laurel) [T1 & T107] and *Celtis sinensis* (Chinese Hackberry) [T14] are scheduled as a potential 'Biosecurity Risk' ('Priority Weed' – formerly 'Noxious Weed') within NSW under the provisions of the *Biosecurity Act 2015*. The growth of these plant species must be managed in a manner that continuously inhibits the ability of the plant to spread (so far as is reasonably practicable) and the plant must not be sold, propagated or knowingly distributed. Note that these trees are protected within the Hornsby LGA being located within a Heritage Conservation Area.

Liquidambar styraciflua (Liquidambar) [T9] is considered to be a nuisance species in some Local Government Areas (LGAs) within the Sydney Metropolitan Area. This species is protected under Hornsby Council's Tree Management Controls.

Schefflera actinophylla (Umbrella Tree) [T77] is listed as an Environmental Weed Species within the Hornsby LGA. However, this tree is protected under Hornsby Council's Tree Management Controls, being located within a Heritage Conservation Area.

5.2.4 *Threatened Species & Ecological Communities*

Syzygium paniculatum (Magenta Cherry or Lilly Pilly) [T10, T11, T24 & T101] is listed as an Endangered Species under the *Biodiversity Conservation Act 2016* (NSW) and a Nationally Vulnerable Species under the *Environmental Protection and Biodiversity Conservation Act 1999*. Whilst this species is listed as endangered and vulnerable in its natural habitat, it is a commonly planted ornamental tree and is *not* endemic to this area. As such, this species does *not* have any ecological significance in the context of this site.

The National Parks and Wildlife Service (NPWS) 1:25000 Mapping Series (Native Vegetation of the Cumberland Plain) ⁵ indicates that the dominant remnant native vegetation community in the vicinity of the site is classified as Western Sandstone Gully Forest (WSGF). WSGF is *not* listed as an Endangered Ecological Community (EEC) under the *Biodiversity Conservation Act 2016* (NSW) and a Critically Endangered Ecological Community under the *Environment Protection and Biodiversity Conservation Act 1999*.

None of the other trees are listed as Threatened or Vulnerable Species or form part of Endangered Ecological Communities (EECs) under the provisions of the *Biodiversity Conservation Act 2016* (NSW) or the *Environment Protection and Biodiversity Conservation Act 1999*.

5.2.5 *Biodiversity, Bushfire & Riparian Lands*

The site does *not* contain any 'Terrestrial Biodiversity' as shown on Council's Natural Resources Biodiversity Map forming part of the HLEP 2013.

The very northern tip of the site and the road reserve along the Rosemead Road frontage is shown as a Bushfire Buffer area as indicated on Council's Bushfire Prone Areas Map.

5.3 **Heritage Significance**

5.3.1 *Heritage Items*

The subject property is listed as an item of Environmental Heritage [Item 545] under Schedule 5, Part 1 of the *Hornsby Local Environmental Plan* (HLEP) 2013. This item is described as a fine Federation era house with remnant period garden, including diagonal pattern timber gates, gravel driveway with brick gutter edging [no longer existing], together with a number of mature trees. These include an *Araucaria bidwillii* (Bunya-bunya Pine) [T4] located on the nature strip in Rosemead Road (thought to have been planted c.1900), a *Quercus robur* (English Oak) [T102] (c.1930's), a clump of *Strelitzia nicolai* (Giant White Bird of Paradise) [T112] (c.1930's), an *Angophora costata* (Sydney Red Gum) [T84] (remnant tree, now removed) and Red Bloodwood [no longer existing] as well as a number of trees thought to have been planted c. 1950-1970, including a large *Liquidambar styraciflua* (Liquidambar) [T9] and *Corymbia citriodora* (Lemon-scented Gum) [T114]. Also noted are two *Cinnamomum camphora* (Camphor Laurel) [T1 & T107] located on the nature strip in Rosemead Road adjacent to the site.⁶

The dwelling ('Mount Errington') is described as an outstanding Federation 'Arts and Crafts style' mansion built for Sydney jeweller, Oscar Garibaldi Roberts (of Fairfax and Roberts Jewellers), c.1890s. Oscar Roberts was a Shire President of Hornsby Shire's Provisional Council set up by the NSW Government before the first Council elections held in 1906 and remained a Councillor until 1917. The allotment was purchased by Anne Roberts in 1897. The house was sold to Frederick

Watson of Hornsby in 1928.⁷ The house is thought to have been constructed between 1898 & 1899.⁸

The road reserve in Rosemead Road is listed as an item of Environmental Heritage [Item 544] under Schedule 5, Part 1 of the HELP. This item is described as mature street trees forming a strong visual element, being a combination of indigenous Blackbutt [T2, T106, T99, T97, T92 & T91] and Turpentine trees, together with a Bunya Pine [T4] and Camphor Laurels [T1 & T107] planted adjacent Mount Errington.⁹

The Street Trees in William Street are also listed as an item of Environmental Heritage [Item 553] under Schedule 5, Part 1 of the HELP. This item is described as a row of Jacaranda trees planted c. 1940's, forming an important part of the visual character of the street. None of these are located adjacent to the site.¹⁰

The adjoining property to the east (52 William Street) is also listed as an item of Environmental Heritage [Item 557] under Schedule 5, Part 1 of the HELP. This item is described as a good example of a Post-War design house. None of the subject trees are associated with this item.

5.3.2 *Heritage Conservation Area*

The site is located within a Heritage Conservation Area [Area C3 – Mount Errington Precinct, Hornsby West Side Heritage Conservation Area] under Schedule 5, Part 2 of the HLEP 2013.

5.3.3 *Significant Tree Register*

Hornsby Council does *not* currently maintain a Register of Significant Trees.

5.3.4 *General*

The gardens at Mount Errington exhibit an overlay of various planting periods, containing some remnant locally-indigenous trees, together with more recent progeny of the original forest and plantings from the early development of the garden around the turn of the twentieth century through the Inter-War (1919-1939) and Post-War periods (1940-1960). The 1943 aerial photo of Sydney indicates a row of locally indigenous trees along the Rosemead Road frontage, together with a few on the William Street frontage. The larger Blackbutt trees in this group (including T2, T106, T97, T92 & T91) are likely to be remnant trees, together with the Sydney Red Gum [T84] which is clearly visible as a mature tree at this time, and T55, T56 & T59 (Blackbutts) on the William Street frontage.

The *Araucaria bidwillii* (Bunya-bunya Pine) [T4] on Rosemead Road is also clearly visible as a semi-mature tree in the 1943 aerial and is one of the earliest plantings (c.1900-1910). The *Strelitzia nicolai* (Giant White Bird of Paradise) [T112] and *Livistona australis* (Cabbage Tree Palm) [T111] are also likely to date back to this period, being fairly typical of Federation era plantings.

Four (4) Canary Island Palms [T12, T13, T20 & T23] stand along the eastern side of the house. These were probably planted in the Inter-War period, being typical of this era. A *Howea belmoreana* (Sentry Palm) [T18] and a *Bauhinia sp.* (White-flowered Orchid Tree) [T17] are also typical of the Federation and Inter-War Period and were probably planted about this time.

A large *Quercus robur* (English Oak) could be a relatively early Post-War period planting (c. 1940's). It is not clear whether this exists in 1943. The Liquidambar [T9] is likely to have been planted c. 1960s or 70s, together with a number of Jacarandas [T7, T51, T94]. More recently a number of Australian rainforest trees have been planted within the site. These include a Blackbean [T45], Crows Foot Ash [T35], Kurrajong [T79], several Blueberry Ash [T86, T87], Magenta Cherry [T10, T11 & T24], Weeping Lillypilly [T32 & T33] and Red Cedar [T48 & T49]. These appear to have been planted c. 2000-2010.

5.4 Amenity Value

- 5.4.1 Criteria for the assessment of amenity values are incorporated into **Appendix 1**. The amenity value of a tree is a measure of its live crown size, visual appearance (form, habit, crown density), visibility and position in the landscape and contribution to the visual character of an area. Generally the larger and more prominently located the tree, and the better its form and habit, the higher its amenity value.

6 TREE RETENTION VALUES

- 6.1.1 The Retention Values shown in **Appendix 3** and **Appendix 5** have been determined on the basis of the estimated longevity of the trees and their landscape significance rating, in accordance with **Table 1**. Together with guidelines contained in **Section 7** (Tree Protection Zones) this information should be used to determine the most appropriate position of building footprints and other infrastructure within the site, with due consideration to other site constraints, to minimise the impact on trees considered worthy of preservation.

TABLE 1 – TREE RETENTION VALUES – ASSESSMENT METHODOLOGY

Estimated Life Expectancy	Landscape Significance Rating						
	1	2	3	4	5	6	7
Long - Greater than 40 Years	High Retention Value			Moderate Retention Value			
Medium- 15 to 40 Years							
Short - 5 to 15 years				Low Ret. Value			
Transient - Less than 5 Years				Very Low Retention Value			
Dead or Potentially Hazardous							

- 6.1.2 The following table describes the implications of the retention values on site layout and design.

TABLE 2 – TREE RETENTION PRIORITIES.

RETENTION VALUE	RECOMMENDED ACTION
“High”	<p>These trees considered worthy of preservation; as such careful consideration should be given to their retention as a priority.</p> <p>Proposed site design and placement of buildings and infrastructure should consider the recommended setbacks as discussed in the following section (refer also Appendix 2) to avoid any adverse impact on these trees.</p> <p>In addition to Tree Protection Zones, the extent of the canopy (canopy drip-line) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.</p>
“Moderate”	<p>The retention of these trees is desirable, but not essential.</p> <p>These trees should be retained as part of any proposed development if possible. However, these trees are considered less critical for retention.</p> <p>If these trees must be removed, replacement planting should be considered in accordance with Council’s Tree Replenishment Policy to compensate for loss of amenity (refer also Section 9).</p>

“Low”	These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their SULE. These trees should not be considered as a constraint to the future development of the site.
“Very Low”	These trees are considered potentially hazardous or very poor specimens, or may be environmental or noxious weeds. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

7 TREE PROTECTION ZONES

7.1.1 The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the trunk of the tree as specified in **Appendix 4**. These have been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).¹¹

7.1.2 The intention of the TPZ is to ensure protection of the root system and canopy from the potential damage from construction works and ensure the long-term health and stability of each tree to be retained. Incursions to the root zone may occur due to excavations, changes in ground levels, (either lowering or raising the grade), trenching or other forms or soil disturbance such as ripping, grading or inverting the soil profile. Such works may cause damage or loss of part of the root system, leading to an adverse impact on the tree.

7.2 Structural Root Zone (SRZ)

7.2.1 The Structural Root Zone (SRZ) provides the bulk of mechanical support and anchorage for a tree. This is also a radial distance measured from the centre of the trunk as specified in **Appendix 4**. The SRZ has been calculated in accordance with AS 4970-2009 (Protection of Trees on Development Sites).

7.2.2 Incursions within the SRZ are not recommended as they are likely to result in the severance of woody roots which may compromise the stability of the tree or lead to its decline and demise.

7.3 Acceptable Encroachments to the Tree Protection Zone.

7.3.1 Where encroachment to the TPZ is unavoidable, an incursion to the TPZ of not exceeding 10% of the area of the TPZ and outside the SRZ may be acceptable. Examples of acceptable incursions are shown in **Appendix 2**. Greater incursions to the TPZ may result in an adverse impact on the tree.

7.3.2 Where incursions greater than 10% of the TPZ are unavoidable, exploratory excavation using non-destructive methods may be required to evaluate the extent of the root system affected and determine whether or not the tree can remain viable

7.4 Acceptable Encroachments to the Canopy

7.4.1 The removal of a small portion of the crown (foliage and branches) is generally tolerable provided that the extent of pruning required is less than 10% of the total foliage volume of the tree and the removal of branches does not create large wounds or disfigure the natural form and habit of the tree. All pruning cuts must be undertaken in accordance with AS 4373:2007. This generally involves reduction of the affected branches back to the nearest branch collar at the junction with the parent branch, rather than at an intermediate point. The latter is referred to as “lopping” and is no longer an acceptable arboricultural practice. Generally speaking, the minimum pruning as required to accommodate any proposed works is desirable. Extensive pruning can result in a detrimental impact on tree health and may lead to exposure of remaining branches to wind forces that they were previously sheltered from, leading to a greater risk of branch failure.

- 7.4.2 Clearance to between the building line and canopy should take into account any projecting structures, such as balconies, awnings and the roofline and any requirement for temporary scaffolding to be erected during construction (typically 1-1.5 metres wide). High structures should preferably be located outside the canopy dripline (as shown indicatively on the attached plans) in order to avoid or minimise canopy pruning.

7.5 Legal Protection

- 7.5.1 Notwithstanding the above recommendations, Council may require a greater setback from certain types of structures to ensure the on-going legal protection of the tree (i.e. its legal status under Council's Tree Management Controls). In Hornsby Shire, a tree located within three (3) metres of the foundation of an approved building (excluding detached garages, carports and other ancillary buildings) is *not* protected under the HDCP. The measurement is taken from the trunk of the tree at ground level to the foundation of the building. As such, if a tree is considered worthy of preservation, Council is unlikely to approve the construction of a dwelling or building within three (3) metres of the tree (regardless of whether this can be undertaken without having an adverse impact on its health or longevity).

8 PROPOSED DEVELOPMENT

- 8.1.1 The proposed development includes the alterations and additions to the existing dwelling within the property for adaptive re-use as a new school. The proposed works will include the construction of a new on-grade car parking area, playground and upgrade of the vehicular and pedestrian access to the site.

9 IMPACT ASSESSMENT

- 9.1.1 The intention of this assessment is to determine the incursions to the root zones and canopies created by the proposed development and evaluate the likely impact of the proposed works on the subject trees. Details shown on the following plans were used in this assessment:-

Title	Author	Dwg No.	Date
<i>Site and Roof Plan</i>	Armada	A100 [G]	31/03/2020
<i>Floor Plans and Sections</i>	Armada	A200 [G]	31/03/2020
<i>Elevations - House</i>	Armada	A210 [G]	31/03/2020
<i>Elevations - Site</i>	Armada	A220 [G]	31/03/2020
<i>Site Management and Concept Stormwater Plan</i>	Armada	A300 [G]	31/03/2020
<i>Landscape Plan</i>	Fiona Cole Design	02419 [A]	12/02/2020

- 9.1.2 A summary of the impact of the proposed development on each tree within the site is shown in **Appendix 5**. The following criteria have been examined as part of this assessment:-

- Existing Relative Levels (R.L.);
- Tree Protection Zone (TPZ);
- Structural Root Zone (SRZ);
- Footprint and envelope of the proposed development and temporary structures (scaffolding, hoardings etc);
- Incursions to the TPZ & SRZ, including estimated cut & fill beyond the building footprint;
- Incursions to the tree canopy from the building envelope and temporary structures; and

- Assessment of the likely impact of the works on existing trees.
- 9.1.3 The proposed development will necessitate the removal of twenty (20) trees of low and very low retention value. These include Tree No.s T16 (Sweet Pittosporum), T19 (Juniper), T29 (Peppercorn), T37 (Citrus), T65 (Macadamia), T68, T69, T70 & T76 (Blackbutt), T71 & T81 (Silky Oak), T75 (Green Wattle), T77 (Umbrella Tree), T78, T95 & T96 (Black-She-oak), T82 (Lillypilly), T89 & T110 (Illawarra Flame) and T94 (Jacaranda). None of these trees are considered significant or worthy of special measures to ensure their preservation. The removal of these trees to accommodate the proposed development is therefore considered warranted in this instance. It should also be noted that T77 is an Environmental Weed Species (refer to **Section 5.2.3**). Note also that Trees T95 and T96 are located within the adjoining road reserve (nature strip area).
- 9.1.4 Trees T38 (Sweet Pittosporum), T41 (Yellow Bells) and T53 (Tuckeroo), whilst not affected by the proposed development, are also proposed to be removed. These trees are all in poor health and condition with low retention value and therefore their removal is considered warranted.
- 9.1.5 The proposed development will also necessitate the removal of fifteen (15) trees of moderate retention value. These include Tree No.s T21 (Sweet Pittosporum), T27 (Bangalow Palm), T28 (Lasiandra), T64, T66, T67 & T73 (Blackbutt), T72 (Brown Pine), T74 & T86 (Blueberry Ash), T79 (Kurrajong), T80 (Illawarra Flame), T83 (Cabbage Tree Palm), T88 (Sassafras) and T90 (Chinese Windmill Palm). These trees are not considered significant, but are in good health and condition and make a fair contribution to the amenity of the site and surrounding properties. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting within the site in accordance with **Section 11**.
- 9.1.6 The proposed development will also necessitate the removal of two (2) trees of high retention value. These include Tree No.s T111 (Cabbage Tree Palm) and T112 (Giant White Bird of Paradise). These species are typical of the late Victorian / Federation period and may have been planted contemporary with the dwelling or soon after. Given the imperative to widen the existing driveway to provide acceptable vehicular access to the site, there are no feasible options that can be recommended in this instance that would permit the retention of these trees. In order to compensate for loss of amenity resulting from the removal of these trees to accommodate the proposed development, consideration should be given to replacement planting within the site in accordance with **Section 11**.
- 9.1.7 The existing front boundary fence to Rosemead Road is proposed to be demolished and replaced with a new metal fence supported by post footings with suspended in-fill panels. This will require excavations for post footings within the TPZs/SRZs of numerous trees in the vicinity of the fence. This work will not result in any adverse impact on these trees, provided that the existing fence is demolished in accordance with **Section 10.8** and all excavation for the new post footings within the TPZs of these trees is carried out in accordance with **Section 10.9**.
- 9.1.8 The existing driveway is proposed to be widened within the TPZs of Trees T87 (Blueberry Ash), T102 (English Oak) and T114 (Lemon-scented Gum) and a proposed new driveway and crossover is located within the TPZs of Trees T100, T92 & T97 (Blackbutt). It is understood that the new driveway will be constructed using a permeable surface treatment (such as stabilised gravel or equivalent), similar to the existing driveway surface. The driveway crossover will be constructed in accordance with Council's standard engineering detail. In the case of T114 and T92, the extent of the encroachment to the root zones of these trees is less than 10% of the TPZ, which is considered within acceptable limits under AS 4970:2009. As such, the proposed works will not result in any adverse impact on these trees. In the case of T87, T97, T100 & T102, the extent of the encroachment is 29%, 23%, 19% and 24% respectively, which exceeds acceptable limits under

AS4970:2009. This level of encroachment has the potential to result in an adverse impact on these trees. However, providing that all excavations for the driveway subgrade and kerb footings within the TPZs are undertaken in accordance with **Section 10.9** and the driveway is constructed using a permeable sub-base and surface material (such as stabilised gravel or similar) in accordance with Sections **10.12 & 10.13**, any adverse impact will be minimised.

- 9.1.9 A proposed new car parking area is located within the TPZs of Trees T40, T56, T59 & T63 (Blackbutts). In the case of Trees T56, T59 & T63, the proposed car park is located beyond an existing low masonry retaining wall along the southern boundary. As this wall and footing would create a barrier to root development to the north of the trees to some extent and the new work is at a higher level, the proposed works will not result in any actual incursion to the root zones of these trees. As such, the proposed works will not result in any adverse impact. In the case of T40, the extent of the encroachment is 30%, which exceeds acceptable limits under AS4970:2009. This level of encroachment has the potential to result in an adverse impact on this tree. However, providing that all excavations for the driveway subgrade and kerb footings within the TPZs are undertaken in accordance with **Section 10.9** and the driveway is constructed using a permeable sub-base and surface material (such as stabilised gravel or similar) in accordance with Sections **10.12 & 10.13**, any adverse impact on this tree will be minimised.
- 9.1.10 Minor adjustment to the pedestrian entry from Rosemead Road is required to ensure separation between pedestrians and vehicular traffic. This will require construction of a new low height wall/kerb and an extension of the existing wall within the TPZs of Trees T114 (Lemon-scented Gum), T6 (Illawarra Flame) and T4 (Bunya Pine). This work will not result in any adverse impact on these trees, provided that all excavation for the wall footings within the TPZs are carried out in accordance with **Section 10.9**. Where required (to avoid severance of any woody roots that may be encountered), alternative construction methodology may be required to be implemented (refer to **Section 10.10**).
- 9.1.11 No other trees will be adversely affected by the proposed development.

