Arboricultural Assessment and Report

1 Kent Rd & 24 Durham Rd, Surrey Hills

Prepared for VJ1KR Pty Ltd

Prepared by Bruce Callander –
Senior Consulting Arborist
Tree Logic Pty. Ltd.

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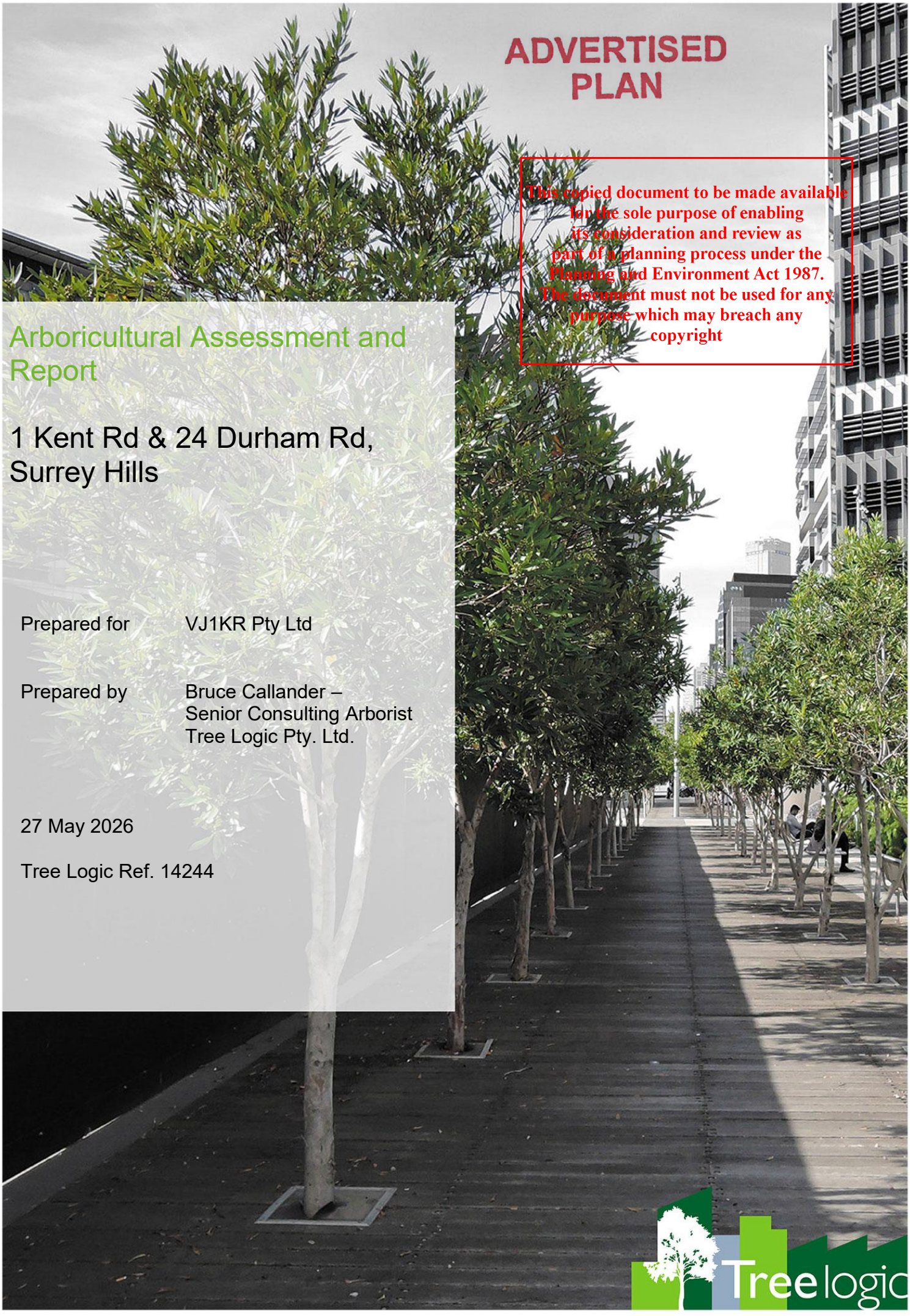
Tree Logic Ref. 14244



Contents

TL_14244__Arb Report_1 Kent Rd & 24 Durham Rd, Surrey Hills-

File No.	Version	Author	Issue date	Edits	Issued by.
14244	Preliminary report	Bruce Callander	24/09/2025	Preliminary Arboricultural Report (PAR)	BC
14244	Preliminary report	Bruce Callander	27/05/2025	Added 52.37 details	HW

Objectives

Tree Logic was engaged by VJ1KR Pty Ltd to undertake a tree assessment and prepare a preliminary arboricultural report for trees associated with new development proposed at 1 Kent Rd & 24 Durham Rd, Surrey Hills.

The primary objectives of the arboricultural report include;

- Ascertain the species and origin of the subject trees within the site and provide information including dimensions, health, structural condition, and the arboricultural value of the trees.
- Determine appropriate Notional Root Zone (NRZ) dimensions compliant with Australian Standard AS4970 'Protection of trees on development sites'.
- Identify trees that may trigger permit requirement under Local Council Overlays, Tree Protection Local Laws, Native Vegetation – Clause 52.17 and Clause 52.37 - Canopy trees.
- Identify potential tree related constraints and opportunities associated with proposed works to redevelop the site.
- Undertake a review of latest design for new lighting towers and cable runs and identify impacts to NRZs.
- Offer recommendations regarding the management of trees, including any tree protection modification or additional requirements for trees required to be retained.
- Identify if trees are subject to permit and/or offset requirement under various planning overlays.

1. Executive Summary

1.1 Sixty three (63) trees were inspected associated with the subject study area comprising 33 trees within the subject site, 6 neighbour's trees / shrubs and twenty four (24) council managed street trees.

1.2 Observations of species, dimensions and condition were made of the trees identified on supplied survey plans. Tree assessment data is provided in Appendix 1 and tree location and NRZ mapping is provided in Appendix 2.

1.3 Thirty two (32) different species were recorded comprising 6 species that are native to Victoria, 13 Australian native species and 45 exotic specimens. All trees were either planted for amenity purposes or are self-sown woody weeds. Refer to Section 4 for site description.

1.4 Each tree feature was attributed an arboricultural rating which reflects the retention value of the trees.

- Five (5) trees were attributed an Arboricultural rating of Moderate A, being larger prominent trees displaying better than typical condition.
- Sixteen (16) trees were attributed a rating of Moderate B, being middle of the range, typical of the species and worthy of retention.
- Twenty seven (27) trees were rated Moderate C, being either younger/smaller trees in Fair condition or maturing trees showing signs of minor dieback, past limb failure, wounding, incipient decay or deadwood >50mm Ø.
- Twelve (12) trees were rated as Low, being either declining or defective trees.

- Four (4) trees were rated Very Low, being either in irreversible decline or woody weed species.
  Refer to Table 4 in Section 4 for Trees sorted by Arboricultural Rating.

1.5 The site is located within the area covered by the Boroondara Council Planning Scheme and is within the Neighbourhood Residential Zone - Schedule 3 (NRZ3).

- The site is subject to Heritage Overlay - Schedule (HO670). No specific tree controls apply under HO670.
- City of Boroondara Tree Protection Local Law applies to all trees on private land whereby a permit is required for any trees proposed to be removed with a cumulative trunk diameter of 110cm or larger or basal diameter of 150mm or more.
- All Neighbour's trees, regardless of size or permit trigger will need to be considered in any design and construction works and any part of the NRZ that extends into the subject site must be duly protected and canopy overhangs must be managed in accordance with Australian Standard for Pruning of Amenity Trees (AS4370-2009)
- Council street tree assets will similarly need to be considered and any part of the NRZ that extends into the subject site must be duly protected. Canopy overhang must be managed in accordance with council street tree policy.
- Native Vegetation – Clause 52.17 will not apply to any of the trees on site as there are no indigenous trees and all trees were grown for amenity purposes and therefore exempt under clause 52.17-7.
- Three trees are classified as Boundary Canopy Trees and trigger permit requirement under 52.37 – Canopy trees. 52.37 permit requirement does not apply to other canopy trees within the site due to exemptions listed at 52.37-2.
- At the time of preparing the Preliminary Arboricultural Report (PAR) no plans for site redevelopment were provided for review and assessment of the potential impacts to trees.
  - Refer to Section 6 for detailed design review and Appendix 2B for proposed design and TPZ encroachment plan.

2. Method

2.1 A site inspection was carried out on Wednesday, September 10th 2025, during mild conditions by Bruce Callander (Dip Hort. Cert 5 Arb.)

2.2 Tree locations were recorded on a mobile field computer equipped with GIS software displaying level & feature survey data, property cadastral data, GPS and geo-referenced aerial imagery.

2.3 Observations were made of the assessed trees to determine the species, age category, and condition with measurements taken to establish tree crown height (measured with a height meter) and crown width (paced north - south) and trunk dimensions (measured 1.4 metres above ground level with a diameter tape unless otherwise stated).

2.4 Assessment details of individual trees are listed in Appendix 1 and a copy of the tree location plan can be seen in Appendix 2.
Descriptors used in the assessment can be seen in Appendix 3.

2.5 Photographs of the trees and the environs were taken for further reference when preparing the report.

2.6 Each of the assessed trees was attributed an 'Arboricultural Rating'. The arboricultural rating correlates the combination of tree condition factors (health and structure) with tree amenity value. Definitions of arboricultural ratings can be seen in Appendix 3.

2.7 The assessed trees have been allocated Notional Root Zone (NRZ). The Australian Standard, AS 4970-2025, has been used as a guide in the allocation of NRZs for the assessed trees.

2.8 This method provides a Tree Protection Zone (TPZ) that addresses both the stability and growing requirements of a tree. NRZ distances are measured as a radius, from the centre of the trunk at (or near) ground level. All NRZ measurements for are provided in Appendix 1.

2.9 Documents reviewed:

- Planning Property reports for **1 Kent Road Surrey Hills 3127**. Department of Planning & Community Development dated 10/9/2025.
- Neighbourhood Residential Zone - Schedule 3 (NRZ3)
- Heritage Overlay - Schedule (HO670)
- Plan Title Re-Establishment/ Feature & Level Survey for **1 Kent Road Surrey Hills** - prepared by Beveridge Williams (Ref No: 2000817. August 2020. Prepared for YWAM Surrey Hills Ltd & YWAM Durham Ltd)
- City of Boroondara Tree Protection Local Law
- Clause 52.37_Canopy Trees

3. Observations

The subject site is a disused YWAM centre that has numerous buildings including a chapel, classrooms, residential buildings, carparking, shared and private open space and an outdoor pool and changing rooms. The site comprises approximately 9,170 square metres with a slight fall to the north from the Kent Road frontage and has a generally northerly aspect.

Plate 1. Aerial view of the tree study area associated with 1 Kent Rd & 24 Durham Rd, Surrey Hills (Red outline) and adjacent properties and street scape.

Tree population

3.1 Sixty three (63) trees were recorded within or adjacent to the subject site.

3.2 Thirty two (32) different tree species were identified during the assessment comprising primarily indigenous species. The species identified on site and the tree origin is listed in Table 1 below.

Table 1: Tree Species diversity

Botanic name	Common Name	Origin	Count
Platanus Xacerifolia	London Plane	Exotic deciduous	13
Cinnamomum camphora	Camphor Laurel	Exotic evergreen	5
Betula pendula	Silver Birch	Exotic deciduous	4
Acmena smithii	Lilly Pilly	Victorian native	3

Botanic name	Common Name	Origin	Count
Melaleuca styphelioides	Prickly-leaved Paperbark	Australian native	3
Callistemon 'Harkness'	Harkness Bottlebrush	Australian native	2
Lagerstroemia sp.	Crape Myrtle	Exotic deciduous	2
Liquidambar styraciflua	Liquidamber	Exotic deciduous	2
Lophostemon confertus	Brush Box	Australian native	2
Pittosporum undulatum	Sweet Pittosporum	Victorian native	2
Syzygium paniculatum	Magenta Cherry	Australian native	2
Agonis flexuosa	Willow Myrtle	Australian native	1
Arbutus unedo	Irish Strawberry Tree	Exotic evergreen	1
Callistemon viminalis	Weeping Bottlebrush	Australian native	1
Cedrus deodara	Deodar	Exotic conifer	1
Corymbia citriodora	Lemon-scented Gum	Australian native	1
Cotoneaster sp.	Cotoneaster	Exotic evergreen	1
Cupressus sempervirens	Italian Cypress	Exotic conifer	1
Eriobotrya japonica	Loquat	Exotic evergreen	1
Fraxinus 'Raywood'	Claret Ash	Exotic deciduous	1
Gleditsia triacanthos	Honey Locust	Exotic deciduous	1
Hibiscus syriacus	Rose-of-Sharon	Exotic deciduous	1
Jacaranda mimosifolia	Jacaranda	Exotic deciduous	1
Koelreuteria paniculata	Golden Rain Tree	Exotic deciduous	1
Ligustrum lucidum	Shining Privet	Exotic evergreen	1
Melia azedarach	White Cedar	Australian native	1
Schinus areira	Peppercorn Tree	Exotic evergreen	1
Ulmus glabra 'Lutescens'	Golden Wych Elm	Exotic deciduous	1
Garrya eliptica	Silk Tassell Bush	Exotic evergreen	1
Prunus sp.	Flowering Cherry	Exotic deciduous	3
Coprosma repens	Mirror Bush	Exotic evergreen	2
Total			63

3.3 **Tree health** was assessed based on foliage colour, size and density as well as shoot initiation and elongation where possible. The trees generally displayed Fair health characteristics, considered typical for the species growing in this location under current conditions. The council managed trees are subject to routine inspection and management and as such are generally well maintained.

- Thirteen (13) trees displayed indicators of dieback, reduced foliage density attributable to competition, shading, possum grazing or age-related decline.

3.4 **Tree structure** was assessed for structural defects and deficiencies, likelihood of failures and risk to potential targets. Approximately 1/3 of trees displayed fair and acceptable structural condition with acceptable branching structure. Half the trees have structural deficiencies, deadwood or crown asymmetry and 6 trees have structural defects that make them unsuitable to retain in any new landscape. Many of the council street trees have been heavily pruned for powerline clearance or were previously pollarded.

3.5 Arboricultural Rating

The assessed trees were attributed an arboricultural rating. This rating relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value.

It should be noted that the arboricultural rating is different to the conservation/ecological values placed on trees by other professions. Refer to Table 2

Table 2 - Tree numbers sorted by Arboricultural rating.

Arboricultural rating	Total	Tree Numbers
Moderate A	4	5, 28, 33, 34
Moderate B	16	4, 14, 35, 36, 37, 38, 48, 49, 50, 51, 52, 53, 54, 55, 56, 58
Moderate C	27	1, 3, 6, 7, 8, 9, 11, 15, 16, 17, 21, 22, 23, 24, 25, 26, 31, 39, 40, 41, 42, 43, 44, 45, 46, 47, 57
Low	12	12, 18, 19, 20, 30, 32, S1, S2, S3, S4, S5, S6
Very Low	4	2, 10, 13, 27
Total	63	

- Trees rated Moderate A are prominent features of the landscape and display Fair or better condition than typical for the species of this age growing in this area under prevailing conditions.
- Trees rated Moderate B are generally typical of the species growing in this area under prevailing conditions and are deemed suitable to retain in conjunction with development where possible.
- Trees rated Moderate C are either established smaller trees of Fair condition or maturing trees that might be accumulating deficiencies and trending towards becoming of Low arboricultural value.
- Trees attributed an arboricultural rating of Low are generally not considered worthy of being a constraint on reasonable design intent and outcome delivery due to either health and / or structural deficiencies, being a suckering specimen or being woody weed species.
- Trees rated Very Low are generally unsuitable to retain in conjunction with site redevelopment.

In summary, the subject trees on site represent a diverse range of species located around existing built form and hard pavement. Any trees to be retained within the site must be appropriate protected during all aspects of site redevelopment including during demolition, civil and bulk earthworks and throughout the construction and landscaping stages.

Neighbour's trees and Council managed trees are required to be appropriately protected within the design and throughout the construction phases to ensure they are successfully retained undamaged and viable into the medium to longer term future.

Refer to Appendix 1 for individual tree data, Appendix 2 for Tree location plan sorted by Arboricultural rating and Appendix 3 for definitions of arboricultural ratings.

4. Tree Permit Requirements

4.1 The site is located within the area covered by the Boroondara Council Planning Scheme and is within the Neighbourhood Residential Zone - Schedule 3 (NRZ3).

- The site is subject to Heritage Overlay - Schedule (HO670). No specific tree controls apply under HO670.

4.2 City of Boroondara Tree Protection Local Law applies to all trees on private land whereby a permit is required for any trees proposed to be removed with a cumulative trunk diameter of 110cm or larger or basal diameter of 150mm or more.

- Seventeen (17) trees within the subject site will trigger a Local Law permit if they are proposed to be removed.
- Sixteen (16) trees are under the dimensions that trigger a permit under the Local Law.

4.3 In September 2025, Clause 52.37 – Canopy Trees was introduced. A canopy tree is defined as a tree that has

  - a height of 5 metres or more and,
  - a trunk diameter of 16 centimetres or more (50cm circumference) measured at 1.4m above ground level and
  - a canopy diameter of at least 4 metres.

- Twenty-three (23) trees within the site meet or exceed the dimensions described.
- Certain exemptions may apply depending on where the tree is situated in relation to frontage and rear boundaries as well as what type of site redevelopment is proposed. It is recommended that further advice be obtained from a town planning expert.
  - It us understood that canopy trees (other than boundary canopy trees) are exempted from permit requirement as they are: ‘identified for assessment in an application to which clause 54, 55, 57 or 58 applies and the tree is not removed, destroyed or lopped until the permit is issued’.

4.4 Four (4) of the trees in neighbouring properties exceed the dimensions for a Canopy Tree and trigger a Local Law Permit.

- All Neighbour’s trees, regardless of size or permit trigger will need to be considered in any design and construction works and any part of the NRZ that extends into the subject site must be duly protected and canopy overhangs must be managed in accordance with Australian Standard for Pruning of Amenity Trees (AS4370-2009)

4.5 Council street tree assets will similarly need to be considered and any part of the NRZ that extends into the subject site must be duly protected. Canopy overhang must be managed in accordance with council street tree policy.

4.6 Native Vegetation – Clause 52.17 will not apply to any of the trees on site as there are no indigenous trees and all trees were grown for amenity purposes and therefore exempt under clause 52.17-7.

4.7 Refer to Table 3 below for tree numbers sorted by Permit requirement.

Table 3: Tree numbers sorted by Permit requirement.

