



**Sustainable
Tree Management**
Arboricultural and Ecological Specialists

ARBORICULTURAL IMPACT ASSESSMENT

Site address

215 & 217-227 PURNELL ROAD, LOVELY BANKS 3213

Report prepared for



Mar 04, 2026 10:18 am



Prepared by



Sustainable Tree Management

Prepared 29 May 2026

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EXECUTIVE SUMMARY

This Arboricultural Impact Assessment (AIA) has been prepared to support a Planning Permit Application to the City of Greater Geelong for the demolition of the existing dwelling and place of worship building, and the construction of an Aged Care Facility, at 215 & 217-227 Purnell Road, Lovely Banks (the site). The site is located within the General Residential Zone (GRZ1), with Clause 52.17 – Native Vegetation and Clause 52.37 – Canopy Trees of the Greater Geelong Planning Scheme applicable to the proposal.

Existing Vegetation

A total of ninety-three (93) trees were assessed on and adjacent to the site. The site vegetation includes planted Australian native and exotic species of medium and low retention value, with most trees located within established front, side and rear landscape setback areas. No remnant native vegetation was identified on the site.

The majority of trees proposed for removal comprise small to medium-sized ornamental plantings, poor structured shelterbelt trees and readily replaceable exotic species that make a limited contribution to the broader canopy character and landscape significance of the locality. One tree of notable size proposed for removal is Tree No. 11 (*Fraxinus angustifolia*), a mature Boundary Canopy Tree that has previously undergone canopy reduction/lopping, resulting in reduced structural quality and long-term arboricultural value.

The proposed development has incorporated the retention of selected canopy trees where practicable, including Council Tree No. 15 (*Gleditsia triacanthos*), Tree No. 14 (*Fraxinus angustifolia*), Tree No. 21 (*Eucalyptus spathulata*), and the majority of Tree Group 20 comprising thirty-eight (38) *Eucalyptus cladocalyx* (Sugar Gum) specimens located along the western boundary of the site.

Key Considerations

Minor encroachments into the Notional Root Zones (NRZs) of retained trees are generally limited and considered acceptable under AS4970-2025 – Protection of Trees on Development Sites. Tree No. 14 is subject to a minor 10% NRZ encroachment, while retained portions of Tree Group 20 are subject to minor encroachments ranging between approximately 1–7%. These impacts are unlikely to adversely affect long-term tree viability, provided recommended tree protection measures are implemented throughout demolition and construction.

Conclusion

Overall, the proposed development is considered acceptable from an arboricultural perspective. The removal of low value and structurally compromised vegetation, combined with the retention of selected canopy trees and the majority of the Sugar Gum shelterbelt, will maintain established landscape screening and canopy cover while facilitating an improved long-term landscape and amenity outcome for the site.

1. INTRODUCTION

This Arboricultural Impact Assessment (AIA) and accompanying Tree Protection Plan (TPP) have been prepared for Knowles Group as part of a Planning Permit Application to the City of Greater Geelong for the demolition of the existing dwelling and place of worship building, and the construction of an Aged Care Facility, at 215 & 217-227 Purnell Road, Lovely Banks.

The Report has been prepared in accordance with Australian Standard AS 4970-2025 – Protection of Trees on Development Sites, which outlines the principles and processes for the retention and protection of trees throughout all stages of development.

Each tree has been assessed in relation to its species, dimensions, health, structure, and overall condition. The assessment also considers each tree's landscape and streetscape value, as well as its environmental significance within the surrounding urban setting.

This AIA identifies trees recommended for retention or removal, evaluates potential impacts associated with the proposed development, and outlines tree protection measures and planning permit considerations. The recommendations are based on an objective evaluation of each tree's structural integrity, physiological condition, and sustainable Life Expectancy within its current and future growing environment.

All recommendations are founded on established arboricultural principles and are not influenced by the design intent of the proposed development.

2. SCOPE AND REPORT OBJECTIVES

Sustainable Tree Management was engaged by Knowles group to prepare an Arboricultural Impact Assessment (AIA) and accompanying Tree Protection Plan (TPP) in accordance with Australian Standard AS 4970-2025 – Protection of Trees on Development Sites.

The Report objectives are:

- Assess and document the health, structure, and overall condition of trees located on the site and within proximity to the proposed construction envelope;
- Determine the suitability of each tree for retention or removal, based on the characteristics observed and in consideration of its estimated life expectancy and structural stability;
- Evaluate the potential impacts of the proposed development on retained trees and provide guidelines for tree protection consistent with the requirements of AS 4970-2025;
- Identify any trees that require a Planning Permit for removal under Clause 52.17 – Native Vegetation of the Greater Geelong Planning Scheme; and
- Identify any trees that require a Planning Permit for removal under Clause 52.37 – Canopy Trees of the Greater Geelong Planning Scheme.

3. SITE AND VEGETATION ANALYSIS

The site comprises 2 lots, is rectangular in shape, is relatively flat and has an overall area of approximately 1.1 hectares. A current aerial MetroMap image of the site is provided below (Figure 1) to illustrate the site layout, surrounding context, and existing vegetation.



Figure 1. Aerial MetroMap image dated 7 February 2026.

4. PLANNING CONSIDERATIONS

The site located within a General Residential Zone – Schedule 1 (GRZ1) under the provisions of the Greater Geelong Planning Scheme (Figure 2).

The following vegetation planning overlays and controls apply to the site:

- Clause 52.17 – Native Vegetation; and
- Clause 52.37 – Canopy Trees – Greater Geelong Planning Scheme.

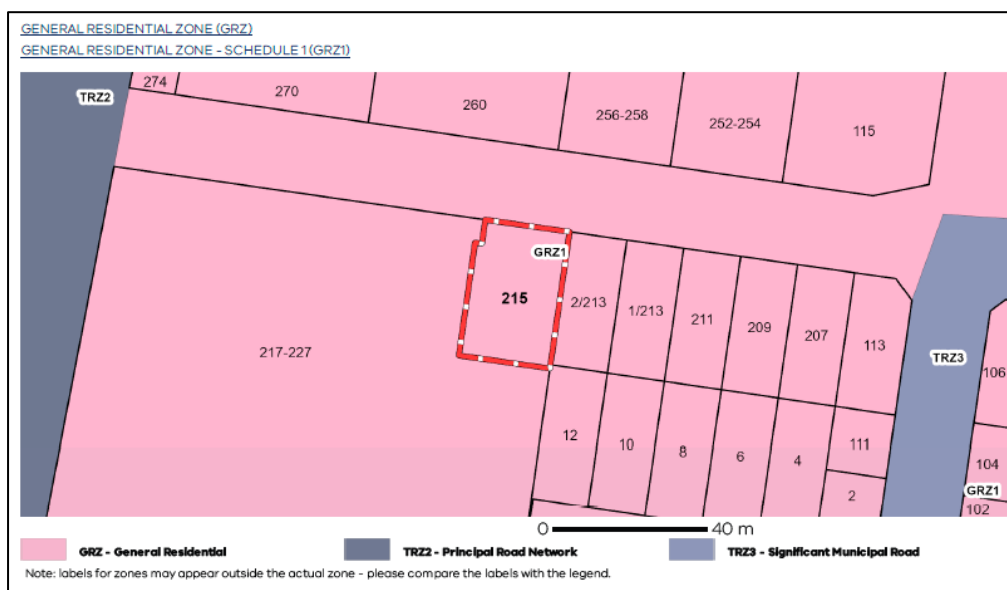


Figure 2. Extract: General Residential Zone – Schedule 1 (GRZ1), Planning Property Report (VicPlan), dated 6 March 2026.

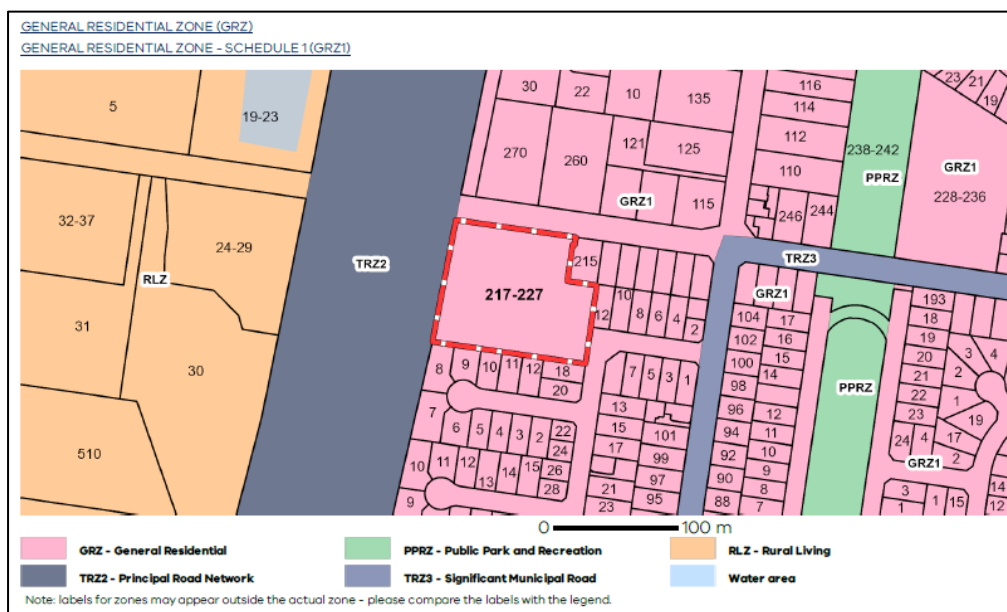


Figure 3. Extract: General Residential Zone – Schedule 1 (GRZ1), Planning Property Report (VicPlan), dated 3 March 2026.