10 RECOMMENDED TREE PROTECTION MEASURES

10.1 Tree Protection Plan

- 10.1.1 The following Tree Protection Measures should be read in accordance with the Tree Protection Plan (**Appendix 6**). The Tree Protection Plan (TPP) indicates the position of tree protection devices and other recommended measures to ensure the protection of trees within the site to be retained as part of the proposed development.

10.2 Prohibited Activities

- 10.2.1 The following activities should be avoided within specified Tree Protection Zones (refer **Appendix 4 & 6** for extent of the TPZ for each tree):-
- Excavations and trenching (with exception of the approved remediation works, underground services, building foundations or pavement sub-grade);
 - Soil disturbance, surface grading, compaction, tining, ripping or cultivation of soil;
 - Mechanical removal of vegetation, including extraction of tree stumps;
 - Soil level changes including the placement of fill material (excluding imported validated fill for remediation works or placement of fill for approved works)
 - Movement and storage of plant, equipment & vehicles (except within defined temporary haul roads, where ground protection has been installed, or within the footprint of existing floor slabs or paved areas);
 - Erection of site sheds (except where approved by the site arborist);
 - Affixing of signage, barricades or hoardings to trees;

- Storage of building materials, waste and waste receptacles;
- Stockpiling of spoil or fill;
- Stockpiling of bulk materials, such as soil, sand, gravel, roadbase or the like;
- Stockpiling of demolition waste;
- Disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and other toxic liquids;
- Other physical damage to the trunk or root system; and
- Any other activity likely to cause damage to the tree.

10.3 Tree Damage

- 10.3.1 Care shall be taken when operating cranes, drilling rigs and similar equipment near trees to avoid damage to tree canopies (foliage and branches). Under no circumstances shall branches be torn-off by construction equipment. Where there is potential conflict between tree canopy and construction activities, the advice of the Site Arborist must be sought.
- 10.3.2 In the event of any tree becoming damaged for any reason during the construction period a consulting arborist [Australian Qualification Framework Level 5] shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

10.4 Tree Removal

- 10.4.1 The removal of Trees [T16, T19, T21, T27, T28, T29, T37, T38, T41, T53, T64-T83, T86, T88, T89, T90, T94, T95, T96, T110, T111 & T112] shall be carried out by an experienced tree surgeon in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). Care shall be taken to avoid damage to other trees during the felling operation.
- 10.4.2 Stumps located within the TPZs of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Stumps within the Tree Protection Zone of other trees to be retained shall **not** be pulled out using excavation equipment or similar.

10.5 Tree Protection Fencing

- 10.5.1 Trees [T4, T108-T109, T98-T99, T92-T93, T30-T35, T39-T40, T42-T49 & T57] shall be protected prior to and during construction from all activities that may result in detrimental impact by erecting a suitable protective fence in the positions as indicated on the Tree Protection Plan (**Appendix 6**). As a minimum, the fence shall consist of temporary chain wire panels of 1.8 metres in height, supported by steel stakes as required and fastened together and supported to prevent sideways movement using corner braces where required. The fence shall be erected prior to the commencement of any work on-site and shall be maintained in good condition for the duration of construction. Where tree protection zones merge together a single fence encompassing the area is deemed to be adequate. Existing site boundary fences may form part of the enclosure.

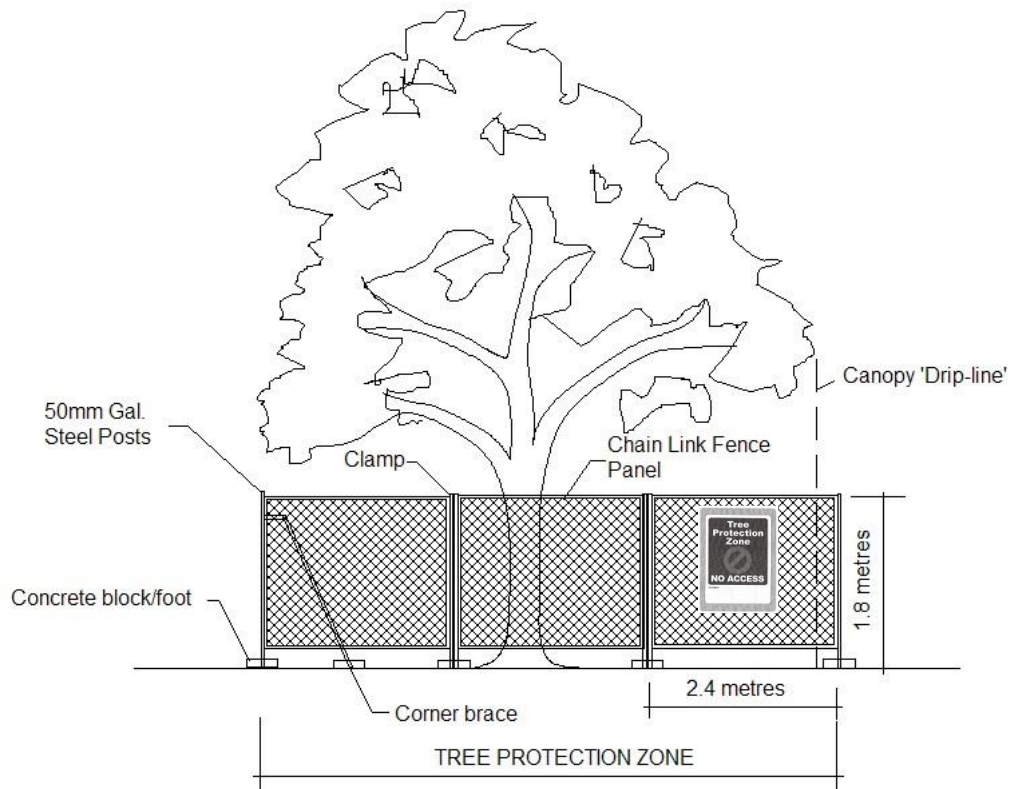


Figure 1 – Detail of Tree Protection Fence

10.6 Tree Protection Signs

10.6.1 Signs shall be installed on the Tree Protection Fence to prevent unauthorised movement of plant and equipment or entry to the Tree Protection Zone. The signs shall be securely attached to the fence using cable ties or equivalent. Signs shall be placed at minimum 10 metre intervals. The wording and layout of the sign shall comply with AS 4970-2009 as shown in **Figure 2**.

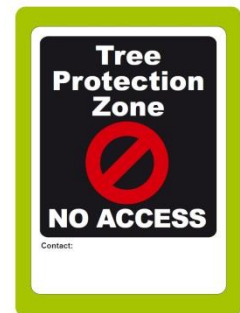


Figure 2 – Detail of Tree Protection Sign

10.7 Ground Protection

10.7.1 Construction haul routes shall be confined to existing paved areas wherever possible. Where this is not feasible and construction haul routes or access for plant and equipment must traverse soft landscape areas within TPZs of [**any tree nominated for retention**], 20mm thick marine ply sheets or truck mats (such as Envirex Versadeck® access mats) (refer **Figure 4** shall be placed over the top of the ground surface to minimise compaction and disturbance of the underlying soil profile and root zone.



Figure 4 – Showing typical detail for truck mats.

- 10.7.2 Ground protection shall be installed prior to any site works and maintained in good condition for the duration of the construction period. On completion of the works, ground protection shall be removed without damage or disturbance to the underlying soil profile.

10.8 Demolition Works within Tree Protection Zones

- 10.8.1 Demolition of paved areas within the Tree Protection Zones (TPZs) of trees [**T4, T6, T40, T102 & T114**] shall be undertaken under the supervision of a qualified Arborist [Australian Qualification Framework (AQF) Level 5].
- 10.8.1 Concrete pavements shall be demolished by breaking the slab into manageable sections (using a rock hammer or similar) and asphalt pavements shall be removed by breaking the topcoat into manageable pieces. The broken sections shall be carefully lifted and folded over the remaining paved surface to minimise disturbance and compaction of the underlying soil profile. Special care shall be taken where underlying woody roots have lifted or displaced the pavement. Any plant or equipment used in demolition work shall operate within the footprint of existing paved areas and avoid traversing soft landscape areas. Where this is unavoidable, suitable ground protection shall first be installed in accordance with **Section 10.7**.
- 10.8.2 The pavement sub-base within the TPZ shall be gradually removed (where required) in layers of no greater than 50mm thick using a small rubber tracked excavator or alternative approved method to avoid excessive disturbance and compaction of the underlying soil profile and damage to underlying roots and minimise. The machine shall work within the footprint of the existing path footprint to avoid compaction of the underlying soil. The final layer of sub-base material shall be removed using hand tools were required to avoid compaction of the underlying soil profile and avoid damage to any underlying woody roots.
- 10.8.3 Demolition of existing walls, kerbs and other structures within the TPZ of trees [**T4, T6, T40, T102 & T114**] shall be undertaken under the supervision of a qualified Arborist [AQF level 5]. The structures shall be demolished using equipment on stationed outside the TPZ where possible or within the footprint of existing hardstand areas.

- 10.8.4 Care shall be taken to avoid the root systems, trunks and lower branches of trees in the vicinity of the structures during demolition works, with special attention required during demolition of the footings and other sub-surface members to avoid damage to woody roots. An observer ('spotter') shall be employed to assist the plant operator in order to detect and avoid damage to underlying woody roots during demolition. Trunk and/or branch protection shall be installed where there is a potential risk of damage to trees in proximity or overhead of the work.

10.9 Excavations within Tree Protection Zones

- 10.9.1 Prior to any mechanical excavations for building foundations or pavement sub-grade within the TPZs of Trees [**T4, T6, T40, T87, T92, T97, T100, T102 & T114**] exploratory excavation using non-destructive techniques shall be taken along the perimeter of the structure or pavement within the TPZ. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure (hydro-excavation in combination with a vacuum extraction unit). The exploratory excavation shall be undertaken along the perimeter of the foundation or pavement (within the TPZ) to the depth of the foundation or to a maximum of 800mm from surface levels, to locate and expose any woody roots prior to any mechanical excavation.
- 10.9.2 All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 40mm in diameter may be cleanly severed with clean sharp pruning implements at the face of the excavation. The root zone in the vicinity of the excavation shall be kept moist following excavation for the duration of construction to minimise moisture stress on the tree. Where large woody roots (greater than 40mm diameter) are encountered during exploratory excavations, further advice from a qualified arborist shall be sought prior to severance.

10.10 Alternative Construction Methods

- 10.10.1 Where necessary, (to avoid severing large woody roots) consideration should be given to the installation of an elevated structure (e.g. pier and beam footing, suspended slab or floor supported on piers, cantilevered slab, up-turned edge beam etc) in preference to structures requiring a deep edge beam or continuous perimeter strip footing. The beam section of any pier and beam footing should be placed **above** grade to avoid excavation within the SRZ. Pier footings intersecting large woody roots should be slightly offset where necessary to avoid root severance.
- 10.10.2 For masonry walls or fences it may be acceptable to delete continuous concrete strip footings and replace with suspended in-fill panels (e.g. steel or timber pickets, lattice etc) fixed to pillars. For paved areas, consideration should be given to raising the proposed pavement level and using a porous fill material in preference to excavation where large woody roots are found within the sub-base.

10.11 Underground Services

- 10.11.1 All proposed stormwater lines and other underground services should be located outside TPZs of trees proposed to be retained wherever possible or installed by alternative measures. Alternative measures include suspending pipelines beneath the floor of a building or structure (to avoid excavation with the TPZ), non-destructive excavation methods or Horizontal Directional Drilling (HDD). Where the installation of service lines within TPZs is unavoidable, the pipelines or conduits should be installed as follows.
- 10.11.2 Trenching for underground services and stormwater pipes within the TPZs of Trees [**any tree nominated for retention**], shall be undertaken using non-destructive excavation in accordance with **Section 10.6**. Where large woody roots are encountered during excavation or trenching (root

diameter greater than 40mm), these shall be retained intact wherever possible (e.g. by tunnelling beneath roots and inserting the pipeline or conduit beneath or re-routing the service etc). Where this is not practical and root pruning is the only alternative, proposed root pruning should be assessed by a qualified arborist [AQF 5] to evaluate the potential impact on the health and stability of the subject tree.

- 10.11.3 Installation of underground services and stormwater pipes within the SRZs of Trees [**any tree nominated for retention**], shall only be undertaken by Horizontal Directional Drilling (HDD) (also referred to as sub-surface boring or Micro-tunnelling for large diameter pipes). The Invert Level of the pipe, plus the pipe diameter, must be lower than the estimated root zone depth as specified. At this site a minimum depth of 1 metre to the invert level of the pipe is specified.

10.12 Pavements

- 10.12.1 Proposed paved areas within the TPZs of Trees [**T4, T6, T40, T87, T100, T102 & T114**] shall be placed at or slightly above grade where possible to minimise excavations within the root zone and avoid severance and damage of woody roots. The pavement sub-base material should be supplied and installed in accordance with **Section 10.13**.

10.13 Pavement Sub-base

- 10.13.1 Pavement sub-base material within TPZs of trees [**T4, T6, T40, T87, T100, T102 & T114**] shall be a coarse, gap-graded material such as 20 – 50mm crushed basalt (Blue Metal) or equivalent no-fines gravel material to provide some aeration and moisture permeation to the root zone. Note that road base or crushed sandstone or other similar material containing a high percentage of fines is unacceptable for this purpose. The fill material should be consolidated using a non-vibrating roller or similar to minimise compaction of the underlying soil. A permeable geotextile may be used beneath the sub-base to prevent migration of the stone into the sub-grade and provide greater load capacity.

10.14 Root Pruning

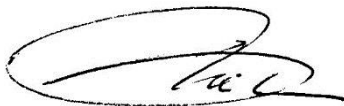
- 10.14.1 Where root pruning of [**any tree nominated for retention**] is required to facilitate construction, roots shall be severed with clean, sharp pruning implements and retained in a moist condition during the construction phase using Hessian material or mulch where practical. Severed roots shall be treated with a suitable root growth hormone containing the active constituents Indol-3-yl-Butric Acid (IBA) and 1-Naphthylacetic Acid (NAA) to stimulate rapid regeneration of the root system.
- 10.14.2 Any required root pruning shall be carried out in accordance with Australian Standard 4373-2007 – *Pruning of Amenity Trees* by a qualified and experienced arborist or tree surgeon [Australian Qualification Framework Level 3] in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998). No roots of greater than 40mm in diameter should be removed or pruned without further advice from a Consulting Arborist [Australian Qualification Framework Level 5].

11 REPLACEMENT PLANTING

- 11.1.1 In order to compensate for loss of amenity resulting from the removal of trees to accommodate the proposed development, a minimum number of three (3) new trees capable of attaining a height of at least ten (10) metres at maturity should be planted within the allotment.
- 11.1.2 Replacement trees should preferably include some locally indigenous species. These will be most appropriate to the site conditions and be most valuable in terms of preserving the landscape

character and wildlife habitat of the area. The following species are appropriate to the site conditions and could be considered for replacement planting:-

- *Angophora costata* (Sydney Red Gum),
- *Syncarpia glomulifera* (Turpentine)
- *Syzygium paniculatum* (Magenta Cherry)
- *Glochidion ferdinandi* (Cheese Tree)
- *Liriodendron tulipifera* (Tulip Tree)
- *Nyssa sylvatica* (Tupelo)
- *Quercus robur* (English Oak)
- *Quercus rubra* (Red Oak)
- *Quercus suber* (Cork Oak)
- *Quercus palustris* (Pin Oak)
- *Waterhousea floribunda* (Weeping Lillypilly)
- *Ulmus parvifolia* (Chinese Elm)
- *Brachychiton populneum* (Kurrajong)
- *Brachychiton populneum* subsp. *trilobus* (Kurrajong)



Andrew Morton

EARTHSCAPE HORTICULTURAL SERVICES

3rd April 2020

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AS 4970 – 2009 – Protection of Trees on Development Sites