Location	Permit	Count	Tree nos
On site	CoB_Local Law	17	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
	Under size	16	18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 31, 32, S1, S4, S5, S6
On site Boundary Canopy Tree (52.37)*	Yes	3	3, 16, 17
Neighbour's tree	TP_LL	4	28, 30, 33, 58
	Under size	2	S2, S3
Street tree	TP_LL	16	34, 35, 36, 37, 38, 39, 42, 43, 44, 46, 48, 49, 50, 51, 53, 56
	Under size	8	40, 41, 45, 47, 52, 54, 55, 57

**Only boundary canopy trees considered under 52.37. Permits are not required for Canopy trees as per dot point two of 52.37-2.*

5. Tree Protection Zones

5.1 The Notional Root Zones (NRZs) provided for each tree in the Tree Assessment Table in Appendix 1 are calculated using the formula provided in the Australian Standard for Protection of Trees on Development Sites (AS4970 – 2025) where the Radial TPZ = Trunk diameter at Standard Height (DSH) measured in metres at 1.4m above grade is multiplied by twelve (12).
NRZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The method for calculating, applying and managing the tree protection zone is described in Appendix 4.

5.2 The NRZ forms an area around a tree or group of trees that addresses both the stability and growing requirements of a tree. Within the NRZ the following activities are either excluded or controlled; excavating or raising existing soil levels, vehicle movements, installation of underground services and other construction activities.

5.3 Encroachment into the NRZ is permissible under certain circumstances though this is dependent on both site conditions and tree characteristics (See Figure 1 for examples of encroachment). Minor encroachment, up to 10% of the NRZ, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the NRZ. Encroachment must also consider the crown of the tree and ensure that excessive pruning is not required that would cause the tree to become unbalanced or disfigured.

5.4 The 10% encroachment on one side equates to approximately a ⅓ reduction of the radial distance. Refer to Figure 1 for examples of acceptable NRZ encroachment.

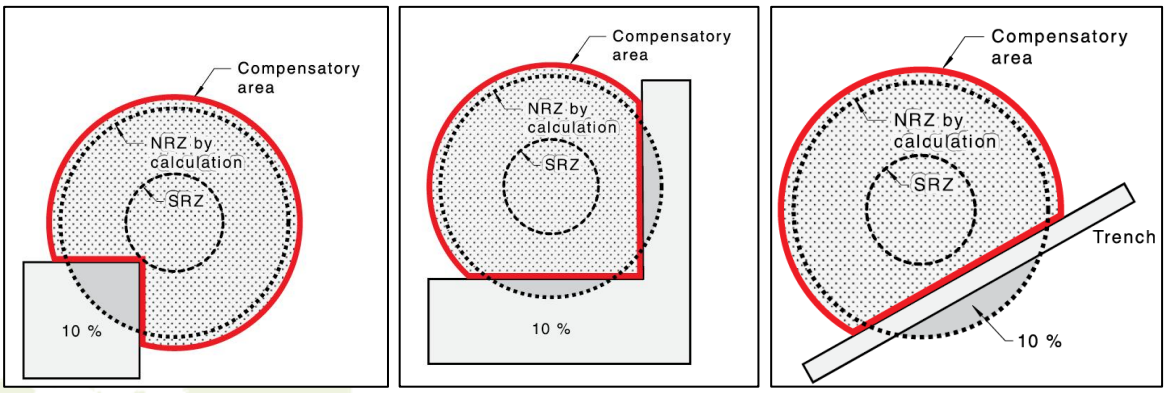


Figure 1: Examples of minor encroachment into the NRZ

5.5 Encroachment greater than 10%, less than 20% and outside of the SRZ is considered Moderate encroachment under AS4970-2025 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.

- A non-destructive root investigation (NDRI) may be required to investigate and identify the location of roots within the proposed area of encroachment and root sensitive construction methods may need to be utilized.

5.6 Encroachment greater than 20% or extending into the SRZ is considered to be Major and has the potential to cause unsustainable damage to the ongoing viability of the affected trees.

- Such work is not likely to be supported by the arborist and the relevant authority unless specific tree sensitive design & construction methods are developed based of the results of non-destructive root investigation.

5.7 Tree root growth is opportunistic and occurs where the essentials to life (primarily air and water) are present. Heterogeneous soil conditions, existing barriers, hard surfaces, and buildings may have inhibited the development of a symmetrically radiating root system. Existing infrastructure around some trees may be within the NRZ or root plate radius. Where this has occurred, the roots of some trees may have grown in response to the site conditions and if existing hard surfaces and building alignments are utilised in new designs then impacts on the trees should be minimal.

5.8 All NRZ measurements are provided in the tree assessment data in Appendix 1.

5.9 Tree Protection Zones (TPZs) must be established around the NRZ of each retained tree that comprises tree protection fencing (TPF), ground buffering or other methods specified by the arborist to ensure trees are appropriate protected through the construction process.

5.10 Root sensitive construction methods may need to be adopted within the NRZ that are based on results of non-destructive root investigation (NDRI) in consultation with the consulting arborist or Responsible Authority.

6. Design review and Tree impact assessment

The pre – development arboricultural inspection report provides planners and designers with information on whether trees are worthy or not of being a constraint on the proposed works within the subject site.

It also provides a basis on which to identify when and where potential impacts to trees will occur from various design elements and evaluates the possible severity of the impact during the design phase of any site redevelopment.

Trees grow in a delicate balance with their environment and any changes to that balance must be minimised if a tree is to remain in a healthy state and fulfil its potential.
It is rarely possible to repair stressed and injured trees, so damage needs to be avoided during all stages of development and construction.
Tree protection cannot be achieved without a proactive approach. The planning and design stages of any construction project can be instrumental and determine the success of tree preservation.

The hierarchy of principles for tree protection are:

- Avoid damage to the subject trees.
- Minimise damage to the subject trees.
- Replace the subject trees and improve the landscape (as a last resort).

6.1 At the time of preparing the tree impact assessment report plans for site redevelopment were yet to be finalized.

6.2 In the absence of any site plans it is not appropriate to speculate on which trees should or should not be retained other than to refer to the arboricultural ratings. Retention suitability will ultimately be dependent on the proposed landscape setting in which trees are intended to be retained.
The following recommendations are provided for consideration in the design process.

6.3 On the basis of future site safety and potential amenity, preference should be given to retaining trees of High and Moderate arboricultural value in built areas, or areas of increased target potential.

- Consideration of permit requirements and possible offsets should also guide design outcomes.
- Small trees of Low arboricultural value that are otherwise in reasonable condition (Fair-poor or better Health and /or Structure) may offer a potential established tree resource, even if only as an interim measure.
- Trees of Low arboricultural value should not compromise reasonable design intent.
- Low rated trees with health or structural deficiencies (Poor or worse Health and/or Structure) or trees recognized as environmental weed species should generally be considered for removal based on sound arboricultural opinion.
- Trees attributed and arboricultural rating of Very Low are not suitable to retain and should be removed.
- Trees under third party ownership such as street and neighbouring trees must be duly protected unless the tree owner authorises works to occur to the tree or within the TPZ.

7. Tree protection and construction guidelines.

7.1 Any trees that are to be retained in the vicinity of any proposed works will require Tree Protection Zones to be established prior to commencing any works onsite including demolition, bulk earthworks, civil works, trenching, construction, landscaping activity, delivery and storage of materials or placement of site sheds.

7.2 Tree protection must be incorporated into the design and appropriate construction controls, fencing and management practices must be implemented prior to commencing any construction related activity, including demolition, bulk earthworks construction of gantries, etc.

7.3 The tree protection zones for all trees to be retained within the site must be clearly shown on all design drawings and plans with appropriate notations so that all staff and contractors are aware of the responsibility to protect trees throughout the design, development and delivery of the project.

7.4 The TPZ fencing must be in the form of temporary fencing panels with concrete block feet and locked together. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles and effectively exclude or prevent any storage of materials dumping of spoil or waste products being disposed of in the Tree Protection Zone.

7.5 Appropriate signage stating 'Tree Protection Zone- No access' is to be fixed to the fencing to alert people as to importance of the tree protection zone. Refer to Figure 3 for fencing example.

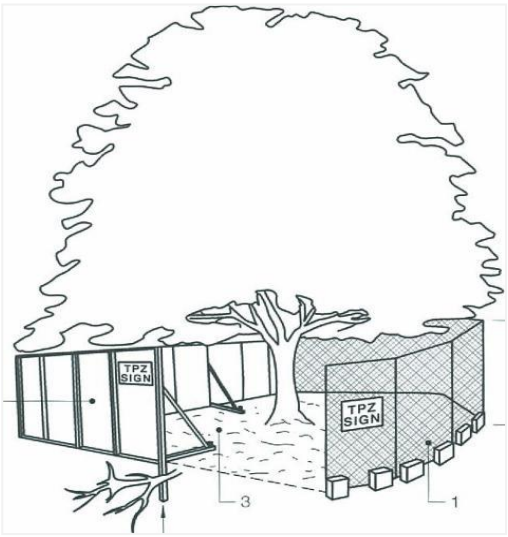


Figure 3. Above left - Example of TPZ fencing. Above right -Example of TPZ signage.

7.6 The following activities must be excluded from or controlled within the Notional Root Zone (NRZ) unless otherwise approved by the relevant authority or the Project Arborist.

- Machine excavation (including trenching) for continuous strip footings or installation of underground services or road base.
- Alteration of soil levels including placement of fill.
- Storage of wastes or materials (including fuels, oils or chemicals).
- Preparation of or cleaning of any cement products.
- Storage and or parking of vehicles or any plant/machinery within NRZ.
- Washing down of equipment.
- Installation of utilities.
- Physical damage of any kind to the tree (including direct attachment of anything into the tree).
- Soil cultivation.

7.7 If protection fencing is unsuitable during construction, a ground protection system in accordance with Section 4.5.3 (Ground protection) of the Australian Standard (AS4970-2025) must be installed.

- Ground protection is required where the NRZ of adjacent street trees extends into the subject site and must ensure the existing soil levels are preserved unchanged. Buffering must comprise a layer of Geo-textile laid over the native ground and covered with 75 to 100mm of matured wood chip or aggregate with an average particle size of 20-30mm.

- If necessary, a cellular confinement system, shall be used to stabilise the buffering fill and allow some construction activities to be completed within the TPZ such as erecting scaffolding or lifting in materials.
- Extents of Ground buffering must be identified in the Tree Management Report (TMR) and shown in the Tree Protection Plan (TPP).

Figure 3: Example of cellular confinement system suitable for temporary ground buffering of street tree TPZs within the subject sites

7.8 No form of excavation for trenching for installation of underground services is permitted within the nominated NRZ areas for any retained trees without prior consultation with the council and / or site arborist, to avoid severing roots that could be vital to the stability and continued sustainability of the retained trees.

- Trenching for the installation of all underground services must be designed to avoid encroaching the NRZ of retained trees.
- If it is unavoidable that an underground service must pass through a defined NRZ, the service must be installed via directional boring at a minimum depth of 750mm to the top of the bore head. All entry and exit points for the boring must be located beyond the NRZ radius.
- Lubricants or wastewater from the boring process must not be permitted to enter or contaminate the soils within the NRZ.

7.9 Design should ensure appropriate growing space is allocated for all trees that are to be retained. If infrastructure is constructed too close to any of the retained trees, there is potential for damage to occur resulting from incremental root growth.
Damage to paving from root activity is most likely to occur within 2 m of the trunk base of a tree where the large woody structural root zone may contributes to upheaval. It is recommended that a minimum 2 metre clearance is provided from any tree to any hard paved surface.

7.10 Temporary facilities and site sheds may be established on existing hard stand if already present within a TPZ providing there is no physical impacts to the trees and no requirement to penetrate the surface within the TPZ for installation of footings or underground services.
Access / egress to these facilities must not encroach or compact the native soil within the TPZ.

Refer to Appendix 1 for all tree data and NRZ dimensions, Appendix 2 for tree location and NRZ maps,
Appendix 3 for Tree Descriptors and Appendix 4 for TPZ establishment and Maintenance guidelines.

8. Arborist supervision schedule:

8.1 A Project Arborist (PA) must be appointed to supervise and guide the following key stages of construction to ensure the trees remain viable post-construction. The PA must be qualified with minimum AQF level 5 – Arboriculture or equivalent.

8.2 The arborist must attend site at time of site occupation to be inducted to site as project arborist and meet with site managers and supervisors to convey the importance of tree preservation to all relevant parties involved with the site works.

- Site managers must then ensure all contractors and site workers receive written and verbal instruction about the importance of tree protection within the site.

8.3 The project arborist must review any changes to the current design plans, such as re-alignment of the lighting towers, bore entry / exit pits or electrical services pits, to approve or make appropriate recommendations that will avoid or minimise any perceived tree impacts.

8.4 The project arborist must attend site once the TPZ fencing is established around retained trees to inspect and sign-off on the compliance of the tree protection as specified.

8.5 The project arborist must be present to adjust the TPZ fencing and supervise initial excavation works where they extend into the NRZ of any trees to be retained, including neighbour's and street trees.

8.6 The project arborist must attend periodically at 6-8 week intervals, to inspect TPZ fencing and / or ground buffering are being maintained as required.

8.7 The project arborist must be contacted if any incident happens that wounds or damages a tree or may have impacted tree condition.

8.8 The project arborist must complete a final inspection at completion of works and removal of TPZ fencing to assess whether trees have been successfully retained, that they remain viable and to evaluate trees for any ongoing monitoring purposes.

The project arborist must supervise and guide the following key stages of construction.

Project Arborist Inspection Schedule		
Task	Timing	Liaison
Review any changes to the current design plans, such as re-alignment of the stormwater outlet, to approve or make appropriate recommendations	Design finalisation	Designers / Project Arborist
Site induction meeting to discuss TMP & implementation.	At site occupation	Site Manager / Project Arborist
Inspect and sign off on installation of TPZ fencing and ground buffering for retained trees or recommend changes as required.	Site Occupation / Pre demolition	Site Manager / Project Arborist
Adjust TPZ fencing and supervise initial excavation works where they extend into the NRZ of any trees to be retained, including neighbour's and street trees.	Commencement of construction	Site Manager / Project Arborist / Contractors
Periodic inspections at 6 week intervals to evaluate TPZ compliance, maintenance and tree condition	During Construction	Site Manager / Project arborist
At completion of works and during decommissioning of works compounds to ensure trees are not damaged during bump-out.	At completion of works	Site Manager / Project Arborist / Contractor

Project Arborist Inspection Schedule		
Task	Timing	Liaison
Final sign off	Post construction	Site Manager / Project arborist

8.9 The Project Arborist must maintain written and photographic records of site inspections based on the Supervision Timetable and make note of any variations or non-compliances that could detrimentally impact on the healthy retention of protected trees.

9. Conclusion.

9.1 Sixty three (63) trees were assessed comprising 33 trees on site, 6 trees in neighbouring properties to the east and 24 council managed street trees.
32 different species of planted native and exotic specimens.

9.2 The trees displayed health and structural conditions and characteristics that are considered to generally better than typical for a tree population for these species and age growing in this area under prevailing conditions. More details are provided at Section 3.

9.3 The trees were attributed an arboricultural rating that summarises the species, origin, size, age, health & structure and location of each tree. Tree numbers sorted by the Arboricultural rating are provided in Table 2 in Section 3.5.

9.4 Of the 33 trees on site,

- 3 trees are considered Boundary Canopy Trees and trigger permit requirement under 52.37 – Canopy Trees.
- 17 trees will trigger City of Boroondara Tree Protection Local Law permit and 16 are undersized.

9.5 The council street trees and neighbour's trees must be duly protected to ensure they remain viable and with an acceptably Low level of risk regardless of dimensions and permit triggers.

- No contractors can undertake works on or in the vicinity of the trees without being granted council permission.

Refer to Table 3 at section 4.7 for tree numbers sorted by Permit requirement.

9.6 The preliminary arboricultural report is used to provide information on the existing tree population and provide guidance on development around trees. Refer the separate AIA report for details on the proposed redevelopment. The following points can be used by the design team to assist with planning around trees.

- In the absence of any site plans it is not appropriate to speculate on which trees should or should not be retained other than to refer to the arboricultural ratings. Retention suitability will ultimately be dependent on the proposed landscape setting in which trees are intended to be retained. The following recommendations are provided for consideration in the design process.
- On the basis of future site safety and potential amenity, preference should be given to retaining trees of High and Moderate arboricultural value in built areas, or areas of increased target potential.

- Consideration of permit requirements and possible offsets should also guide design outcomes.
- Small trees of Low arboricultural value that are otherwise in reasonable condition (Fair-poor or better Health and /or Structure) may offer a potential established tree resource, even if only as an interim measure.
- Trees of Low arboricultural value should not compromise reasonable design intent.
- Low rated trees with health or structural deficiencies (Poor or worse Health and/or Structure) or trees recognized as environmental weed species should generally be considered for removal based on sound arboricultural opinion.
- Trees attributed and arboricultural rating of Very Low are not suitable to retain and should be removed.
- Trees under third party ownership such as street and neighbouring trees must be duly protected unless the tree owner authorises works to occur to the tree or within the TPZ.

9.7 All trees that are to be retained in the vicinity of any proposed works will require Tree Protection Zones to be established prior to commencing any works onsite including demolition, bulk earthworks, trenching, construction, landscaping activity, delivery and storage of materials or placement of site sheds.

9.8 Tree conditions can change quickly in response to environmental conditions or altered landscape conditions. Retained trees should be re-inspected on a 3-5 year basis or following any locally damaging weather events and appropriate remedial works undertaken as required.

I am available to answer any questions arising from this report.

Signed 

Bruce Callander Senior Consultant Arborist Treelogic P/L

E: bruce.callander@treelogic.com.au T: 03 9870 7700 Mob: 0425 872 007

References and bibliography:

Australian Standard (4970-2025) Protection of Trees on development sites. Standards Australia, Sydney NSW Australia

Harris, R.W, Clark, J.R. & Matheny, N.P. (2004), *Arboriculture: Integrated Management of Landscape trees, shrubs and vines*, Prentice Hall, New Jersey.

Clark, J.R. & Matheny, N.P (1998), Trees and Development: A technical guide to preservation of trees during land development. ISA, Champaign, Illinois.

Standards Australia (2007), Australian Standard (4373-2007) - Pruning of Amenity trees, Standards Australia, Homebush.

Appendix 1: Tree Assessment Data: 1 Kent Rd & 24 Durham Rd, Surrey Hills

Refer to following 3 pages

Key: DSH = Diameter measured in centimetres at breast height (1.4m up trunk) unless otherwise indicated.

Arb. Rating = Arboricultural Rating.

ULE = Useful Life Expectancy.

NRZ = Notional Root Zone in radial metres.

SRZ = Structural root zone in radial metres.
NRZ & SRZ radius applies from centre of trunk.

Definition of the descriptor categories used in the assessment can be seen in Appendix 3.