Clause 52.17 – Native Vegetation

Clause 52.17 of the Victorian Planning Schemes is the primary control regulating the removal, destruction and lopping of native vegetation across the state. Its purpose is to ensure that the contribution of native vegetation to Victoria's biodiversity, landscape character and ecological resilience is recognised and protected. Under this clause, a planning permit is required to remove native vegetation on land together with all contiguous land in the same ownership where the total area is 0.4 hectares (4,000 m²) or greater. This requirement applies not only to living native vegetation, but also to the removal of dead native trees with a DBH of 40 cm or more, as well as isolated or "scattered" native plants.

The clause includes a range of exemptions, particularly for vegetation that is planted, direct-seeded, or recent regrowth less than 10 years old, recognising that not all native vegetation contributes equally to ecological values. Where native vegetation removal is not exempt, applicants must satisfy the offset obligations of Clause 52.17-5, which require biodiversity losses to be compensated in accordance with state-approved guidelines.

The destruction, lopping or removal of Victorian native vegetation on land which, together with all contiguous land in one ownership, has an area of 0.4 hectares (4000 m²) or more requires a Planning Permit under Clause 52.17 of all Victorian Planning Schemes. This includes the removal of dead trees with a DBH (diameter at breast height or 1.4 metres) of 40 centimetres or more and any individual scattered native plants.

The following exemptions must be considered when determining if native vegetation requires a permit for its removal:

1. Native vegetation that is to be removed, destroyed, or lopped that was either planted, or grown as a result of direct seeding.

This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity unless the removal, destruction or lopping of the native vegetation is in accordance with written permission of the agency (or its successor) that provided the funding.

2. Native vegetation that is to be removed, destroyed, or lopped that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation, and is: – less than 10 years old; or

- bracken (*Pteridium esculentum*); or
- less than ten years old at the time of a property vegetation plan being signed by the Secretary to the Department of Environment, Land, Water and Planning (as constituted under Part 2 of the Conservation, Forests and Lands Act 1987); and is shown on that Plan as being 'certified regrowth'; and
- on land that is to be used or maintained for cultivation or pasture during the term of that Plan; or
- within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record and has established after the plantation.

When designing a proposed site layout, retaining, and incorporating mature healthy and high retention value native canopy trees must be considered. This approach can minimise vegetation loss, offset payments and demonstrates the appropriate balance between the retention of high value native vegetation and achieving the objectives within the planning scheme.

Clause 52.17-5 Offset Requirements

If a permit is required to remove, destroy, or lop native vegetation, the biodiversity impacts from the removal, destruction or lopping of native vegetation must be offset, in accordance with the Guidelines. The conditions on the permit for the removal, destruction or lopping of native vegetation must specify the offset requirement and the timing to secure the offset.

Clause 52.37 – Canopy Trees

Clause 52.37 seeks to protect and enhance canopy tree cover in residential areas by maximising the retention of existing canopy trees and ensuring new development is designed to integrate canopy tree outcomes. The provision applies to residential and mixed-use zones, including the General Residential Zone (GRZ), Neighbourhood Residential Zone (NRZ), Residential Growth Zone (RGZ), Township Zone (TZ), Mixed Use Zone (MUZ) and Housing Choice and Transport Zone (HCTZ).

A canopy tree is defined as a tree with a height greater than 5 metres, a trunk circumference exceeding 0.5 metres at 1.4 metres above ground, and a canopy spread of at least 4 metres.

Planning Permit requirements under Clause 52.37 are as follows:

- Boundary Canopy Trees (within 6 m of the front boundary or 4.5 m of the rear boundary) always require a separate planning permit under Clause 52.37 for removal, destruction or lopping.
- Non-boundary Canopy Trees proposed for removal as part of an application under Clause 54 (one dwelling), Clause 55 (two or more dwellings), Clause 57 (subdivision) or Clause 58 (apartments) do not require a separate Clause 52.37 permit. Instead, the tree removal is assessed as part of the broader planning application, and removal cannot occur until that overall permit is granted.

Exemptions apply where trees are dead, are weed species, pose an immediate risk to safety or property, or where works are undertaken for emergency, infrastructure or approved Traditional Owner agreements.

In addition to retention, Clause 52.37 establishes minimum canopy tree planting standards based on site area, ranging from one tree on small sites ($\leq 100 \text{ m}^2$) up to canopy cover equivalent to 20% of the site area on large sites ($> 1000 \text{ m}^2$). New trees must be planted in deep soil areas or planters of adequate soil volume and be capable of reaching at least 6m in height and a 4m canopy spread at maturity.

When preparing site layouts, the retention of mature, healthy and high retention value canopy trees should be prioritised. Where removal is unavoidable, appropriate tree protection measures in accordance with AS 4970-2025 Protection of Trees on Development Sites must be implemented, and new canopy trees provided to ensure compliance with Clause 52.37 standards.

5. SURVEY METHODOLOGY

Field Assessment

Data collection was undertaken by [REDACTED] (Officer) of Sustainable Tree Management on 4 March 2026. A topographical levels and feature survey supplied by the client was used to confirm existing site levels, boundaries, built form, and the location of trees on and adjacent to the site. Each tree was assigned a unique identification number corresponding with the Tree Protection Plan (TPP) prepared in accordance with AS 4970-2025 – Protection of Trees on Development Sites (See Section 7).

The Diameter at Standard Height (DSH) was recorded for each tree to determine the Notional Root Zone (NRZ), Tree Protection Zone (TPZ), and Structural Root Zone (SRZ) in accordance with Section 3 – Determining Protection Zones of AS 4970-2025 – Protection of Trees on Development Sites.

The genus and species, canopy spread (measured as north, east, south, and west radii from the trunk centre), and height (in metres) were documented, together with observations of health, structure, age class, estimated Life Expectancy, and landscape significance. This information was used to evaluate relevant planning controls that provide tree protection and to determine the retention value of each tree based on its characteristics, condition, and potential for long-term viability within the site. The assessment was visual from ground level only; no climbing, soil sampling, or laboratory testing was undertaken. Species identification was made in the field using common nomenclature. Conditions or defects not apparent from this visual inspection are excluded, and findings reflect the condition of the trees at the time of assessment.

Desktop Analysis

A scaled overlay of the proposed development footprint was applied to levels and features survey with encroachments into NRZs calculated using either Bluebeam Revu or AutoCAD desktop software.

$$\text{Encroachment (\%)} = (\text{Encroached Area} \div \text{Total NRZ Area}) \times 100$$

Encroachments were classified in accordance with Clause 3.3 of AS 4970-2025:

- Minor ($\leq 10\%$) – Generally acceptable with compensatory design measures; impacts limited to non-structural roots under arborist supervision.
- Moderate ($> 10\% - \leq 20\%$) – May be acceptable where arborist evidence shows the tree will remain viable; often supported by root investigation and low-impact construction methods.
- Major ($> 20\%$) – Typically unsustainable unless justified through detailed investigation and alternative design; may require engineering input and arborist certification.

All measurements and calculations were verified against survey data to ensure accuracy and compliance with AS 4970-2025.

6. DOCUMENTS VIEWED IN PREPARATION OF THIS REPORT

The following documents were viewed in preparation of this Report:

- Greater Geelong Planning Scheme;
- Plan of Survey (Speedie Development Consultants Pty Ltd, Ref No. 13682F, Sheets 1 of 4 – 4 of 4 inclusive, Version No. 1, dated 27 November 2025);
- Proposed Ground Floor Plan 7 Roof Plan (Telha Clarke, TP.090 Existing Site/Demolition Plan & TP.100 Ground Floor Plan, dated 8 May 2026);
- Aerial Photography of the site (MetroMap, dated 7 February 2026); and
- Planning Property Reports (VicPlan, dated 3 March 2026 & 6 March 2026).

7. ARBORICULTURAL ASSESSMENT

The following trees have been assessed and assigned a retention value based on their health, structure, landscape contribution, and capacity for long-term viability. All third party owned assets including Council and neighbouring trees are designated high retention value regardless of their current condition.

