ATC LAND MANAGEMENT

74-82 JELLS ROAD WHEELERS HILL

ARBORICULTURAL IMPACT ASSESSMENT

PREPARED BY: STEPHEN WILLIAMS (DIPLOMA OF ARBORICULTURE)

OCTOBER 28, 2025

1 TERMS & LIMITATIONS

Report Integrity:

- This report is a complete and final document prepared by ATC Land Management and must not be altered in any way. Any unauthorized modifications will render the report invalid.

Disclaimer of Liability:

- Trees are living organisms subject to natural processes, environmental changes, and extreme weather events. Our inspection, conducted by qualified personnel, relies on visual assessment of tree health and structure from the ground. While thorough, this method may not detect hidden defects. We cannot guarantee the absolute condition or safety of the trees beyond what's reasonably assessed during the inspection. Regular inspections are recommended, and our staff can advise on the appropriate frequency.

Report Objectivity and Accuracy:

- This report is free from bias and reflects the honest professional opinion of the consulting Arborist, based on the client's provided information and relevant research. All details, information, and recommendations are based on research and referenced where applicable. Without references, determinations are made using the experience and observations of the Certified Arborist who prepared the report.

Limitations of Representation:

- Pictures, diagrams, graphs, and other reference materials within this report are not guaranteed to be perfectly scaled. Measurements and values are made to the best of the Arborist's ability at the time of inspection and report creation.

Interpretation and Discussion:

- Discussions regarding specific points within this report are discouraged as they may be taken out of context. Discussions should focus on the entire report. Similarly, discussions concerning the actions of third parties regarding the trees are not included within the scope of this report.

Governing Law and Dispute Resolution:

- This agreement and the report shall be governed by and construed in accordance with the laws of Victoria, Australia. In the event of a dispute arising from this report, the parties agree to attempt to resolve the dispute amicably through mediation.

Entire Agreement:

- These terms and conditions, together with the Arborist Report, constitute the entire agreement between the parties and supersede all prior or contemporaneous communications, representations, or agreements, whether oral or written.

By accepting this report, the client acknowledges that they have read, understood, and agree to be bound by these terms and conditions.

2 EXECUTIVE SUMMARY

Date: October 28, 2025

2.1 Context

The Caulfield Grammar School, Wheelers Hill Campus, is undertaking a major capital works program encompassing the construction of new teaching facilities, upgrading sports infrastructure, and reconfiguring the internal road network. The primary environmental objective of this development is to successfully integrate the new infrastructure while maximizing the retention and long-term health of the existing tree population, thereby preserving the site's high level of landscape amenity.

2.2 Key arboricultural findings

2.2.1 Vegetation controls exemption:

The comprehensive arboricultural assessment has determined the following regulatory requirements regarding the trees at the site:

- **Clause 52.37 (Canopy Trees):** Several trees meet the defined threshold criteria (height, canopy spread) to be formally classified as a "Canopy Tree." This classification triggers the permit requirements detailed below.
- **Clause 52.17 (Native Vegetation):** All vegetation on the site was confirmed to be planted rather than naturally occurring native vegetation. This finding satisfies a specific statutory exemption under this Clause, meaning permit requirements related to the clearing of native vegetation are not applicable.

In accordance with the provisions of Clause 52.37 (Canopy Trees) a formal planning permit is mandatory to either prune or remove any tree on site that meets the statutory definition of a Canopy Tree.

2.2.2 Tree removal:

Required tree removals have been strictly limited to the necessary development footprint. The majority of specimens slated for removal are small, semi-mature trees, characterized by low structural significance and high replaceability.

- The removal strategy has been designed to minimize disruption to larger, more mature trees.

- A robust planting strategy can be implemented using large canopy species to ensure the school achieves a net gain in future canopy cover and long-term environmental value upon project completion.

2.2.3 Tree protection (Retained trees):

The current design successfully integrates the new works with the retained trees, achieving the highest standard of protection under the Australian Standard.

- **Compliance with AS 4970-2025:** All calculated encroachments into the Tree Protection Zone (TPZ) for retained trees are classified as either Zero or Minor Encroachment (i.e., less than the 10% threshold).
- **No mitigation required:** Because encroachments are negligible, the retained trees are classified as non-impacted. This means no specialized structural justification, detailed arboricultural analysis, or complex root-mitigation strategies are required, further simplifying the construction process.

2.3 Recommendation: Tree Protection Specification (TPS)

The successful long-term survival of the retained trees is dependent upon the execution of physical protection measures during the construction phase.

Recommendation: It is mandatory that a comprehensive Tree Protection Specification (TPS) be produced and strictly implemented prior to the commencement of any site works (including site establishment, demolition, or earthworks).