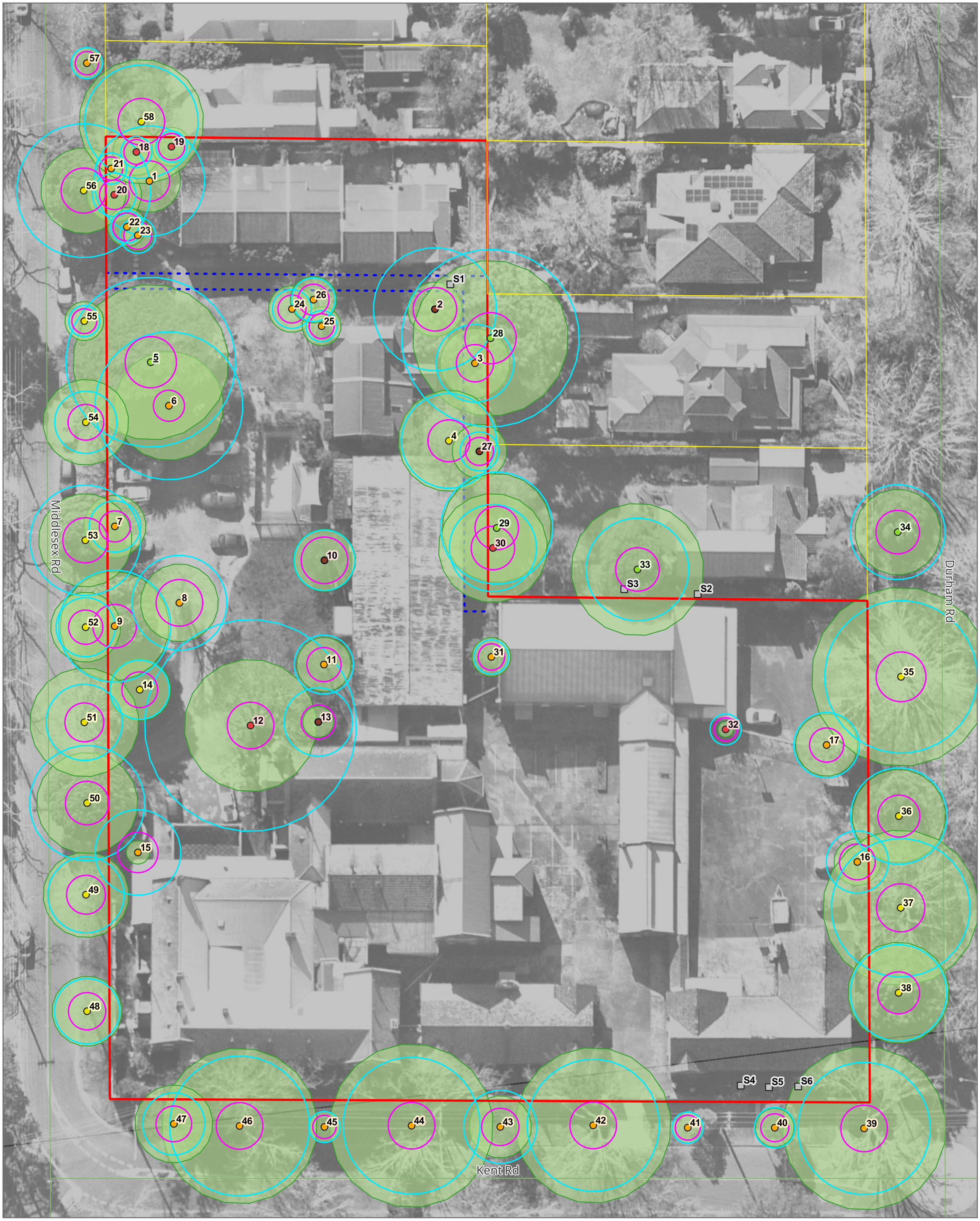
Appendix 2A: Existing Tree Location Plan: 1 Kent Rd & 24 Durham Rd, Surrey Hills

Refer to following page.

treeid	Location	*species*	comm_name	age_class	origin_typ	DSH_cm	Permit	height x width	health	structure	arb rating	ule_yrs	comments	NRZ_rad_m (TPZ)	SRZ_rad_m	Canopy tree
1	On site	*Koelreuteria paniculata*	Golden Rain Tree	Maturing	Exotic deciduous	45,39 @1.3	TP_LL	7 x 8	Fair	Fair to Poor	Mod.C	11 to 20	Incipient decay. 2x hollows in limbs from branch tearout. Species unsure-deciduous-Not Liquidamber.	7.1	2.6	Yes
2	On site	*Fraxinus* 'Raywood'	Claret Ash	Over-mature	Exotic deciduous	66	TP_LL	6 x 7	Poor	Poor	Very Low	1 to 5	Incipient decay. Severely lopped with past limb failures, most lopped limbs dead	7.9	2.8	Yes
3	On site	*Lophostemon confertus*	Brush Box	Early-mature	Australian native	42	TP_LL	10 x 9	Fair	Fair to Poor	Mod.C	11 to 20	Crown bias, east, strip footings in srz, ug services in srz. 2x stems at ~2m, partly suppressed under neighbouring Lemon-scented Gum. Past clearance prune of west branches.	5	2.4	Boundary Canopy tree
4	On site	*Liquidambar styraciflua*	Liquidamber	Early-mature	Exotic deciduous	51	TP_LL	18 x 13	Fair	Fair to Poor	Mod.B	11 to 20	Hangers, past branch failure, ug services in srz, built form in tpz. Good central leader, slight crown bias west. Canopy NESW-5, 3, 5.5, 7.5. Will be susceptible to Possum grazing if not already-deciduous. 4.8m from boundary to edge of trunk.	6.1	2.7	Yes
5	On site	*Cedrus deodara*	Deodar	Maturing	Exotic conifer	91	TP_LL	17 x 20	Fair	Fair	Mod.A	21 to 40	Minor dieback, subsiding limbs, over-extended limbs developing, built form in tpz. Paths, Crown pruned to east over old playground. Remove pruning stubs. Canopy- N-10,E-8.5,S-8.3,W-9.5. Selective pruning: *Deadwood;Weight reduction;Reduce over-extended branch;Other tasks - see comments;Regular inspection (<3yr cycle)*	10.9	3.3	Yes
6	On site	*Arbutus unedo*	Irish Strawberry Tree	Over-mature	Exotic evergreen	56,38,34,22	TP_LL	6 x 14	Fair	Fair to Poor	Mod.C	11 to 20	Over-extended limbs developing. West. Numerous trunk wounds, mostly old and moderately occluded, some decay apparent. Recent poor pruning cuts for carpark clearance.	9.5	2	Yes
7	On site	*Lagerstroemia sp.*	Crape Myrtle	Early-mature	Exotic deciduous	19,15,13	TP_LL	6 x 8	Fair to Poor	Fair	Mod.C	11 to 20	Foliage sparse - possums. Possums clawing & chewing bark. Possum exclusion req'd if retained.	3.3	2	Yes
8	On site	*Ulmus glabra 'Lutescens'*	Golden Wych Elm	Early-mature	Exotic deciduous	40,31	TP_LL	12 x 10	Fair	Fair to Poor	Mod.C	11 to 20	Co-dominant stems, incipient decay, trunk wounds. Large flush-cut pruning wounds at base; uncharacteristically narrow form due to pruning. Dead stub.	6.1	3	Yes
9	On site	*Acmena smithii*	Lilly Pilly	Maturing	Victorian native	60	TP_LL	14 x 14	Fair	Fair to Poor	Mod.C	11 to 20	Trunk wounds. Good form but extensive (~70cm) cambium loss on trunk, woundwood ribs & callus. Relatively healthy canopy but beginning to exhibit minor dieback at edges	7.2	2.8	Yes
10	On site	*Betula pendula*	Silver Birch	Maturing	Exotic deciduous	23,20,11	TP_LL	8 x 8	Fair to Poor	Poor	Very Low	1 to 5	Decay at base and old stem pruning wounds, stems sound hollow, lopped. Eastern leader dead/decayed at top.	3.9	3	Yes
11	On site	*Lagerstroemia sp.*	Crape Myrtle	Early-mature	Exotic deciduous	25,20	TP_LL	11 x 7	Fair	Fair to Poor	Mod.C	6 to 10	Incipient decay, included bark forks. Past tearouts near union, failures	3.8	2.2	Yes
12	On site	*Melia azedarach*	White Cedar	Over-mature	Australian native	95,62	TP_LL	16 x 17	Fair to Poor	Poor	Low	1 to 5	See 2025 risk report. Old basal decay to northwest but does not appear to be progressing. Diminished foliage density as is typical with aged specimen. 1x branch faliure to west, split in branch to north; manageable. Regular inspection recommended	13.6	3	Yes
13	On site	*Pittosporum undulatum*	Sweet Pittosporum	Semi-mature	Victorian native	26,23,12	TP_LL	6 x 4	Fair	Poor	Very Low	1 to 5	Multi-stemmed, weed infested, woody weed sp With Privet. Lopped	4.4	2.2	Yes
14	On site	*Jacaranda mimosifolia*	Jacaranda	Semi-mature	Exotic deciduous	26,18	TP_LL	8 x 8	Fair	Fair	Mod.B	21 to 40	2x stems from base. Necrotic stubs at old pruning sites	3.8	2.3	Yes
15	On site	*Cupressus sempervirens*	Italian Cypress	Semi-mature	Exotic conifer	40,20,10	TP_LL	10 x 3	Fair	Fair to Poor	Mod.C	6 to 10	1 stem removed. Growing against brick pillar	5.5	2.6	No

treeid	Location	*species*	comm_name	age_class	origin_typ	DSH_cm	Permit	height x width	health	structure	arb rating	ule_yrs	comments	NRZ_rad_m (TPZ)	SRZ_rad_m	Canopy tree
16	On site	*Agonis flexuosa*	Willow Myrtle	Early-mature	Australian native	21,23,13	TP_LL	8 x 6	Fair	Fair to Poor	Mod.C	11 to 20	Partly suppressed - crown bias, west. Partly suppressed - crown bias, west. Suppressed by street tree; in raised planter bed.	4	2.3	Boundary Canopy tree
17	On site	*Gleditsia triacanthos*	Honey Locust	Early-mature	Exotic deciduous	35	TP_LL	8 x 8	Fair	Fair to Poor	Mod.C	11 to 20	Lopped to north and west, narrow planting space, cracking K&C, lifting road surface. Variegated Tarata 1.5m East.	4.2	2.2	Boundary Canopy tree
18	On site	*Callistemon 'Harkness'*	Harkness Bottlebrush	Semi-mature	Australian native	15,9	Under size	5 x 6	Poor	Fair to Poor	Low	1 to 5	Foliage sparse - possums.	2	1.6	Yes
19	On site	*Eriobotrya japonica*	Loquat	Early-mature	Exotic evergreen	12,12,9	Under size	4 x 5	Poor	Poor	Low	1 to 5	Foliage sparse - possums, multi-stemmed.	2	1.7	No
20	On site	*Pittosporum undulatum*	Sweet Pittosporum	Early-mature	Victorian native	23	Under size	9 x 7	Fair	Fair	Low	1 to 5	Woody weed sp <30cm from wall.	2.8	1.9	Yes
21	On site	*Syzygium paniculatum*	Magenta Cherry	Semi-mature	Australian native	13	Under size	4 x 3	Fair	Fair to Poor	Mod.C	11 to 20	Partly suppressed - crown bias, nth, strip footings in srz. <30cm from wall.	2	1.5	No
22	On site	*Callistemon 'Harkness'*	Harkness Bottlebrush	Early-mature	Australian native	14,10	Under size	6 x 5	Fair	Fair to Poor	Mod.C	11 to 20	Partly suppressed - crown bias, west.	2.1	1.8	Yes
23	On site	*Callistemon viminalis*	Weeping Bottlebrush	Early-mature	Australian native	19	Under size	5 x 4	Fair	Fair	Mod.C	11 to 20		2.3	1.8	Yes
24	On site	*Betula pendula*	Silver Birch	Semi-mature	Exotic deciduous	21	Under size	10 x 6	Fair	Fair	Mod.C	11 to 20		2.5	1.8	Yes
25	On site	*Betula pendula*	Silver Birch	Semi-mature	Exotic deciduous	14	Under size	8 x 5	Fair to Poor	Fair to Poor	Mod.C	11 to 20	Minor dieback.	2	1.6	No
26	On site	*Betula pendula*	Silver Birch	Early-mature	Exotic deciduous	23	Under size	10 x 6	Fair	Fair to Poor	Mod.C	11 to 20	Co-dominant stems w included bark.	2.8	2	Yes
27	On site	*Coprosma repens*	Mirror Bush	Early-mature	Exotic evergreen	16,13	Under size	4 x 7	Fair	Fair to Poor	Very Low	1 to 5	Woody weed sp	2.5	1.8	No
28	Neighbour's tree	*Corymbia citriodora*	Lemon-scented Gum	Maturing	Australian native	95	TP_LL	23 x 20	Good	Fair	Mod.A	11 to 20	Neighbour's tree, ug services in srz, built form in tpz. 50cm level changes in SW quad of SRZ, Canopy overhangs property by ~9m west.	11.4	3.3	Yes
30	Neighbour's tree	*Ligustrum lucidum*	Shining Privet	Maturing	Exotic evergreen	28,28,25	TP_LL	12 x 14	Fair	Fair to Poor	Low	1 to 5	Included bark forks, multi-stemmed, neighbour's tree, woody weed sp., built form in tpz.	5.6	2.8	Yes
31	On site	*Schinus areira*	Peppercorn Tree	Semi-mature	Exotic evergreen	18	Under size	6 x 5	Fair	Fair to Poor	Mod.C	11 to 20	Woody weed sp., partly suppressed - crown bias, west, strip footings in srz.	2.2	1.7	Yes
32	On site	*Cotoneaster sp.*	Cotoneaster	Semi-mature	Exotic evergreen	12	Under size	3 x 2	Fair to Poor	Poor	Low	1 to 5	Woody weed sp., partly suppressed - crown bias, sw, built form in tpz.	2	1.5	No
33	Neighbour's tree	*Lophostemon confertus*	Brush Box	Maturing	Australian native	55	TP_LL	14 x 17	Good	Fair	Mod.A	21 to 40	Neighbour's tree. ~4m Nth of fence, overhangs by ~3m.	6.6	2.8	Yes
34	Street tree	*Acmena smithii*	Lilly Pilly	Maturing	Victorian native	51	TP_LL	14 x 11	Good	Fair	Mod.A	21 to 40	Street tree.	6.1	2.8	Yes
35	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	82	TP_LL	18 x 23	Fair	Fair to Poor	Mod.B	11 to 20	Street tree, built form in tpz. Lapsed pollard, On STR	9.8	3.2	Yes
36	Street tree	*Acmena smithii*	Lilly Pilly	Early-mature	Victorian native	52	TP_LL	13 x 12	Fair	Fair	Mod.B	21 to 40	Chlorotic foliage, street tree. Reduced foliage colour,.	6.2	2.7	Yes
37	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	74	TP_LL	17 x 20	Fair	Fair to Poor	Mod.B	11 to 20	Street tree, built form in tpz. Lapsed pollard, On STR	8.9	3.1	Yes
38	Street tree	*Syzygium paniculatum*	Magenta Cherry	Maturing	Australian native	52	TP_LL	13 x 13	Good	Fair	Mod.B	11 to 20	Street tree.	6.2	2.7	Yes
39	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	71	TP_LL	17 x 21	Fair	Fair to Poor	Mod.C	6 to 10	Past powerline clearance, street tree, built form in tpz. Lapsed pollard,.	8.5	3	Yes
40	Street tree	*Cinnamomum camphora*	Camphor Laurel	Semi-mature	Exotic evergreen	22	Under size	5 x 5	Fair	Fair	Mod.C	21 to 40	Street tree. Under HV & LV.	2.6	1.8	Yes
41	Street tree	*Cinnamomum camphora*	Camphor Laurel	Semi-mature	Exotic evergreen	15	Under size	5 x 4	Fair to Poor	Fair	Mod.C	21 to 40	Chlorotic foliage, street tree.	2	1.6	No

treeid	Location	*species*	comm_name	age_class	origin_typ	DSH_cm	Permit	height x width	health	structure	arb rating	ule_yrs	comments	NRZ_rad_m (TPZ)	SRZ_rad_m	Canopy tree
42	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	71	TP_LL	15 x 20	Fair	Fair to Poor	Mod.C	11 to 20	Past powerline clearance, street tree, built form in tpz. Lapsed pollard, cut under HV & LV.	8.5	3	Yes
43	Street tree	*Cinnamomum camphora*	Camphor Laurel	Early-mature	Exotic evergreen	39	TP_LL	5 x 8	Fair to Poor	Fair to Poor	Mod.C	11 to 20	Minor dieback, past powerline clearance, street tree. Cut under HV & LV.	4.7	2.4	Yes
44	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	73	TP_LL	16 x 21	Fair	Fair to Poor	Mod.C	11 to 20	Past powerline clearance, street tree, built form in tpz. Lapsed pollard, cut under HV & LV.	8.8	3	Yes
45	Street tree	*Cinnamomum camphora*	Camphor Laurel	Semi-mature	Exotic evergreen	5,4,4	Under size	3 x 4	Fair	Fair to Poor	Mod.C	11 to 20	Multi-stemmed, street tree, stump re-sprout.	2	1.5	No
46	Street tree	*Platanus Xacerifolia*	London Plane	Maturing	Exotic deciduous	75	TP_LL	15 x 20	Fair	Fair to Poor	Mod.C	11 to 20	Past powerline clearance, street tree, built form in tpz. Lapsed pollard, cut under HV & LV.	9	3	Yes
47	Street tree	*Cinnamomum camphora*	Camphor Laurel	Early-mature	Exotic evergreen	33	Under size	6 x 10	Fair	Fair to Poor	Mod.C	11 to 20	Past powerline clearance, street tree, built form in tpz. Lapsed pollard, cut under HV & LV.	4	2.3	Yes
48	Street tree	*Platanus Xacerifolia*	London Plane	Early-mature	Exotic deciduous	35	TP_LL	13 x 9	Fair	Fair	Mod.B	21 to 40	Street tree, ug services in srz, built form in tpz.	4.2	2.4	Yes
49	Street tree	*Platanus Xacerifolia*	London Plane	Early-mature	Exotic deciduous	41	TP_LL	17 x 11	Fair	Fair to Poor	Mod.B	21 to 40	Street tree, ug services in srz, built form in tpz. Trunk kinks.	4.9	2.5	Yes
50	Street tree	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-mature	Australian native	62	TP_LL	10 x 13	Fair	Fair	Mod.B	11 to 20	Street tree, built form in tpz.	7.4	2.8	Yes
51	Street tree	*Platanus Xacerifolia*	London Plane	Early-mature	Exotic deciduous	41	TP_LL	14 x 14	Fair	Fair	Mod.B	21 to 40	Street tree, built form in tpz.	4.9	2.5	Yes
52	Street tree	*Platanus Xacerifolia*	London Plane	Early-mature	Exotic deciduous	32	Under size	12 x 9	Fair	Fair	Mod.B	21 to 40	Street tree, partly suppressed - crown bias, west, built form in tpz.	3.8	2.2	Yes
53	Street tree	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Early-mature	Australian native	59	TP_LL	12 x 12	Fair	Fair	Mod.B	11 to 20	Street tree, built form in tpz.	7.1	2.9	Yes
54	Street tree	*Platanus Xacerifolia*	London Plane	Early-mature	Exotic deciduous	33	Under size	10 x 11	Fair	Fair	Mod.B	21 to 40	Street tree, ug services in srz, built form in tpz.	4	2.3	Yes
55	Street tree	*Platanus Xacerifolia*	London Plane	Semi-mature	Exotic deciduous	15	Under size	6 x 5	Fair	Fair	Mod.B	21 to 40	Street tree, partly suppressed - crown bias, west.	2	1.6	No
56	Street tree	*Melaleuca styphelioides*	Prickly-leaved Paperbark	Maturing	Australian native	72	TP_LL	11 x 11	Fair	Fair	Mod.B	21 to 40	Street tree, built form in tpz.	8.6	2.9	Yes
57	Street tree	*Platanus Xacerifolia*	London Plane	Semi-mature	Exotic deciduous	10	Under size	4 x 4	Fair	Fair	Mod.C	21 to 40	Street tree.	2	1.5	No
58	Neighbour's tree	*Liquidambar styraciflua*	Liquidamber	Maturing	Exotic deciduous	43,43	TP_LL	17 x 16	Fair	Fair	Mod.B	11 to 20	Co-dominant stems w included bark, neighbour's tree, strip footings in srz, built form in tpz. Canopy extends ~6m over boundary.	7.3	3	Yes
S1	On site	*Coprosma repens*	Mirror Bush	Early-mature	Exotic evergreen	13	Under size	3 x 4	Fair	Fair to Poor	Low	1 to 5		2	1.5	No
S2	Neighbour's tree	*Garrya eliptica*	Silk Tassell Bush	Semi-mature	Exotic evergreen	7,7,6,5	Under size	4 x 5	Fair	Fair to Poor	Low	6 to 10		2	1.5	No
S3	Neighbour's tree	*Hibiscus syriacus*	Rose-of-Sharon	Semi-mature	Exotic deciduous	10,8,6	Under size	4 x 3	Fair	Fair to Poor	Low	6 to 10		2	1.5	No
S4	On site	*Prunus sp.*	Flowering Cherry	Early-mature	Exotic deciduous	13	Under size	2 x 3	Fair to Poor	Fair to Poor	Low	6 to 10		2	1.5	No
S5	On site	*Prunus sp.*	Flowering Cherry	Early-mature	Exotic deciduous	14	Under size	2 x 3	Fair to Poor	Fair to Poor	Low	6 to 10		2	1.5	No
S6	On site	*Prunus sp.*	Flowering Cherry	Early-mature	Exotic deciduous	15	Under size	2 x 3	Fair to Poor	Fair to Poor	Low	6 to 10		2	1.5	No