DSH (cm) is the Diameter at Standard Height, measured 1.4 m above natural ground level. NRZ (m) is the Notional Root Zone, representing the indicative area of absorbing roots required to maintain tree health. TPZ (m) is the Tree Protection Zone, and SRZ (m) is the Structural Root Zone, each expressed in metres as a radius from the trunk centre. Encroachment (%) indicates the proportion of the NRZ affected by proposed works.

All measurements and classifications are determined in accordance with the methodologies set out in AS 4970-2025 – Protection of Trees on Development Sites.

7.1 TABLED DATA TABLE

Tree No.	Location	Genus/Species	Common Name	Origin	DSH (cm)	Largest Stem Circ. (cm)	Height (m)	Canopy (m) NESW	Canopy Dia. (m)	Health	Structure	Age Class	ULE	Landscape Significance	Retention Value	NRZ (m)	SRZ (m)	Impact (AS4970-2025)	Clause 52.37	Planning Control (C52.17)
1	On Site	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native (Aus)	35	88	6	3, 3, 3, 3	6	Fair	Poor	Semi-mature	Short	Low	Low	4.2	2.1	Remove	Boundary Canopy Tree	Exempt C52.17 - Non-Vic Native
2	On Site	<i>Melaleuca linariifolia</i>	Snow In Summer	Native (Aus)	28	88	4	2, 2, 2, 2	4	Fair	Fair	Semi-mature	Medium	Low	Low	3.4	1.9	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
3	On Site	<i>Callistemon sp.</i>	Bottlebrush	Native (Aus)	17	35	4.5	3, 2, 2, 2	4.5	Fair	Fair	Semi-mature	Medium	Low	Low	2	1.6	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
4	On Site	<i>Melaleuca linariifolia</i>	Snow In Summer	Native (Aus)	41	110	4.5	3, 3, 2, 3	5.5	Fair	Fair	Semi-mature	Medium	Medium	Medium	4.9	2.3	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
5	On Site	<i>Melaleuca linariifolia</i>	Snow In Summer	Native (Aus)	37	88	4.8	3, 3, 2, 2	5	Fair	Fair	Semi-mature	Medium	Medium	Medium	4.4	2.2	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
6	On Site	<i>Melaleuca linariifolia</i>	Snow In Summer	Native (Aus)	34	88	4	2, 2, 2, 2	4	Fair	Fair	Semi-mature	Medium	Medium	Medium	4.1	2.1	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
7	On Site	<i>Melaleuca linariifolia</i>	Snow In Summer	Native (Aus)	43	116	4	2, 2, 2, 3	4.5	Fair	Fair	Semi-mature	Medium	Medium	Medium	5.2	2.3	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
8	On Site	<i>Acacia longifolia</i>	Sallow Wattle	Native (Vic)	16	31	4	2, 2, 2, 2	4	Fair	Poor	Semi-mature	Short	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Planted
9 (x6)	On Site	<i>Photinia robusta</i>	Photinia	Exotic	10	31	2	1, 1, 1, 1	2	Fair	Fair	Semi-mature	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
10	On Site	<i>Alnus jarullensis</i>	Evergreen Alder	Exotic	25	79	7	4, 3, 3, 2	6	Fair	Fair	Semi-mature	Medium	Medium	Medium	3.0	1.8	Remove	Canopy Tree	Exempt C52.17 - Exotic
11	On Site	<i>Fraxinus angustifolia</i>	Narrow-Leafed Ash	Exotic	85	267	8	6, 8, 5, 7	13	Fair	Fair	Mature	Long	Medium	Medium	10.2	3.1	Remove	Boundary Canopy Tree	Exempt C52.17 - Exotic
12	On Site	<i>Acer x freemanii</i>	Freeman Maple	Exotic	24	47	6	2, 3, 3, 3	5.5	Fair	Poor	Semi-mature	Medium	Low	Low	2.9	1.8	Remove	No - Undersized	Exempt C52.17 - Exotic
13 (x6)	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	14	44	5	1, 1, 1, 1	2	Fair	Fair	Semi-mature	Medium	Medium	Medium	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
14	On Site	<i>Fraxinus angustifolia</i>	Narrow-Leafed Ash	Exotic	30	94	7	4, 4, 4, 4	8	Fair	Fair	Semi-mature	Medium	Medium	Medium	3.6	2.0	Retain Minor (10%)	Boundary Canopy Tree	Exempt C52.17 - Exotic
15	Council Asset	<i>Gleditsia triacanthos</i>	Honeylocust	Exotic	18	57	6	3, 3, 3, 3	6	Fair	Fair	Semi-mature	Medium	High	High	2.2	1.6	Retain	Canopy Tree	Exempt C52.17 - Exotic
16 (x6)	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	10	31	4.5	1, 1, 1, 1	2	Fair	Fair	Young	Medium	Medium	Medium	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
17	On Site	<i>Fraxinus angustifolia</i>	Narrow-Leafed Ash	Exotic	15	47	4.5	2, 2, 2, 2	4	Fair	Fair	Young	Medium	Low	Medium	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
18 (x8)	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	10	31	3.5	1, 1, 1, 1	2	Fair	Fair	Young	Medium	Low	Medium	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
19	On Site	<i>Fraxinus angustifolia</i>	Narrow-Leafed Ash	Exotic	27	85	4.5	2, 2, 2, 2	4	Fair	Fair	Young	Medium	Medium	Medium	3.2	1.9	Remove	No - Undersized	Exempt C52.17 - Exotic
20 (x38)	On Site	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native (Aus)	40	126	10	5, 5, 5, 5	10	Fair	Poor	Semi-mature	Medium	Medium	Medium	4.8	2.3	Remove x 5 Retain x 33 Minor (1-7%)	Boundary Canopy Trees & Canopy Trees	Exempt C52.17 - Non-Vic Native
21	On Site	<i>Eucalyptus spathulata</i>	Swamp Mallett	Native (Aus)	50	126	14	5, 5, 5, 5	10	Fair	Fair	Semi-mature	Medium	Medium	Medium	6.0	2.5	Retain	Canopy Tree	Exempt C52.17 - Non-Vic Native
22 (x8)	On Site	<i>Callistemon sp.</i>	Bottlebrush	Native (Aus)	8	19	3	1, 1, 1, 1	2	Fair	Fair	Semi-mature	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
23	On Site	<i>Callistemon sp.</i>	Bottlebrush	Native (Aus)	8	25	4	1, 1, 1, 1	2	Fair	Fair	Semi-mature	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Non-Vic Native
24	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	12	38	5	1, 2, 2, 1	3	Fair	Fair	Semi-mature	Medium	Medium	Medium	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
25	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	9	28	3.5	1, 1, 1, 1	2	Fair	Fair	Young	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
26	On Site	<i>Pyrus calleryana</i>	Callery Pear	Exotic	8	25	4	1, 1, 1, 1	2	Fair	Fair	Young	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic
27	On Site	<i>Prunus serrulata</i>	Japanese Cherry	Exotic	13	41	3	1, 1, 1, 1	2	Fair	Fair	Semi-mature	Medium	Low	Low	2.0	1.5	Remove	No - Undersized	Exempt C52.17 - Exotic

High Retention Value (3rd Party Asset)
Minor NRZ Encroachment <10%
C52.37 Permit Required (BCT/CT)

PURNELL ROAD

PRINCES FWY

PEDESTRIAN PATH

TITLE BOUNDARY 97.80m 96° 55'

TITLE BOUNDARY 100.12m 9° 42'

TITLE BOUNDARY 64m 86° 55'

TITLE BOUNDARY 92.80m 276° 55'

**215 & 217 - 227 PURNELL ROAD
LOVELY BANKS 3213**

**BUILDINGS AND ALL ANILARY STRUCTURES
TO BE REMOVED. SITE TO BE PREPARED FOR
PROPOSED WORKS.**

RETAINING WALL TO BE REMOVED

RETAINING WALL TO BE REMOVED

RETAINING WALL TO BE REMOVED

WATER TANK TO BE REMOVED

EXISTING HEDGE TO BE REMAINED

**EXISTING CHAIN MESH FENCE TO BE
REMAINED**

SOLAR PANELS

COLORBOND SHED

**COLOURBOND
← SHED**

**18 PHALARIS PARK DRIVE
SINGLE STOREY
BRICK RESIDENCE**

**12 PHALARIS
PARK DRIVE
SINGLE STOREY
WEATHERBOARD
RESIDENCE**

**10 PHALARIS
PARK DRIVE**

**8 PHALARIS
PARK DRIVE**

**213 PURNELL ROAD
SINGLE STOREY
BRICK RESIDENCE
SOLAR
PANELS**

**211 PURNELL ROAD
SINGLE STOREY
BRICK RESIDENCE**

**HARDIPAL
BUNGALOW**

**PHALARIS
DRI**

8 SIROLAN COURT

9 SIROLAN COURT

10 SIROLAN COURT

11 SIROLAN COURT

12 SIROLAN COURT

TREE PROTECTION KEY

- TREE CANOPY (SRZ & NRZ)
- TREE NOMINATED FOR REMOVAL
- TREE PROTECTION FENCING

TREE PROTECTION PLAN - AS4970-2025 - PAGE 1 (SITE DEMOLITION)