The TPS must serve as the site's governing document for tree management, clearly defining and enforcing:

1. **Installation of tree protection fencing:** Detailed location, construction, and required signage for the physical demarcation of all Tree Protection Zones (TPZ).
2. **Exclusion protocols:** Strict prohibition of activities such as vehicle access, material stockpiling, chemical washout, and temporary site facilities within the established TPZs.
3. **Arboricultural supervision:** Requirements for mandatory arborist supervision and sign-off at critical construction hold points to ensure full compliance with the Australian Standard 4970-2025.

4. **Root management:** Specific methodologies for root pruning (where necessary) and ongoing maintenance (e.g., irrigation) to guarantee root health and tree stability throughout the project lifecycle.

TABLE OF CONTENTS

3 CONTACT DETAILS

3.1 Client details

Client company	Caulfield Grammar (Wheelers Hill)
Client name	Wendy Li-Siaw
E-mail	WendyLi-Siaw@caulfiedgs.vic.ec

3.2 Assessing arborist

The assessment was conducted by an arborist demonstrating competence in accordance with Australian Standard 4970-2025 (Protection of trees on development sites) and AS4373-2007 (Pruning of amenity trees). This competence is evidenced by the arborist's 29 years of industry experience and attainment of a minimum Australian Qualification Framework (AQF) Level 5 Diploma of Arboriculture. This combination of extensive practical experience and formal qualifications ensures the arborist possesses the requisite knowledge and skills to accurately perform the assessments and adhere to the standards outlined within AS4970-2025 and AS4373-2007.

Assessing company	ATC Land Management
Assessing Arborist	Stephen Williams
Phone	0403 867 449
E-mail	steve@austreecare.com.au
Qualifications	Diploma of Horticulture (Arboriculture)

4 INTRODUCTION

4.1 Brief

Prepared by: ATC Land Management

This Arboricultural Impact Assessment (AIA) Report is being prepared for the proposed development works located on the grounds of Caulfield Grammar School, Wheelers Hill Campus (74-82 Jells Road, Wheelers Hill).

The primary objective of this report is to comprehensively assess the potential impact of the proposed works—including demolition, bulk earthworks, and construction—on all trees located within the school's boundary. The assessment will identify required tree protection zones (TPZs), detail critical structural root zones (SRZs), and provide specific, mandatory mitigation strategies to ensure the long-term viability and successful retention of all nominated tree assets.

4.2 Scope

The primary objectives of this Arboricultural Impact Assessment are to:

- **Tree inventory and condition analysis:** Conduct a detailed site inspection to identify all relevant trees on the property and in the immediate vicinity. For each tree, the report will provide a thorough analysis of its species, age, health, structural condition, and overall viability.
- **Tree Protection Zone determination:** Calculate the Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) for all trees to be retained, in accordance with the Australian Standard AS 4970-2025. These zones define the minimum area around a tree that must be protected from development-related impacts.
- **Impact assessment:** Evaluate the potential for direct and indirect impacts from the proposed development, including excavation, soil compaction, changes to site levels, and service installations, on the health and stability of the retained trees.
- **Mitigation strategies:** Formulate and recommend best-practice tree protection management strategies to minimize any identified conflicts between the development and the trees.

- **Planning compliance:** The report will be prepared to meet the requirements of the Monash City Council Planning Scheme, which may include specific overlays such as a Vegetation Protection Overlay, and will inform the planning permit application process.

The purpose of this document is to ensure a balanced approach that facilitates the proposed development while protecting valuable tree assets and contributing to the long-term ecological and amenity values of the site and its surrounding landscape.

4.3 Methodology

Site assessed: October 28, 2025

Assessed by: Stephen Williams for ATC Land Management

4.3.1 Assessment methods:

- **Visual Tree Assessment (VTA):** The trees were assessed from the ground using industry accepted VTA methods, focusing on observable signs of health, structure, and stability.
- **Diameter measurements:** Stem diameters were measured at breast height (DBH), at stem base (DAB), and at other required stem heights using a DBH tape.
- **Tree locations:** The locations of all assessed trees were determined using GPS field technology. While every reasonable effort has been made to achieve high positional accuracy, the following critical factors inherent to the field environment introduce potential variability:
  1. **Canopy interference:** The dense, multi-layered tree canopies (crown coverage) at the subject site can significantly obstruct the line of sight to orbiting satellites, resulting in signal degradation and 'multipath' errors.
  2. **Environmental factors:** Atmospheric conditions and the availability and geometry of satellites at the time of capture can influence the quality of the data.

  Due to these inherent limitations, the reported tree locations should be considered indicative, with a general tolerance for error ranging for the mapped position.

- **Limitations:** No aerial assessments (rope and harness, drone) or below-ground investigations (non-destructive root assessment) were conducted.

4.3.2 Tree evaluation:

- **Health and condition:** Tree health, structure, and condition were evaluated using standardized descriptors (refer to **Appendix A** for details).