APPENDIX 2 — TREE LOCATIONS AND PROTECTION ZONES

PROJECT
1 Kent Rd & 24 Durham Rd, Surrey Hills

TL REF. 14244
MAP NO. 1 / 1
DATE 2025-09-29
CLIENT VJ1KR Pty Ltd

LEGEND

Trees by Arb rating
- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

Shrubs/Small trees
Roads

Boundaries
- Subject site
- Other
- Easements

Indicative tree canopy

Tree Protection Zone
Structural Root Zone

TREE LOCATION DISCLAIMER
Tree locations are approximate

DATA SOURCES

NOTES
Insert comment here

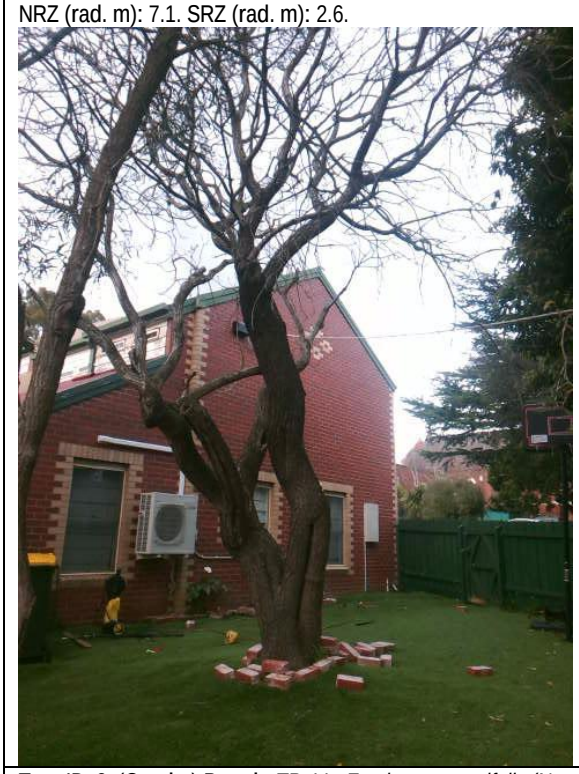
COORDINATE REFERENCE SYSTEM
EPSG:28355 | GDA 94 MGA Zone 55

0 6 12m

ABN: 95 080 021 610
TEL: 1300 656 926
TREELOGIC PTY LTD
4 / 21 Eugene Tce
Ringwood, VIC
Australia 3134

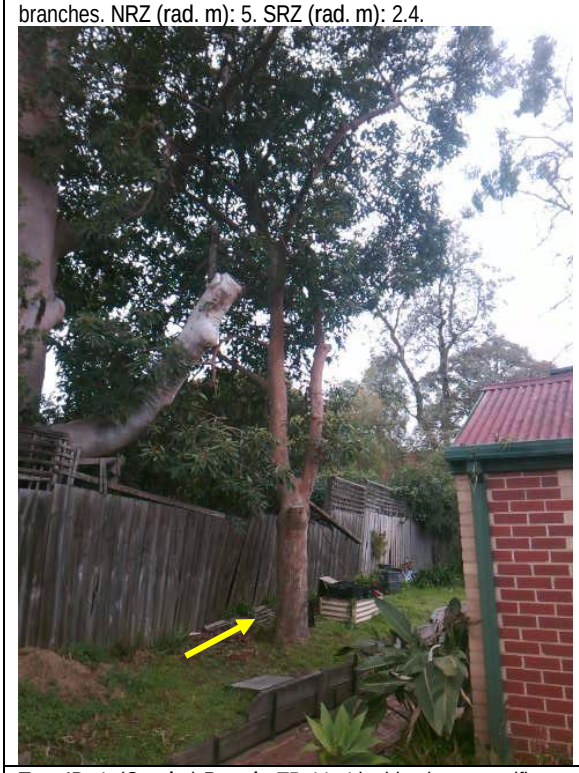
Treelogic
Plan, manage, protect

Tree ID: 1. (On site) Permit: TP_LL. *Koelreuteria paniculata* (Golden Rain Tree), Maturing Exotic deciduous.
DSH: 45,39 @1.3cm. HxW (m): 7 x 8. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Incipient decay. 2x hollows in limbs from branch tearout. Species unsure-deciduous-Not Liquidamber. NRZ (rad. m): 7.1. SRZ (rad. m): 2.6.



Tree ID: 2. (On site) Permit: TP_LL. *Fraxinus angustifolia* (Narrow-leaved Ash), Over-mature Exotic deciduous.
DSH: 66cm. HxW (m): 6 x 7. Health: Poor. Structure: Poor. Arb. Rating: Very Low. Incipient decay. Severely lopped with past limb failures, most lopped limbs dead. NRZ (rad. m): 7.9. SRZ (rad. m): 2.8.

Tree ID: 3. (On site) Permit: TP_LL. *Lophostemon confertus* (Brush Box), Early-mature Australian native.
DSH: 42cm. HxW (m): 10 x 9. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Crown bias, east, strip footings in srz, ug services in srz. 2x stems at ~2m, partly suppressed under neighbouring Lemon-scented Gum. Past clearance prune of west branches. NRZ (rad. m): 5. SRZ (rad. m): 2.4.

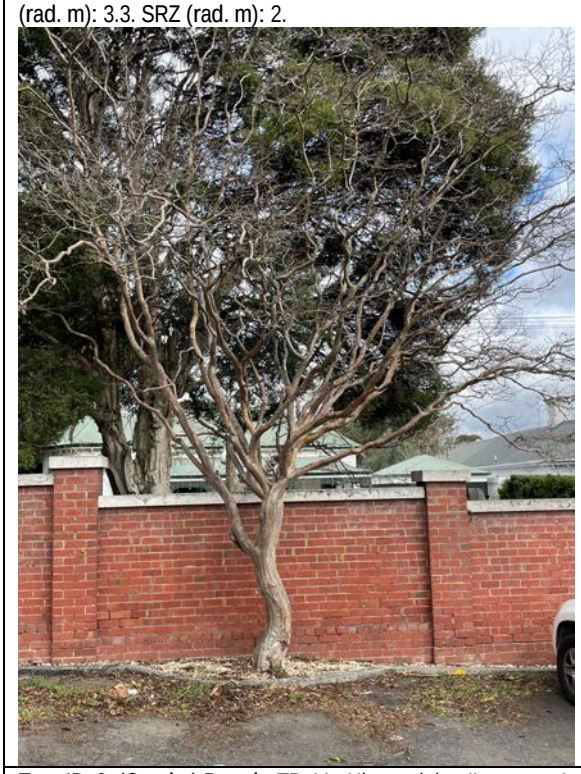


Tree ID: 4. (On site) Permit: TP_LL. *Liquidambar styraciflua* (Liquidamber), Early-mature Exotic deciduous.
DSH: 51cm. HxW (m): 18 x 13. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.B. Hangers, past branch failure, ug services in srz, built form in NRZ. Good central leader, slight crown bias west. Canopy NESW-5, 3, 5.5, 7.5. Will be susceptible to Possum grazing if not already-deciduous. NRZ (rad. m): 6.1. SRZ (rad. m): 2.7.

Tree ID: 5. (On site) Permit: TP_LL. *Cedrus deodara* (Deodar), Maturing Exotic conifer.
DSH: 91cm. HxW (m): 17 x 20. Health: Fair. Structure: Fair. Arb. Rating: Mod.A. Minor dieback, subsiding limbs, over-extended limbs developing, built form in NRZ. Paths, Crown pruned to east over old playground. Remove pruning stubs. Canopy- N-10,E-8.5,S-8.3,W-9.5. Selective pruning: Deadwood;Weight reduction;Reduce over-extended branch;Other tasks - see comments;Regular inspection (<3yr cycle). NRZ (rad. m): 10.9. SRZ (rad. m): 3.3.

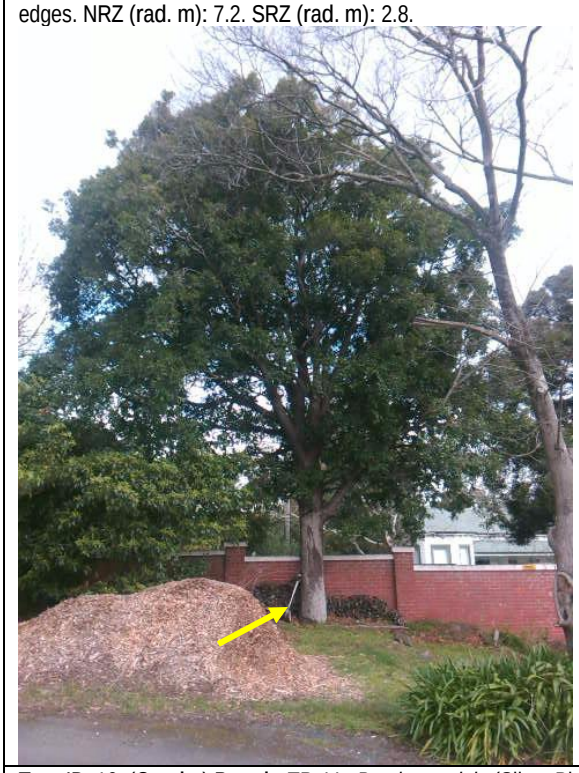
Tree ID: 6. (On site) Permit: TP_LL. *Arbutus unedo* (Irish Strawberry Tree), Over-mature Exotic evergreen.
DSH: 56,38,34,22cm. HxW (m): 6 x 14. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Over-extended limbs developing. West. Numerous trunk wounds, mostly old and moderately occluded, some decay apparent. Recent poor pruning cuts for carpark clearance. NRZ (rad. m): 9.5. SRZ (rad. m): 2.

Tree ID: 7. (On site) Permit: TP_LL. *Lagerstroemia sp.* (Crape Myrtle), Early-mature Exotic deciduous.
DSH: 19,15,13cm. HxW (m): 6 x 8. Health: Fair to Poor. Structure: Fair. Arb. Rating: Mod.C. Foliage sparse - possums. Possums clawing & chewing bark. Possum exclusion req'd if retained. NRZ (rad. m): 3.3. SRZ (rad. m): 2.

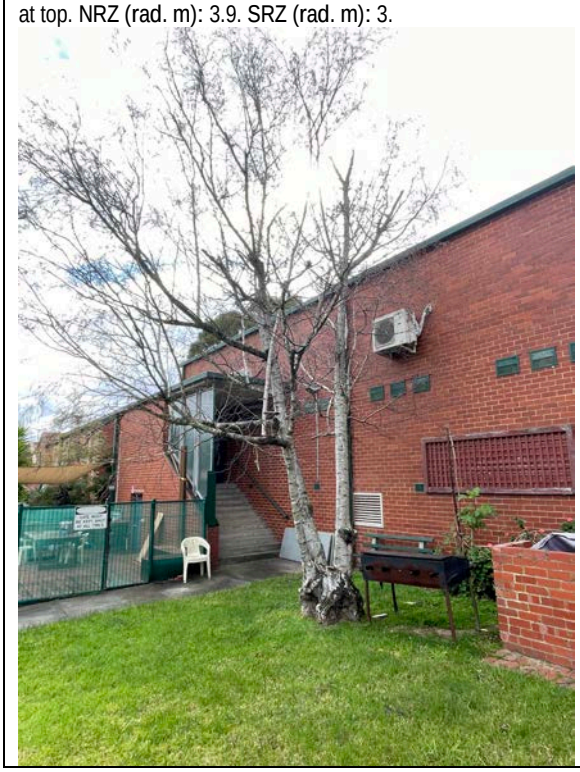


Tree ID: 8. (On site) Permit: TP_LL. *Ulmus glabra 'Lutescens'* (Golden Wych Elm), Early-mature Exotic deciduous.
DSH: 40,31cm. HxW (m): 12 x 10. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Co-dominant stems, incipient decay, trunk wounds. Large flush-cut pruning wounds at base; uncharacteristically narrow form due to pruning. Dead stub. NRZ (rad. m): 6.1. SRZ (rad. m): 3.

Tree ID: 9. (On site) Permit: TP_LL. *Acmena smithii* (Lilly Pilly), Maturing Victorian native.
DSH: 60cm. HxW (m): 14 x 14. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Trunk wounds. Good form but extensive (~70cm) cambium loss on trunk, woundwood ribs & callus. Relatively healthy canopy but beginning to exhibit minor dieback at edges. NRZ (rad. m): 7.2. SRZ (rad. m): 2.8.

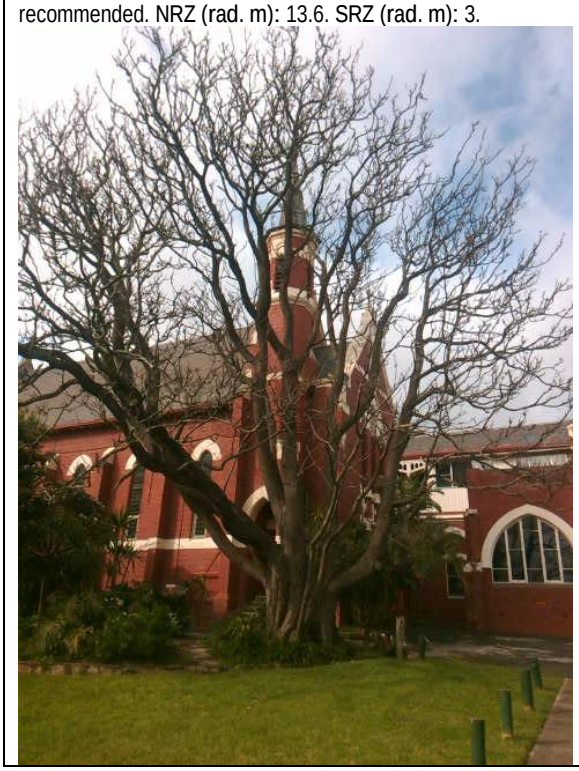


Tree ID: 10. (On site) Permit: TP_LL. *Betula pendula* (Silver Birch), Maturing Exotic deciduous.
DSH: 23,20,11cm. HxW (m): 8 x 8. Health: Fair to Poor. Structure: Poor. Arb. Rating: Very Low. Decay at base and old stem pruning wounds, stems sound hollow, lopped. Eastern leader dead/decayed at top. NRZ (rad. m): 3.9. SRZ (rad. m): 3.

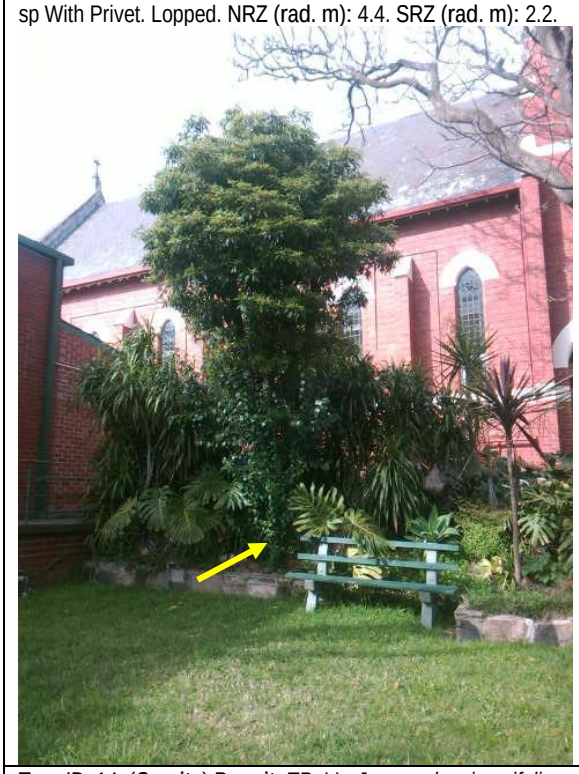


Tree ID: 11. (On site) Permit: TP_LL. *Lagerstroemia sp.* (Crape Myrtle), Early-mature Exotic deciduous.
DSH: 25,20cm. HxW (m): 11 x 7. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Incipient decay, included bark forks. Past tearouts near union, failures. NRZ (rad. m): 3.8. SRZ (rad. m): 2.2.