DOCUMENT ISSUE: V1.0 DATE: 18/05/2026

CLIENT: KNOWLES GROUP

SITE ADDRESS: 215 PURNELL ROAD, LOVELY BANKS VICTORIA 3213

PLANNING SCHEME: GREATER GEELONG

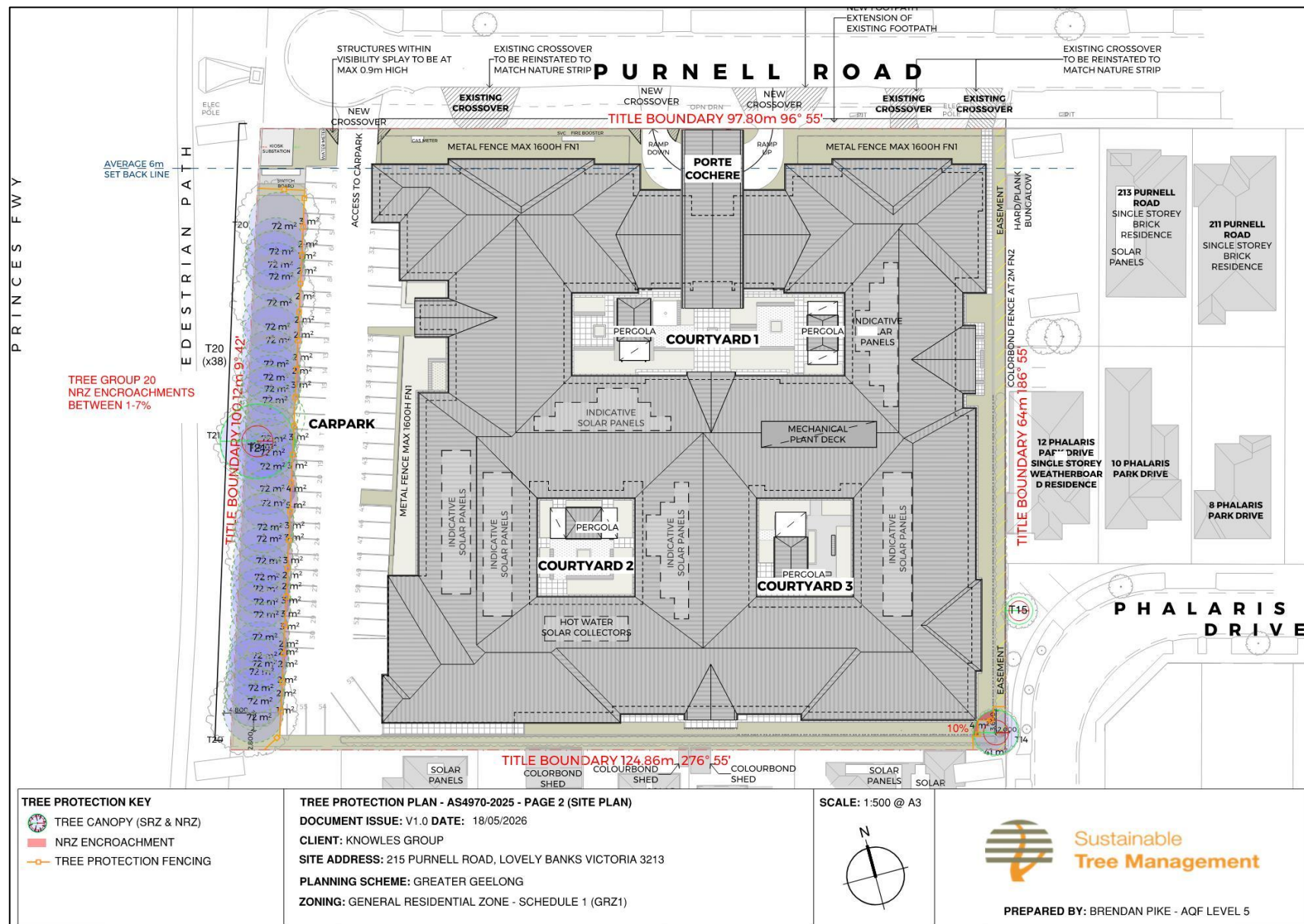
ZONING: GENERAL RESIDENTIAL ZONE - SCHEDULE 1 (GRZ1)

SCALE: 1:500 @ A3

N

**Sustainable
Tree Management**

PREPARED BY: BRENDAN PIKE - AQF LEVEL 5



8. OBSERVATIONS

The subject site contains a mix of planted Australian native and exotic tree species, the majority of which are young to semi-mature specimens of low to medium retention value. Much of the vegetation proposed for removal comprises small ornamental plantings, poor structured shelterbelt trees and readily replaceable exotic species located along the Purnell Road frontage and within existing landscaped setback areas. These trees make a limited contribution to the broader landscape character of the locality, and their removal will not result in a substantive loss of established canopy cover.

The proposed development has incorporated the retention of selected canopy trees where practicable, including the Council street tree No. 15 (*Gleditsia triacanthos*), Tree No. 14 (*Fraxinus angustifolia*), Tree No. 21 (*Eucalyptus spathulata*), and the majority of the Sugar Gum shelterbelt (Tree Group 20). Retained trees will continue to provide landscape screening, canopy cover, wind attenuation, microclimatic benefits and visual softening to the site and surrounding interfaces.

Tree Group 20 comprises a linear row of thirty-eight (38) *Eucalyptus cladocalyx* (Sugar Gum) specimens located along the western boundary of the site. The trees were assessed collectively as they present with generally consistent characteristics including comparable age class, height, canopy form and growing conditions associated with their historic establishment as a shelterbelt style planting. While individual DSH measurements vary slightly throughout the group, the adopted nominal DSH of 40 cm and corresponding calculated Notional Root Zone (NRZ) radius of 4.8 metres applied across the group is considered appropriate and sufficient for the purposes of assessing development impacts and overall group viability. Individual photographs of each tree within Tree Group 20 are provided within the individual tree data tables contained in Appendix A.



Image 1. Tree Group 20 – *Eucalyptus cladocalyx* (Sugar Gum).

Proposed Construction Impacts

The retained portions of Tree Group 20 are subject to calculated minor NRZ encroachments ranging between approximately 1–7%, primarily associated with the proposed car parking interface. These impacts are considered acceptable and unlikely to adversely affect long-term tree viability when considered in the context of the existing site conditions, including the presence of existing asphalt and concrete hardstand areas already occurring within portions of the eastern NRZs. *Eucalyptus cladocalyx* is also generally regarded as reasonably tolerant of moderate root disturbance where impacts are limited and appropriately managed.

Tree No. 14 (*Fraxinus angustifolia*) has been nominated for retention and provides a moderate contribution to the existing landscape character of the site. The tree is subject to a calculated 10% NRZ encroachment associated with the proposed development footprint. In accordance with AS4970-2025 this level of impact is classified as minor and is unlikely to adversely affect the ongoing health.

Tree Retention Considerations

Tree Group 20 has been assessed as possessing an overall medium retention value. Positive attributes of the group include the provision of established canopy cover, visual screening, wind attenuation, continuity of vegetation along the western boundary and contribution to the broader landscape character of the site. However, the species is generally more suited to broadacre and rural shelterbelt style planting applications rather than confined urban environments. Many individual specimens exhibit fair to poor structural form including stem sweep, asymmetrical canopy development and evidence of previous branch loss. Sugar Gums are also recognised as a species prone to periodic branch shedding, particularly in response to environmental stress and age-related decline.

As currently proposed, the majority of Tree Group 20 has been nominated for retention and integration into the future landscape outcome, with only the northern-most five (5) specimens nominated for removal to facilitate the development (Substation and Switchboard). Ongoing arboricultural management will be required to support long-term retention of the group, particularly along the eastern canopy interface adjoining the proposed car parking areas. Evidence of limited previous pruning is visible adjacent to the existing asphalt hardstand area and future management should also focus on selective pruning of defective or end-weighted limbs in accordance with AS4373-2007 – Pruning of Amenity Trees.