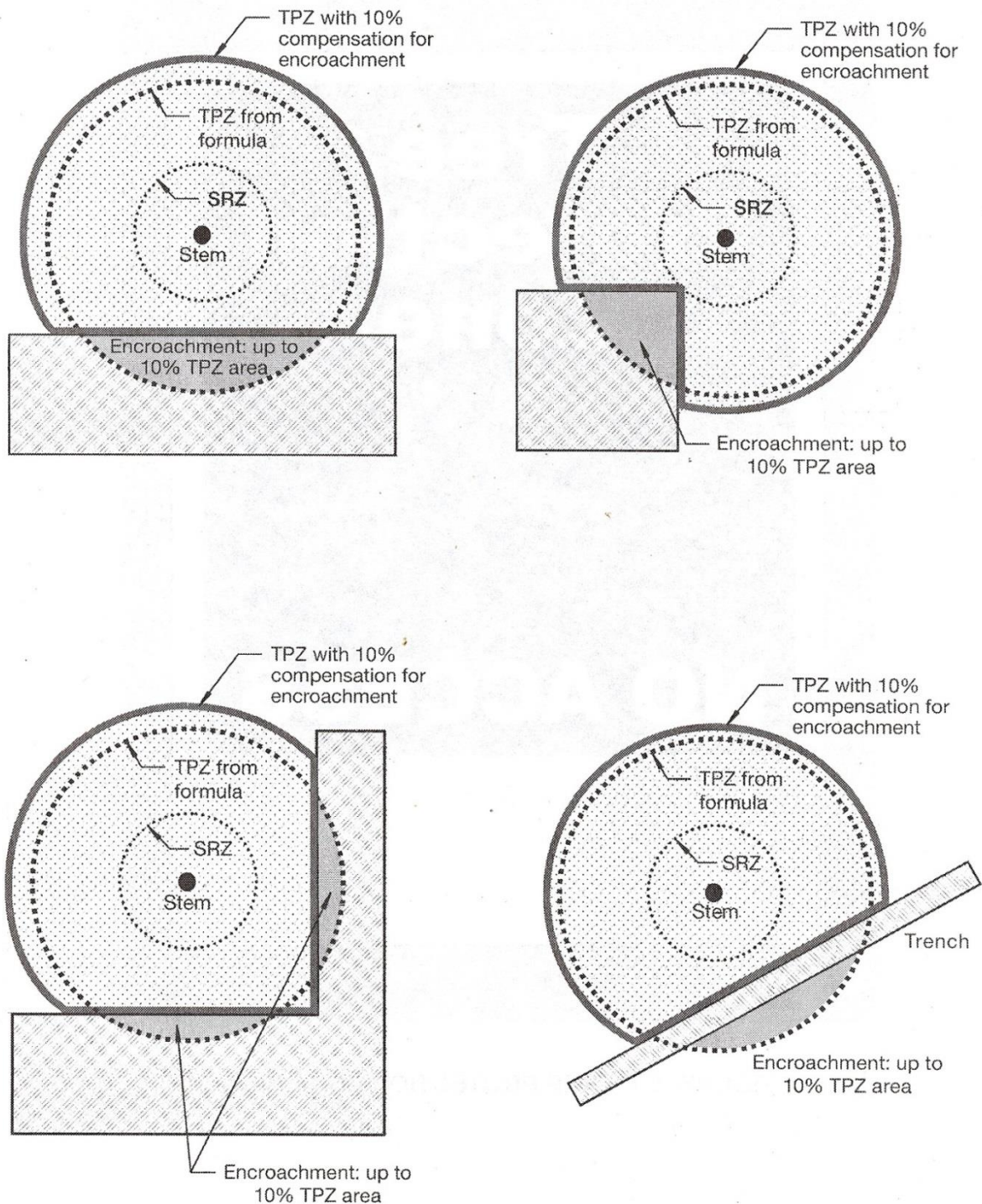
Standards Australia, Sydney

APPENDIX 1 - CRITERIA FOR ASSESSMENT OF LANDSCAPE SIGNIFICANCE

RATING	HERITAGE VALUE	ECOLOGICAL VALUE	AMENITY VALUE
1. SIGNIFICANT	The subject tree is listed as a Heritage Item under the Local Environment Plan (LEP) with a local, state or national level of significance or is listed on Council's Significant Tree Register	The subject tree is scheduled as a Threatened or Vulnerable Species as defined under the provisions of the <i>Biodiversity Conservation Act 2016</i> (NSW) or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .	The subject tree has a very large live crown size exceeding 300m ² with normal to dense foliage cover, is located in a visually prominent position in the landscape, exhibits very good form and habit typical of the species
	The subject tree forms part of the curtilage of a Heritage Item (building /structure /artefact as defined under the LEP) and has a known or documented association with that item	The tree is a locally indigenous species, representative of the original vegetation of the area and is known as an important food, shelter or nesting tree for endangered or threatened fauna species	The subject tree makes a significant contribution to the amenity and visual character of the area by creating a sense of place or creating a sense of identity
	The subject tree is a Commemorative Planting having been planted by an important historical person (s) or to commemorate an important historical event	The subject tree is a Remnant Tree, being a tree in existence prior to development of the area	The tree is visually prominent in view from surrounding areas, being a landmark or visible from a considerable distance.
2. VERY HIGH	The tree has a strong historical association with a heritage item (building/structure/artefact/garden etc) within or adjacent the property and/or exemplifies a particular era or style of landscape design associated with the original development of the site.	The tree is a locally-indigenous species, representative of the original vegetation of the area and is a dominant or associated canopy species of an Endangered Ecological Community (EEC) formerly occurring in the area occupied by the site.	The subject tree has a very large live crown size exceeding 200m ² ; a crown density exceeding 70% (normal-dense), is a very good representative of the species in terms of its form and branching habit or is aesthetically distinctive and makes a positive contribution to the visual character and the amenity of the area
3. HIGH	The tree has a suspected historical association with a heritage item or landscape supported by anecdotal or visual evidence	The tree is a locally-indigenous species and representative of the original vegetation of the area and the tree is located within a defined Vegetation Link / Wildlife Corridor or has known wildlife habitat value	The subject tree has a large live crown size exceeding 100m ² ; The tree is a good representative of the species in terms of its form and branching habit with minor deviations from normal (e.g. crown distortion/suppression) with a crown density of at least 70% (normal); The subject tree is visible from the street and surrounding properties and makes a positive contribution to the visual character and the amenity of the area
4. MODERATE	The tree has no known or suspected historical association, but does not detract or diminish the value of the item and is sympathetic to the original era of planting.	The subject tree is a non-local native or exotic species that is protected under the provisions of the local or state planning controls (Development Control Plan etc).	The subject tree has a medium live crown size exceeding 40m ² ; the tree is a fair representative of the species, exhibiting moderate deviations from typical form (distortion/suppression etc) with a crown density of more than 50% (thinning to normal); and
			The tree is visible from surrounding properties, but is not visually prominent – view may be partially obscured by other vegetation or built forms. The tree makes a fair contribution to the visual character and amenity of the area.
5. LOW	The subject tree detracts from heritage values or diminishes the value of a heritage item	The subject tree is scheduled as exempt (not protected) under the provisions of the local or state planning controls (DCP etc) due to its species, nuisance or position relative to buildings or other structures.	The subject tree has a small live crown size of less than 40m ² and can be replaced within the short term (5-10 years) with new tree planting
6. VERY LOW	The subject tree is causing significant damage to a heritage item.	The subject tree is listed as an Environment Weed Species in the relevant Local Government Area, being invasive, or is a known nuisance species.	The subject tree is not visible from surrounding properties (visibility obscured) and makes a negligible contribution or has a negative impact on the amenity and visual character of the area. The tree is a poor representative of the species, showing significant deviations from the typical form and branching habit with a crown density of less than 50% (sparse).
7. INSIGNIFICANT	The tree is completely dead and has no known heritage value (or any habitat value)	The tree is scheduled as a potential 'Biosecurity Risk' ('Priority Weed' – formerly 'Noxious Weed') within NSW or within the relevant Local Government Area under the provisions of the <i>Biosecurity Act 2015</i>	The tree is completely dead and represents a potential hazard.

Ref:- Morton, A (2006) **Determining the Retention Value of Trees on Development Sites**TreeNet - Proceedings of the 7th National Street Tree Symposium 2006 Government of South Australia Department for Transport, Energy and Infrastructure

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



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

REF:- Council of Standards Australia (August 2009)
AS 4970 – 2009 – Protection of Trees on Development Sites
 Standards Australia, Sydney

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
1	<i>Cinnamomum camphora</i> (Camphor Laurel)	15	16	1086	224	M	Appears stable with sound branching structure. Dome dieback with 15% deadwood and 20% epicormic growth Thinning upper crown due to possum foraging.	No Evidence	Fair with slightly thinning crown	Moderate Possum defoliation	Medium 15-40 Years	2	High	Nature strip
2	<i>Eucalyptus pilularis</i> (Blackbutt)	30	14	777	224	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	1	High	Nature strip
3	<i>Jacaranda mimosifolia</i> (Jacaranda)	10	8	277	56	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the west.	Crown lifted to 4 metres	.Fair	No Evidence	Short 5-15 Years	4	Low	Nature strip
4	<i>Araucaria bidwillii</i> (Bunya-bunya Pine)	23	11	1229	253	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	Nature strip
5	<i>Acer palmatum</i> (Japanese Maple)	3	5	60x3	15	SM	Appears stable with sound branching structure.	Selectively pruned	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
6	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	13	7	309	63	M	Appears stable with sound branching structure.	Crown lifted to 3 metres	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
7	<i>Jacaranda mimosifolia</i> (Jacaranda)	14	9	380 + 300	99	M	Appears stable with fair branching structure. Exhibits some deadwood and stubs. Epiphytes (Bromeliads) obscuring view of trunk. Large dead branch 160mm x 4 metres.	No Evidence	Fair with slightly thinning crown	Bromeliads growing as epiphytes on trunk from GL to 3 metres	Medium 15-40 Years	4	Moderate	On-site
8	<i>Michelia figo</i> (Port Wine Magnolia)	5	6	80x8	30	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
9	<i>Liquidambar styraciflua</i> (Liquidambar)	20	16	939	288	M	Appears stable with fair branching structure. Exhibits multiple moderate wounds due previous branch loss (SL stubs) due storm damage. Multiple extended lateral PLs. 30% epicormic growth. Suspected fracture (adaptive growth) in lowest PL to south at 6 metres. Substantial crown damage occurred during a severe storm during February 2020, resulting in loss of several PLs and damage to a number of SLs.	Selectively pruned	Good	Suspected Canker infection. Some emmission and dark staining from trunk and PLs	Short 5-15 Years	3	Moderate	On-site
10	<i>Syzygium paniculatum</i> (Magenta Cherry)	10	6	166	60	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	4	Moderate	On-site
11	<i>Syzygium paniculatum</i> (Magenta Cherry)	8	5	140	30	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	4	Moderate	On-site
12	<i>Phoenix canariensis</i> (Canary Island Palm)	12	6	500	36	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	On-site
13	<i>Phoenix canariensis</i> (Canary Island Palm)	10	7	500	49	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south (self corrected).	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	On-site
14	<i>Celtis sinensis</i> (Chinese Hackberry)	18	15	450	225	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Very Good	No Evidence	Long - more than 40 years	6	Low	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
15	<i>Jacaranda mimosifolia</i> (Jacaranda)	14	6	255	42	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west (self-corrected). Obtuse bend in trunk from GL to 3 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	4	Moderate	On-site
16	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	12	7	300	63	M	Appears stable with fair branching structure. Exhibits multiple deadwood and stubs with some epicormic growth (10%).	No Evidence	Fair with thinning crown	Moderate Pittosporum Borer infestation	Short 5-15 Years	5	Low	On-site
17	<i>Bauhinia sp.</i> (White-flowered Orchid Tree)	6	7	217	31.5	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the north-west. Fracture in PL at 2 metres. 15% interior crown deadwood.	Lower limbs selectively pruned to clear pedestrian pathway	.Fair	No Evidence	Short 5-15 Years	2	Moderate	On-site
18	<i>Howea belmoreana</i> (Sentry Palm)	8	3	175	3	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the west. Crown suppressed on east side due crowding.	No Evidence	Good	No Evidence	Medium 15-40 Years	2	High	On-site
19	<i>Juniperus sp.</i> (Juniper)	15	10	548	120	M	Stability suspect with fair branching structure. Exhibits a very prominent lean to the west (over existing dwelling). Corresponding soil heaving to east around root plate.	No Evidence	Good	No Evidence	Short 5-15 Years	4	Low	On-site
20	<i>Phoenix canariensis</i> (Canary Island Palm)	12	6	500	30	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species). Slight lean to the north.	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	On-site
21	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	10	9	287	63	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-east. Moderate deadwood and stubs.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	Moderate	On-site
22	<i>Jacaranda mimosifolia</i> (Jacaranda)	14	7	296	42	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east (self-corrected). Basal sprout emanating from trunk at 0.5 metres.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	Moderate	On-site
23	<i>Phoenix canariensis</i> (Canary Island Palm)	12	6.5	500	39	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species).	Defroned	Good	No Evidence	Long - more than 40 years	2	High	On-site

		APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE												
Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
24	<i>Syzygium paniculatum</i> (Magenta Cherry)	7	5	140	35	I	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4.5 metres. Crown suppressed on east side due to crowding.	No Evidence	.Fair	Moderate foliar insect infestation (White Fly) & associated Sooty Mould	Long - more than 40 years	5	Moderate	On-site
25	<i>Psidium cattleianum</i> (Strawberry Guava)	5	5	60x4	17.5	SM	Appears stable with sound branching structure. Exhibits a small axial wound in PL at 1.5 metres.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
26	<i>Cyathea cooperi</i> (Tree Fern)	5	4.5	159	4.5	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Short 5-15 Years	5	Low	On-site
27	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	11	6	204	30	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres).	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
28	<i>Tibouchina macrantha</i> (Lasiandra)	6	7	200 + 60x2 + 50x2	31.5	M	Appears stable with fair branching structure. Exhibits multiple elite epicormic sprouts due previous pruning.	All PLs previously lopped at 2 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	4	Moderate	On-site
29	<i>Schinus areira</i> (Peppercorn Tree)	7	5	166	25	SM	Appears stable with fair branching structure. Exhibits multiple surface roots. Minor interior crown deadwood (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	5	Low	On-site
30	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	12	4.5	169	13.5	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
31	<i>Celtis occidentalis</i> (Common or American Hackberry)	9	9	250 + 160	72	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at junction of co-dominant PLs. PLs intertwined.	Selectively pruned east side over boundary.	Good	No Evidence	Medium 15-40 Years	6	Low	On-site
32	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	7	2	60	14	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
33	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	8	2	80	16	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
34	<i>Callistemon viminalis</i> (Weeping Bottlebrush)	7	5	140	25	SM	Appears stable with fair branching structure. Crown suppressed on west side due crowding. Exhibits 20% interior crown deadwood.	Crown lifted to 2 metres	.Fair	No Evidence	Short 5-15 Years	5	Low	On-site
35	<i>Flindersia australis</i> (Crows Foot Ash)	9	5	131	35	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
36	Unidentified species. [possibly <i>Cydonia sp.</i> (Quince)].	6	5	300	30	M	Appears stable with poor branching structure. Exhibits a large axial wound from GL to 3 metres with associated borer damage.	All SLs previously lopped at 2.5 metres (crown restored)	Good	High borer infestation. Suspected Canker infection.	Short 5-15 Years	4	Low	On-site
37	<i>Citrus sp.</i> (Citrus)	6	5	130	22.5	SM	Appears stable with sound branching structure.	No Evidence	Good	Severe Wisteria Vine infestation.	Short 5-15 Years	5	Low	On-site
38	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	6	7	230	35	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at GL. Multiple moderate wounds due branch loss (Pittosporum Borer)	No Evidence	Good	Moderate Wisteria Vine infestation. Moderate Pittosporum Borer infestation	Short 5-15 Years	5	Low	On-site
39	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	10	6	271	36	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
40	<i>Eucalyptus pilularis</i> (Blackbutt)	30	14	895	322	M	Appears stable with sound branching structure. Exhibits a low bark inclusion at 7 metres at junction of co-dominant PLs. 30% epicormic growth. Some deadwood and broken suspended dead branches (5%)	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
41	<i>Tecoma stans</i> (Yellow Bells)	6	5	100 + 120	25	OM	Appears stable with poor branching structure. Exhibits multiple epicormics emanating from old pruning wounds.	All PLs previously lopped (crown restored)	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	On-site
42	<i>Livistona australis</i> (Cabbage Tree Palm)	5	5	300	15	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
43	<i>Livistona australis</i> (Cabbage Tree Palm)	7	4	303	14	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
44	<i>Diospyros kaki</i> (Persimmon)	5	7	242	35	M	Appears stable with fair branching structure. Exhibits multiple moderate to small wounds due previous pruning & branch loss with some borer damage. 10% epicormic growth.	SLs lopped (to remove dieback/borer damage).	.Fair	Moderate borer infestation	Short 5-15 Years	4	Low	On-site
45	<i>Castanospermum australe</i> (Blackbean)	8	4.5	194	27	SM	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
46	<i>Morus nigra</i> (Mulberry tree)	6	7	110 + 170 + 100	35	M	Appears stable with poor branching structure. Exhibits multiple high bark inclusions at GL.	No Evidence	Good	Low borer infestation.	Short 5-15 Years	6	Low	On-site
47	<i>Eucalyptus sp.</i> (Mahogany)	22	14	726	168	M	Appears stable with fair branching structure. Elite epicormic sprouts arising from pruning wound to PL branch stub to east.	Lower PL to east lopped. Selectively pruned.	Good	No Evidence	Long - more than 40 years	3	High	On-site
48	<i>Toona sp.</i> (Cedar)	13	7	255	77	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
49	<i>Toona sp.</i> (Cedar)	11	8	306	64	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north (self-corrected). 5% deadwood & 10% epicormic growth. Small broken/suspended branch.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
50	<i>Eucalyptus pilularis</i> (Blackbutt)	25	9	494	171	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. Contains a few large sections of deadwood 50mmØ x 4 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	Nature strip
51	<i>Jacaranda mimosifolia</i> (Jacaranda)	11	11	275 + 295	99	M	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at GL (welded junction). Some dieback with 10% deadwood & broken branch stubs. Moderate wound with small cavity in PL at 2 metres. Prominent lean to the north-east.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
52	<i>Howea forsteriana</i> (Kentia Palm)	4	4	143	8	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
53	<i>Unidentified [possibly Cupaniopsis sp.]</i>	7.5	5	166	37.5	SM	Appears stable with poor branching structure. Exhibits a large axial wound and decay from GL to 2 metres.	No Evidence	Very Good	Moderate foliar insect infestation (Thrips). Associated Sooty Mould	Short 5-15 Years	5	Low	On-site
53a	<i>Melaleuca styphelioides</i> (Prickly Paperbark)	7	6	153	36	SM	Appears stable with sound branching structure. Crown suppressed on east and west sides due to crowding.	No Evidence	Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
54	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	7	5	242	25	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	Nature strip
55	<i>Eucalyptus pilularis</i> (Blackbutt)	18	12	350 + 400	180	M	Appears stable with fair branching structure. Exhibits a very prominent lean to the north.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	1	High	Nature strip
56	<i>Eucalyptus pilularis</i> (Blackbutt)	25	13	844	234	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north. Multiple extended lateral PLs.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	1	High	Nature strip

		APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE												
Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
57	<i>Macadamia tetraphylla</i> (Macadamia Nut)	8	9	400	63	M	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
58	<i>Eucalyptus pilularis</i> (Blackbutt)	14	6	268	42	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-west.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
59	<i>Eucalyptus pilularis</i> (Blackbutt)	30	12	723	288	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west (self-corrected). Moderate dieback with 20% deadwood and 30% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	1	High	Nature strip
60	<i>Eucalyptus pilularis</i> (Blackbutt)	12	5	223	35	I	Appears stable with fair branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	Moderate	Nature strip
61	<i>Eucalyptus pilularis</i> (Blackbutt)	15	5	280	30	SM	Appears stable with fair branching structure. Crown suppressed on east side due to crowding. Very prominent lean to the west (self-corrected). 10% deadwood.	No Evidence	.Fair	No Evidence	Short 5-15 Years	4	Low	Nature strip
62	<i>Eucalyptus pilularis</i> (Blackbutt)	9	4	169	24	I	Appears stable with poor branching structure. Exhibits dieback in main leader (large dead section).	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	Nature strip
63	<i>Eucalyptus pilularis</i> (Blackbutt)	18	12	494	144	SM	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 4 metres at junction of co-dominant PLs. Prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	3	Moderate	Nature strip
64	<i>Eucalyptus pilularis</i> (Blackbutt)	18	11	315	132	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. 30% epicormic growth.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	4	Moderate	On-site
65	<i>Macadamia tetraphylla</i> (Macadamia Nut)	6	5	140	30	SM	Appears stable with fair branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	5	Low	On-site
66	<i>Eucalyptus pilularis</i> (Blackbutt)	23	9	350 + 460	153	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL at junction of co-dominant trunks.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	4	Moderate	On-site

		APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE												
Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
67	<i>Eucalyptus pilularis</i> (Blackbutt)	22	7	210 + 410	112	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west. High bark inclusion at GL at junction of co-dominant leaders. 30% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
68	<i>Eucalyptus pilularis</i> (Blackbutt)	15	3	261	30	SM	Appears stable with poor branching structure. Exhibits dieback in main leader with 50% deadwood and 50% epicormic growth. No lateral branches.	No Evidence	Poor with sparse crown	High borer infestation	Transient (less than 5 years)	5	Very Low	On-site
69	<i>Eucalyptus pilularis</i> (Blackbutt)	10	5	207	25	I	Appears stable with poor branching structure. Exhibits dieback in main leader at 6 metres.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	On-site
70	<i>Eucalyptus pilularis</i> (Blackbutt)	16	10	420	80	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west with obtuse bend in trunk at 6 metres. Poor form and habit. Dieback in upper crown with 20% deadwood (including secondary leader). Large axial wound from GL to 2.5 metres	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	4	Low	On-site
71	<i>Grevillea robusta</i> (Silky Oak)	8	6	258	36	SM	Appears stable with poor branching structure. Main leader broken out at 5 metres with multiple epicormic arising below wound. Large axial wound at 3-5 metres due borer damage.	No Evidence	Poor with sparse crown	No Evidence	Transient (less than 5 years)	5	Low	On-site
72	<i>Podocarpus elatus</i> (Brown Pine)	5	5	134	25	I	Appears stable with sound branching structure.	Crown lifted to 1.5 metres	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
73	<i>Eucalyptus pilularis</i> (Blackbutt)	15	5	248	45	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
74	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	8	5	127	35	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
75	<i>Acacia parramattensis</i> (Green Wattle)	8	8	230	40	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the west. Upper crown suppressed due to overshadowing. Moderate interior crown deadwood (30%).	No Evidence	Fair with thinning crown	Severe Wisteria Vine infestation	Transient (less than 5 years)	5	Very Low	On-site
76	<i>Eucalyptus pilularis</i> (Blackbutt)	22	12	596	156	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west. Severe bark inclusion at 5 & 10 metres at junctions of PLs. Multiple large axial wounds in lower trunk from GL-2 metres. With decay evident.	No Evidence	.Fair	Severe Phellinus sp. (Bracket Fungus) infection at 1.5 metres	Transient (less than 5 years)	3	Low	On-site
77	<i>Schefflera actinophylla</i> (Umbrella Tree)	8	6	100x3 + 120	42	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL.	No Evidence	Good	No Evidence	Short 5-15 Years	6	Very Low	On-site
78	<i>Allocasuarina littoralis</i> (Black She-oak)	7	5	200	15	SM	Appears stable with fair branching structure. Crown suppressed on the south side due to crowding.	No Evidence	.Fair	Moderate Wisteria Vine infestation	Short 5-15 Years	5	Low	On-site
79	<i>Brachychiton populneum susp. trilobus</i> (Kurrajong)	11	5	325	45	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	Moderate	On-site
80	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	9	5	150 + 180	20	SM	Appears stable with sound branching structure. Emission from wound in trunk at 2.5 metres due suspected canker.	No Evidence	Good	Low Wisteria Vine infestation	Medium 15-40 Years	4	Moderate	On-site
81	<i>Grevillea robusta</i> (Silky Oak)	14	6	223	66	I	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	Suspected Canker infection	Medium 15-40 Years	5	Low	On-site
82	<i>Acmena smithii</i> (Lillypilly)	11	5	191	55	SM	Appears stable with sound branching structure.	No Evidence	Very Good	Severe Wisteria Vine infestation	Short 5-15 Years	5	Low	On-site
83	<i>Livistona australis</i> (Cabbage Tree Palm)	10	6	300	24	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	4	Moderate	On-site

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
84	<i>Angophora costata</i> (Sydney Red Gum)	22	18	1000	306	OM	Appears stable with poor branching structure. Exhibits a very large wound from GL to 6 metres due borer damage affecting 40% trunk circumference. Multiple large axial wounds on PLs & SLs due borer damage.	No Evidence	.Fair	Severe borer infestation	Transient (less than 5 years)	1	Low	On-site
85	<i>Camellia japonica</i> (Camellia)	3	3	140x2	9	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres)	Clipped to elliptical shape	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
86	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	10	5	121	45	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	4	Moderate	On-site
87	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	7	5	92	30	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing with obtuse bend in leader at 4.5 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	5	Low	On-site
88	Unidentified species [similar to <i>Doryphora sasasfras</i> , possibly an <i>Elaeocarpus sp.</i>]	12	6	188	60	SM	Appears stable with sound branching structure. Exhibits some crown dieback with 5% deadwood (<10mmØ) and 10% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	4	Moderate	On-site
89	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	9	4	213	20	SM	Appears stable with sound branching structure. Foliar distortion due insect infestation	No Evidence	Poor with sparse crown	High foliar insect infestation	Short 5-15 Years	5	Low	On-site
90	<i>Trachycarpus fortunei</i> (Chinese Windmill Palm)	5	3	200	9	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
91	<i>Eucalyptus pilularis</i> (Blackbutt)	22	14	710	238	M	Appears stable with sound branching structure. Crown suppressed on north side due to crowding.	No Evidence	Very Good	No Evidence	Long - more than 40 years	1	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE														
Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
92	<i>Eucalyptus pilularis</i> (Blackbutt)	30	24	965	576	M	Appears stable with sound branching structure. Exhibits multiple extended lateral PLs	No Evidence	Very Good	No Evidence	Long - more than 40 years	1	High	Nature strip
93	<i>Allocasuarina littoralis</i> (Black She-oak)	10	7	255	49	OM	Stability suspect with poor branching structure. Exhibits a large wound from GL to 3.5 metres due previous branch loss (secondary leader) with decay evident.	Secondary trunk removed close to GL.	Fair with thinning crown	High Phellinus sp. (Bracket Fungus) infection at 5 metres.	Transient (less than 5 years)	5	Very Low	Nature strip
94	<i>Jacaranda mimosifolia</i> (Jacaranda)	11	10	376	60	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the north-west. Some deadwood and broken suspended dead branches to 50mmØ (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	4	Low	On-site
95	<i>Allocasuarina littoralis</i> (Black She-oak)	7	6	229	30	M	Appears stable with poor branching structure.	No Evidence	Poor with sparse crown	High Phellinus sp. (Bracket Fungus) infection at 1.5 metres.	Transient (less than 5 years)	5	Very Low	Nature strip
96	<i>Allocasuarina littoralis</i> (Black She-oak)	7	5	223	20	M	Appears stable with poor branching structure. Exhibits a severe bark inclusion at 1 metre.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	5	Low	Nature strip
97	<i>Eucalyptus pilularis</i> (Blackbutt)	22	12	494	156	M	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4-5 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	Nature strip
98	<i>Allocasuarina littoralis</i> (Black She-oak)	6	5	169	25	M	Appears stable with fair branching structure.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	5	Low	Nature strip
99	<i>Eucalyptus pilularis</i> (Blackbutt)	22	10	624	140	M	Appears stable with sound branching structure. Exhibits a small wound a 3.5 metres with kino exudate (possible mechanical injury). Some large sections of deadwood 100mmØ x 4-5 metres length.	No Evidence	Good	No Evidence	Long - more than 40 years	1	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
100	<i>Eucalyptus pilularis</i> (Blackbutt)	25	11	621	143	M	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	On-site
101	<i>Syzygium paniculatum</i> (Magenta Cherry)	14	8	468	96	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west. Some deadwood and broken suspended dead branches to 50mmØ.	No Evidence	Fair with slightly thinning crown	Moderate foliar insect infestation & associated sooty mould	Medium 15-40 Years	4	Moderate	On-site
102	<i>Quercus robur</i> (English Oak)	15	15	790	210	M	Appears stable with fair branching structure. Exhibits a large axial wound at 8-12 metres due previous branch failure (SL). Large wound at 3 metres due previous pruning with some decay evident. Prominent lean to the south with extended lateral PLs.	Selectively pruned. Large secondary leader removed at 3-4 metres	Very Good	Suspected previous termite infestation (not currently active)	Medium 15-40 Years	3	Moderate	On-site
103	<i>Livistona australis</i> (Cabbage Tree Palm)	4	4	350	10	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Very Good	No Evidence	Long - more than 40 years	5	Moderate	On-site
104	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	5	5	137	25	SM	Appears stable with sound branching structure.	Selectively pruned to clear overhead powerlines. Crown lifted to 2 metres	Good	Low Pittosporum Borer infestation	Short 5-15 Years	5	Low	Nature strip
105	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	7	5	153	27.5	SM	Appears stable with sound branching structure.	Crown lifted to 2 metres	.Fair	Low Pittosporum Borer infestation	Medium 15-40 Years	5	Low	Nature strip
106	<i>Eucalyptus pilularis</i> (Blackbutt)	35	20	822	660	M	Appears stable with sound branching structure. 5% deadwood & severael broken suspended dead branches.	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	Nature strip
107	<i>Cinnamomum camphora</i> (Camphor Laurel)	12	12	800	108	M	Appears stable with fair branching structure. Exhibits large wound on lower trunk from GL to 1 metre (possibly due to previous mechanical injury) with some decay evident. 30% deadwood with some large sections to 150mmØ. Multiple basal sprouts around trunk.	Selectively pruned	Fair with thinning crown	No Evidence	Short 5-15 Years	2	High	Nature strip

APPENDIX 3 - TREE HEALTH AND CONDITION ASSESSMENT SCHEDULE

Tree Identification No.	Species	Height (m)	Spread (m)	Trunk Diameter (mm)	Live Crown Size (m ²)	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Landscape Significance Rating	Retention Value	Location
									Vigour	Pest & Disease				
108	<i>Eucalyptus resinifera</i> (Red Mahogany)	22	12	653	168	M	Appears stable with sound branching structure. Exhibits a moderate axial occluded wound on lower trunk from GL to 2 metres due to previous lightning damage. Moderate deadwood (20% with some large sections 100mmØ x 4 metres).	No Evidence	Good	No Evidence	Long - more than 40 years	2	High	Nature strip
109	<i>Cedrus deodara</i> (Himalayan Cedar)	16	7	318	112	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Good	No Evidence	Long - more than 40 years	4	Moderate	Nature strip
110	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	8	5	207	30	I	Appears stable with poor branching structure. Exhibits a high bark inclusion at 1.6 metres a junction of co-dominant PLs.	No Evidence	.Fair	Moderate foliar insect infestation	Short 5-15 Years	5	Low	On-site
111	<i>Livistona australis</i> (Cabbage Tree Palm)	14	5	347	20	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	2	High	On-site
112	<i>Strelitzia nicolai</i> (Giant White Bird of Paradise)	11	10	100x20	110	M	Appears stable with sound branching structure.	Selectively pruned	Good	No Evidence	Long - more than 40 years	2	High	On-site
113	<i>Magnolia soulangeana</i> (Magnolia)	6	6	120 + 100x2	27	SM	Appears stable with sound branching structure. Located close to existing building (< 3 metres).	Crown lifted to 2 metres	Very Good	Low Possum defoliation	Medium 15-40 Years	5	Low	On-site
114	<i>Corymbia citriodora</i> (Lemon-scented Gum)	22	17	678	255	M	Appears stable with sound branching structure. Located close to driveway and associated brick kerb. Exhibits a prominent lean to the south-east (self-corrected). Multiple sections of deadwood & stubs (5%). Multiple extended lateral PLs.	No Evidence	Good	No Evidence	Long - more than 40 years	3	High	On-site
115	<i>Lagerstroemia indica</i> (Crepe Myrtle)	4	3	100	9	I	Appears stable with sound branching structure. Exhibits multiple epicormic sprouts arising from old pruning wounds.	Previously lopped at 1.5 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	5	Low	On-site

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
1	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	13.0	3.4	533.3	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.
2	<i>Eucalyptus pilularis</i> (Blackbutt)	P	9.3	3.0	273.0	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.
3	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	5.0	1.9	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
4	<i>Araucaria bidwillii</i> (Bunya-bunya Pine)	M	14.8	3.6	683.3	Proposed new pedestrian entry path and associated brick kerb offset 3.7 metres south at RL199.70 (200mm below grade). Excavations for pavement and kerb foundations within TPZ. Encroachment to TPZ <5%. Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade and fence post footings within TPZ in accordance with Section 10.9.
5	<i>Acer palmatum</i> (Japanese Maple)	M	3.0	1.4	28.3	No proposed works within TPZ (existing path and brick kerb to be maintained within TPZ).	No adverse impact.	To be retained - no special tree protection measures required.
6	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	3.7	2.0	43.1	Proposed new pedestrian entry path and associated brick kerb offset 3.2 metres south-west at RL199.70 (200mm below grade). Excavations for pavement and kerb foundations within TPZ. Encroachment to TPZ <5%.	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
7	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	5.4	2.4	91.6	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.
8	<i>Michelia figo</i> (Port Wine Magnolia)	M	3.2	1.8	32.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
9	<i>Liquidambar styraciflua</i> (Liquidambar)	M	11.3	3.2	399.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
10	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	3.0	1.6	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
11	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
12	<i>Phoenix canariensis</i> (Canary Island Palm)	G	5.0	2.5	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
13	<i>Phoenix canariensis</i> (Canary Island Palm)	G	5.0	2.5	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
14	<i>Celtis sinensis</i> (Chinese Hackberry)	M	8.0	2.4	201.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
15	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	3.1	1.9	29.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
16	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	4.5	2.0	63.6	No proposed works within TPZ.	No adverse impact. Proposed to be removed to accommodate new landscape works (low retention value).	Remove tree.
17	<i>Bauhinia sp.</i> (White-flowered Orchid Tree)	M	4.0	1.7	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
18	<i>Howea belmoreana</i> (Sentry Palm)	G	2.5	1.6	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
19	<i>Juniperus sp.</i> (Juniper)	M	6.6	2.6	135.7	Proposed metal fence to outdoor play area offset 0.7 metres south. Excavations for post footings within SRZ.	Excavation for post footings within the SRZ has the potential to result in severance of woody roots, leading to an adverse impact. Proposed to be removed due to lean over building and suspect stability.	Remove tree.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
20	<i>Phoenix canariensis</i> (Canary Island Palm)	G	5.0	2.5	78.5	Proposed metal fence to outdoor play area offset 2.1 metres south. Excavations for post footings within TPZ.	No adverse impact, provided that all excavations for post footings within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for fence post footings within TPZ in accordance with Section 10.9.
21	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	5.0	2.0	78.5	Proposed metal fence to outdoor play area offset 1.1 metres south and 1.3 metres west. Excavations for post footings within TPZ/SRZ.	Excavation for post footings within the SRZ has the potential to result in severance of woody roots, leading to an adverse impact. Proposed to be removed to accommodate new landscape works.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
22	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	4.5	2.0	63.6	Proposed metal fence to outdoor play area offset 4.1 metres north. Excavations for post footings within TPZ.	No adverse impact, provided that all excavations for post footings within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for fence post footings within TPZ in accordance with Section 10.9.
23	<i>Phoenix canariensis</i> (Canary Island Palm)	G	5.0	2.5	78.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
24	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	3.2	1.4	32.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
25	<i>Psidium cattleianum</i> (Strawberry Guava)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
26	<i>Cyathea cooperi</i> (Tree Fern)	G	2.5	1.5	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
27	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	G	3.2	1.7	32.2	Located within footprint of proposed new external fire stairs.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
28	<i>Tibouchina macrantha</i> (Lasiandra)	M	3.6	2.0	40.7	Proposed new sewer pipeline offset 0.6 metres east, 2.1 metres north and 2 metres north-west. Open trenching for sewer works within TPZ/SRZ.	Open trenching within SRZ will necessitate severance of woody roots, leading to a significant adverse impact.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
29	<i>Schinus areira</i> (Peppercorn Tree)	M	3.0	1.6	28.3	Proposed new sewer pipeline offset 0.8 metres east. Open trenching for sewer works within TPZ/SRZ.	Open trenching within SRZ will necessitate severance of woody roots, leading to a significant adverse impact.	Remove tree.
30	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	G	2.5	1.6	19.6	Proposed new sewer pipeline offset 1.8 metres north-west. Open trenching for sewer works within TPZ/SRZ. Encroachment to TPZ = <10%.	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact, provided that all excavations for the sewer line within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for sewer pipe within TPZ in accordance with Section 10.9.
31	<i>Celtis occidentalis</i> (Common or American Hackberry)	M	5.0	2.1	78.5	Proposed new sewer pipeline offset 2.7 metres north-west. Open trenching for sewer works within TPZ/SRZ. Encroachment to TPZ = <10%.	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact, provided that all excavations for the sewer line within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for sewer pipe within TPZ in accordance with Section 10.9.
32	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	M	2.0	1.0	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
33	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	M	2.0	1.1	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
34	<i>Callistemon viminalis</i> (Weeping Bottlebrush)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
35	<i>Flindersia australis</i> (Crows Foot Ash)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
36	Unidentified species. [possibly <i>Cydonia sp.</i> (Quince)].	M	3.6	2.0	40.7	Proposed new sewer pipeline offset 2.8 metres north-west. Open trenching for sewer works within TPZ/SRZ.	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact, provided that all excavations for the sewer line within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for sewer pipe within TPZ in accordance with Section 10.9.
37	<i>Citrus sp.</i> (Citrus)	M	3.0	1.4	28.3	Located within footprint of proposed paved area (Amphitheatre)	Proposed works will necessitate removal	Remove tree.
38	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	3.5	1.8	38.5	Proposed paved area offset 1.2 metres north at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ. Encroachment to TPZ = 25%.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. However, this tree will tolerate the extent of the encroachment proposed. No adverse impact.	Remove tree (poor specimen).
39	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	3.2	1.9	33.1	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.
40	<i>Eucalyptus pilularis</i> (Blackbutt)	P	10.7	3.2	362.1	Proposed new car park offset 3.4 metres west at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (within footprint of former grass tennis court). Encroachment to TPZ = 30%.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation & compaction for pavement sub-grade within the TPZ is likely to result in an adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9. Install pavement & pathway within TPZ in accordance with Section 10.12 & 10.13.
41	<i>Tecoma stans</i> (Yellow Bells)	M	3.0	1.6	28.3	No proposed works within TPZ.	No adverse impact.	Remove tree (poor specimen).