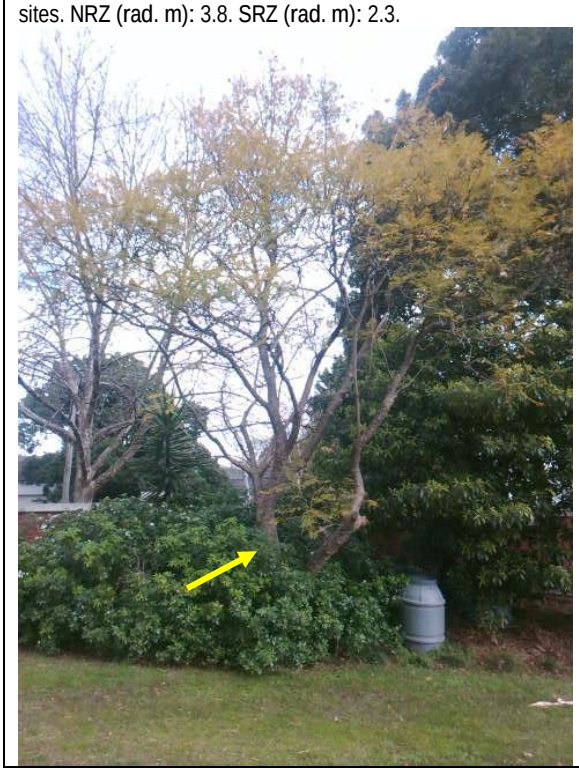
Tree ID: 12. (On site) Permit: TP_LL. *Melia azedarach* (White Cedar), Over-mature Australian native.
DSH: 95,62cm. HxW (m): 16 x 17. Health: Fair to Poor. Structure: Poor. Arb. Rating: Low. See 2025 risk report. Old basal decay to northwest but does not appear to be progressing. Diminished foliage density as is typical with aged specimen. 1x branch faliure to west, split in branch to north; manageable. Regular inspection recommended. NRZ (rad. m): 13.6. SRZ (rad. m): 3.



Tree ID: 13. (On site) Permit: TP_LL. *Pittosporum undulatum* (Sweet Pittosporum), Semi-mature Victorian native.
DSH: 26,23,12cm. HxW (m): 6 x 4. Health: Fair. Structure: Poor. Arb. Rating: Very Low. Multi-stemmed, weed infested, woody weed sp With Privet. Lopped. NRZ (rad. m): 4.4. SRZ (rad. m): 2.2.

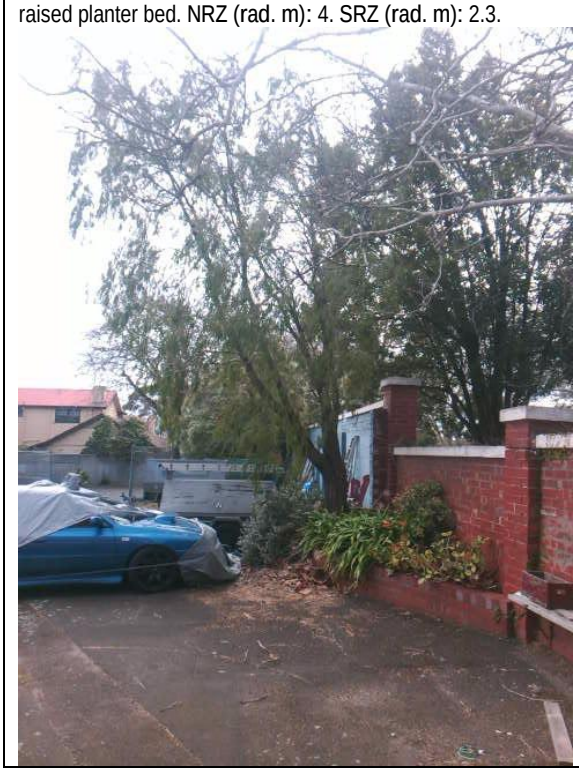


Tree ID: 14. (On site) Permit: TP_LL. *Jacaranda mimosifolia* (Jacaranda), Semi-mature Exotic deciduous.
DSH: 26,18cm. HxW (m): 8 x 8. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. 2x stems from base. Necrotic stubs at old pruning sites. NRZ (rad. m): 3.8. SRZ (rad. m): 2.3.



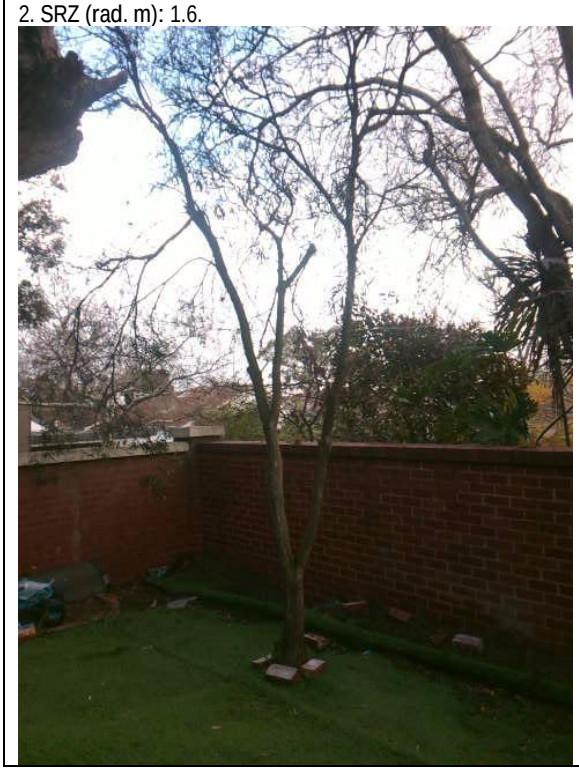
Tree ID: 15. (On site) Permit: TP_LL. *Cupressus sempervirens* (Italian Cypress), Semi-mature Exotic conifer.
DSH: 40,20,10cm. HxW (m): 10 x 3. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. 1 stem removed. Growing against brick pillar. NRZ (rad. m): 5.5. SRZ (rad. m): 2.6.

Tree ID: 16. (On site) Permit: TP_LL. *Agonis flexuosa* (Willow Myrtle), Early-mature Australian native.
DSH: 21,23,13cm. HxW (m): 8 x 6. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Partly suppressed - crown bias, west. Partly suppressed - crown bias, west. Suppressed by street tree; in raised planter bed. NRZ (rad. m): 4. SRZ (rad. m): 2.3.

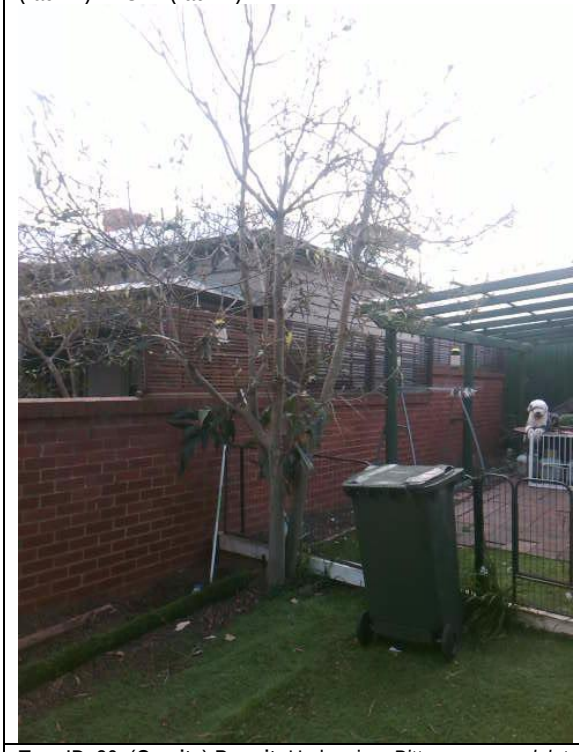


Tree ID: 17. (On site) Permit: TP_LL. *Gleditsia triacanthos* (Honey Locust), Early-mature Exotic deciduous.
DSH: 35cm. HxW (m): 8 x 8. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Lopped to north and west, narrow planting space, cracking K&C, lifting road surface. Variegated Tarata 1.5m East. NRZ (rad. m): 4.2. SRZ (rad. m): 2.2.

Tree ID: 18. (On site) Permit: Under size. *Callistemon 'Harkness'* (Harkness Bottlebrush), Semi-mature Australian native.
DSH: 15,9cm. HxW (m): 5 x 6. Health: Poor. Structure: Fair to Poor. Arb. Rating: Low. Foliage sparse - possums. NRZ (rad. m): 2. SRZ (rad. m): 1.6.



Tree ID: 19. (On site) Permit: Under size. *Eriobotrya japonica* (Loquat), Early-mature Exotic evergreen.
DSH: 12,12,9cm. HxW (m): 4 x 5. Health: Poor. Structure: Poor. Arb. Rating: Low. Foliage sparse - possums, multi-stemmed. NRZ (rad. m): 2. SRZ (rad. m): 1.7.

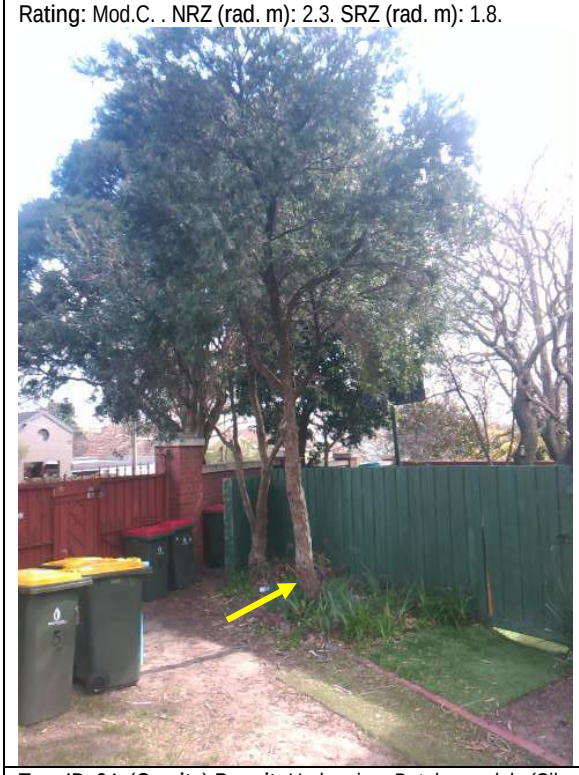


Tree ID: 20. (On site) Permit: Under size. *Pittosporum undulatum* (Sweet Pittosporum), Early-mature Victorian native.
DSH: 23cm. HxW (m): 9 x 7. Health: Fair. Structure: Fair. Arb. Rating: Low. Woody weed sp <30cm from wall. NRZ (rad. m): 2.8. SRZ (rad. m): 1.9.

Tree ID: 21. (On site) Permit: Under size. *Syzygium paniculatum* (Magenta Cherry), Semi-mature Australian native.
DSH: 13cm. HxW (m): 4 x 3. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Partly suppressed - crown bias, nth, strip footings in srz. <30cm from wall. NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: 22. (On site) Permit: Under size. *Callistemon 'Harkness'* (Harkness Bottlebrush), Early-mature Australian native.
DSH: 14,10cm. HxW (m): 6 x 5. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Partly suppressed - crown bias, west. NRZ (rad. m): 2.1. SRZ (rad. m): 1.8.

Tree ID: 23. (On site) Permit: Under size. *Callistemon viminalis* (Weeping Bottlebrush), Early-mature Australian native.
DSH: 19cm. HxW (m): 5 x 4. Health: Fair. Structure: Fair. Arb. Rating: Mod.C. . NRZ (rad. m): 2.3. SRZ (rad. m): 1.8.



Tree ID: 24. (On site) Permit: Under size. *Betula pendula* (Silver Birch), Semi-mature Exotic deciduous.
DSH: 21cm. HxW (m): 10 x 6. Health: Fair. Structure: Fair. Arb. Rating: Mod.C. . NRZ (rad. m): 2.5. SRZ (rad. m): 1.8.

Tree ID: 25. (On site) Permit: Under size. *Betula pendula* (Silver Birch), Semi-mature Exotic deciduous.
DSH: 14cm. HxW (m): 8 x 5. Health: Fair to Poor. Structure: Fair to Poor. Arb. Rating: Mod.C. Minor dieback. NRZ (rad. m): 2. SRZ (rad. m): 1.6.

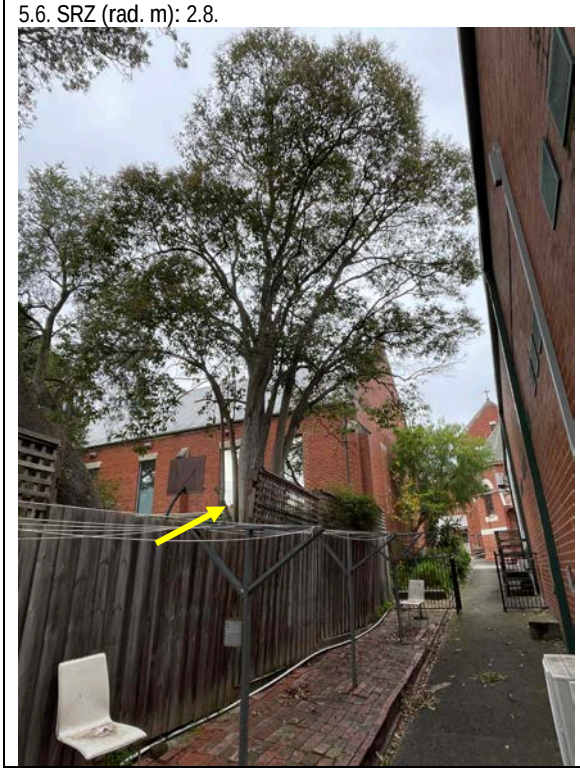
Tree ID: 26. (On site) Permit: Under size. *Betula pendula* (Silver Birch), Early-mature Exotic deciduous.
DSH: 23cm. HxW (m): 10 x 6. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Co-dominant stems w included bark. NRZ (rad. m): 2.8. SRZ (rad. m): 2.

Tree ID: 27. (On site) Permit: Under size. *Coprosma repens* (Mirror Bush), Early-mature Exotic evergreen.
DSH: 16,13cm. HxW (m): 4 x 7. Health: Fair. Structure: Fair to Poor. Arb. Rating: Very Low. Woody weed sp. NRZ (rad. m): 2.5. SRZ (rad. m): 1.8.

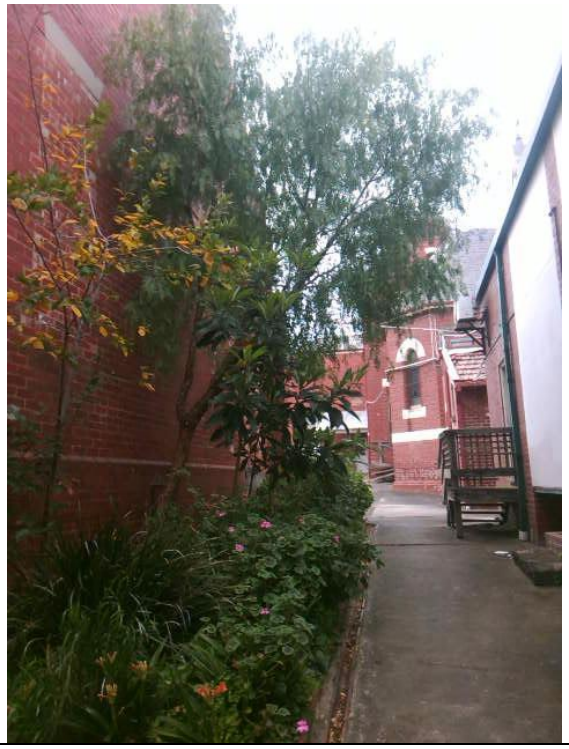
Tree ID: 28. (Neighbour's tree) Permit: TP_LL. *Corymbia citriodora* (Lemon-scented Gum), Maturing Australian native.
DSH: 95cm. HxW (m): 23 x 20. Health: Good. Structure: Fair. Arb. Rating: Mod.A. Neighbour's tree, ug services in srz, built form in NRZ. 50cm level changes in SW quad of SRZ, Canopy overhangs property by ~9m west. NRZ (rad. m): 11.4. SRZ (rad. m): 3.3.

Tree ID: 29. (Neighbour's tree) Permit: TP_LL. *Banksia integrifolia* (Coast Banksia), Maturing Victorian native.
DSH: 60cm. HxW (m): 17 x 14. Health: Fair. Structure: Fair. Arb. Rating: Mod.A. Leaning trunk, neighbour's tree, built form in NRZ. Lower trunk growing over old tree stump, concrete path 2m E, building ~3.9m E. NRZ (rad. m): 7.2. SRZ (rad. m): 2.8.

Tree ID: 30. (Neighbour's tree) Permit: TP_LL. *Ligustrum lucidum* (Shining Privet), Maturing Exotic evergreen.
DSH: 28,28,25cm. HxW (m): 12 x 14. Health: Fair. Structure: Fair to Poor. Arb. Rating: Low. Included bark forks, multi-stemmed, neighbour's tree, woody weed sp., built form in NRZ. NRZ (rad. m): 5.6. SRZ (rad. m): 2.8.



Tree ID: 31. (On site) Permit: Under size. *Schinus areira* (Peppercorn Tree), Semi-mature Exotic evergreen.
DSH: 18cm. HxW (m): 6 x 5. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Woody weed sp., partly suppressed - crown bias, west, strip footings in srz. NRZ (rad. m): 2.2. SRZ (rad. m): 1.7.

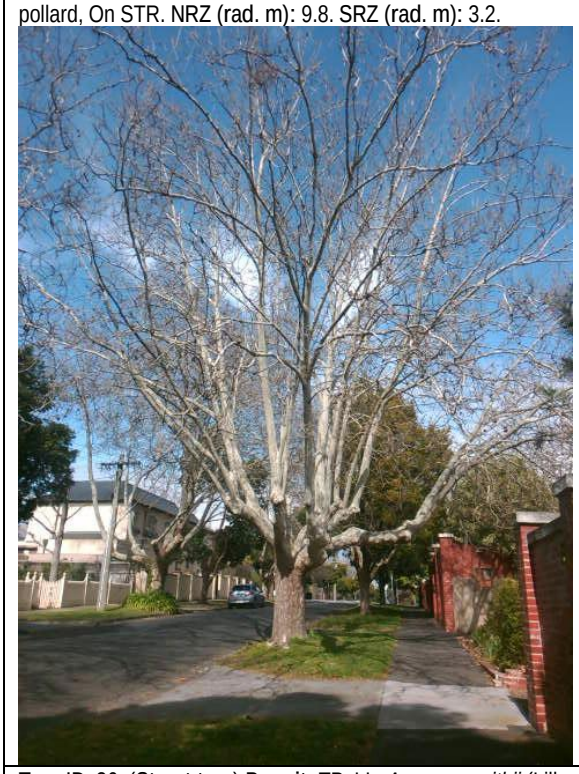


Tree ID: 32. (On site) Permit: Under size. *Cotoneaster sp.* (Cotoneaster), Semi-mature Exotic evergreen.
DSH: 12cm. HxW (m): 3 x 2. Health: Fair to Poor. Structure: Poor. Arb. Rating: Low. Woody weed sp., partly suppressed - crown bias, sw, built form in NRZ. NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: 33. (Neighbour's tree) Permit: TP_LL. *Lophostemon confertus* (Brush Box), Maturing Australian native.
DSH: 55cm. HxW (m): 14 x 17. Health: Good. Structure: Fair. Arb. Rating: Mod.A. Neighbour's tree. ~4m Nth of fence, overhangs by ~3m. NRZ (rad. m): 6.6. SRZ (rad. m): 2.8.