Proposed Tree Removal

Collectively, the vegetation proposed for removal does not support widespread long-term incorporation into the future landscape framework of the site due to its limited landscape significance, structural deficiencies. The only notable consideration is Tree No. 11 (*Fraxinus angustifolia*), a mature Boundary Canopy Tree of reasonable canopy size and moderate landscape contribution. Tree No. 11 has previously undergone significant canopy reduction/lopping at an approximate height of 4 metres above ground level. This type of pruning commonly results in the development of vigorous epicormic regrowth with weakly attached secondary branch unions, altered canopy architecture and an increased long-term maintenance burden. While the tree presently remains viable, the previous lopping has reduced overall structural quality and long-term arboricultural value.

9. CONCLUSION

While several removed trees meet the definition of Canopy Trees or Boundary Canopy Trees under Clause 52.37 of the Greater Geelong Planning Scheme (refer Section 7.1 – Tree Data Table), all assessed vegetation is exempt from Clause 52.17 permit requirements, as the vegetation is either exotic, planted, or non-Victorian native species. No remnant native vegetation was identified within the site.

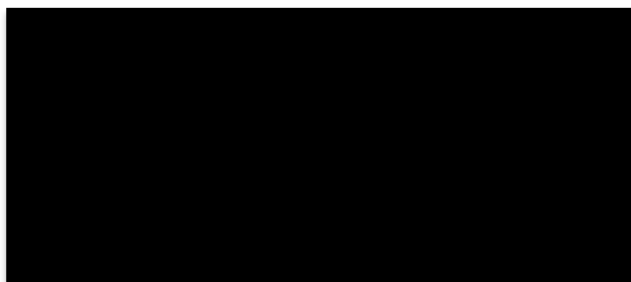
The proposed development has appropriately balanced the retention of established canopy vegetation with the functional requirements of the site redevelopment. The majority of vegetation proposed for removal comprises low to medium retention value trees that are readily replaceable, possess limited long-term landscape significance, or are unsuitable for long-term integration into the future built environment. Retention of selected canopy trees, including Tree No. 14, Tree No. 21 and the majority of Tree Group 20, will maintain established landscape screening, canopy cover and visual softening along key site interfaces.

The retained portions of Tree Group 20 are subject only to minor NRZ encroachments ranging between approximately 1–7%, which are considered acceptable under AS4970-2025 and unlikely to adversely affect long-term tree viability. Existing hardstand encroachment already occurring within portions of the eastern NRZs further supports the conclusion that the proposed development is unlikely to result in significant additional arboricultural impact to the retained trees. Subject to ongoing arboricultural management, including periodic inspections and selective maintenance pruning in accordance with AS4373-2007 – Pruning of Amenity Trees, the retained Sugar Gums are considered suitable for continued retention within the future landscape setting.

Subject to the implementation of the recommended tree protection measures and construction methodologies in accordance with AS4970-2025 – Protection of Trees on Development Sites, the proposed development is considered acceptable from an arboricultural perspective and can proceed without unreasonable impact to retained vegetation. The proposal is expected to achieve an overall improved long-term landscape and amenity outcome for the site through the removal of poor-quality vegetation, retention of selected canopy trees and incorporation of future coordinated landscape planting.

Should you have any questions please do not hesitate to make contact.

Yours sincerely,



Sustainable
Tree Management

APPENDIX A – INDIVIDUAL TREE DATA TABLES

Tree Number	1	Low Retention Value
Genus/Species	<i>Eucalyptus cladocalyx</i>	
Common Name	Sugar Gum	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	35	
Largest Stem Circ. (cm)	88.0	
Height (m)	6.0	
Crown Radius NESW (m)	3, 3, 3, 3	
Canopy Diameter (m)	6	
Health	Fair	
Structure	Poor	
Age Class	Semi-mature	
ULE	Short	
Landscape Significance	Low	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	4.2	
SRZ (m)	2.1	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	Yes - Boundary Canopy Tree	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number	2	Low Retention Value
Genus/Species	<i>Melaleuca linariifolia</i>	
Common Name	Snow In Summer	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	28	
Largest Stem Circ. (cm)	88.0	
Height (m)	4.0	
Crown Radius NESW (m)	2, 2, 2, 2	
Canopy Diameter (m)	4	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Low	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	3.4	
SRZ (m)	1.9	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number		3	Low Retention Value
Genus/Species	Callistemon sp.		
Common Name	Bottlebrush		
Species Origin	Native (Aus)		
Location	On Site		
DSH (cm @ 1.4m)	17		
Largest Stem Circ. (cm)	35.0		
Height (m)	4.5		
Crown Radius NESW (m)	3, 2, 2, 2		
Canopy Diameter (m)	4		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.6		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Non-Victorian Native		
Comments			
Nominated for removal.			

Tree Number	4	Medium Retention Value
Genus/Species	Melaleuca linariifolia	
Common Name	Snow In Summer	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	41	
Largest Stem Circ. (cm)	110.0	
Height (m)	4.5	
Crown Radius NESW (m)	3, 3, 2, 3	
Canopy Diameter (m)	6	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	4.9	
SRZ (m)	2.3	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number		5	Medium Retention Value
Genus/Species	Melaleuca linariifolia		
Common Name	Snow In Summer		
Species Origin	Native (Aus)		
Location	On Site		
DSH (cm @ 1.4m)	37		
Largest Stem Circ. (cm)	88.0		
Height (m)	4.8		
Crown Radius NESW (m)	3, 3, 2, 2		
Canopy Diameter (m)	5		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	4.4		
SRZ (m)	2.2		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Non-Victorian Native		
Comments			
Nominated for removal.			

Tree Number	6	Medium Retention Value
Genus/Species	Melaleuca linariifolia	
Common Name	Snow In Summer	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	34	
Largest Stem Circ. (cm)	88.0	
Height (m)	4.0	
Crown Radius NESW (m)	2, 2, 2, 2	
Canopy Diameter (m)	4	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Remove	
NRZ(m)	4.1	
SRZ (m)	2.1	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number	7	Medium Retention Value
Genus/Species	Melaleuca linariifolia	
Common Name	Snow In Summer	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	43	
Largest Stem Circ. (cm)	116.0	
Height (m)	4.0	
Crown Radius NESW (m)	2, 2, 2, 3	
Canopy Diameter (m)	4	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	5.2	
SRZ (m)	2.3	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number		8	Low Retention Value
Genus/Species	Acacia longifolia		
Common Name	Sallow Wattle		
Species Origin	Native (Vic)		
Location	On Site		
DSH (cm @ 1.4m)	16		
Largest Stem Circ. (cm)	31.0		
Height (m)	4.0		
Crown Radius NESW (m)	2, 2, 2, 2		
Canopy Diameter (m)	4		
Health	Fair		
Structure	Poor		
Age Class	Semi-mature		
ULE	Short		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Planted		
Comments			
Nominated for removal.			

Tree Number		9 (x6)	Low Retention Value
Genus/Species	Photinia robusta		
Common Name	Photinia		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	10		
Largest Stem Circ. (cm)	31.0		
Height (m)	2.0		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Exotic		
Comments			
Nominated for removal.			

Tree Number		10	Medium Retention Value
Genus/Species	Alnus jorullensis		
Common Name	Evergreen Alder		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	25		
Largest Stem Circ. (cm)	79.0		
Height (m)	7.0		
Crown Radius NESW (m)	4, 3, 3, 2		
Canopy Diameter (m)	6		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	3.0		
SRZ (m)	1.8		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	Yes - Canopy Tree		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

Tree Number		11	Medium Retention Value
Genus/Species		Fraxinus angustifolia	
Common Name		Narrow-Leafed Ash	
Species Origin		Exotic	
Location		On Site	
DSH (cm @ 1.4m)		85	
Largest Stem Circ. (cm)		267.0	
Height (m)		8.0	
Crown Radius NESW (m)		6, 8, 5, 7	
Canopy Diameter (m)		13	
Health		Fair	
Structure		Fair	
Age Class		Mature	
ULE		Long	
Landscape Significance		Medium	
AS4970-2025			
Retain/Remove		Remove	
NRZ (m)		10.2	
SRZ (m)		3.1	
NRZ Encroachment %		N/A	
Planning Control(s)			
Canopy Tree (C52.37)		Yes - Boundary Canopy Tree	
Overlay(s)		Exempt C52.17 - Exotic	
Comments			
Nominated for removal.			

Tree Number		12	Low Retention Value
Genus/Species		<i>Acer x freemanii</i>	
Common Name		Freeman Maple	
Species Origin		Exotic	
Location		On Site	
DSH (cm @ 1.4m)		24	
Largest Stem Circ. (cm)		47.0	
Height (m)		6.0	
Crown Radius NESW (m)		2, 3, 3, 3	
Canopy Diameter (m)		6	
Health		Fair	
Structure		Poor	
Age Class		Semi-mature	
ULE		Medium	
Landscape Significance		Low	
AS4970-2025			
Retain/Remove		Remove	
NRZ (m)		2.9	
SRZ (m)		1.8	
NRZ Encroachment %		N/A	
Planning Control(s)			
Canopy Tree (C52.37)		No - undersized	
Overlay(s)		Exempt C52.17 - Exotic	
Comments			
Nominated for removal.			