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
42	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	40.7	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
43	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.6	2.0	41.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
44	<i>Diospyros kaki</i> (Persimmon)	M	3.0	1.8	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
45	<i>Castanospermum australe</i> (Blackbean)	M	3.5	1.7	38.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
46	<i>Morus nigra</i> (Mulberry tree)	M	3.0	1.7	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
47	<i>Eucalyptus sp.</i> (Mahogany)	M	8.7	2.9	238.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
48	<i>Toona sp.</i> (Cedar)	M	4.0	1.9	50.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
49	<i>Toona sp.</i> (Cedar)	M	4.2	2.0	55.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
50	<i>Eucalyptus pilularis</i> (Blackbutt)	P	5.9	2.5	110.2	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
51	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	6.0	2.3	113.0	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
52	<i>Howea forsteriana</i> (Kentia Palm)	G	2.5	1.5	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
53	<i>Unidentified [possibly Cupaniopsis sp.]</i>	M	2.5	1.6	19.6	No proposed works within TPZ.	No adverse impact.	Remove tree (poor specimen).
53a	<i>Melaleuca styphelioides</i> (Prickly Paperbark)	M	2.5	1.5	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
54	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	2.9	1.8	26.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
55	<i>Eucalyptus pilularis</i> (Blackbutt)	P	6.6	2.6	136.8	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
56	<i>Eucalyptus pilularis</i> (Blackbutt)	P	10.1	3.1	322.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
57	<i>Macadamia tetraphylla</i> (Macadamia Nut)	M	5.0	2.3	78.5	Proposed new car park offset 3.4 metres west at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (within footprint of former grass tennis court). Encroachment to TPZ = 6%.	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact, provided that all excavation for the pavement sub-grade within the TPZ is undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9. Install pavement within TPZ in accordance with Section 10.12 & 10.13.
58	<i>Eucalyptus pilularis</i> (Blackbutt)	P	3.2	1.9	32.4	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
59	<i>Eucalyptus pilularis</i> (Blackbutt)	P	8.7	2.9	236.3	Proposed new car park offset 4.2 metres north at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (beyond existing ret. wall). Encroachment to TPZ = 16%.	No actual incursion to root zone due to barrier created by existing wall and footing. No adverse impact.	To be retained - no special tree protection measures required.
60	<i>Eucalyptus pilularis</i> (Blackbutt)	P	2.7	1.8	22.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
61	<i>Eucalyptus pilularis</i> (Blackbutt)	P	3.4	1.9	35.5	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
62	<i>Eucalyptus pilularis</i> (Blackbutt)	P	2.5	1.6	19.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
63	<i>Eucalyptus pilularis</i> (Blackbutt)	P	5.9	2.5	110.2	Proposed new car park offset 5.6 metres north at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (beyond existing ret. wall). Encroachment to TPZ = 16%.	No actual incursion to root zone due to barrier created by existing wall and footing. No adverse impact.	To be retained - no special tree protection measures required.
64	<i>Eucalyptus pilularis</i> (Blackbutt)	P	5.0	2.0	78.5	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
65	<i>Macadamia tetraphylla</i> (Macadamia Nut)	M	3.0	1.4	28.3	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
66	<i>Eucalyptus pilularis</i> (Blackbutt)	P	7.4	2.7	173.8	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
67	<i>Eucalyptus pilularis</i> (Blackbutt)	P	6.0	2.5	113.0	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
68	<i>Eucalyptus pilularis</i> (Blackbutt)	P	3.1	1.9	30.8	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
69	<i>Eucalyptus pilularis</i> (Blackbutt)	P	3.0	1.7	28.3	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
70	<i>Eucalyptus pilularis</i> (Blackbutt)	P	5.0	2.3	79.9	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
71	<i>Grevillea robusta</i> (Silky Oak)	M	3.1	1.9	30.1	Located within footprint of proposed new car park (<0.5 metres).	Proposed works will necessitate removal	Remove tree.
72	<i>Podocarpus elatus</i> (Brown Pine)	M	2.2	1.4	15.2	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

		APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE						
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
73	<i>Eucalyptus pilularis</i> (Blackbutt)	P	3.0	1.8	27.9	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
74	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	M	2.5	1.4	19.6	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
75	<i>Acacia parramattensis</i> (Green Wattle)	M	3.5	1.8	38.5	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
76	<i>Eucalyptus pilularis</i> (Blackbutt)	P	7.1	2.7	160.4	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
77	<i>Schefflera actinophylla</i> (Umbrella Tree)	M	3.0	1.8	28.3	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
78	<i>Allocasuarina littoralis</i> (Black She-oak)	M	3.0	1.7	28.3	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
79	<i>Brachychiton populneum susp. trilobus</i> (Kurrajong)	M	3.9	2.1	47.7	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
80	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	3.0	1.8	28.3	Proposed new car park offset 0.4 metres east at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ/SRZ. Encroachment to TPZ = 41%.	Excavation for pavement sub-grade within the SRZ has the potential to result in severance of woody roots, leading to an adverse impact.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
81	<i>Grevillea robusta</i> (Silky Oak)	M	3.2	1.8	32.2	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
82	<i>Acmena smithii</i> (Lillypilly)	M	3.0	1.7	28.3	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Remove tree.
83	<i>Livistona australis</i> (Cabbage Tree Palm)	M	4.0	2.0	50.2	Located within footprint of proposed new car park.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
84	<i>Angophora costata</i> (Sydney Red Gum)	P	12.0	3.3	452.2			Tree removed. Approved for removal by Hornsby Council as part of a separate Tree Removal Application (TA/671/2019).
85	<i>Camellia japonica</i> (Camellia)	M	2.5	1.7	19.9	Proposed pathway offset 1.5 metres south-west at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (within footprint of existing gravel driveway). Encroachment to TPZ = 22% (no increase from present situation)	No adverse impact, provided that all excavations for pavement sub-grade within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9.
86	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	M	3.0	1.4	28.3	Located within footprint of proposed new driveway.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
87	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	M	3.0	1.2	28.3	Proposed new driveway and associated kerb offset 1.5 metres south-east at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ. Encroachment to TPZ = 29%	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation & compaction for pavement sub-grade within the TPZ is likely to result in an adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade & kerb footings within TPZ in accordance with Section 10.9. Install pavement within TPZ in accordance with Section 10.12 & 10.13.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
88	Unidentified species [similar to <i>Doryphora sasafras</i> , possibly an <i>Elaeocarpus sp.</i>]	M	4.0	1.6	50.2	Located within footprint of proposed new driveway.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
89	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	2.6	1.7	20.6	Located within footprint of proposed new driveway.	Proposed works will necessitate removal	Remove tree.
90	<i>Trachycarpus fortunei</i> (Chinese Windmill Palm)	G	2.4	1.7	18.1	Located within footprint of proposed new driveway.	Proposed works will necessitate removal	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
91	<i>Eucalyptus pilularis</i> (Blackbutt)	P	8.5	2.9	228.1	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
92	<i>Eucalyptus pilularis</i> (Blackbutt)	P	11.6	3.3	421.0	Proposed new driveway crossover offset 7.6 metres north-east at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ. Encroachment to TPZ = 8%	Extent of encroachment to root zone is less than 10% of the TPZ, which is within acceptable limits under AS 4970:2009. No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.
93	<i>Allocasuarina littoralis</i> (Black She-oak)	M	4.0	1.9	50.2	No proposed works within TPZ.	No adverse impact.	Note that this tree overturned during a severe storm event in February 2020 and was subsequently removed by Hornsby Council on 19/02/2020.
94	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	5.0	2.2	78.5	Located within footprint of proposed new driveway.	Proposed works will necessitate removal	Remove tree.
95	<i>Allocasuarina littoralis</i> (Black She-oak)	M	3.2	1.8	32.2	Located within footprint of proposed new driveway crossover.	Proposed works will necessitate removal	Remove tree.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
96	<i>Allocasuarina littoralis</i> (Black She-oak)	M	3.0	1.8	28.3	Located within footprint of proposed new driveway crossover.	Proposed works will necessitate removal	Remove tree.
97	<i>Eucalyptus pilularis</i> (Blackbutt)	P	7.0	2.5	153.9	Proposed new driveway crossover offset 2.3 metres south-west at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ/SRZ. Encroachment to TPZ = 23%.	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation & compaction for pavement sub-grade within the TPZ is likely to result in an adverse impact. Note that driveway cannot be relocated any further to the south-west without necessitating the demolition of the existing garage.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9.
98	<i>Allocasuarina littoralis</i> (Black She-oak)	M	2.7	1.6	22.9	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
99	<i>Eucalyptus pilularis</i> (Blackbutt)	P	7.5	2.7	176.2	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.
100	<i>Eucalyptus pilularis</i> (Blackbutt)	P	7.5	2.7	174.4	Proposed new driveway and associated kerb offset 3.9 metres south-west at RL? (assumed close to existing grade). Excavations for pavement sub-grade & kerb footings within TPZ. Encroachment to TPZ = 19%	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation & compaction for pavement sub-grade within the TPZ may result in an adverse impact. Note that driveway cannot be relocated any further to the south-west without necessitating the demolition of the existing garage. Any adverse impact can be minimised by installing the driveway using a permeable surface as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade & kerb footings within TPZ in accordance with Section 10.9. Install pavement within TPZ in accordance with Section 10.12 & 10.13.
101	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	5.6	2.4	99.1	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

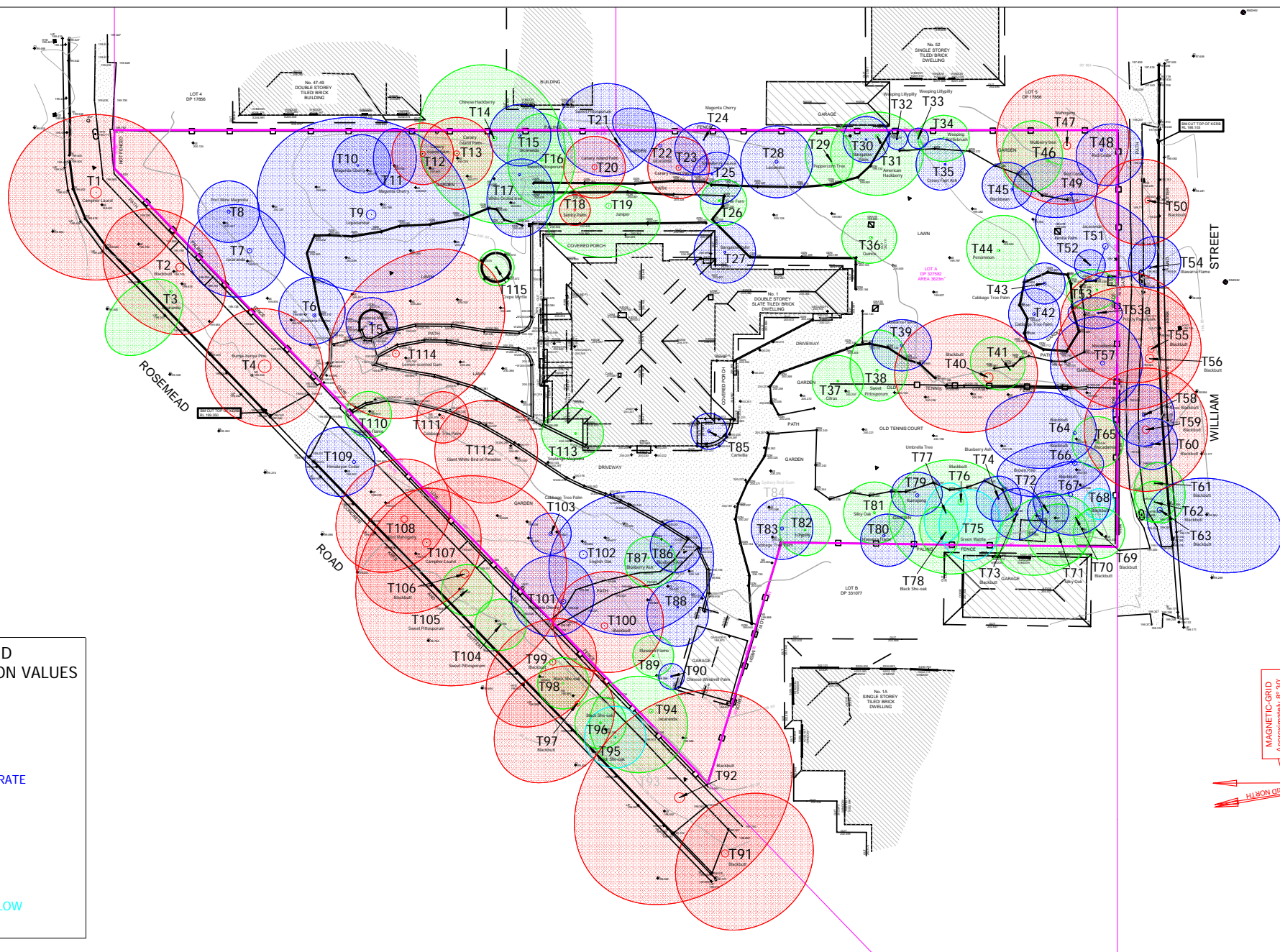
Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
102	<i>Quercus robur</i> (English Oak)	M	9.5	3.0	282.1	Proposed new driveway and associated kerb offset 4.6 metres south-east and 7.9 metres south-west at RL? (assumed close to existing grade). Excavations for pavement sub-grade & kerb footings within TPZ (partly within footprint of existing gravel driveway). Encroachment to TPZ = 25% (increase of 12% from present situation)	Extent of encroachment to TPZ exceeds acceptable limits under AS 4970:2009. Excavation & compaction for pavement sub-grade within the TPZ may result in an adverse impact. Note that driveway cannot be relocated any further to the south-west without necessitating the demolition of the existing garage. Any adverse impact can be <i>minimised</i> by installing the driveway using a permeable surface as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Undertake all excavations for pavement sub-grade & kerb footings within TPZ in accordance with Section 10.9. Install pavement within TPZ in accordance with Section 10.12 & 10.13.
103	<i>Livistona australis</i> (Cabbage Tree Palm)	G	3.0	2.1	28.3	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.
104	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	3.0	1.4	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
105	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	3.0	1.5	28.3	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.
106	<i>Eucalyptus pilularis</i> (Blackbutt)	P	9.9	3.0	305.3	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.
107	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	9.6	3.0	289.4	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
108	<i>Eucalyptus resinifera</i> (Red Mahogany)	P	7.8	2.8	192.7	Existing boundary fence to be demolished within TPZ and new metal fence (post footings with suspended in-fill panels) installed in same alignment.	No adverse impact, provided that all excavations for the fence post footings within the TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5. Demolish existing fence in accordance with Section 10.8. Undertake all excavations for new fence post footings within TPZ in accordance with Section 10.9.
109	<i>Cedrus deodara</i> (Himalayan Cedar)	M	4.5	2.0	63.6	No proposed works within TPZ.	No adverse impact.	Retain in accordance with recommended Tree Protection Measures (Section 10). Install Tree Protection Fence in accordance with Section 10.5.
110	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	3.0	1.7	28.3	Existing brick kerb/edge offset 0.9 metres east to be demolished within SRZ. Proposed new driveway and associated kerb offset 0.8 metres south-east at ≈ RL199.70 (250 mm below grade). Excavations for kerb foundations within SRZ/TPZ.	Excavation for pavement sub-grade within the SRZ has the potential to result in severance of woody roots, leading to an adverse impact.	Remove tree.
111	<i>Livistona australis</i> (Cabbage Tree Palm)	G	4.2	2.1	54.5	Located within footprint of proposed new driveway.	Proposed works will necessitate removal (High Retention Value). It is understood that driveway widening in this position is the only feasible option in order to provide acceptable vehicular access to the site. As such, there are no feasible options that can be recommended that would permit this tree to be retained.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.
112	<i>Strelitzia nicolai</i> (Giant White Bird of Paradise)	G	6.0	2.5	113.0	Located within footprint of proposed new driveway.	Proposed works will necessitate removal (High Retention Value). It is understood that driveway widening in this position is the only feasible option in order to provide acceptable vehicular access to the site. As such, there are no feasible options that can be recommended that would permit this tree to be retained.	Undertake replacement planting with a new tree elsewhere within the site to compensate for loss of amenity in accordance with Section 11.

APPENDIX 4 - IMPACT ASSESSMENT SCHEDULE

Tree Identification No.	Species	Construction Tolerance	Tree Protection Zone (m R)	Structural Root Zone (m R)	TPZ (m ²)	Incursions To Root Zone &/or Canopy	Likely Impact	Recommendation
113	<i>Magnolia soulangeana</i> (Magnolia)	M	3.0	1.8	28.3	Proposed pathway offset 0.5 metres north-west at RL? (assumed close to existing grade). Excavations for pavement sub-grade within TPZ (within footprint of existing gravel driveway). Encroachment to TPZ = 36% (no increase from present situation)	No adverse impact, provided that all excavations for pavement sub-grade within TPZ are undertaken as recommended.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for pavement sub-grade within TPZ in accordance with Section 10.9.
114	<i>Corymbia citriodora</i> (Lemon-scented Gum)	P	8.1	2.8	208.1	Existing brick kerb/edge offset 4.5 metres west to be demolished within TPZ. Existing driveway to be widened offset 4.5 metres west at ≈ RL199.70 (250 mm below grade). Excavations for kerb foundations within TPZ. Minor increase in present encroachment (5%). Proposed new low wall/kerb offset 1.7 metres north. Excavations for continuous strip footing within TPZ.	Excavations for new low wall footings have the potential to result in severance of woody roots, leading to an adverse impact. However any adverse impact can be avoided by undertaking all excavations for the wall footings within the TPZ in accordance with Section 10.9.	Retain in accordance with recommended Tree Protection Measures (Section 10). Undertake all excavations for pavement sub-grade & kerb/low wall footings within TPZ in accordance with Section 10.9. Construct footings using alternative construction measures where required in accordance with Section 10.10.
115	<i>Lagerstroemia indica</i> (Crepe Myrtle)	M	2.0	1.3	12.6	No proposed works within TPZ.	No adverse impact.	To be retained - no special tree protection measures required.



APPENDIX 6 TREE PROTECTION PLAN

MOUNT ERRINGTON -
1 ROSEMEAD ROAD, HORNSBY, NSW

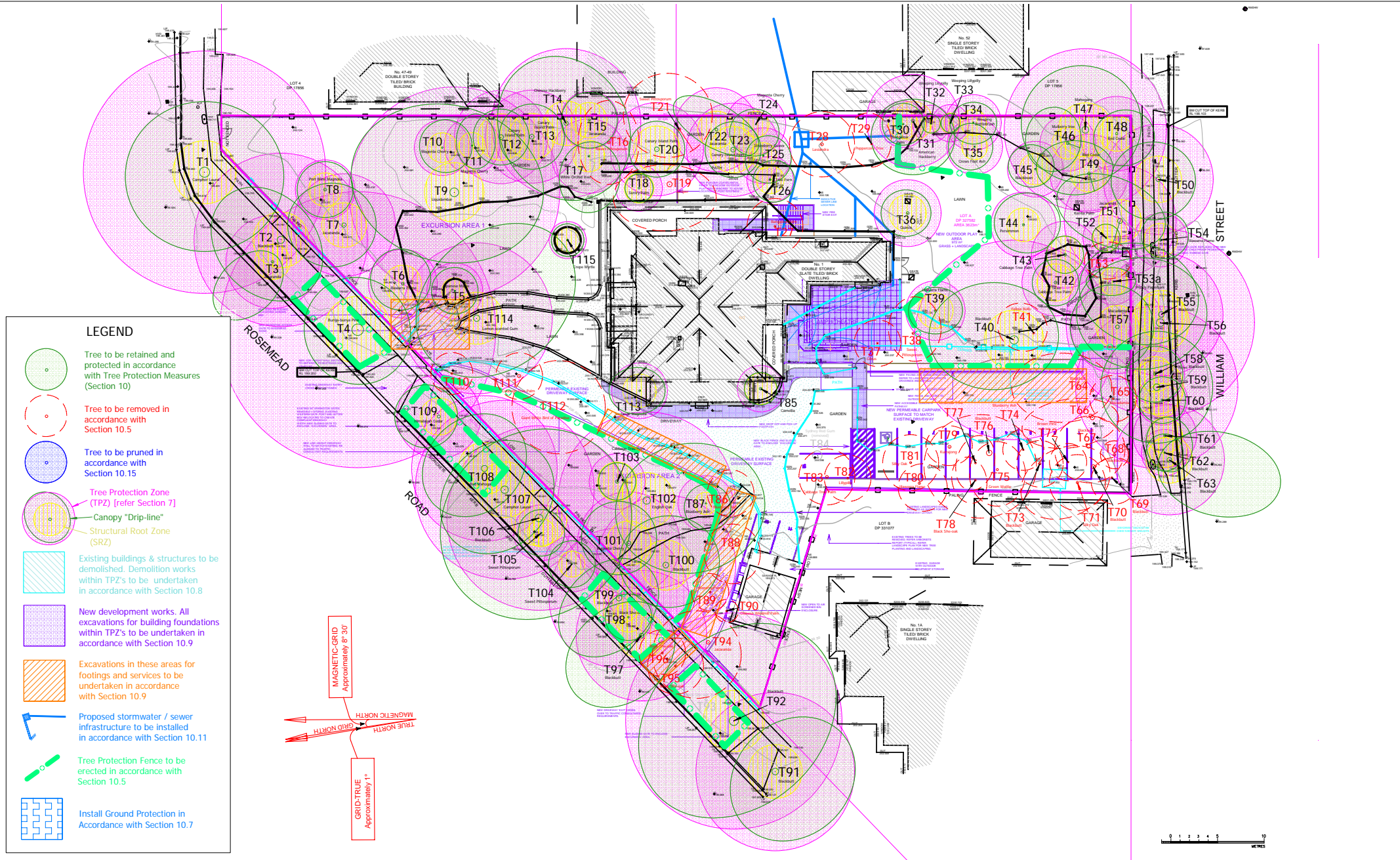


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Based on the Survey Drawing
prepared by Hammond Smeallie & Co. Pty Ltd
Dwg Ref No. 14645 [C]
Dated 05/09/2019

DWG No. T19-101602 [B]