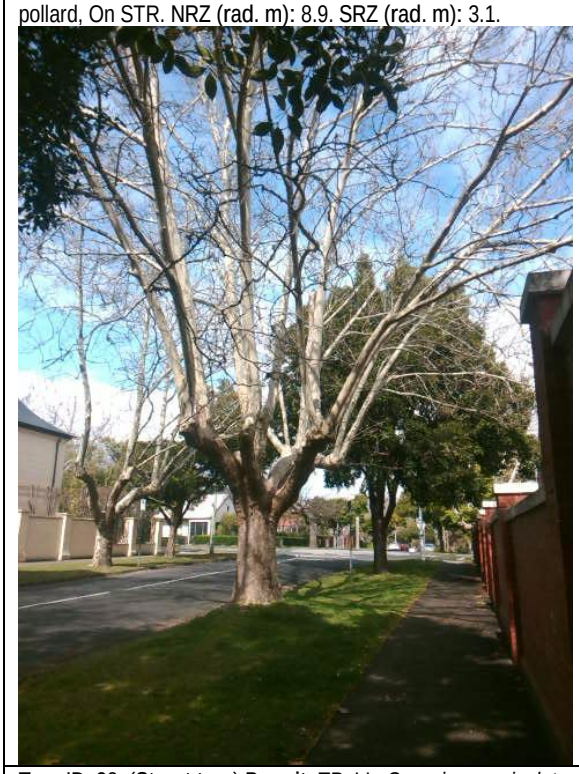
Tree ID: 34. (Street tree) Permit: TP_LL. *Acmena smithii* (Lilly Pilly), Maturing Victorian native.
DSH: 51cm. HxW (m): 14 x 11. Health: Good. Structure: Fair. Arb. Rating: Mod.A. Street tree. NRZ (rad. m): 6.1. SRZ (rad. m): 2.8.

Tree ID: 35. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous.
DSH: 82cm. HxW (m): 18 x 23. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.B. Street tree, built form in NRZ. Lapsed pollard, On STR. NRZ (rad. m): 9.8. SRZ (rad. m): 3.2.

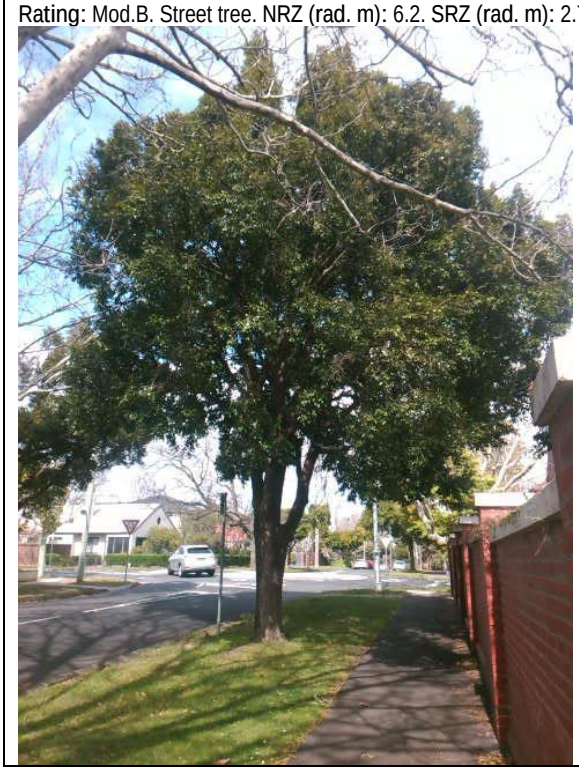


Tree ID: 36. (Street tree) Permit: TP_LL. *Acmena smithii* (Lilly Pilly), Early-mature Victorian native.
DSH: 52cm. HxW (m): 13 x 12. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Chlorotic foliage, street tree. Reduced foliage colour,. NRZ (rad. m): 6.2. SRZ (rad. m): 2.7.

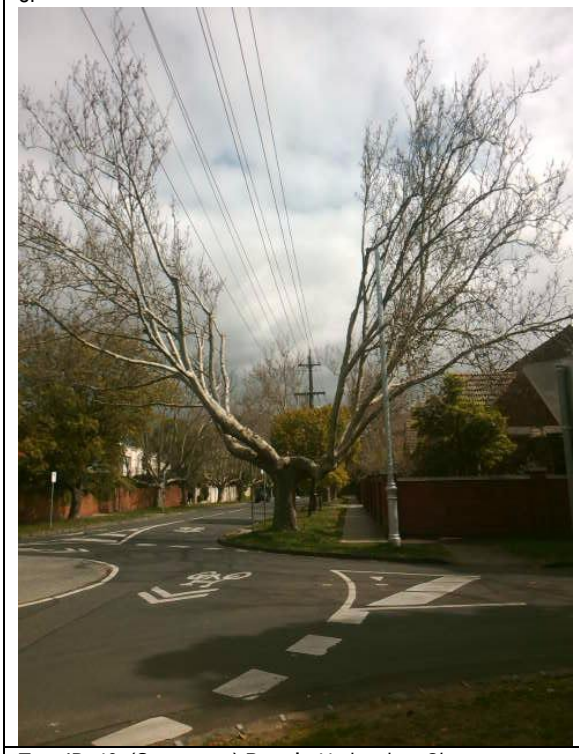
Tree ID: 37. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous.
DSH: 74cm. HxW (m): 17 x 20. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.B. Street tree, built form in NRZ. Lapsed pollard, On STR. NRZ (rad. m): 8.9. SRZ (rad. m): 3.1.



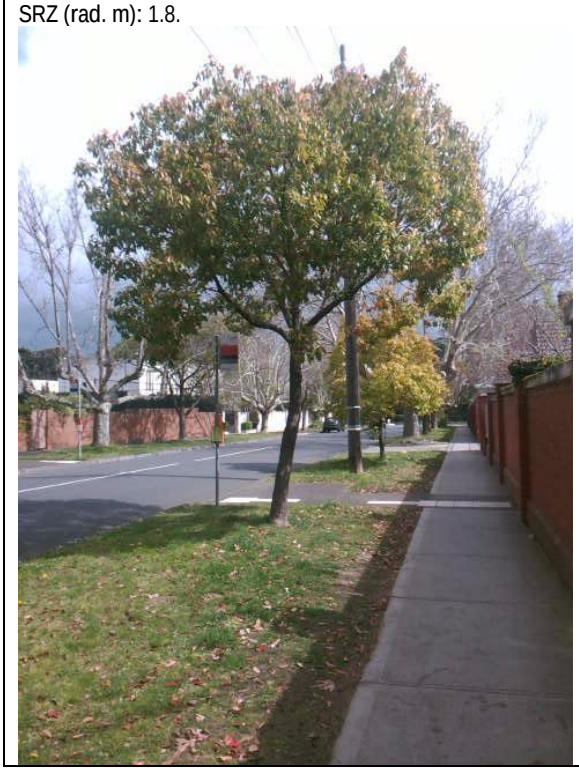
Tree ID: 38. (Street tree) Permit: TP_LL. *Syzygium paniculatum* (Magenta Cherry), Maturing Australian native.
DSH: 52cm. HxW (m): 13 x 13. Health: Good. Structure: Fair. Arb. Rating: Mod.B. Street tree. NRZ (rad. m): 6.2. SRZ (rad. m): 2.7.



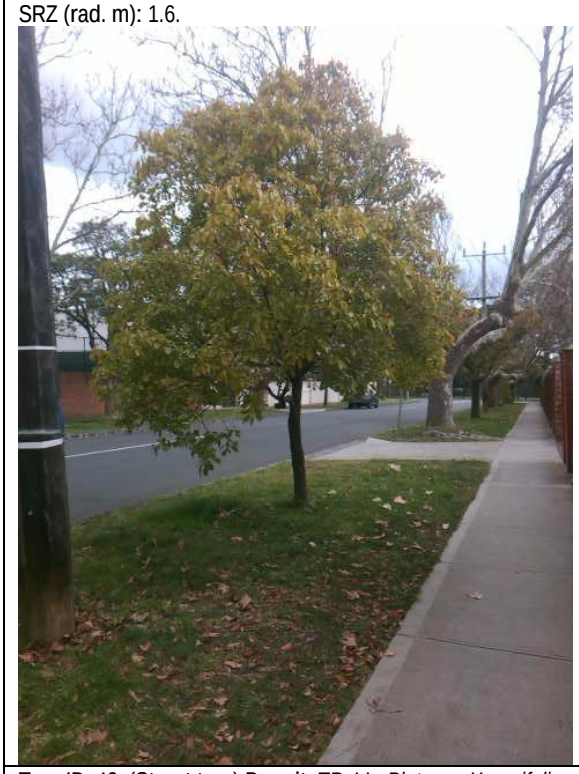
Tree ID: 39. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous.
DSH: 71cm. HxW (m): 17 x 21. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Past powerline clearance, street tree, built form in NRZ. Lapsed pollard,. NRZ (rad. m): 8.5. SRZ (rad. m): 3.



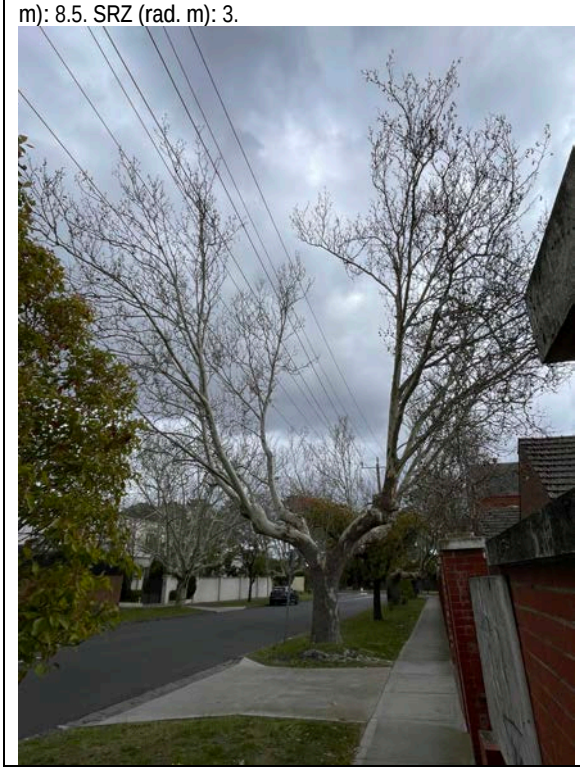
Tree ID: 40. (Street tree) Permit: Under size. *Cinnamomum camphora* (Camphor Laurel), Semi-mature Exotic evergreen.
DSH: 22cm. HxW (m): 5 x 5. Health: Fair. Structure: Fair. Arb. Rating: Mod.C. Street tree. Under HV & LV. NRZ (rad. m): 2.6. SRZ (rad. m): 1.8.



Tree ID: 41. (Street tree) Permit: Under size. *Cinnamomum camphora* (Camphor Laurel), Semi-mature Exotic evergreen.
DSH: 15cm. HxW (m): 5 x 4. Health: Fair to Poor. Structure: Fair. Arb. Rating: Mod.C. Chlorotic foliage, street tree. NRZ (rad. m): 2. SRZ (rad. m): 1.6.

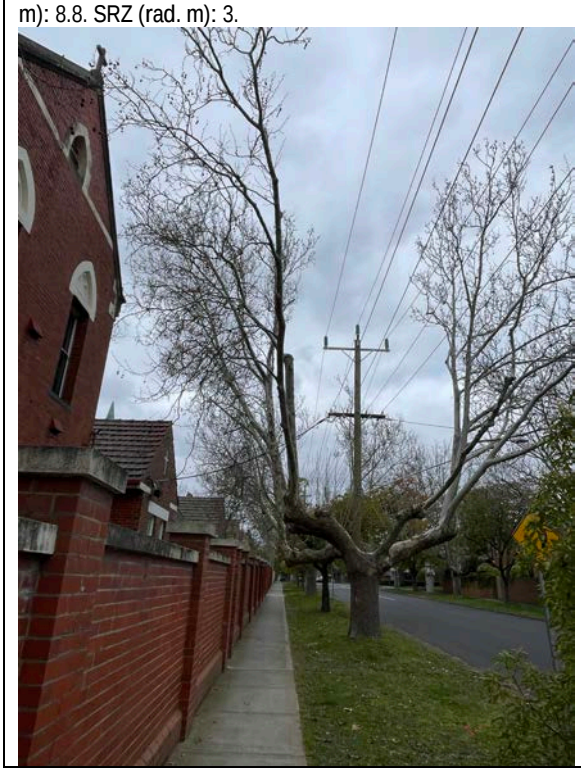


Tree ID: 42. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous.
DSH: 71cm. HxW (m): 15 x 20. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Past powerline clearance, street tree, built form in NRZ. Lapsed pollard, cut under HV & LV. NRZ (rad. m): 8.5. SRZ (rad. m): 3.



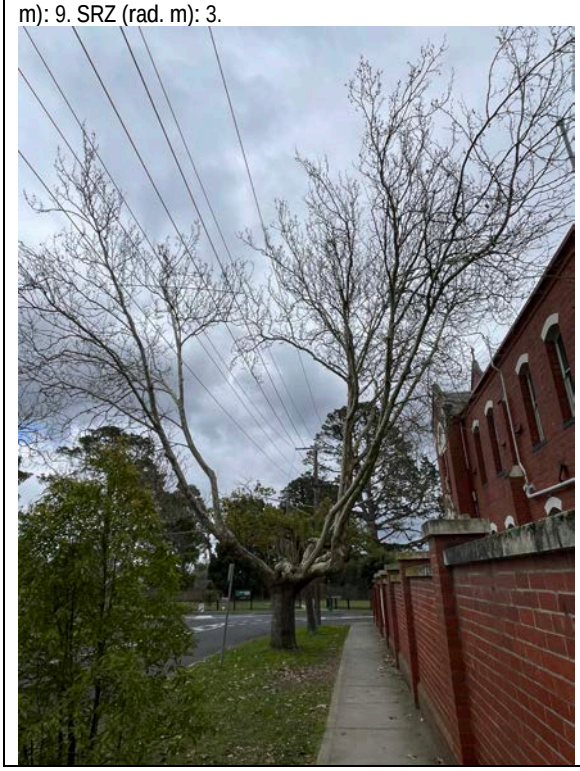
Tree ID: 43. (Street tree) Permit: TP_LL. *Cinnamomum camphora* (Camphor Laurel), Early-mature Exotic evergreen.
DSH: 39cm. HxW (m): 5 x 8. Health: Fair to Poor. Structure: Fair to Poor. Arb. Rating: Mod.C. Minor dieback, past powerline clearance, street tree. Cut under HV & LV. NRZ (rad. m): 4.7. SRZ (rad. m): 2.4.

Tree ID: 44. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous.
DSH: 73cm. HxW (m): 16 x 21. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Past powerline clearance, street tree, built form in NRZ. Lapsed pollard, cut under HV & LV. NRZ (rad. m): 8.8. SRZ (rad. m): 3.

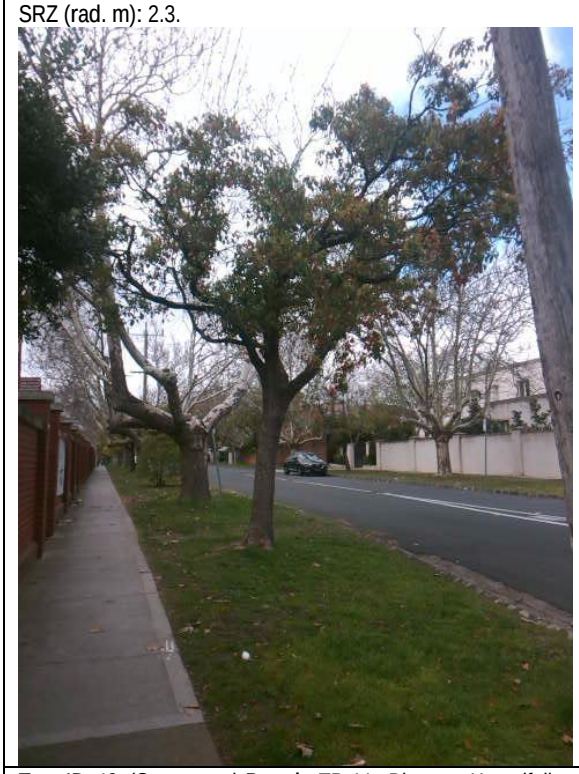


Tree ID: 45. (Street tree) Permit: Under size. *Cinnamomum camphora* (Camphor Laurel), Semi-mature Exotic evergreen. DSH: 5,4,4cm. HxW (m): 3 x 4. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Multi-stemmed, street tree, stump re-sprout. NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: 46. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Maturing Exotic deciduous. DSH: 75cm. HxW (m): 15 x 20. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Past powerline clearance, street tree, built form in NRZ. Lapsed pollard, cut under HV & LV. NRZ (rad. m): 9. SRZ (rad. m): 3.

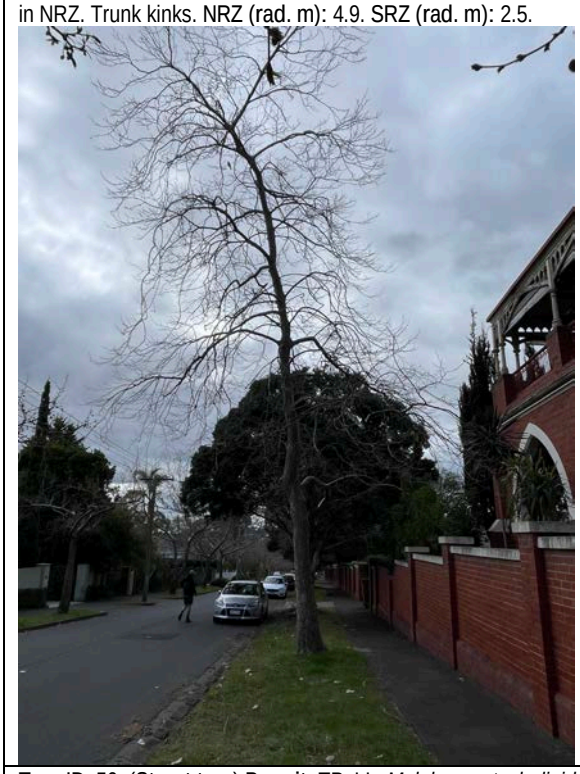


Tree ID: 47. (Street tree) Permit: Under size. *Cinnamomum camphora* (Camphor Laurel), Early-mature Exotic evergreen. DSH: 33cm. HxW (m): 6 x 10. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.C. Past powerline clearance, street tree, built form in NRZ. Lapsed pollard, cut under HV & LV. NRZ (rad. m): 4. SRZ (rad. m): 2.3.