Tree Number		13 (x6)	Medium Retention Value
Genus/Species	Pyrus calleryana		
Common Name	Callery Pear		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	14		
Largest Stem Circ. (cm)	44.0		
Height (m)	5.0		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

Tree Number	14	Medium Retention Value
Genus/Species	<i>Fraxinus angustifolia</i>	
Common Name	Narrow-Leafed Ash	
Species Origin	Exotic	
Location	On Site	
DSH (cm @ 1.4m)	30	
Largest Stem Circ. (cm)	94.0	
Height (m)	7.0	
Crown Radius NESW (m)	4, 4, 4, 4	
Canopy Diameter (m)	8	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Retain	
NRZ (m)	3.6	
SRZ (m)	2.0	
NRZ Encroachment %	10 (Minor)	
Planning Control(s)		
Canopy Tree (C52.37)	Yes - Boundary Canopy Tree	
Overlay(s)	Exempt C52.17 - Exotic	
Comments		
Nominated for retention. Minor 10% NRZ Encroachment.		

Tree Number		15	High Retention Value
Genus/Species	Gleditsia triacanthos		
Common Name	Honey Locust		
Species Origin	Exotic		
Location	Council		
DSH (cm @ 1.4m)	18		
Largest Stem Circ. (cm)	57.0		
Height (m)	6.0		
Crown Radius NESW (m)	3, 3, 3, 3		
Canopy Diameter (m)	6		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	High		
AS4970-2025			
Retain/Remove	Retain		
NRZ (m)	2.2		
SRZ (m)	1.6		
NRZ Encroachment %	0		
Planning Control(s)			
Canopy Tree (C52.37)	N/A – Council Asset		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for retention.			

Tree Number		16 (x6)	Medium Retention Value
Genus/Species	Pyrus calleryana		
Common Name	Callery Pear		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	10		
Largest Stem Circ. (cm)	31.0		
Height (m)	4.5		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Young		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

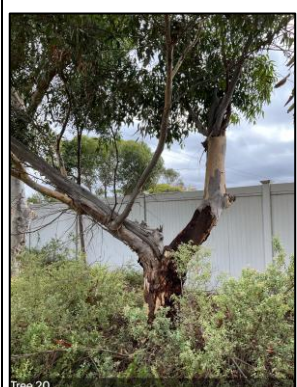
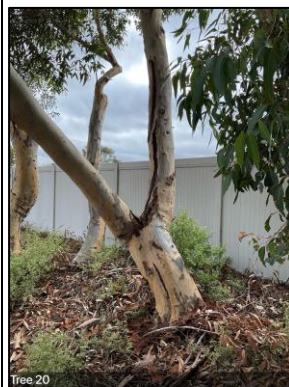
Tree Number		17	Medium Retention Value
Genus/Species	Fraxinus angustifolia		
Common Name	Narrow-Leafed Ash		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	15		
Largest Stem Circ. (cm)	47.0		
Height (m)	4.5		
Crown Radius NESW (m)	2, 2, 2, 2		
Canopy Diameter (m)	4		
Health	Fair		
Structure	Fair		
Age Class	Young		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

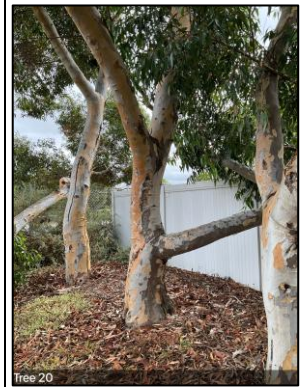
Tree Number		18 (x8)	Medium Retention Value
Genus/Species	Pyrus calleryana		
Common Name	Callery Pear		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	10		
Largest Stem Circ. (cm)	31.0		
Height (m)	3.5		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Young		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

Tree Number		19	Medium Retention Value
Genus/Species	Fraxinus angustifolia		
Common Name	Narrow-Leafed Ash		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	27		
Largest Stem Circ. (cm)	85.0		
Height (m)	4.5		
Crown Radius NESW (m)	2, 2, 2, 2		
Canopy Diameter (m)	4		
Health	Fair		
Structure	Fair		
Age Class	Young		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	3.2		
SRZ (m)	1.9		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 - Exotic		
Comments			
Nominated for removal.			

Tree Number	20 (x38)	Medium Retention Value
Genus/Species	<i>Eucalyptus cladocalyx</i>	
Common Name	Sugar Gum	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	40	
Largest Stem Circ. (cm)	126.0	
Height (m)	10.0	
Crown Radius NESW (m)	5, 5, 5, 5	
Canopy Diameter (m)	10	
Health	Fair	
Structure	Poor	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Retain x 33 / Remove x 5	
NRZ (m)	4.8	
SRZ (m)	2.3	
NRZ Encroachment %	1-7	
Planning Control(s)		
Canopy Tree (C52.37)	Yes - Boundary Canopy Trees / Canopy Trees	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
33 nominated for retention. 5 nominated for removal.		

TREE NO. 20 (38 X *EUCALYPTUS CLADOCALYX* – SUGAR GUM) ADDITIONAL PHOTOS

TREE NO. 20 (38 X *EUCALYPTUS CLADOCALYX* – SUGAR GUM) ADDITIONAL PHOTOS CONTINUED

TREE NO. 20 (38 X *EUCALYPTUS CLADOCALYX* – SUGAR GUM) ADDITIONAL PHOTOS CONTINUED

Tree Number		21	Medium Retention Value
Genus/Species	Eucalyptus spathulata		
Common Name	Swamp Mallett		
Species Origin	Native (Aus)		
Location	On Site		
DSH (cm @ 1.4m)	50		
Largest Stem Circ. (cm)	126.0		
Height (m)	14.0		
Crown Radius NESW (m)	5, 5, 5, 5		
Canopy Diameter (m)	10		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Medium		
AS4970-2025			
Retain/Remove	Retain		
NRZ (m)	6.0		
SRZ (m)	2.5		
NRZ Encroachment %	0		
Planning Control(s)			
Canopy Tree (C52.37)	Yes - Canopy Tree		
Overlay(s)	Exempt C52.17 – Non-Victorian Native		
Comments			
Nominated for retention.			

Tree Number	22 (x8)	Low Retention Value
Genus/Species	<i>Callistemon sp.</i>	
Common Name	Bottlebrush	
Species Origin	Native (Aus)	
Location	On Site	
DSH (cm @ 1.4m)	8	
Largest Stem Circ. (cm)	19.0	
Height (m)	3.0	
Crown Radius NESW (m)	1, 1, 1, 1	
Canopy Diameter (m)	2	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Low	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	2.0	
SRZ (m)	1.5	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Non-Victorian Native	
Comments		
Nominated for removal.		

Tree Number		23	Low Retention Value
Genus/Species	Callistemon sp.		
Common Name	Bottlebrush		
Species Origin	Native (Aus)		
Location	On Site		
DSH (cm @ 1.4m)	8		
Largest Stem Circ. (cm)	25.0		
Height (m)	4.0		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Non-Victorian Native		
Comments			
Nominated for removal.			

Tree Number	24	Medium Retention Value
Genus/Species	<i>Pyrus calleryana</i>	
Common Name	Callery Pear	
Species Origin	Exotic	
Location	On Site	
DSH (cm @ 1.4m)	12	
Largest Stem Circ. (cm)	38.0	
Height (m)	5.0	
Crown Radius NESW (m)	1, 2, 2, 1	
Canopy Diameter (m)	3	
Health	Fair	
Structure	Fair	
Age Class	Semi-mature	
ULE	Medium	
Landscape Significance	Medium	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	2.0	
SRZ (m)	1.5	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Exotic	
Comments		
Nominated for removal.		

Tree Number		25	Low Retention Value
Genus/Species	Pyrus calleryana		
Common Name	Callery Pear		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	9		
Largest Stem Circ. (cm)	28.0		
Height (m)	3.5		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Young		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Exotic		
Comments			
Nominated for removal.			

Tree Number	26	Low Retention Value
Genus/Species	<i>Pyrus calleryana</i>	
Common Name	Callery Pear	
Species Origin	Exotic	
Location	On Site	
DSH (cm @ 1.4m)	8	
Largest Stem Circ. (cm)	25.0	
Height (m)	4.0	
Crown Radius NESW (m)	1, 1, 1, 1	
Canopy Diameter (m)	2	
Health	Fair	
Structure	Fair	
Age Class	Young	
ULE	Medium	
Landscape Significance	Low	
AS4970-2025		
Retain/Remove	Remove	
NRZ (m)	2.0	
SRZ (m)	1.5	
NRZ Encroachment %	N/A	
Planning Control(s)		
Canopy Tree (C52.37)	No - undersized	
Overlay(s)	Exempt C52.17 – Exotic	
Comments		
Nominated for removal.		