DATE: 03/04/2020



APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
1	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	Appears stable with sound branching structure. Dome dieback with 15% deadwood and 20% epicormic growth Thinning upper crown due to possum foraging.	No Evidence	Fair with slightly thinning crown	Moderate Possum defoliation	Medium 15-40 Years	Nature strip	Street Tree
2	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
3	<i>Jacaranda mimosifolia</i> (Jacaranda)	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the west.	Crown lifted to 4 metres	.Fair	No Evidence	Short 5-15 Years	Nature strip	Street Tree
4	<i>Araucaria bidwillii</i> (Bunya-bunya Pine)	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
5	<i>Acer palmatum</i> (Japanese Maple)	SM	Appears stable with sound branching structure.	Selectively pruned	Very Good	No Evidence	Long - more than 40 years	On-site	Improve Cultural Conditions - fertilise & replenish mulch zone to 2 metres radius.
6	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	Appears stable with sound branching structure.	Crown lifted to 3 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
7	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits some deadwood and stubs. Epiphytes (Bromeliads) obscuring view of trunk. Large dead branch 160mm x 4 metres.	No Evidence	Fair with slightly thinning crown	Bromeliads growing as epiphytes on trunk from GL to 3 metres	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter. Remove Bromeliad from trunk.
8	<i>Michelia figo</i> (Port Wine Magnolia)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
9	<i>Liquidambar styraciflua</i> (Liquidambar)	M	Appears stable with fair branching structure. Exhibits multiple moderate wounds due previous branch loss (SL stubs) due storm damage. Multiple extended lateral PLs. 30% epicormic growth. Suspected fracture (adaptive growth) in lowest PL to south at 6 metres.	Selectively pruned	Good	Suspected Canker infection. Some emmission and dark staining from trunk and PLs	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
10	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	On-site	No remedial action required
11	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	On-site	No remedial action required
12	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
13	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south (self corrected).	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
14	<i>Celtis sinensis</i> (Chinese Hackberry)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
15	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west (self-corrected). Obtuse bend in trunk from GL to 3 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
16	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	Appears stable with fair branching structure. Exhibits multiple deadwood and stubs with some epicormic growth (10%).	No Evidence	Fair with thinning crown	Moderate Pittosporum Borer infestation	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter.
17	<i>Bauhinia sp.</i> (White-flowered Orchid Tree)	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the north-west. Fracture in PL at 2 metres. 15% interior crown deadwood.	Lower limbs selectively pruned to clear pedestrian pathway	.Fair	No Evidence	Short 5-15 Years	On-site	Remove deadwood to 20mm in diameter.
18	<i>Howea belmoreana</i> (Sentry Palm)	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the west. Crown suppressed on east side due crowding.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
19	<i>Juniperus sp.</i> (Juniper)	M	Stability suspect with fair branching structure. Exhibits a very prominent lean to the west (over existing dwelling). Corresponding soil heaving to east around root plate.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	Remove tree - (stability suspect and leaning over house).
20	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species). Slight lean to the north.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible).
21	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-east. Moderate deadwood and stubs.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter.
22	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east (self-corrected). Basal sprout emanating from trunk at 0.5 metres.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	Selectively prune to remove basal epicormic sprout at junction with main trunk.
23	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species).	Defroned	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
24	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4.5 metres. Crown suppressed on east side due to crowding.	No Evidence	.Fair	Moderate foliar insect infestation (White Fly) & associated Sooty Mould	Long - more than 40 years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
25	<i>Psidium cattleianum</i> (Strawberry Guava)	SM	Appears stable with sound branching structure. Exhibits a small axial wound in PL at 1.5 metres.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
26	<i>Cyathea cooperi</i> (Tree Fern)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	No remedial action required
27	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres).	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
28	<i>Tibouchina macrantha</i> (Lasiandra)	M	Appears stable with fair branching structure. Exhibits multiple elite epicormic sprouts due previous pruning.	All PLs previously lopped at 2 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
29	<i>Schinus areira</i> (Peppercorn Tree)	SM	Appears stable with fair branching structure. Exhibits multiple surface roots. Minor interior crown deadwood (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor stability (check for any prograssion in trunk lean or soil heaving or cracking associated with root plate movement) every 5 years.
30	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
31	<i>Celtis occidentalis</i> (Common or American Hackberry)	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at junction of co-dominant PLs. PLs intertwined.	Selectively pruned east side over boundary.	Good	No Evidence	Medium 15-40 Years	On-site	Selectively prune to remove less dominant secondary trunk at Ground Level (to improve form and habit)
32	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
33	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Undertake General Crown Maintenance to remove interior deadwood to 20mm in diameter.

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
34	<i>Callistemon viminalis</i> (Weeping Bottlebrush)	SM	Appears stable with fair branching structure. Crown suppressed on west side due crowding. Exhibits 20% interior crown deadwood.	Crown lifted to 2 metres	.Fair	No Evidence	Short 5-15 Years	On-site	No remedial action required
35	<i>Flindersia australis</i> (Crows Foot Ash)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
36	Unidentified species. [possibly <i>Cydonia sp.</i> (Quince)].	M	Appears stable with poor branching structure. Exhibits a large axial wound from GL to 3 metres with associated borer damage.	All SLs previously lopped at 2.5 metres (crown restored)	Good	High borer infestation. Suspected Canker infection.	Short 5-15 Years	On-site	Improve Cultural Conditions - remove grass surrounding trunk (non-selective herbicide treatment), fertilise & install mulch zone to 2 metres radius.
37	<i>Citrus sp. (Citrus)</i>	SM	Appears stable with sound branching structure.	No Evidence	Good	Severe Wisteria Vine infestation.	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.
38	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at GL. Multiple moderate wounds due branch loss (Pittosporum Borer)	No Evidence	Good	Moderate Wisteria Vine infestation. Moderate Pittosporum Borer infestation	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter. Remove Wisteria Vine
39	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
40	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a low bark inclusion at 7 metres at junction of co-dominant PLs. 30% epicormic growth. Some deadwood and broken suspended dead branches (5%)	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
41	Unidentified species [possibly <i>Tecoma sp.</i>]	OM	Appears stable with poor branching structure. Exhibits multiple epicormics emanating from old pruning wounds.	All PLs previously lopped (crown restored)	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Remove tree - (poor specimen - poor form and habit).

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
42	<i>Livistona australis</i> (Cabbage Tree Palm)	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
43	<i>Livistona australis</i> (Cabbage Tree Palm)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
44	<i>Diospyros kaki</i> (Persimmon)	M	Appears stable with fair branching structure. Exhibits multiple moderate to small wounds due previous pruning & branch loss with some borer damage. 10% epicormic growth.	SLs lopped (to remove dieback/borer damage).	.Fair	Moderate borer infestation	Short 5-15 Years	On-site	Improve Cultural Conditions - remove turf (non-selective herbicide), fertilise & install mulch zone to 2 metres radius.
45	<i>Castanospermum australe</i> (Blackbean)	SM	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
46	<i>Morus nigra</i> (Mulberry tree)	M	Appears stable with poor branching structure. Exhibits multiple high bark inclusions at GL.	No Evidence	Good	Low borer infestation.	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
47	<i>Eucalyptus sp.</i> (Mahogany)	M	Appears stable with fair branching structure. Elite epicormic sprouts arising from pruning wound to PL branch stub to east.	Lower PL to east lopped. Selectively pruned.	Good	No Evidence	Long - more than 40 years	On-site	Selectively prune lower primary limb branch stub east side (previously lopped) - reduce to branch collar at junction with main trunk.
48	<i>Toona sp.</i> (Cedar)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
49	<i>Toona sp.</i> (Cedar)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north (self-corrected). 5% deadwood & 10% epicormic growth. Small broken/suspended branch.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove small broken/suspended branch from crown.

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
50	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. Contains a few large sections of deadwood 50mmØ x 4 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
51	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at GL (welded junction). Some dieback with 10% deadwood & broken branch stubs. Moderate wound with small cavity in PL at 2 metres. Prominent lean to the north-east.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
52	<i>Howea forsteriana</i> (Kentia Palm)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
53	<i>Unidentified [possibly Cupaniopsis sp.]</i>	SM	Appears stable with poor branching structure. Exhibits a large axial wound and decay from GL to 2 metres.	No Evidence	Very Good	Moderate foliar insect infestation (Thrips). Associated Sooty Mould	Short 5-15 Years	On-site	Remove tree - (poor condition due to large axial wound - beyond remedial treatment)
53A	<i>Melaleuca styphelioides</i> (Prickly Paperbark)	SM	Appears stable with sound branching structure. Crown suppressed on east and west sides due to crowding.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
54	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
55	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits a very prominent lean to the north.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
56	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north. Multiple extended lateral PLs.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	Nature strip	Street Tree

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
57	<i>Macadamia tetraphylla</i> (Macadamia Nut)	M	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required
58	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-west.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
59	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west (self-corrected). Moderate dieback with 20% deadwood and 30% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
60	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with fair branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
61	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Crown suppressed on east side due to crowding. Very prominent lean to the west (self-corrected). 10% deadwood.	No Evidence	.Fair	No Evidence	Short 5-15 Years	Nature strip	Street Tree
62	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with poor branching structure. Exhibits dieback in main leader (large dead section).	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
63	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 4 metres at junction of co-dominant PLs. Prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
64	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. 30% epicormic growth.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter.
65	<i>Macadamia tetraphylla</i> (Macadamia Nut)	SM	Appears stable with fair branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
66	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL at junction of co-dominant trunks.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor included bark (check for any progression in severity, such as development of fractures) every 5 years.
67	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west. High bark inclusion at GL at junction of co-dominant leaders. 30% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor included bark (check for any progression in severity, such as development of fractures) every 5 years.
68	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits dieback in main leader with 50% deadwood and 50% epicormic growth. No lateral branches.	No Evidence	Poor with sparse crown	High borer infestation	Transient (less than 5 years)	On-site	Remove tree - (poor specimen - in decline)
69	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with poor branching structure. Exhibits dieback in main leader at 6 metres.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Consider removal in short tern (next 5 -10 years) - poor form and habit
70	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west with obtuse bend in trunk at 6 metres. Poor form and habit. Dieback in upper crown with 20% deadwood (including secondary leader). Large axial wound from GL to 2.5 metres	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Consider removal in short tern (next 5 -10 years) - poor form and habit
71	<i>Grevillea robusta</i> (Silky Oak)	SM	Appears stable with poor branching structure. Main leader broken out at 5 metres with multiple epicormic arising below wound. Large axial wound at 3-5 metres due borer damage.	No Evidence	Poor with sparse crown	No Evidence	Transient (less than 5 years)	On-site	Remove tree - (poor specimen - multiple defects - beyond remedial treatment.
72	<i>Podocarpus elatus</i> (Brown Pine)	I	Appears stable with sound branching structure.	Crown lifted to 1.5 metres	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
73	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
74	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
75	<i>Acacia parramattensis</i> (Green Wattle)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the west. Upper crown suppressed due to overshadowing. Moderate interior crown deadwood (30%).	No Evidence	Fair with thinning crown	Severe Wisteria Vine infestation	Transient (less than 5 years)	On-site	Remove tree - (short lived species - in decline)
76	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west. Severe bark inclusion at 5 & 10 metres at junctions of PLs. Multiple large axial wounds in lower trunk from GL-2 metres. With decay evident.	No Evidence	.Fair	Severe Phellinus sp. (Bracket Fungus) infection at 1.5 metres	Transient (less than 5 years)	On-site	Remove tree - (Pathogenic Fungal Infection - potentially hazardous).
77	<i>Schefflera actinophylla</i> (Umbrella Tree)	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	Remove tree - (Environmental Weed Species)
78	<i>Allocasuarina littoralis</i> (Black She-oak)	SM	Appears stable with fair branching structure. Crown suppressed on the south side due to crowding.	No Evidence	.Fair	Moderate Wisteria Vine infestation	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.
79	<i>Brachychiton populneum susp. trilobus</i> (Kurrajong)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
80	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure. Emission from wound in trunk at 2.5 metres due suspected canker.	No Evidence	Good	Low Wisteria Vine infestation	Medium 15-40 Years	On-site	Remove Wisteria Vine from trunk and crown.
81	<i>Grevillea robusta</i> (Silky Oak)	I	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	Suspected Canker infection	Medium 15-40 Years	On-site	Remove tree
82	<i>Acmena smithii</i> (Lillypilly)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	Severe Wisteria Vine infestation	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
83	<i>Livistona australis</i> (Cabbage Tree Palm)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
84	<i>Angophora costata</i> (Sydney Red Gum)	OM	Appears stable with poor branching structure. Exhibits a very large wound from GL to 6 metres due borer damage affecting 40% trunk circumference. Multiple large axial wounds on PLs & SLs due borer damage.	No Evidence	.Fair	Severe borer infestation	Transient (less than 5 years)	On-site	Approved for removal by Hornsby Council as part of a separate Tree Removal Application (TA/671/2019). This tree was assessed as defective, potentially hazardous and beyond remedial treatment.
85	<i>Camellia japonica</i> (Camellia)	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres)	Clipped to elliptical shape	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
86	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
87	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing with obtuse bend in leader at 4.5 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	No remedial action required
88	Unidentified species [similar to <i>Doryphora sassafras</i> , possibly an <i>Elaeocarpus sp.</i>]	SM	Appears stable with sound branching structure. Exhibits some crown dieback with 5% deadwood (<10mmØ) and 10% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required
89	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure. Foliar distortion due insect infestation	No Evidence	Poor with sparse crown	High foliar insect infestation	Short 5-15 Years	On-site	No remedial action required
90	<i>Trachycarpus fortunei</i> (Chinese Windmill Palm)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
91	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Crown suppressed on north side due to crowding.	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
92	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits multiple extended lateral PLs	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
93	<i>Allocasuarina littoralis</i> (Black She-oak)	OM	Stability suspect with poor branching structure. Exhibits a large wound from GL to 3.5 metres due to previous branch loss (secondary leader) with decay evident.	Secondary trunk removed close to GL.	Fair with thinning crown	High Phellinus sp. (Bracket Fungus) infection at 5 metres.	Transient (less than 5 years)	Nature strip	Street Tree - Note that this tree overturned during a severe storm event in February 2020 and was subsequently removed by Hornsby Council on 19/02/2020.
94	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the north-west. Some deadwood and broken suspended dead branches to 50mmØ (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
95	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with poor branching structure.	No Evidence	Poor with sparse crown	High Phellinus sp. (Bracket Fungus) infection at 1.5 metres.	Transient (less than 5 years)	Nature strip	Street Tree
96	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with poor branching structure. Exhibits a severe bark inclusion at 1 metre.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
97	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4-5 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
98	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with fair branching structure.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
99	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a small wound a 3.5 metres with kino exudate (possible mechanical injury). Some large sections of deadwood 100mmØ x 4-5 metres length.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
100	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required. Monitor for deadwood every 3-5 years and remove as required.
101	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west. Some deadwood and broken suspended dead branches to 50mmØ.	No Evidence	Fair with slightly thinning crown	Moderate foliar insect infestation & associated sooty mould	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
102	<i>Quercus robur</i> (English Oak)	M	Appears stable with fair branching structure. Exhibits a large axial wound at 8-12 metres due previous branch failure (SL). Large wound at 3 metres due previous pruning with some decay evident. A Picus Sonic Tomograph Test undertaken in November 2019 indicates the extent of decay is minor with over 90% sound wood. Prominent lean to the south with extended lateral PLs. Picus Sonic Tomograph Test	Selectively pruned. Large secondary leader removed at 3-4 metres	Very Good	Suspected previous termite infestation (not currently active)	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
103	<i>Livistona australis</i> (Cabbage Tree Palm)	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
104	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with sound branching structure.	Selectively pruned to clear overhead powerlines. Crown lifted to 2 metres	Good	Low Pittosporum Borer infestation	Short 5-15 Years	Nature strip	Street Tree
105	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with sound branching structure.	Crown lifted to 2 metres	.Fair	Low Pittosporum Borer infestation	Medium 15-40 Years	Nature strip	Street Tree

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
106	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. 5% deadwood & several broken suspended dead branches.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
107	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	Appears stable with fair branching structure. Exhibits large wound on lower trunk from GL to 1 metre (possibly due to previous mechanical injury) with some decay evident. 30% deadwood with some large sections to 150mmØ. Multiple basal sprouts around trunk.	Selectively pruned	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
108	<i>Eucalyptus resinifera</i> (Red Mahogany)	M	Appears stable with sound branching structure. Exhibits a moderate axial occluded wound on lower trunk from GL to 2 metres due to previous lightning damage. Moderate deadwood (20% with some large sections 100mmØ x 4 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
109	<i>Cedrus deodara</i> (Himalayan Cedar)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
110	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	I	Appears stable with poor branching structure. Exhibits a high bark inclusion at 1.6 metres a junction of co-dominant PLs.	No Evidence	.Fair	Moderate foliar insect infestation	Short 5-15 Years	On-site	No remedial action required
111	<i>Livistona australis</i> (Cabbage Tree Palm)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
112	<i>Strelitzia nicolai</i> (Giant White Bird of Paradise)	M	Appears stable with sound branching structure.	Selectively pruned	Good	No Evidence	Long - more than 40 years	On-site	Remove old dead and dying canes (cut close to Ground Level) (recurrent maintenance required every 3-5 years).
113	<i>Magnolia soulangeana</i> (Magnolia)	SM	Appears stable with sound branching structure. Located close to existing building (< 3 metres).	Crown lifted to 2 metres	Very Good	Low Possum defoliation	Medium 15-40 Years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
114	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	Appears stable with sound branching structure. Located close to driveway and associated brick kerb. Exhibits a prominent lean to the south-east (self-corrected). Multiple sections of deadwood & stubs (5%). Multiple extended lateral PLs.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove deadwood to 20mm in diameter.
115	<i>Lagerstroemia indica</i> (Crepe Myrtle)	I	Appears stable with sound branching structure. Exhibits multiple epicormic sprouts arising from old pruning wounds.	Previously lopped at 1.5 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required

LEGEND RECOMMENDED TREE WORKS



Remove tree or stump



Consider removal in the short term
(within the next 5 years)



Undertake General Crown Maintenance and remove all deadwood to 20mm in diameter



Undertake selective pruning in accordance with Schedule (refer to Appendix 7)



Undertake further diagnostic testing, monitoring or aerial inspection (refer Appendix 7)



No remedial action required



Improve Horticultural Conditions in accordance with Schedule (refer to Addendum Report)



Remove Vines (Wisteria etc) Refer to Addendum Report.