Tree ID: 48. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Early-mature Exotic deciduous. DSH: 35cm. HxW (m): 13 x 9. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, ug services in srz, built form in NRZ. NRZ (rad. m): 4.2. SRZ (rad. m): 2.4.

Tree ID: 49. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Early-mature Exotic deciduous.
DSH: 41cm. HxW (m): 17 x 11. Health: Fair. Structure: Fair to Poor. Arb. Rating: Mod.B. Street tree, ug services in srz, built form in NRZ. Trunk kinks. NRZ (rad. m): 4.9. SRZ (rad. m): 2.5.



Tree ID: 50. (Street tree) Permit: TP_LL. *Melaleuca styphelioides* (Prickly-leaved Paperbark), Early-mature Australian native.
DSH: 62cm. HxW (m): 10 x 13. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, built form in NRZ. NRZ (rad. m): 7.4. SRZ (rad. m): 2.8.

Tree ID: 51. (Street tree) Permit: TP_LL. *Platanus Xacerifolia* (London Plane), Early-mature Exotic deciduous.
DSH: 41cm. HxW (m): 14 x 14. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, built form in NRZ. NRZ (rad. m): 4.9. SRZ (rad. m): 2.5.

Tree ID: 52. (Street tree) Permit: Under size. *Platanus Xacerifolia* (London Plane), Early-mature Exotic deciduous.
DSH: 32cm. HxW (m): 12 x 9. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, partly suppressed - crown bias, west, built form in NRZ. NRZ (rad. m): 3.8. SRZ (rad. m): 2.2.

Tree ID: 53. (Street tree) Permit: TP_LL. *Melaleuca styphelioides* (Prickly-leaved Paperbark), Early-mature Australian native.
DSH: 59cm. HxW (m): 12 x 12. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, built form in NRZ. NRZ (rad. m): 7.1. SRZ (rad. m): 2.9.

Tree ID: 55. (Street tree) Permit: Under size. *Platanus Xacerifolia* (London Plane), Semi-mature Exotic deciduous.
DSH: 15cm. HxW (m): 6 x 5. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, partly suppressed - crown bias, west. NRZ (rad. m): 2. SRZ (rad. m): 1.6.

Tree ID: 54. (Street tree) Permit: Under size. *Platanus Xacerifolia* (London Plane), Early-mature Exotic deciduous.
DSH: 33cm. HxW (m): 10 x 11. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, ug services in srz, built form in NRZ. NRZ (rad. m): 4. SRZ (rad. m): 2.3.

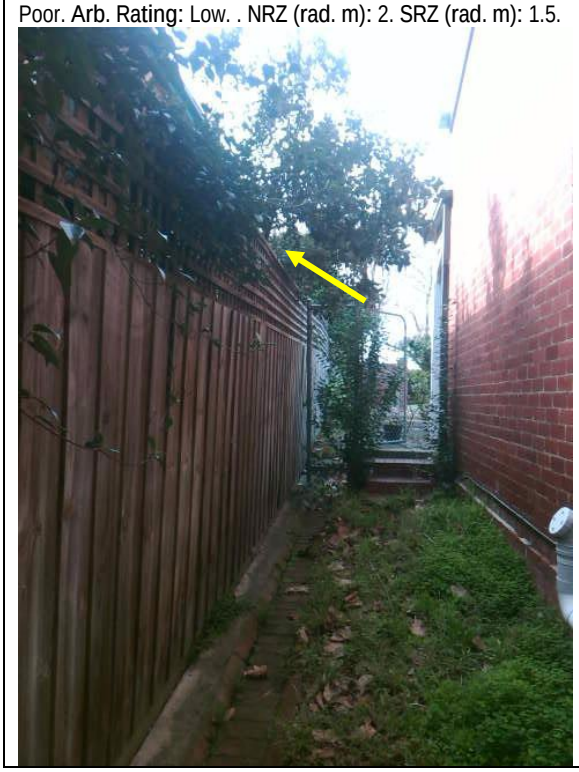
Tree ID: 56. (Street tree) Permit: TP_LL. *Melaleuca styphelioides* (Prickly-leaved Paperbark), Maturing Australian native.
DSH: 72cm. HxW (m): 11 x 11. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Street tree, built form in NRZ. NRZ (rad. m): 8.6. SRZ (rad. m): 2.9.

Tree ID: 57. (Street tree) Permit: Under size. *Platanus Xacerifolia* (London Plane), Semi-mature Exotic deciduous.
DSH: 10cm. HxW (m): 4 x 4. Health: Fair. Structure: Fair. Arb. Rating: Mod.C. Street tree. NRZ (rad. m): 2. SRZ (rad. m): 1.5.

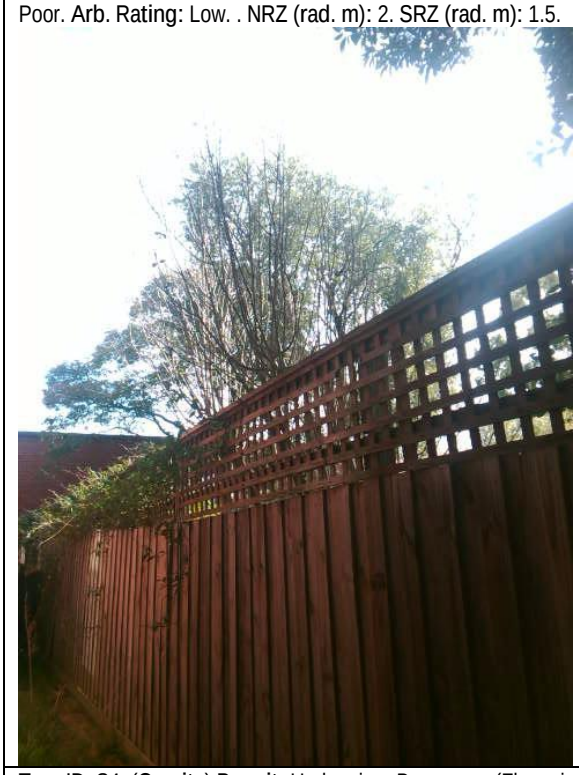
Tree ID: S1. (On site) Permit: Under size. *Coprosma repens* (Mirror Bush), Early-mature Exotic evergreen.
DSH: 13cm. HxW (m): 3 x 4. Health: Fair. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: 58. (Neighbour's tree) Permit: TP_LL. *Liquidambar styraciflua* (Liquidamber), Maturing Exotic deciduous.
DSH: 43,43cm. HxW (m): 17 x 16. Health: Fair. Structure: Fair. Arb. Rating: Mod.B. Co-dominant stems w included bark, neighbour's tree, strip footings in srz, built form in NRZ. Canopy extends ~6m over boundary. NRZ (rad. m): 7.3. SRZ (rad. m): 3.

Tree ID: S2. (Neighbour's tree) Permit: Under size. *Garrya eliptica* (Silk Tassell Bush), Semi-mature Exotic evergreen.
DSH: 7,7,6,5cm. HxW (m): 4 x 5. Health: Fair. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.



Tree ID: S3. (Neighbour's tree) Permit: Under size. *Hibiscus syriacus* (Rose-of-Sharon), Semi-mature Exotic deciduous.
DSH: 10,8,6cm. HxW (m): 4 x 3. Health: Fair. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.



Tree ID: S4. (On site) Permit: Under size. *Prunus sp.* (Flowering Cherry), Early-mature Exotic deciduous.
DSH: 13cm. HxW (m): 2 x 3. Health: Fair to Poor. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: S5. (On site) Permit: Under size. *Prunus sp.* (Flowering Cherry), Early-mature Exotic deciduous.
DSH: 14cm. HxW (m): 2 x 3. Health: Fair to Poor. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Tree ID: S6. (On site) Permit: Under size. *Prunus sp.* (Flowering Cherry), Early-mature Exotic deciduous.
DSH: 15cm. HxW (m): 2 x 3. Health: Fair to Poor. Structure: Fair to Poor. Arb. Rating: Low. . NRZ (rad. m): 2. SRZ (rad. m): 1.5.

Appendix 3: Arboricultural Descriptors (June 2018)

Note that not all of the described tree descriptors may be used in a tree assessment and report. The assessment is undertaken with regard to contemporary arboricultural practices and consists of a visual inspection of external and above-ground tree parts.

1. Tree Condition

The assessment of tree condition evaluates factors of health and structure. The descriptors of health and structure attributed to a tree evaluate the individual specimen to what could be considered typical for that species growing in its location under current climatic conditions.

For example, some species can display inherently poor branching architecture, such as multiple acute branch attachments with included bark. Whilst these structural defects may technically be considered arboriculturally poor, they are typical for the species and may not constitute an increased risk of failure.
These trees may be assigned a structural rating of fair-poor (rather than poor) at the discretion of the assessor.

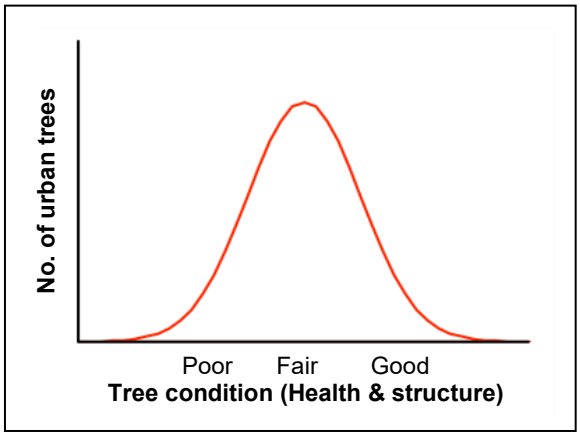


Diagram 1: Indicative normal distribution curve for tree condition

Diagram 1, provides an indicative distribution curve for tree condition to illustrate that within a normal tree population the majority of specimens are centrally located within the condition range (normal distribution curve). Furthermore, that those individual trees with an assessed condition approaching the outer ends of the spectrum occur less often.

2. Tree Name

Provides botanical name, (genus, species, variety and cultivar) according to accepted international code of taxonomic classification, and common name.

3. Tree Type

Describes the general geographic origin of the species and its type e.g. deciduous or evergreen.

Category	Description
Indigenous	Occurs naturally in the area or region of the subject site. Remnant.
Victorian native	Occurs naturally within some part of the State of Victoria (not exclusively) but is not indigenous (component of EVC benchmark). Could be planted indigenous trees.
Australian native	Occurs naturally within Australia but is not a Victorian native or indigenous
Exotic deciduous	Occurs outside of Australia and typically sheds its leaves during winter
Exotic evergreen	Occurs outside of Australia and typically holds its leaves all year round
Exotic conifer	Occurs outside of Australia and is classified as a gymnosperm
Native conifer	Occurs naturally within Australia and is classified as a gymnosperm
Native Palm	Occurs naturally within Australia. Woody monocotyledon
Exotic Palm	Occurs outside of Australia. Woody monocotyledon

4. Height and Width

Indicates height and width of the individual tree; dimensions are expressed in metres. Crown heights are measured with a height meter where possible. Due to the topography of some sites and/or the density of vegetation it may not be possible to do this for every tree. Tree heights may be estimated in line with previous height meter readings in conjunction with assessor's experience. Crown widths are generally paced (estimated) at the widest axis or can be measured on two axes and averaged. In some instances the crown width can be measured on the four cardinal direction points (North, South, East and West).

Crown height, crown spread are generally recorded to the nearest half metre (crown spread would be rounded up) for dimensions up to 10 m and the nearest whole metre for dimensions over 10 m. Estimated dimensions (e.g. for off-site or otherwise inaccessible trees where accurate data cannot be recovered) shall be clearly identified in the assessment data.

5. Trunk diameters

The position where trunk diameters are captured may vary dependent on the requirements of the specific assessment and an individual trees specific characteristics. DSH is the typical trunk diameter captured as it relates to the allocation of tree protection distances. The basal trunk diameter assists in the allocation of a structural root zone. Some municipalities require trunk diameters be captured at different heights, with 1.0 m above grade being a common requirement. The specific planning schemes will be checked to ascertain requirements.

Stem diameters shall be recorded in centimetres, rounded to the nearest 1 cm (0.01 m).

Diameter at Standard Height (DSH)

Indicates the trunk diameter (expressed in centimetres) of an individual tree measured at 1.4m above the existing ground level or where otherwise indicated, multiple leaders are measured individually. Plants with multiple leader habit may be measured at the base. The range of methods to suit particular trunk shapes, configurations and site conditions can be seen in Appendix A of Australian Standard *AS 4970-2025 Protection of trees on development site*s. Measurements undertaken using foresters tape or builders tape.

Basal trunk diameter

The basal dimension is the trunk diameter measured at the base of the trunk or main stem(s) immediately above the root buttress. Used to ascertain the Structural Root Zone (SRZ) as outlined in AS4970.

6. Age class

Relates to the physiological stage of the tree's life cycle.

Category	Description
Young	Sapling tree and/or recently planted. Approximately 5 or less years in location.
Semi-mature	Tree increasing in size and yet to achieve expected size in situation. Primary developmental stage.
Early-mature	Tree established, generally growing vigorously. > 50% of attainable age/size.
Mature	Specimen approaching expected size in situation, with reduced incremental growth.
Over-mature	Mature full-size with a retrenching crown. Tree is senescent and in decline. Significant decay generally present.

7. Health

Assesses various attributes to describe the overall health and vigour of the tree.

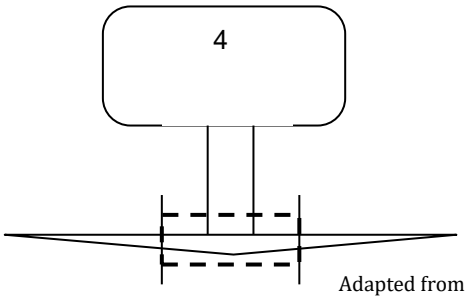
Health Category	Vigour, Extension growth	Decline symptoms, Deadwood, Dieback	Foliage density, colour, size, intactness	Pests and or disease
Good	Above typical. Excellent. Full canopy density	Negligible	Better than typical	Negligible
Fair	Typical vigour. >80% canopy density	Minor or expected. Little or no dead wood	Typical. Minor deficiencies or defects could be present.	Minor, within damage thresholds
Fair to Poor	Below typical - low vigour	More than typical. Small sub-branch dieback	Exhibiting deficiencies. Could be thinning, or smaller	Exceeds damage thresholds
Poor	Minimal - declining	Excessive, large and/or prominent amount & size of dead wood	Exhibiting severe deficiencies. Thinning foliage, generally smaller or deformed	Extreme and contributing to decline
Dead	N/A	N/A	N/A	N/A

8. Structure

Assesses principal components of tree structure (Diagram 2).
Structure ratings will also take into account general branching architecture, stem taper, live crown ratio, crown symmetry (bias or lean) and crown position such as tree being suppressed amongst more dominant trees.

Diagram 2: Tree structure zones

1. Root plate & lower stem
2. Trunk
3. Primary branch support
4. Outer crown & roots



Adapted from Coder (1996)

The lowest or worst descriptor assigned to the tree in any column could generally be the overall rating assigned to the tree. The assessment for structure is limited to observations of external and above ground tree parts. It does not include any exploratory assessment of underground or internal tree parts unless this is requested as part of the investigation. Trees are assessed and then given a rating for a point in time. Generally, trees with a poor or very poor structure are beyond the benefit of practical arboricultural treatments.

The management of trees in the urban environment requires appropriate arboricultural input and consideration of risk. Risk potential will take into account the combination of likelihood of failure and impact, including the perceived importance of the target(s). See table over page.

Structure Category	Zone 1 - Root plate & lower stem	Zone 2 - Trunk	Zone 3 - Primary branch support	Zone 4 - Outer crown and roots
Good	No obvious damage, disease or decay; obvious basal flare / stable in ground	No obvious damage, disease or decay; well tapered	Well formed, attached, spaced and tapered. No history of failure.	No obvious damage, disease, decay or structural defect. No history of failure.
Fair	Minor damage or decay. Basal flare present.	Minor damage or decay	Generally well attached, spaced and tapered branches. Minor structural deficiencies may be present or developing. No history of branch failure.	Minor damage, disease or decay; minor branch end-weight or over-extension. No history of branch failure.
Fair to Poor	Moderate damage or decay; minimal basal flare.	Moderate damage or decay; approaching recognised thresholds	Weak, decayed or with acute branch attachments; previous branch failure evidence.	Moderate damage, disease or decay; moderate branch end-weight or over-extension. Minor branch failure evident.
Poor	Major damage, disease or decay; fungal fruiting bodies present. Excessive lean placing pressure on root plate	Major damage, disease or decay; exceeds recognised thresholds; fungal fruiting bodies present. Acute lean. Stump re-sprout	Decayed, cavities or has acute branch attachments with included bark; excessive compression flaring; failure likely. Evidence of major branch failure.	Major damage, disease or decay; fungal fruiting bodies present; major branch end-weight or over-extension. Branch failure evident.
Very Poor	Excessive damage, disease or decay; unstable / loose in ground; altered exposure; failure probable	Excessive damage, disease or decay; cavities. Excessive lean. Stump re-sprout	Decayed, cavities or branch attachments with active split; failure imminent. History of major branch failure.	Excessive damage, disease or decay; excessive branch end-weight or over-extension. History of branch failure.

Useful life expectancy

Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It would enable tree managers to develop long-term plans for the eventual removal and replacement of existing trees in the public realm. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the trees positive contribution to the urban landscape.

Within an urban landscape context, particularly in relation to street trees, it could be considered a point where the costs to maintain the asset (tree) outweigh the benefits the tree is returning.

The assessment is based on the site conditions not being significantly altered and that any prescribed maintenance works are carried out (site conditions are presumed to remain relatively constant and the tree would be maintained under scheduled maintenance programs). See table over page.

Useful Life Expectancy category	Typical characteristics
<1 year (No remaining ULE)	Tree may be dead or mostly dead. Tree may exhibit major structural faults. Tree may be an imminent failure hazard. Excessive infrastructure damage with high risk potential that cannot be remedied.
1-5 years (Transitory, Brief)	Tree is exhibiting severe chronic decline. Crown is likely to be less than 50% typical density. Crown may be mostly epicormic growth. Dieback of large limbs is common (large deadwood may have been pruned out). Tree may be over-mature and senescing. Infrastructure conflicts with heightened risk potential. Tree has outgrown site constraints.
6-10 years (Short)	Tree is exhibiting chronic decline. Crown density will be less than typical and epicormic growth is likely to present. The crown may still be mostly entire, but some dieback is likely to be evident. Dieback may include large limbs. Over-mature and senescing or early decline symptoms in short-lived species. Early infrastructure conflicts with potential to increase regardless of management inputs.
11-20 years (Moderate)	Tree not showing symptoms of chronic decline, but growth characteristics are likely to be reduced (bud development, extension growth etc.). Tree may be over-mature and beginning to senesce. Potential for infrastructure conflicts regardless of management inputs.
21-40 years (Moderately long)	Trees displaying normal growth characteristics but vigour is likely to be reduced (bud development, extension growth etc.). Tree may be growing in restricted environment (e.g. streetscapes) or may be in late maturity. Semi-mature and mature trees exhibiting normal growth characteristics. Juvenile trees in streetscapes.
>40 years (Long)	Generally juvenile and semi-mature trees exhibiting normal growth characteristics within adequate spaces to sustain growth, such as in parks or open space. Could also pertain to maturing, long-lived trees. Tree well suited to the site with negligible potential for infrastructure conflicts.