Tree Number		27	Low Retention Value
Genus/Species	Prunus serrulata		
Common Name	Japanese Cherry		
Species Origin	Exotic		
Location	On Site		
DSH (cm @ 1.4m)	13		
Largest Stem Circ. (cm)	41.0		
Height (m)	3.0		
Crown Radius NESW (m)	1, 1, 1, 1		
Canopy Diameter (m)	2		
Health	Fair		
Structure	Fair		
Age Class	Semi-mature		
ULE	Medium		
Landscape Significance	Low		
AS4970-2025			
Retain/Remove	Remove		
NRZ (m)	2.0		
SRZ (m)	1.5		
NRZ Encroachment %	N/A		
Planning Control(s)			
Canopy Tree (C52.37)	No - undersized		
Overlay(s)	Exempt C52.17 – Exotic		
Comments			
Nominated for removal.			

APPENDIX B - TREE PROTECTION SPECIFICATIONS

Sustainable Tree Management determines individual tree protection requirements in accordance with *AS 4970-2025 Protection of Trees on Development Sites*.

Tree protection distances are calculated using the **Diameter at Standard Height (DSH)** measurement to determine the following protection zones:

- **Notional Root Zone (NRZ)** – an indicative area representing the minimum soil volume required to sustain tree health and absorbing root function.
- **Tree Protection Zone (TPZ)** – the principal area requiring protection above and below ground to maintain tree health and vigour.
- **Structural Root Zone (SRZ)** – the area required to maintain tree anchorage and structural stability.

All measurements are expressed in **metres as a radius from the centre of the trunk** in accordance with *Section 3 – Determining Protection Zones* of the Standard.

Protection Principles

The **TPZ** defines the minimum area where protective measures must be applied to ensure retained trees remain viable throughout construction.

The **SRZ** identifies the critical root plate or zone of rapid taper; disturbance within this area may lead to loss of stability or catastrophic failure.

Excavation within the **NRZ, TPZ, or SRZ** must only occur under the supervision of the **Project Arborist** and in accordance with low-impact construction techniques endorsed by *AS 4970-2025 Section 4 – Tree Protection Measures*.

Where full protection zones cannot be achieved due to site constraints, the Project Arborist must consider **species tolerance, tree health, and soil conditions** when determining acceptable encroachments and compensatory protection areas.

Encroachment Guidance (Clause 3.3 AS 4970-2025)

- **Minor encroachment ($\leq 10\%$)** – Generally acceptable where disturbance is outside the SRZ and compensated by design or construction controls.
- **Moderate encroachment ($> 10\% - \leq 20\%$)** – Requires arborist justification demonstrating tree viability, typically supported by root investigation and low-impact design (e.g. pier, cantilevered, or suspended slab construction).
- **Major encroachment ($> 20\%$)** – Generally unsustainable unless supported by detailed arboricultural and engineering assessment confirming tree stability and long-term health.

Tree Protection Requirements

The following measures provide general guidance during design and construction.

- **Protective fencing** must be installed at the prescribed TPZ radius before any works (including demolition) and remain until completion.
Fencing must:
 - Be rigid (chain-link or equivalent) and at least **1.8 m high**.
 - Comply with *AS 4687-2022 Temporary Fencing and Hoardings*.
 - Be clearly signed **TREE PROTECTION ZONE – NO ACCESS – NO MATERIAL STORAGE** in accordance with *Appendix C* of *AS 4970-2025* (minimum A3 size).
- **Ground protection** is required where fencing cannot fully enclose the TPZ.
Materials must distribute loads of at least **200 kPa** (e.g. timber mats or geo-cell systems) and prevent compaction.
- **Site activities** within the TPZ are prohibited unless approved by the Project Arborist.
No excavation, soil fill, storage, fuel, or chemical wash-out is permitted within this area.
Nothing should be attached to the tree except approved identification tape.
- **Mulching:**
The ground surface inside the protection zone should be covered with **100 mm of organic mulch** (*AS 4454 Compost, Soil Conditioners and Mulches*) prior to works commencing.
- **Service installation:**
Open trenching within the TPZ must be avoided.
Where unavoidable, services must be **bored beneath** the TPZ at a minimum depth of **600 mm** and supervised by the Project Arborist.
- **Watering:**
Soil moisture should be maintained at approximately **50 % of field capacity** during construction.
Water may be applied manually, by irrigation, or by fine spray tanker located outside protection zones.
- **Pruning:**
Any remedial pruning must comply with *AS 4373-2007 Pruning of Amenity Trees* and be undertaken by a **qualified Arborist** prior to construction.
- **Arborist Monitoring:**
The Project Arborist must inspect and certify tree protection measures at critical stages of development (as defined in *AS 4970-2025 Clause 1.3.4 – Critical Stages*), providing written documentation to the Site Manager and, where required, to the Responsible Authority.

APPENDIX C - BIBLIOGRAPHY AND CITED REFERENCES

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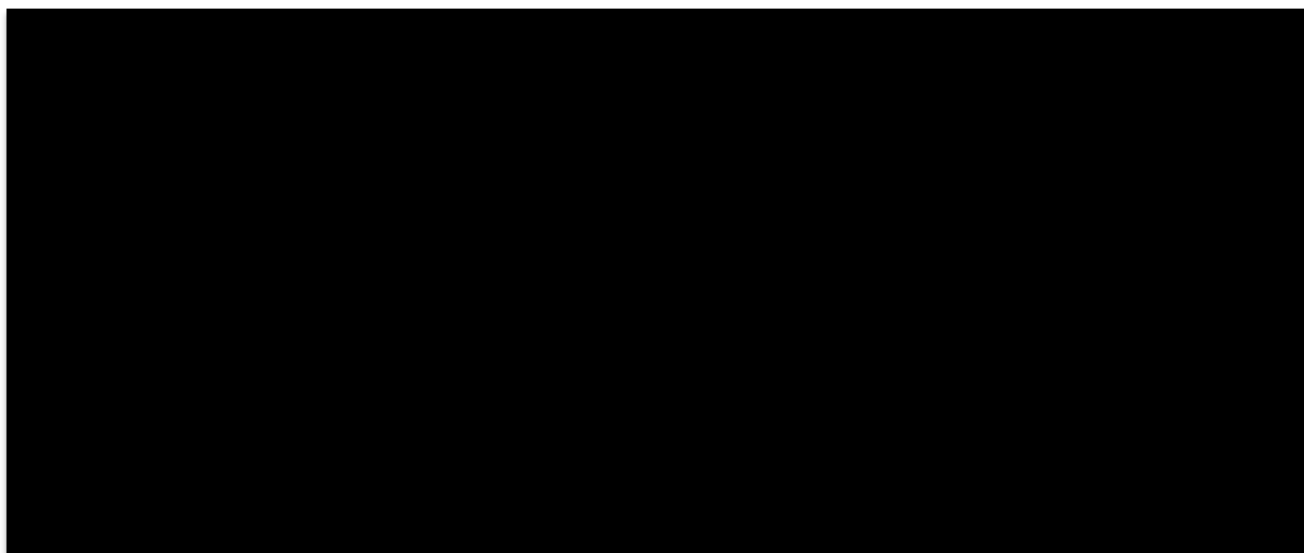
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APPENDIX D - QUALIFICATIONS OF CONSULTANT



APPENDIX E – SITE PHOTOGRAPHS



Photo 1. View from the front of the site looking south.



Photo 2. View from Purnell Road looking west along the front of the site.



Photo 3. View looking south west from the front of the site towards Tree 20 (Group of 38) and Tree 21, along the site's west boundary.



Photo 4. View looking north west from the rear of the site towards Purnell Road.



Photo 5. View from near the existing main building on the site, looking south east towards part of the site's east and south boundaries.



Photo 6. View looking south along the site's west (side) boundary from the rear yard of the site.

APPENDIX F - GLOSSARY OF TERMS

Amenity

Although difficult to quantify, the term as used in this Report relates to the contribution given to the landscape or streetscape in terms of visual aesthetics. It may also relate to the contribution in terms of shade or protection from the elements.

Bifurcation

Forked or divided into two or more parts or branches. Used to describe a union point.

Branch Bark Ridge

Swelling of bark tissue on the upper side of the branch junction or union. Considered the normal pattern of development in contrast to included bark (from Matheny & Clark, 1994).

Branch collar

Trunk tissue that forms around the base of a branch between the main stem and the branch. As the branch decreases in vigour or begins to die, the branch collar becomes more pronounced. (AS4373).