APPENDIX 8 REMEDIAL WORKS PLAN

MOUNT ERRINGTON -
1 ROSEMEAD ROAD, HORNSBY, NSW

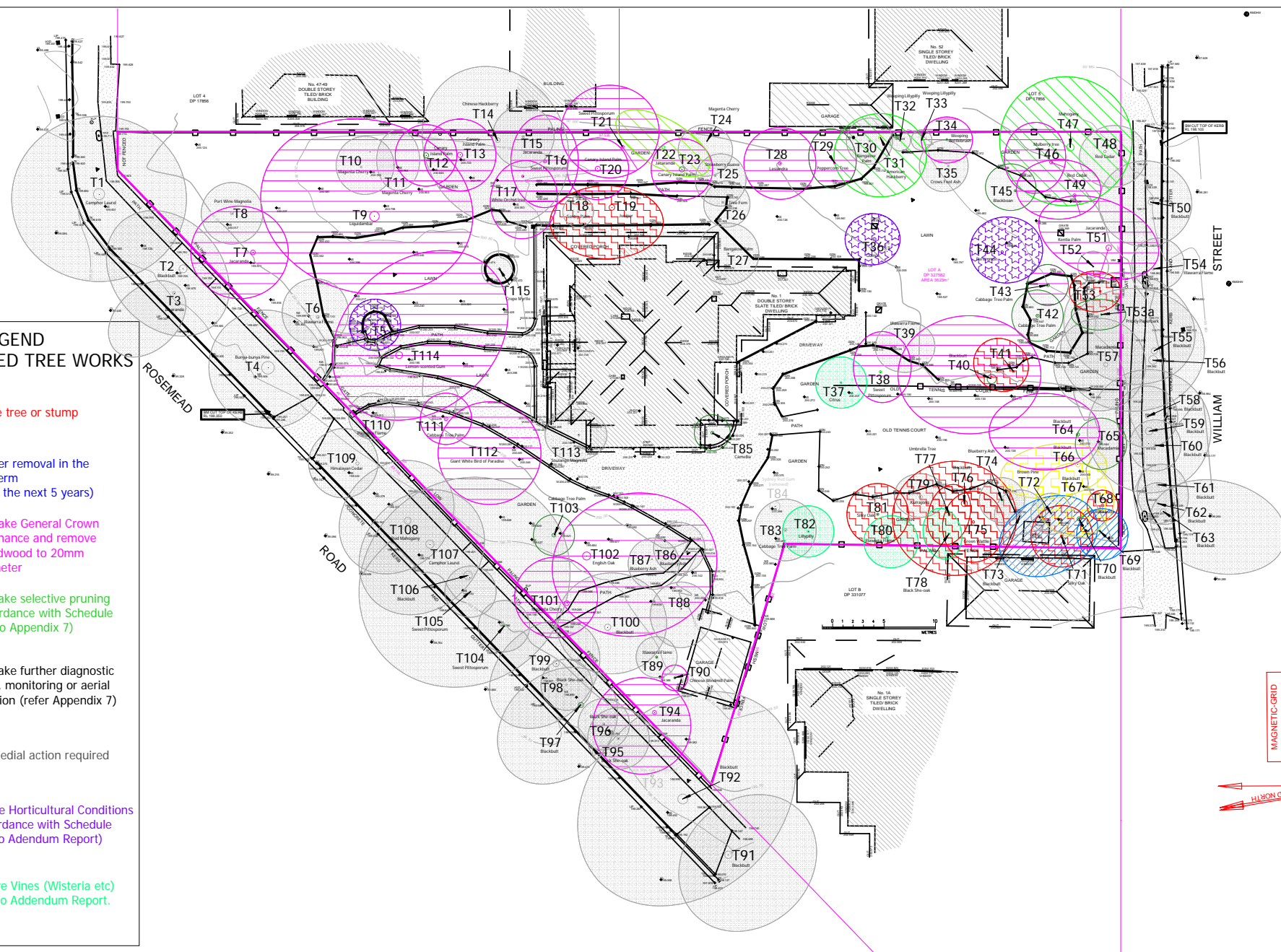


Earthscape Horticultural Services
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Based on the Survey Drawing
prepared by Hammond Smeallie & Co. Pty Ltd
Dwg Ref No. 14645 [C]
Dated 05/09/2019

DWG No. T19-101603 [B]

DATE: 03/04/2020





EARTHSCAPE HORTICULTURAL SERVICES
Arboricultural, Horticultural and Landscape Consultants
ABN 36 082 126 027

7th November 2019

Jill McLachlan
Education Director
Blue Gum Community School
1 Rosemead Road
HORNSBY NSW 2077

Dear Jill,

1 Rosemead Road, Hornsby
Addendum [1] to Arboricultural Impact Assessment Report
Recommended Remedial Works

I refer your request to provide recommendations for remedial and maintenance works for trees within abovementioned property. I also refer to the previous Arboricultural Impact Assessment Report prepared by Earthscape [Version 1, dated 17th October 2019].

This addendum report has been prepared to provide a specification for remedial and maintenance works on the subject trees to maintain them in a safe condition. I have detailed this specification separately from the abovementioned DA report.

This specification should be read in conjunction with the attached Remedial Works Schedule (**Appendix 7**) and Remedial Works Plan (**Appendix 8**).

Further Diagnostic Testing (Suspected structural defects or decay)

Further diagnostic testing has been recommended for T102 as this tree shows external signs of internal defects, the extent of which cannot be verified from an external visual examination. There are generally two methods of determining the extent of internal defects and decay. These include resistance testing and Sonic Tomography. Each approach has its limitations.

Sonic tomograph testing is the preferred approach for determining the extent of decay or cavities in the lower trunk of regular shaped trees. The Picus® Sonic Tomograph uses sound waves to detect decay in trees without injury to the tree, using external sensors placed around the trunk at the point of the defect. A two-dimensional computer-generated image can be produced using this method, clearly indicating the extent of internal cavities and decay at a particular section of the tree. When taken at several points, the computer can extrapolate the information to produce a three-dimensional reorientation of internal decay. The following trees are recommended for further diagnostic testing using a Picus Sonic Tomograph:-

Tree No.	Species	Test
T102	<i>Quercus robur</i> (English Oak)	Trunk at 1-2 metres in vicinity of cavity to determine extent of any internal decay.

This type of diagnostic testing is performed by Australian Tree Consultants (refer <https://www.australiantreeconsultants.com.au/>)

Bark Inclusions (Included Bark)

Many of the trees were noted to contain Included Bark. Bark inclusions vary in severity. They are a natural phenomenon, which develop in some trees as they grow. Branches that grow at very acute angles to the trunk or another branch are the most susceptible. Essentially included bark develops when the bark of the tree becomes entrapped or “included” in the junction between two limbs. During the development of a normal branch, the wood fibres of each branch grow concurrently, overlapping and meshing together to form a strong union. If bark becomes included, the two limbs grow independently, forming a weak union. In severe cases, bark inclusions represent a structural defect, which is prone to failure under high wind or storm conditions, or even over time as the tree ages. This is exacerbated on branches that have a more lateral than vertical inclination.

In some instances, the best treatment is to remove the less dominant limb at the branch junction. This avoids a large wound, which would be created if the branch were to tear away and removes the defective part and therefore any hazard. In many instances however, this treatment would involve removing a substantial portion of the canopy, which may be unacceptable from an aesthetic perspective. In this instance an acceptable alternative may be to reduce the overall weight and wind loading on the affected branch by selectively thinning. This removes a portion of the foliage and branches, still retaining the natural form and shape of the tree. Again, whilst this does not guarantee safety, it will substantially reduce the probability of failure under storm conditions.

Where remedial work is considered warranted, these trees have been noted in the schedule. Most of the trees with this defect have simply been recommended to have a more regular inspection to verify the integrity of the junction (evidence of fractures forming along the plane of the junction) and to take action in the event of any fracture occurring. Selective pruning has also been recommended in some instances to remove defective branches. For significant trees in otherwise good health, consideration may also be given to cabling and bracing the tree to minimise the risk of failure. Properly executed, cabling can reduce the lateral forces on the defective junction, reducing the risk of whole or partial tree failure. If this is not considered practical (from a logistical or economic perspective), consideration should then be given to the removal of the tree.

The following trees are recommended for inspection every five years :-

Tree No.	Species	Test
T66	<i>Eucalyptus pilularis</i> (Blackbutt)	Monitor included bark at junction for any sign of failure (fracture or opening at junction etc).
T67	<i>Eucalyptus pilularis</i> (Blackbutt)	Monitor included bark at junction for any sign of failure (fracture or opening at junction etc).

Deadwood

A small number of the trees within the site contain variable quantities of deadwood. In most instances the extent of deadwood is minor. Trees with observable deadwood of a size which could represent a potential hazard are noted in the schedule (**Appendix 7**) and Tree Works Plan (**Appendix 8**).

Deadwood should be removed from the nominated trees to a diameter of 20mm where possible to reduce the risk of potential hazard from deadwood as it is shed from the tree. Long sections of deadwood in Eucalyptus are particularly dangerous as they are tapered toward the branch collar (butt end) and tend to abscise close to this point. Once shed, these branches tend to fall with the butt end first, sometimes with sufficient force to penetrate the ground by several inches. All such pruning should be carried out in accordance with AS 4373:2007 (Pruning of Amenity Trees).

Defronding (Palm Trees)

The site contains a number of Palm trees which progressively generate new fronds and the older lower fronds die and gradually shed. In the proposed school environment these can be a potential hazard as they fall. As such, regular de-fronding (removal of lower dead fronds) is recommended. This will likely need to be carried out on a regular basis (every three to five years). Fronds should simply be severed close to the trunk near the point of attachment without causing damage to the trunk.

Precautions should be taken when removing and handling fronds from Canary Island Palms. These fronds have extremely sharp spines. Eye protection and protective clothing should be worn to minimize risk of injury.

Precautions should also be used when removing fronds from Canary Island Palms as this species is extremely susceptible to Fusarium Wilt, a fungal disease with no effective treatment that leads to mortality of the tree. This disease can be spread by moving infected tissue from one tree to another during pruning/de-fronding operations. To minimize the potential risk of infection, all pruning tools (including chainsaws) used in de-fronding should be properly disinfected prior to use and in-between pruning each tree. To avoid spread of the disease between trees, all equipment used to collect samples (pruning saws, secateurs etc) should be properly disinfected before moving from one tree to another. Pruning tools should be cleaned of any tissue fragments and then immersed in a bleach solution (25% bleach – one part bleach to three parts water) for five minutes. Fresh disinfectant needs to be made up every two hours. Following disinfection, the pruning equipment should be thoroughly rinsed in clean water to remove disinfectant.

Tree No.	Species	Action
12	<i>Phoenix canariensis</i> (Canary Island Palm)	De-frond – Note Personal Protective Equipment and Hygiene Precautions for Fusarium Wilt
13	<i>Phoenix canariensis</i> (Canary Island Palm)	De-frond – Note Personal Protective Equipment and Hygiene Precautions for Fusarium Wilt
20	<i>Phoenix canariensis</i> (Canary Island Palm)	De-frond – Note Personal Protective Equipment and Hygiene Precautions for Fusarium Wilt
23	<i>Phoenix canariensis</i> (Canary Island Palm)	De-frond – Note Personal Protective Equipment and Hygiene Precautions for Fusarium Wilt
43	<i>Livistona australis</i> (Cabbage Tree Palm)	De-frond
52	<i>Howea forsteriana</i> (Kentia Palm)	De-frond
90	<i>Trachycarpus fortunei</i> (Chinese Windmill Palm)	De-frond
111	<i>Livistona australis</i> (Cabbage Tree Palm)	De-frond

General Crown Maintenance & Selective Pruning

General Crown Maintenance or selective pruning has been specified for a small number of trees (as specified in **Appendix 7**). General Crown Maintenance as defined under AS 4373:2007 includes the removal of deadwood, selective pruning to remove defective, diseased or declining branches and formative pruning to remove crowded or crossing and rubbing branches. The aim of General Crown Maintenance is to improve the overall appearance and branching habit of the tree, without reducing the overall shape or form of the tree. Broken and dead branch stubs should also be reduced back to the branch collar using Natural

Target Pruning Techniques (refer **Figure 1**) and any broken branches suspended in the crown ('hanging' branches) should be removed.

Selective pruning has been specified where necessary to remove specific defective branches.

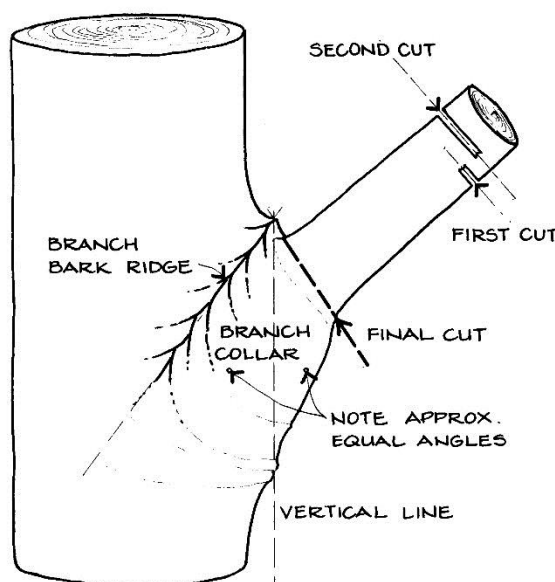


Figure 1 – Showing proper pruning technique for removing branches in accordance with Natural Target Pruning Techniques as specified in AS 4373:2007 (Pruning of Amenity Trees).

Improving Horticultural (Cultural) Conditions

In some instances, particular trees show signs of poor growth or decline, largely due to horticultural factors. Trees growing in lawn areas may suffer in the long term from a lack of natural nutrient recycling. In a natural system, foliage and other parts of the tree (fruit, twigs, flowers etc) would fall to the root zone, gradually decay and release nutrient to the soil. However, grassed areas are continually mown and often this material is continuously removed, resulting in a depletion of the nutrient status of the soil over time. Poor or imbalanced nutrient levels in soils can increase the incidence of stress and decline and incur greater susceptibility to pest and disease problems.

Compaction of the soil within the root zone (area beneath the canopy 'drip-line') also incurs root loss and damage leading to stress on trees. Where soils are compacted, it is very difficult to relieve compaction by conventional methods (such as mechanical excavation) as this can damage underlying roots. However, pneumatic or hydro-excavation techniques can be used to improve aeration and reduce compaction in root zones. This involves excavating a series of holes at regular intervals (not less than 500mm apart) to around 300mm in depth. The holes can be filled with sandy loam and or organic fertilizers (such as processed cow or chicken manure). This also aids in improving the nutrient status of the soil.

Removing grassed areas from beneath the canopy of several trees has been recommended. This is best achieved by applying non-selective herbicide with the active constituent Glyphosate (such as Round-up ® over equivalent) to the grassed area within the specified radius at the manufacturers recommended rate. After the grass has died, slow release fertiliser such as Osmocote ® or Nutricote ® can be applied at the manufacturers recommended rate. Following fertilising, composed woodchip mulch should be installed to a minimum depth of 50mm and maximum depth of 75mm to improve moisture retention.

Tree No.	Species	Test
5	<i>Acer palmatum</i> (Japanese Maple)	fertilise, replenish mulch
36	Unidentified species. [possibly <i>Cydonia</i> sp. (Quince)].	Remove grass, fertilise, install mulch ring
44	<i>Diospyros kaki</i> (Persimmon)	Remove grass, fertilise, install mulch ring

Short Term Tree Removal

A number of trees have been recommended for removal in the short term (next 5 to 10 years), as nominated in the schedule and Tree Works Plans. These trees are not considered immediately hazardous but may be showing signs of decline which indicate that their remaining SULE is relatively short. As such, the staged removal of these trees should take place over the next 5 to 10 years. These include the following trees:-

Tree No.	Species
T69	<i>Eucalyptus pilularis</i> (Blackbutt)
T70	<i>Eucalyptus pilularis</i> (Blackbutt)

Tree Removal

A number of trees have been recommended for removal. These trees may be in poor health and condition, potentially hazardous, or dying/declining due to a variety of causes and are considered beyond effective remedial treatment. These are noted in the schedule (**Appendix 7**) and Tree Works Plan (**Appendix 8**).

Trees should be removed by carefully dismantling the tree and lowering sections to the ground in order to minimise damage to the underlying plantings. Except where otherwise indicated, stumps should be ground-out at least 300mm below existing ground levels. Stumps left intact may harbor insect pests such as termites and can provide inoculum for fungal diseases such as Armillaria Root Rot. Stumps located close to other trees may be better left intact by cutting as close to Ground Level as possible. Grinding stumps located close to other trees may otherwise result in root damage to the remaining tree.

Vines

Wisteria Vine was noted on the trunk and within the crowns (foliage and branches) of a number of trees. Vines can cause physical injury to the trunk and branches, smother the crown and generally disfigure a tree if the infestation becomes severe. As such, vines should be removed from these trees as noted in the schedule. The main part of the vine should be cut close to ground level and the cut stem treated with non-selective herbicide with the active constituent Glyphosate by brushing the herbicide on to the cut stem (portion remaining) within five minutes of severing the stem. The vine should be removed from the crown of the tree by progressively pruning and removing sections. If this is not possible without damaging the crown, the vine can be left and allowed to dehisce. After the vine is completely dead it will break up easier enabling it to be removed more easily.

If you require any further information regarding the above matter, please do not hesitate to contact me on 9456 4787 or 0402 947 296.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'A. Morton', enclosed within a large, loopy oval shape.

Andrew Morton

Dip. (Arboriculture) [AQF5]

B.App.Sci (Horticulture),

A.Dip.App.Sci. (Landscape)

Member of the Arboriculture Australia

Member of the International Society of Arboriculture (ISA)

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
1	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	Appears stable with sound branching structure. Dome dieback with 15% deadwood and 20% epicormic growth Thinning upper crown due to possum foraging.	No Evidence	Fair with slightly thinning crown	Moderate Possum defoliation	Medium 15-40 Years	Nature strip	Street Tree
2	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
3	<i>Jacaranda mimosifolia</i> (Jacaranda)	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the west.	Crown lifted to 4 metres	.Fair	No Evidence	Short 5-15 Years	Nature strip	Street Tree
4	<i>Araucaria bidwillii</i> (Bunya-bunya Pine)	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
5	<i>Acer palmatum</i> (Japanese Maple)	SM	Appears stable with sound branching structure.	Selectively pruned	Very Good	No Evidence	Long - more than 40 years	On-site	Improve Cultural Conditions - fertilise & replenish mulch zone to 2 metres radius.
6	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	M	Appears stable with sound branching structure.	Crown lifted to 3 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
7	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits some deadwood and stubs. Epiphytes (Bromeliads) obscuring view of trunk. Large dead branch 160mm x 4 metres.	No Evidence	Fair with slightly thinning crown	Bromeliads growing as epiphytes on trunk from GL to 3 metres	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter. Remove Bromeliad from trunk.
8	<i>Michelia figo</i> (Port Wine Magnolia)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
9	<i>Liquidambar styraciflua</i> (Liquidambar)	M	Appears stable with fair branching structure. Exhibits multiple moderate wounds due previous branch loss (SL stubs) due storm damage. Multiple extended lateral PLs. 30% epicormic growth. Suspected fracture (adaptive growth) in lowest PL to south at 6 metres.	Selectively pruned	Good	Suspected Canker infection. Some emmission and dark staining from trunk and PLs	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
10	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	On-site	No remedial action required
11	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with sound branching structure.	No Evidence	Good	Moderate foliar insect infestation (soft brown scale) and associated sooty mould	Long - more than 40 years	On-site	No remedial action required
12	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
13	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south (self corrected).	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
14	<i>Celtis sinensis</i> (Chinese Hackberry)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
15	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west (self-corrected). Obtuse bend in trunk from GL to 3 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS									
Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
16	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	Appears stable with fair branching structure. Exhibits multiple deadwood and stubs with some epicormic growth (10%).	No Evidence	Fair with thinning crown	Moderate Pittosporum Borer infestation	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter.
17	<i>Bauhinia sp.</i> (White-flowered Orchid Tree)	M	Stability suspect with sound branching structure. Exhibits a very prominent lean to the north-west. Fracture in PL at 2 metres. 15% interior crown deadwood.	Lower limbs selectively pruned to clear pedestrian pathway	.Fair	No Evidence	Short 5-15 Years	On-site	Remove deadwood to 20mm in diameter.
18	<i>Howea belmoreana</i> (Sentry Palm)	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the west. Crown suppressed on east side due crowding.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
19	<i>Juniperus sp.</i> (Juniper)	M	Stability suspect with fair branching structure. Exhibits a very prominent lean to the west (over existing dwelling). Corresponding soil heaving to east around root plate.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	Remove tree - (stability suspect and leaning over house).
20	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species). Slight lean to the north.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible).
21	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north-east. Moderate deadwood and stubs.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter.
22	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east (self-corrected). Basal sprout emanating from trunk at 0.5 metres.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	Selectively prune to remove basal epicormic sprout at junction with main trunk.
23	<i>Phoenix canariensis</i> (Canary Island Palm)	M	Appears stable with sound branching structure. Exhibits a large fibrous root mass at base to 1 metre (fairly typical of this species).	Defronded	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years). Note precautions in relation to Fusarium Wilt (species highly susceptible)
24	<i>Syzygium paniculatum</i> (Magenta Cherry)	I	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4.5 metres. Crown suppressed on east side due to crowding.	No Evidence	.Fair	Moderate foliar insect infestation (White Fly) & associated Sooty Mould	Long - more than 40 years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
25	<i>Psidium cattleianum</i> (Strawberry Guava)	SM	Appears stable with sound branching structure. Exhibits a small axial wound in PL at 1.5 metres.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
26	<i>Cyathea cooperi</i> (Tree Fern)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	No remedial action required
27	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres).	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
28	<i>Tibouchina macrantha</i> (Lasiandra)	M	Appears stable with fair branching structure. Exhibits multiple elite epicormic sprouts due previous pruning.	All PLs previously lopped at 2 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
29	<i>Schinus areira</i> (Peppercorn Tree)	SM	Appears stable with fair branching structure. Exhibits multiple surface roots. Minor interior crown deadwood (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor stability (check for any prograssion in trunk lean or soil heaving or cracking associated with root plate movement) every 5 years.
30	<i>Archontophoenix cunninghamii</i> (Bangalow Palm)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
31	<i>Celtis occidentalis</i> (Common or American Hackberry)	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at junction of co-dominant PLs. PLs intertwined.	Selectively pruned east side over boundary.	Good	No Evidence	Medium 15-40 Years	On-site	Selectively prune to remove less dominant secondary trunk at Ground Level (to improve form and habit)
32	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
33	<i>Waterhousea floribunda</i> (Weeping Lillypilly)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Undertake General Crown Maintenance to remove interior deadwood to 20mm in diameter.