Note that ULE may change for a tree dependent on the prevailing climatic conditions, which can either increase or decrease, or sudden changes to a tree's growing environment creating an acute stress.

The ULE may not be applicable for trees that are manipulated, such as topiary, or grown for specific horticultural purposes, such as fruit trees.

There may be instances where remedial tree maintenance could be extend a tree's ULE.

9. Arboricultural Rating

Relates to the combination of tree condition factors, including health and structure (arboricultural merit), and also conveys an amenity value. Amenity relates to the trees biological, functional and aesthetic characteristics (Hitchmough 1994) within an urban landscape context. The presence of any serious disease or tree-related hazards that would impact risk potential are taken into account. See table over page.

Arboricultural rating Category	Description
High	Tree of high quality in good to fair condition; good vigour. Generally a prominent arboricultural/landscape feature. Particularly good example of the species; rare or uncommon. Tree may have significant conservation or other cultural value. These trees have the potential to be a medium- to long-term components of the landscape (moderately long to long ULE) if managed appropriately. Retention of these trees is highly desirable.
Moderate	*General -* Tree of moderate quality, in fair or better condition. Tree may have a condition, and or structural problem that will respond to arboricultural treatment. These trees have the potential to be a moderate- to long-term component of the landscape (moderate to long ULE) if managed appropriately. Retention of these trees is generally desirable. The following sub-categories relate predominately to age and size and amenity.
	A. Moderate to large, maturing tree. Contributes to the landscape character. Tree may have conservation or other cultural value.
	B. Moderate sized, established tree, > 50% of attainable age/size. Contributes to the landscape character. Maturing tree with amenity value but with identified deficiencies
	C. Small and/or semi-mature tree, established, >5 years in the location. May not be a dominant canopy. No special qualities. Maturing tree, accumulating deficiencies, trending towards being of Low arboricultural value.
Low	Unremarkable tree of low quality or little amenity value. Tree in either poor health or with poor structure or a combination. Short to transitory useful life expectancy. Tree is not significant because of either its size or age, such as young trees with a stem diameter below 15 cm. Trees regularly pruned to restrict size. These trees are easily replaceable. Tree (species) is functionally inappropriate to specific location and would be expected to be problematic if retained. Retention of such trees may be considered if not requiring a disproportionate expenditure of resources for a tree in its condition and location.
Very Low	Trees of low quality with an estimated remaining life expectancy of less than 5 years. Tree has either a severe structural defect or health problem or combination that cannot be sustained with practical arboricultural techniques and the loss of the tree would be expected in the short term. Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Tree infected with pathogens of significance to either the health or safety of the tree or other adjacent trees. Tree whose retention would not be viable after the removal of adjacent trees (includes trees that have developed in close spaced groups and would not be expected to acclimatise to severe alterations to surrounding environment – removal of adjacent shelter trees). Tree has a detrimental effect on the environment, for example, the tree is a recognised environmental woody weed with potential to spread into waterways or natural areas. Unremarkable tree of no material landscape, conservation or other cultural value.

Trees have many values, not all of which are considered when an arboricultural assessment is undertaken. However, individual trees or tree group features may be considered important community resources because of unique or noteworthy characteristics or values other than their age, dimensions, health or structural condition. Recognition of one or more of the following criterion is designed to highlight other considerations that may influence the future management of such trees.

Significance	**Description**
Horticultural Value/ Rarity	Outstanding horticultural or genetic value; could be an important source of propagating stock, including specimens that are particularly resistant to disease or exposure. Any tree of a species or variety that is rare.
Historic, Aboriginal Cultural or Heritage Value	Tree could have value as a remnant of a particular important historical period or a remnant of a site or activity no longer in action. Tree has a recognised association with historic aboriginal activities, including scar trees. Tree commemorates a particular occasion, including plantings by notable people, or having associations with an important event in local history.
Ecological Value	Tree could have value as habitat for indigenous wildlife, including providing breeding, foraging or roosting habitat, or is a component of a wildlife reserve. Remnant Indigenous vegetation that contribute to biological diversity

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Appendix4: Tree protection zones.

Introduction

In order to sustain trees on a development site consideration must be given to the establishment of tree protection zones.

The physical dimensions of tree protection zones can sometimes be difficult to define. The projection of a tree's crown can provide a guide but is by no means the definitive measure. The unpredictable nature of roots and their growth, differences between species and their tolerances, and observable and hidden changes to the trees growing environment, as a result of development, are variables that must be considered.

Most vigorous, broad canopied trees survive well if the area within the drip-line of the canopy is protected. Fine root density is usually greater beneath the canopy than beyond (Gilman, 1997). If few to no roots over 3cm in diameter are encountered and severed during excavation the tree will probably tolerate the impact and root loss. A healthy tree can sustain a loss of between 30% and 50% of absorbing roots (Harris, Clark, Matheny, 1999), however encroachment into the structural root system of a tree may be problematic.

The structural root system of a tree is responsible for ensuring the stability of the entire tree structure in the ground. A tree could not sustain loss of structural root system and be expected to survive let alone stand up to average annual wind loads upon the crown.

Allocation of Notional Root Zone (NRZ)

The method of allocating a NRZ to a particular tree will be influenced by site factors, the tree species, its age and developed form.

Once it has been established, through an arboricultural assessment, which trees and tree groups are to be retained, the next step will require careful management through the development process to minimise any impacts on the designated trees. The successful retention of trees on any particular site will require the commitment and understanding of all parties involved in the development process. The most important activity, after determining the trees that will be retained is the implementation of a Tree Protection Zone (TPZ).

The intention of tree protection zones is to:

- mitigate tree hazards;
- provide adequate root space to sustain the health and aesthetics of the tree into the future;
- minimise changes to the trees growing environment, which is particularly important for mature specimens;
- minimise physical damage to the root system, canopy and trunk; and
- define the physical alignment of the tree protection fencing

Tree protection

The most important consideration for the successful retention of trees is to allow appropriate above and below ground space for the trees to continue to grow. This requires the allocation of tree protection zones for retained trees.

The Australian Standard AS 4970-2025 Protection of trees on development sites has been used as a guide in the allocation of TPZs for the assessed trees.

The Notional Root Zone (NRZ) for individual trees is calculated based on trunk (stem) diameter (DSH), measured at 1.4 metres up from ground level. The radius of the NRZ is calculated by multiplying the trees DSH by 12. The method provides a TPZ that addresses both the stability and growing requirements of a tree. NRZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The minimum NRZ should be no less than 2m and the maximum no more than 15m radius. The NRZ of palms should be not less than 1.0m outside the crown projection.

Encroachment into the NRZ is permissible under certain circumstances though this is dependent on both site conditions and tree characteristics (See Figure 1 for examples of encroachment). Minor encroachment, up to 10% of the NRZ, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the NRZ. Encroachment must also consider the crown of the tree and ensure that excessive pruning is not required that would cause the tree to become unbalanced or disfigured.

The 10% encroachment on one side equates to approximately a ⅓ reduction of the radial distance. Refer to Figure 1 for examples of acceptable NRZ encroachment.

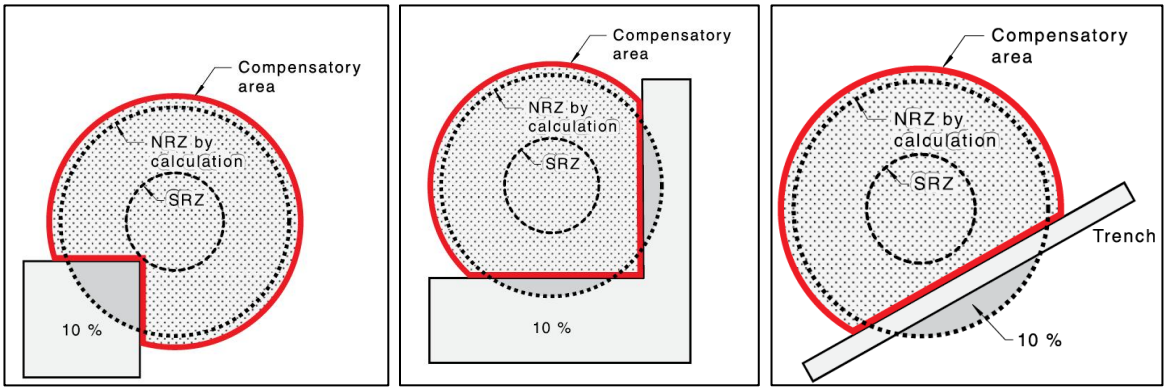


Figure 2: Examples of minor encroachment into the NRZ (from AS4970-2025)

Encroachment greater than 10%, less than 20% and outside of the SRZ is considered Moderate encroachment under AS4970-2025 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.

- A non-destructive root investigation (NDRI) may be required to investigate and identify the location of roots within the proposed area of encroachment and root sensitive construction methods may need to be utilized.

Encroachment greater than 20% or extending into the SRZ is considered to be Major and has the potential to cause unsustainable damage to the ongoing viability of the affected trees.

- Such work is not likely to be supported by the arborist and the relevant authority unless specific tree sensitive design & construction methods are developed based of the results of non-destructive root investigation.

Tree root growth is opportunistic and occurs where the essentials to life (primarily air and water) are present. Heterogeneous soil conditions, existing barriers, hard surfaces and buildings may have inhibited the development of a symmetrically radiating root system.

Existing infrastructure around some trees may be within the NRZ or root plate radius. The roots of some trees may have grown in response to the site conditions and therefore if existing hard surfaces and building alignments are utilised in new designs the impacts on the trees should be minimal. The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998). Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build.

The TPZ should also give consideration to the canopy and overall form of the tree. If the canopy requires severe pruning in order to accommodate a building and in the process the form of the tree is diminished it may be worthwhile considering altering the design or removing the tree.

General tree protection guidelines

The most important factors are:

- Prior to construction works the trees nominated for tree works should be pruned to remove larger dead wood. Pruning works may also identify other tree hazards that require remedial works.
- Installation of tree protection fencing. Once the tree protection zones have been determined the next step is to mulch the zone with woodchip and erect tree protection fencing. This must be completed prior to any materials being brought on-site, erection of temporary site facilities or demolition/earth works. The protection fencing must be sturdy and withstand winds and construction impacts. The protection fence should only be moved with approval of the site supervisor. Other root zone protection methods can be incorporated if the TPZ area needs to be traversed.
- Appropriate signage is to be fixed to the fencing to alert people as to importance of the tree protection zone.
- The importance of tree preservation must be communicated to all relevant parties involved with the site.
- Inspection of trees during excavation works.

TPZ fencing

TPZ fencing must be in the form of either temporary fencing panels with concrete block feet and locked together or water filled barriers with locking pins installed. TPZ fencing must be sufficiently robust to withstand knocks and bumps from plant and machinery, delivery vehicles, storage of materials and dumping of spoil.

- Appropriate signage stating ‘Tree protection Zone- No access’ is to be fixed to the fencing to alert people as to importance of the tree protection zone.

  Refer to Figure 1 for fencing example.

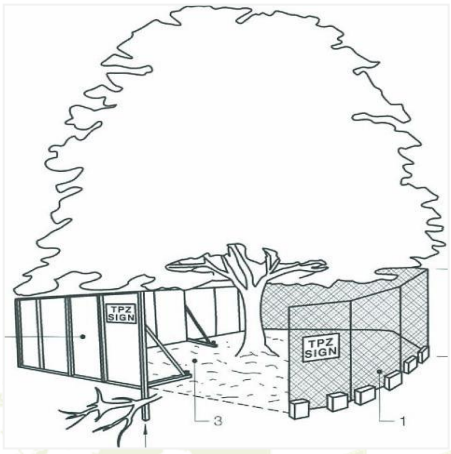
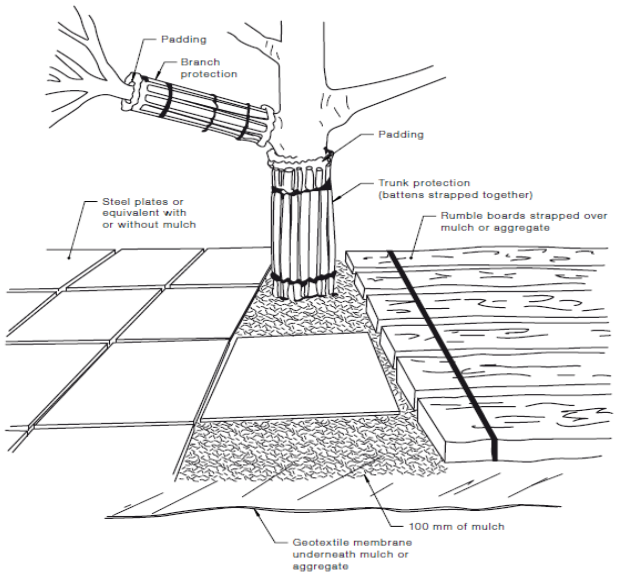


Figure 1. *Above left - Example of TPZ fencing above right -Example of TPZ signage*.

Ground buffering

Where works are required to be undertaken within the Tree root zone without penetration of the surface, ground buffering and trunk and limb protection must be provided to minimise the potential for soil to become compacted and avoid potential for impact wounds to occur to surface roots, trunk or limbs.
Refer to Diagram 2 below.

***Figure 2**: Examples of ground buffering and trunk and limb protection.*



NOTES:
1 For trunk and branch protection use boards and padding that will prevent damage to bark. Boards are to be strapped to trees, not nailed or screwed.
2 Rumble boards should be of a suitable thickness to prevent soil compaction and root damage.

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION

(Extract from: AS4970-2025, Appendix D, pg17)

Exploratory excavation

The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998).

Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build. This also allows management decisions to be made and allows time for redesign works if required.

Any exploratory excavation within the allocated NRZ is to be undertaken with due care of the roots. Minor exploration is possible with hand tools. More extensive exploration may require the use of high pressure water or air excavation techniques. Either hydraulic or pneumatic excavation techniques will safely expose tree roots; both have specific benefits dependent on the situation and soil type. An arborist is to be consulted on which system is best suited for the site conditions.

Substantial roots are to be exposed and left intact.

Once roots are exposed decisions can be made regarding the management of the tree. Decisions will be dependent on the tree species, its condition, its age, its relative tolerance to root loss, and the amount of root system exposed and requiring pruning.

Other alternative measures to encroaching the TPZ may include boring or tunnelling.

How to determine the diameter of a substantial root

The size of a substantial root will vary according to the distance of the exposed root to the trunk of the tree. The further away from the trunk of a tree that a root is, the less significant the root is likely to be to the tree's health and stability.

The determination of what is a substantial root is often difficult because the form, depth and spread of roots will vary between species and sites. However, because smaller roots are connected to larger roots in a framework, there can be no doubt that if larger roots are severed, the smaller roots attached to them will die. Therefore, the larger the root, the more significant it may be.

Gilman (1997) suggests that trees may contain 4-11 major lateral roots and that the five largest lateral roots account (act as a conduit) for 75% of the total root system.

These large lateral roots quickly taper within a distance to the tree, this distance is identified as the Structural Root Zone (SRZ). Within the SRZ distance, all roots and the soil surrounding the roots are deemed significant.

No root or soil disturbance is permitted within the SRZ.
In the area outside the SRZ the tree may tolerate the loss of one or a number of roots. The table below indicates the size of tree roots, outside the SRZ that would be deemed substantial for various tree heights. The assessment of combined root loss within the NRZ would need to be undertaken by an arborist on an individual basis because the location of the tree, its condition and environment would need to be assessed.

Table 1: Estimated significant root sizes outside SRZ

Height of tree	Diameter of root
Less than 5m	≥ 30mm
Between 5m - 15m	≥ 50mm
More than 15m	≥ 70mm

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Construction Guidelines

The following are guidelines that must be implemented to minimise the impact of the proposed construction works on the retained trees.

- The Tree Protection Zone (TPZ) is fenced and clearly marked at all times. The actual fence specifications should be a minimum of 1.2 - 1.5 metres of chain mesh or like fence with 1.8 meter posts (e.g. treated pine or star pickets) or like support every 3-4 metres and a top line of high visibility plastic hazard tape. The posts should be strong enough to sustain knocks from on site excavation equipment. This fence will deter the placement of building materials, entry of heavy equipment and vehicles and also the entry of workers and/or the public into the TPZ. Note: There are many different variations on the construction type and material used for TPZ fences, suffice to say that the fence should satisfy the responsible authority.
- Contractors and site workers should receive written and verbal instruction as to the importance of tree protection and preservation within the site. Successful tree preservation occurs when there is a commitment from all relevant parties involved in designing, constructing and managing a development project. Members of the project team need to interact with each other to minimise the impacts to the trees, either through design decisions or construction practices. The importance of tree preservation must be communicated to all relevant parties involved with the site.
- The consultant arborist is on-site to supervise excavation works around the existing trees where the TPZ will be encroached.
- A layer of organic mulch (woodchips) to a depth of no more than 100mm should be placed over the root systems within the TPZ of trees, which are to be retained so as to assist with moisture retention and to reduce the impact of compaction.
- No persons, vehicles or machinery to enter the TPZ without the consent of the consulting arborist or site manager.
- Where machinery is required to operate inside the TPZ it must be a small skid drive machine (i.e Dingo or similar) operating only forwards and backwards in a radial direction facing the tree trunk and not altering direction whilst inside the TPZ to avoid damaging, compacting or scuffing the roots.
- Any underground service installations within the allocated TPZ should be bored and utility authorities should common trench where possible.
- No fuel, oil dumps or chemicals shall be allowed in or stored on the TPZ and the servicing and re-fuelling of equipment and vehicles should be carried out away from the root zones.
- No storage of material, equipment or temporary building should take place over the root zone of any tree.
- Nothing whatsoever should be attached to any tree including temporary services wires, nails, screws or any other fixing device.
- Supplementary watering should be provided to all trees through any dry periods during and after the construction process. Proper watering is the most important maintenance task in terms of successfully retaining the designated trees. The areas under the canopy drip lines should be mulched with woodchip to a depth of no more than 100mm. The mulch will help maintain soil moisture levels. Testing with a soil probe in a number of locations around the tree will help ascertain soil moisture levels and requirements to irrigate. Water needs to be applied slowly to avoid runoff. A daily watering with 5 litres of water for every 30 mm of trunk calliper may provide the most even soil moisture level for roots (Watson & Himelick, 1997), however light frequent irrigations should be avoided. Irrigation should wet the entire root zone and be allowed to dry out prior to another application. Watering should continue from October until April.

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Tree Logic Pty. Ltd.
Unit 4, 21 Eugene Terrace
Ringwood Vic 3134

RE: Arboricultural Consultancy

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