Structural Root Zone (SRZ)

The Structural Root Zone (SRZ) is the calculated distance based on DBH only. The SRZ identifies the minimum radius at which the root plate cannot be disturbed. This measure only relates to the trees' stability and does not consider the implications of a decline in health. The measurement is given in metres in a radius from the tree trunk. (Coder, 1996). This area may also be referred to as the Root Plate Radius (RPR).

Chlorotic

Discolouration of the leaves, yellow in colour resulting from a lack of chlorophyll.

Codominant

Generally, relates to trunks/ stems (although it may relate to scaffold branches within the crown) of two or more and of equal or similar size and relative importance (from Matheny & Clark, 1994).

Compartmentalisation

Physiological process which creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms (from Matheny & Clark, 1994).

Decay

Degeneration and de-lignification of plant tissue, including wood, by pathogens or micro-organisms (AS4373).

Diameter at Standard Height (DSH)

DSH is measured at 1.4m above ground level. In cases where the tree has up to three stems the diameter is calculated by taking the area of each stem at 1.4 metres and calculating the combined diameter. In trees with more than three stems the measurement is provided as 'Multi-stemmed', however in some cases the diameter will be taken at the point below the multi-stemmed union.

Epicormic Shoots

Shoots which arise from adventitious or latent buds (usually dormant). They are generally produced in response to environmental stress.

Included Bark

The pattern of development at a branch union where bark is turned inward rather than outward or pushed out. Relates to the branch bark ridge. (from Matheny & Clark, 1994)

Live Crown Ratio

Relative proportion of healthy crown in proportion to overall tree height. Often not used in isolation due to the different natural forms of many species.

Lateral

A branch arising from another branch or stem (AS4373)

Lopping

Cutting back a limb or stem at any point with no regard to natural target pruning. Random cutting of branches or stems between branch unions or at internodes on young trees. Not considered an acceptable practice as part of the Australian Standard AS4373: *Pruning of Amenity Trees*.

Tree Protection Zone (TPZ)

The Tree Protection Zone (TPZ) (referenced from Australian Standard AS 4970 - 2025 - Protection of Trees on Development Sites; is the calculated distance based on the DBH of the tree. The TPZ addresses the physiological implications by retaining enough area around the tree not only to minimise the potential for complete tree failure but for the tree to survive in the landscape on a long-term basis. The measurement is given in metres in a radius from the centre of the trunk.

Senescence

The organic process of age and the deterioration of tissue within the tree.

Stem bark ridge

The ridge of bark that forms in the union between two codominant stems (AS4373).

Wound wood

Lignified, partially differentiated tissue which develops from the callus associated with wound or pruning cuts.

Origin

Origin is given as Victorian Native (the trees' natural range is within the state of Victoria), Non-Victorian Native (the trees natural range is within Australia) or Exotic (the tree originates from outside of Australia).

Health

Dead – Tree is completely dead, non-functional crown (no green leaves), stem cambium dead, no evidence of root suckers, lignotuberous sprouts.

Poor – Tree is presenting symptoms of strain (Shigo A.L. 1986), large quantities of crown dieback extending from tip dieback to major scaffolds. Persistent infections of pathogens, borers, fungal cankers, and root disease. Irreversible condition ultimately leading to premature death. Any treatments may only be seen as temporary to achieve hazard reduction.

Fair – Tree is presenting symptoms of stress that may be due to seasonal biotic or abiotic conditions e.g. water stress, seasonal defoliators. The symptoms may include tip dieback (less than 25mm diameter), crown thinning, defoliation, leaf discoloration, reduced leaf and / or internode length (less than 75% normal average size of non-stressed specimen) up to 50% of the crown is epicormic / juvenile regrowth. These symptoms should be present over more than 25% of the total tree parts concerned. The condition is reversible.

Good – Tree is generally free of pest and disease Symptoms of any biotic or abiotic stress should not be present over more than 25 % of the tree parts concerned. Internode length may be variable but generally consistent in length for the last 3 annual increments.

Structure

Structure relates to the physical form of the tree, including the trunk(s), main scaffold branches and roots. Structure includes the attributes that may influence the probability of major trunk, limb, or root failure.

Extremely Defective - (Hazardous) – Tree has pronounced structural weakness that may be due to poor growth development, fungal decay, mechanical damage or a combination of these and is presenting symptoms of instability and possible imminent structural failure of major structural components.

Moderately Defective (Poor) – Tree has structural weakness that may be due to poor growth development, fungal decay, mechanical damage, or a combination of these but is not at this time presenting symptoms of imminent structural failure of major structural components.

Minimally Defective (Fair) – Tree has some structural weakness but failure of which is not a major structural component and does not present any imminent symptoms of potential failure. Tree does not appear significantly degraded by decay in any structurally significant component.

Non – Defective (Good) – Tree does not appear to have any notable structural weakness, symptoms of structural distress or indicators of fungal decay.

Age Class

The age class is given as a guide to the current live stage of the tree. Ultimately, the level of maturity that a tree may reach is dependent on the growing environment.

Age Class is rated according to the following categories:

Category	Description
New Planting	Planted within the last year
Juvenile	Generally, less than 5 years old
Young	Estimated as less than 10 years old
Semi-mature	Estimated at between 10 – 25 years old, however, this may be species dependant
Mature	Estimated at over 25 years old or in a life stage that is considered at the peak of growth for the species.
Senescent	In the declining phase of the tree's lifespan

Life Expectancy

Long Life Expectancy: Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

- Structurally sound trees located in positions that can accommodate future growth.
- Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
- Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

Medium life expectancy: Trees that appear to be retainable with an acceptable level of risk for 15-40 years.

- Trees that may only live between 15-40 years.
- Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
- Trees that may live for more than 40 years but would be removed during the course of normal management for safety and nuisance reasons.
- Storm damaged or defective trees that can be made suitable for retention in the medium term by remedial work.

Short Life Expectancy: Trees that appear to be retainable with an acceptable level of risk for 5-15 years.

- Trees that may live for 5-15 years.
- Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
- Trees that may live for more than 15 years but would be removed during the course of normal management for safety and nuisance reasons.
- Storm damaged or defective trees that can be made suitable for retention in the medium term by remedial work.

Remove: Trees with a high level of risk that would need removal within the next 5 years.

- Dead Trees.
- Dying or suppressed and declining trees through disease or inhospitable conditions.
- Dangerous trees through instability or recent loss of adjacent trees.
- Dangerous trees through structural defects including decay, included bark, wounds or poor form.
- Damaged trees that are considered unsafe to retain.
- Trees that will become dangerous after removal of other trees for the above reasons.

Retention Value

High Retention Value (Third-party ownership)

The tree is located outside of the subject site. It may be owned by a private entity (residential) or public body (council). The tree has been assessed on the assumption that its owner requires retention of the tree. It is neither a recommendation of good health of the tree, or suitability for retention. Discussions with the relevant parties and authorities may result in the removal of a tree assessed in this category.

High Retention Value

The tree is well suited to the site and offers significant amenity and/or screening values. The tree is typically in fair to good health and has fair to good structure. Its LIFE EXPECTANCY should be medium to long for the species. The tree may need to be retained for cultural/historic reasons, because it is indigenous, old, remnant or because the tree (regardless of species) may offer vital screening for surrounding properties.

Medium Retention Value

The tree is generally of moderate amenity value. Landscape designs should where practical, accommodate the tree. The tree may be high amenity value but may be compromised due to the growing environmental conditions. This category may contain trees that are juvenile or semi-mature specimens that can potentially be replaced with standard nursery stock. It may be possible to transplant trees rated in this category.

Low Retention Value

The tree is generally of low amenity value. The tree may not be worth retaining in the landscape or may easily be replaced. The tree may be considered a weed species, structurally unsound, dead/dying/diseased, nearing the end of its LIFE EXPECTANCY or may not be suitable for the site.

Site Significance

Site significance pertains to the significance of the individual tree to its surroundings. It should be noted that site significance applies only to the tree as it stands and does not allow for future development or decline. Neither hazard nor appropriateness factors other than site significance are considered. Site significance does not relate to retention value.

Site significance is rated according to the following categories:

Category	Description
High	The tree may be of large size (height and/or spread). The tree may be of unusual and attractive form. The tree may be listed as a "Significant Tree" on one or more of several registers. The tree may flower abundantly or attractively. The tree may screen unattractive structures or landscape features. The tree may be part of a design that compliments the landscape. The tree contributes extensively to the landscape and may be worthy of extensive efforts of preservation.
Medium	The tree may be of medium or small size. The tree may be of somewhat unusual or attractive form. The tree may flower moderately. The tree may be isolated or part of a loosely defined planting. The tree may be part of a partially unsuccessful design or contribute moderately to the design. The tree contributes moderately to the landscape and dependant of the situation could be recommended for retention or removal.
Low	The tree may be of small size. The tree may be of nondescript form. The tree may have a poor floral display. The tree may be part of an unsuccessful design. The tree contributes little to the landscape and may be worthy of little attention or care.

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