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
34	<i>Callistemon viminalis</i> (Weeping Bottlebrush)	SM	Appears stable with fair branching structure. Crown suppressed on west side due crowding. Exhibits 20% interior crown deadwood.	Crown lifted to 2 metres	.Fair	No Evidence	Short 5-15 Years	On-site	No remedial action required
35	<i>Flindersia australis</i> (Crows Foot Ash)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
36	Unidentified species. [possibly <i>Cydonia sp.</i> (Quince)].	M	Appears stable with poor branching structure. Exhibits a large axial wound from GL to 3 metres with associated borer damage.	All SLs previously lopped at 2.5 metres (crown restored)	Good	High borer infestation. Suspected Canker infection.	Short 5-15 Years	On-site	Improve Cultural Conditions - remove grass surrounding trunk (non-selective herbicide treatment), fertilise & install mulch zone to 2 metres radius.
37	<i>Citrus sp. (Citrus)</i>	SM	Appears stable with sound branching structure.	No Evidence	Good	Severe Wisteria Vine infestation.	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.
38	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with fair branching structure. Exhibits a high bark inclusion at GL. Multiple moderate wounds due branch loss (Pittosporum Borer)	No Evidence	Good	Moderate Wisteria Vine infestation. Moderate Pittosporum Borer infestation	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove interior deadwood/old branch stubs (borer affected) to 20mm in diameter. Remove Wisteria Vine
39	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
40	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a low bark inclusion at 7 metres at junction of co-dominant PLs. 30% epicormic growth. Some deadwood and broken suspended dead branches (5%)	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
41	Unidentified species [possibly <i>Tecoma sp.</i>]	OM	Appears stable with poor branching structure. Exhibits multiple epicormics emanating from old pruning wounds.	All PLs previously lopped (crown restored)	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Remove tree - (poor specimen - poor form and habit).

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
42	<i>Livistona australis</i> (Cabbage Tree Palm)	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
43	<i>Livistona australis</i> (Cabbage Tree Palm)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
44	<i>Diospyros kaki</i> (Persimmon)	M	Appears stable with fair branching structure. Exhibits multiple moderate to small wounds due previous pruning & branch loss with some borer damage. 10% epicormic growth.	SLs lopped (to remove dieback/borer damage).	.Fair	Moderate borer infestation	Short 5-15 Years	On-site	Improve Cultural Conditions - remove turf (non-selective herbicide), fertilise & install mulch zone to 2 metres radius.
45	<i>Castanospermum australe</i> (Blackbean)	SM	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
46	<i>Morus nigra</i> (Mulberry tree)	M	Appears stable with poor branching structure. Exhibits multiple high bark inclusions at GL.	No Evidence	Good	Low borer infestation.	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
47	<i>Eucalyptus sp.</i> (Mahogany)	M	Appears stable with fair branching structure. Elite epicormic sprouts arising from pruning wound to PL branch stub to east.	Lower PL to east lopped. Selectively pruned.	Good	No Evidence	Long - more than 40 years	On-site	Selectively prune lower primary limb branch stub east side (previously lopped) - reduce to branch collar at junction with main trunk.
48	<i>Toona sp.</i> (Cedar)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
49	<i>Toona sp.</i> (Cedar)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north (self-corrected). 5% deadwood & 10% epicormic growth. Small broken/suspended branch.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove small broken/suspended branch from crown.
50	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. Contains a few large sections of deadwood 50mmØ x 4 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
51	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at GL (welded junction). Some dieback with 10% deadwood & broken branch stubs. Moderate wound with small cavity in PL at 2 metres. Prominent lean to the north-east.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter.
52	<i>Howea forsteriana</i> (Kentia Palm)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
53	<i>Unidentified [possibly Cupaniopsis sp.]</i>	SM	Appears stable with poor branching structure. Exhibits a large axial wound and decay from GL to 2 metres.	No Evidence	Very Good	Moderate foliar insect infestation (Thrips). Associated Sooty Mould	Short 5-15 Years	On-site	Remove tree - (poor condition due to large axial wound - beyond remedial treatment)
53A	<i>Melaleuca styphelioides</i> (Prickly Paperbark)	SM	Appears stable with sound branching structure. Crown suppressed on east and west sides due to crowding.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
54	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
55	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits a very prominent lean to the north.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
56	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits a prominent lean to the north. Multiple extended lateral PLs.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
57	<i>Macadamia tetraphylla</i> (Macadamia Nut)	M	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
58	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-west.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
59	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west (self-corrected). Moderate dieback with 20% deadwood and 30% epicormic growth.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
60	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with fair branching structure. Exhibits a prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
61	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Crown suppressed on east side due to crowding. Very prominent lean to the west (self-corrected). 10% deadwood.	No Evidence	.Fair	No Evidence	Short 5-15 Years	Nature strip	Street Tree
62	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with poor branching structure. Exhibits dieback in main leader (large dead section).	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
63	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Exhibits a moderate bark inclusion at 4 metres at junction of co-dominant PLs. Prominent lean to the south.	No Evidence	Good	No Evidence	Medium 15-40 Years	Nature strip	Street Tree
64	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north. 30% epicormic growth.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter.
65	<i>Macadamia tetraphylla</i> (Macadamia Nut)	SM	Appears stable with fair branching structure.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required
66	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL at junction of co-dominant trunks.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor included bark (check for any progression in severity, such as development of fractures) every 5 years.

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
67	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with fair branching structure. Exhibits a prominent lean to the north-west. High bark inclusion at GL at junction of co-dominant leaders. 30% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	Remove deadwood to 20mm in diameter. Monitor included bark (check for any progression in severity, such as development of fractures) every 5 years.
68	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits dieback in main leader with 50% deadwood and 50% epicormic growth. No lateral branches.	No Evidence	Poor with sparse crown	High borer infestation	Transient (less than 5 years)	On-site	Remove tree - (poor specimen - in decline)
69	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with poor branching structure. Exhibits dieback in main leader at 6 metres.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Consider removal in short term (next 5 -10 years) - poor form and habit
70	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west with obtuse bend in trunk at 6 metres. Poor form and habit. Dieback in upper crown with 20% deadwood (including secondary leader). Large axial wound from GL to 2.5 metres	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	On-site	Consider removal in short term (next 5 -10 years) - poor form and habit
71	<i>Grevillea robusta</i> (Silky Oak)	SM	Appears stable with poor branching structure. Main leader broken out at 5 metres with multiple epicormic arising below wound. Large axial wound at 3-5 metres due borer damage.	No Evidence	Poor with sparse crown	No Evidence	Transient (less than 5 years)	On-site	Remove tree - (poor specimen - multiple defects - beyond remedial treatment.
72	<i>Podocarpus elatus</i> (Brown Pine)	I	Appears stable with sound branching structure.	Crown lifted to 1.5 metres	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
73	<i>Eucalyptus pilularis</i> (Blackbutt)	I	Appears stable with sound branching structure.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
74	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
75	<i>Acacia parramattensis</i> (Green Wattle)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the west. Upper crown suppressed due to overshadowing. Moderate interior crown deadwood (30%).	No Evidence	Fair with thinning crown	Severe Wisteria Vine infestation	Transient (less than 5 years)	On-site	Remove tree - (short lived species - in decline)
76	<i>Eucalyptus pilularis</i> (Blackbutt)	SM	Appears stable with poor branching structure. Exhibits a prominent lean to the north-west. Severe bark inclusion at 5 & 10 metres at junctions of PLs. Multiple large axial wounds in lower trunk from GL-2 metres. With decay evident.	No Evidence	.Fair	Severe Phellinus sp. (Bracket Fungus) infection at 1.5 metres	Transient (less than 5 years)	On-site	Remove tree - (Pathogenic Fungal Infection - potentially hazardous).
77	<i>Schefflera actinophylla</i> (Umbrella Tree)	SM	Appears stable with poor branching structure. Exhibits a severe bark inclusion at GL.	No Evidence	Good	No Evidence	Short 5-15 Years	On-site	Remove tree - (Environmental Weed Species)
78	<i>Allocasuarina littoralis</i> (Black She-oak)	SM	Appears stable with fair branching structure. Crown suppressed on the south side due to crowding.	No Evidence	.Fair	Moderate Wisteria Vine infestation	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.
79	<i>Brachychiton populneum susp. trilobus</i> (Kurrajong)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
80	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure. Emission from wound in trunk at 2.5 metres due to suspected canker.	No Evidence	Good	Low Wisteria Vine infestation	Medium 15-40 Years	On-site	Remove Wisteria Vine from trunk and crown.
81	<i>Grevillea robusta</i> (Silky Oak)	I	Appears stable with sound branching structure.	No Evidence	Fair with slightly thinning crown	Suspected Canker infection	Medium 15-40 Years	On-site	Remove tree
82	<i>Acmena smithii</i> (Lillypilly)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	Severe Wisteria Vine infestation	Short 5-15 Years	On-site	Remove Wisteria Vine from trunk and crown.
83	<i>Livistona australis</i> (Cabbage Tree Palm)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
84	<i>Angophora costata</i> (Sydney Red Gum)	OM	Appears stable with poor branching structure. Exhibits a very large wound from GL to 6 metres due borer damage affecting 40% trunk circumference. Multiple large axial wounds on PLs & SLs due borer damage.	No Evidence	.Fair	Severe borer infestation	Transient (less than 5 years)	On-site	Remove tree - (defective & potentially hazardous - beyond remedial treatment)
85	<i>Camellia japonica</i> (Camellia)	M	Appears stable with sound branching structure. Located close to existing dwelling (<3 metres)	Clipped to elliptical shape	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
86	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing.	No Evidence	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required
87	<i>Elaeocarpus reticulatus</i> (Blueberry Ash)	SM	Appears stable with fair branching structure. Crown suppressed on east side due overshadowing with obtuse bend in leader at 4.5 metres.	No Evidence	.Fair	No Evidence	Medium 15-40 Years	On-site	No remedial action required
88	Unidentified species [similar to <i>Doryphora sasasfras</i> , possibly an <i>Elaeocarpus sp.</i>]	SM	Appears stable with sound branching structure. Exhibits some crown dieback with 5% deadwood (<10mmØ) and 10% epicormic growth.	No Evidence	Fair with slightly thinning crown	No Evidence	Medium 15-40 Years	On-site	No remedial action required
89	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	SM	Appears stable with sound branching structure. Foliar distortion due insect infestation	No Evidence	Poor with sparse crown	High foliar insect infestation	Short 5-15 Years	On-site	No remedial action required
90	<i>Trachycarpus fortunei</i> (Chinese Windmill Palm)	SM	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
91	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Crown suppressed on north side due to crowding.	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
92	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits multiple extended lateral PLs	No Evidence	Very Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
93	<i>Allocasuarina littoralis</i> (Black She-oak)	OM	Stability suspect with poor branching structure. Exhibits a large wound from GL to 3.5 metres due previous branch loss (secondary leader) with decay evident.	Secondary trunk removed close to GL.	Fair with thinning crown	High Phellinus sp. (Bracket Fungus) infection at 5 metres.	Transient (less than 5 years)	Nature strip	Street Tree
94	<i>Jacaranda mimosifolia</i> (Jacaranda)	M	Appears stable with sound branching structure. Exhibits a very prominent lean to the north-west. Some deadwood and broken suspended dead branches to 50mmØ (5%).	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
95	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with poor branching structure.	No Evidence	Poor with sparse crown	High Phellinus sp. (Bracket Fungus) infection at 1.5 metres.	Transient (less than 5 years)	Nature strip	Street Tree
96	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with poor branching structure. Exhibits a severe bark inclusion at 1 metre.	No Evidence	Fair with slightly thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
97	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with fair branching structure. Exhibits an obtuse bend in trunk at 4-5 metres.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
98	<i>Allocasuarina littoralis</i> (Black She-oak)	M	Appears stable with fair branching structure.	No Evidence	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree
99	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Exhibits a small wound a 3.5 metres with kino exudate (possible mechanical injury). Some large sections of deadwood 100mmØ x 4-5 metres length.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree

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Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
100	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. Minor deadwood to 20mmØ.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	No remedial action required. Monitor for deadwood every 3-5 years and remove as required.
101	<i>Syzygium paniculatum</i> (Magenta Cherry)	M	Appears stable with sound branching structure. Exhibits a prominent lean to the west. Some deadwood and broken suspended dead branches to 50mmØ.	No Evidence	Fair with slightly thinning crown	Moderate foliar insect infestation & associated sooty mould	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs/ broken/suspended branches and deadwood to 20mm in diameter.
102	<i>Quercus robur</i> (English Oak)	M	Appears stable with fair branching structure. Exhibits a large axial wound at 8-12 metres due previous branch failure (SL). Large wound at 3 metres due previous pruning with some decay evident. Prominent lean to the south with extended lateral PLs.	Selectively pruned. Large secondary leader removed at 3-4 metres	Very Good	Suspected previous termite infestation (not currently active)	Medium 15-40 Years	On-site	Undertake General Crown Maintenance to remove dead/broken branch stubs and deadwood to 20mm in diameter. Undertake Picus Sonic Tomograph Test to confirm extent of cavity in lower trunk. Check for Termite infestation and treat as required.
103	<i>Livistona australis</i> (Cabbage Tree Palm)	I	Appears stable with sound branching structure.	Crown lifted to 2 metres	Very Good	No Evidence	Long - more than 40 years	On-site	No remedial action required
104	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with sound branching structure.	Selectively pruned to clear overhead powerlines. Crown lifted to 2 metres	Good	Low Pittosporum Borer infestation	Short 5-15 Years	Nature strip	Street Tree
105	<i>Pittosporum undulatum</i> (Sweet Pittosporum)	SM	Appears stable with sound branching structure.	Crown lifted to 2 metres	Fair	Low Pittosporum Borer infestation	Medium 15-40 Years	Nature strip	Street Tree
106	<i>Eucalyptus pilularis</i> (Blackbutt)	M	Appears stable with sound branching structure. 5% deadwood & several broken suspended dead branches.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
107	<i>Cinnamomum camphora</i> (Camphor Laurel)	M	Appears stable with fair branching structure. Exhibits large wound on lower trunk from GL to 1 metre (possibly due to previous mechanical injury) with some decay evident. 30% deadwood with some large sections to 150mmØ. Multiple basal sprouts around trunk.	Selectively pruned	Fair with thinning crown	No Evidence	Short 5-15 Years	Nature strip	Street Tree

APPENDIX 7 - RECOMMENDED REMEDIAL WORKS

Tree Identification No.	Species	Maturity Class	Condition	Previous Pruning	Health		Remaining Safe Useful Life Expectancy (SULE)	Location	Recommendations - Tree Maintenance & Remedial Works
					Vigour	Pest & Disease			
108	<i>Eucalyptus resinifera</i> (Red Mahogany)	M	Appears stable with sound branching structure. Exhibits a moderate axial occluded wound on lower trunk from GL to 2 metres due to previous lightning damage. Moderate deadwood (20% with some large sections 100mmØ x 4 metres).	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
109	<i>Cedrus deodara</i> (Himalayan Cedar)	SM	Appears stable with sound branching structure. Exhibits a prominent lean to the north-east.	No Evidence	Good	No Evidence	Long - more than 40 years	Nature strip	Street Tree
110	<i>Brachychiton acerifolius</i> (Illawarra Flame Tree)	I	Appears stable with poor branching structure. Exhibits a high bark inclusion at 1.6 metres a junction of co-dominant PLs.	No Evidence	.Fair	Moderate foliar insect infestation	Short 5-15 Years	On-site	No remedial action required
111	<i>Livistona australis</i> (Cabbage Tree Palm)	M	Appears stable with sound branching structure.	No Evidence	Very Good	No Evidence	Long - more than 40 years	On-site	Remove lower dead fronds (recurrent maintenance required every 3-5 years).
112	<i>Strelitzia nicolai</i> (Giant White Bird of Paradise)	M	Appears stable with sound branching structure.	Selectively pruned	Good	No Evidence	Long - more than 40 years	On-site	Remove old dead and dying canes (cut close to Ground Level) (recurrent maintenance required every 3-5 years).
113	<i>Magnolia soulangeana</i> (Magnolia)	SM	Appears stable with sound branching structure. Located close to existing building (< 3 metres).	Crown lifted to 2 metres	Very Good	Low Possum defoliation	Medium 15-40 Years	On-site	No remedial action required
114	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	Appears stable with sound branching structure. Located close to driveway and associated brick kerb. Exhibits a prominent lean to the south-east (self-corrected). Multiple sections of deadwood & stubs (5%). Multiple extended lateral PLs.	No Evidence	Good	No Evidence	Long - more than 40 years	On-site	Remove deadwood to 20mm in diameter.
115	<i>Lagerstroemia indica</i> (Crepe Myrtle)	I	Appears stable with sound branching structure. Exhibits multiple epicormic sprouts arising from old pruning wounds.	Previously lopped at 1.5 metres (crown restored)	Good	No Evidence	Medium 15-40 Years	On-site	No remedial action required

LEGEND RECOMMENDED TREE WORKS



Remove tree or stump



Consider removal in the short term
(within the next 5 years)



Undertake General Crown Maintenance and remove all deadwood to 20mm in diameter



Undertake selective pruning in accordance with Schedule (refer to Appendix 7)



Undertake further diagnostic testing, monitoring or aerial inspection (refer Appendix 7)



No remedial action required



Improve Horticultural Conditions in accordance with Schedule (refer to Addendum Report)



Remove Vines (Wisteria etc) Refer to Addendum Report.

APPENDIX 8 REMEDIAL WORKS PLAN

MOUNT ERRINGTON -
1 ROSEMEAD ROAD, HORNSBY, NSW



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Based on the Survey Drawing
prepared by Hammond Smeallie & Co. Pty Ltd
Dwg Ref No. 14645 [C]
Dated 05/09/2019

DWG No. T19-101603 [A]

DATE: 07/11/2019