4.3.3 Industry Standards:

- **AS 4373-2007:** This Australian Standard provided guidance for recommendations regarding acceptable pruning practices for amenity trees.
- **AS 4970-2025:** This standard informs recommendations related to tree protection on development sites.

4.3.4 Site history:

- Information on historical site conditions was gathered from online resources such as Street View (Google Maps) and Nearmap to supplement the on-site assessment.

4.3.5 Additional documents:

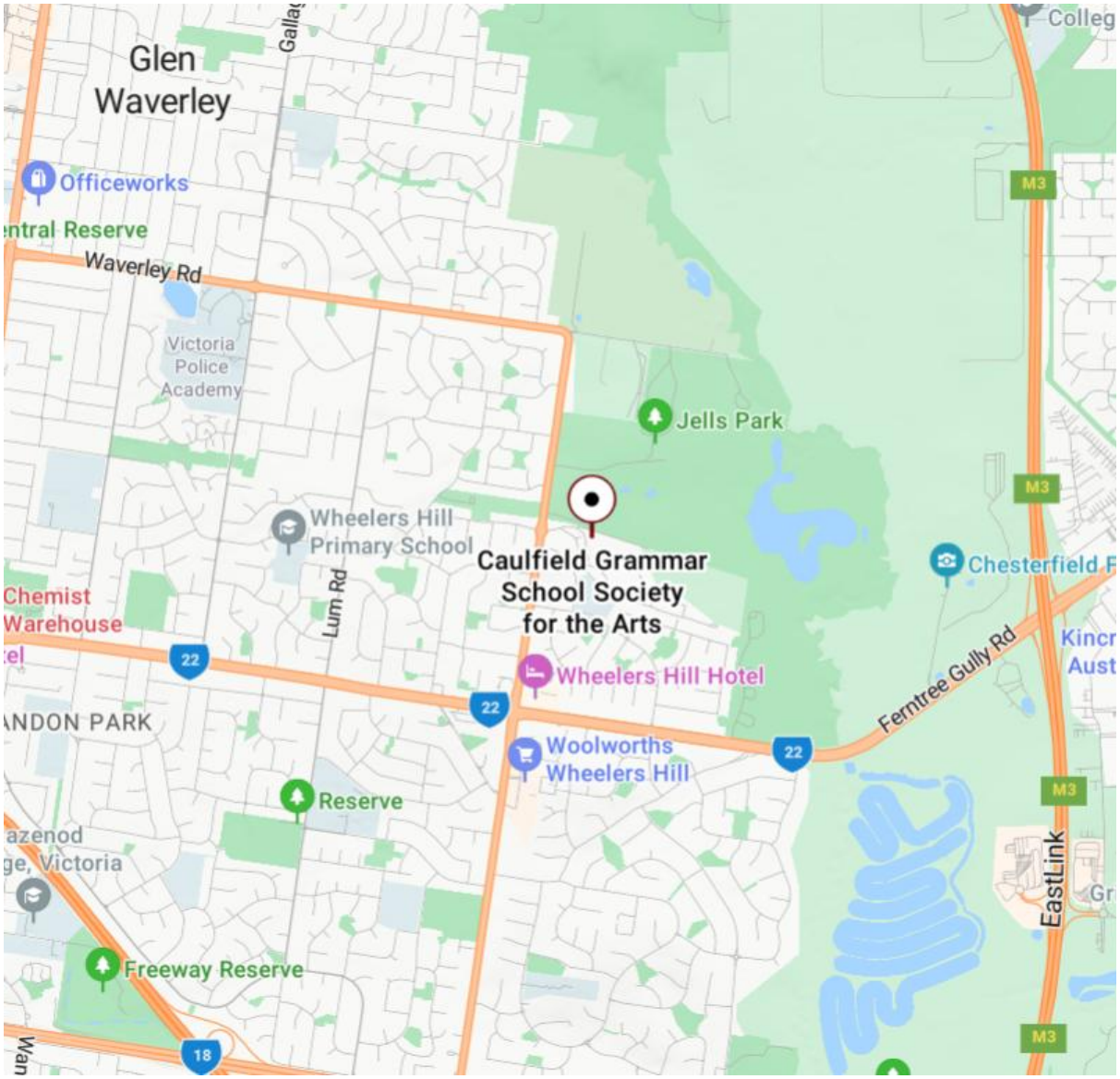
Preliminary plans for the site development have been provided by Caulfield Grammar for assessment (see **Appendix B** for plans).

All tree numbering is consistent with the baseline dataset established in the Caulfield Grammar, Wheelers Hill Tree Health and Condition Report, prepared by ATC Land Management, dated November 18, 2024. This established numbering system is mandatory for the entire project life cycle to ensure clarity, consistency in reporting, and accurate communication between the Project Arborist, the client, and regulatory authorities.

5 SITE DETAILS

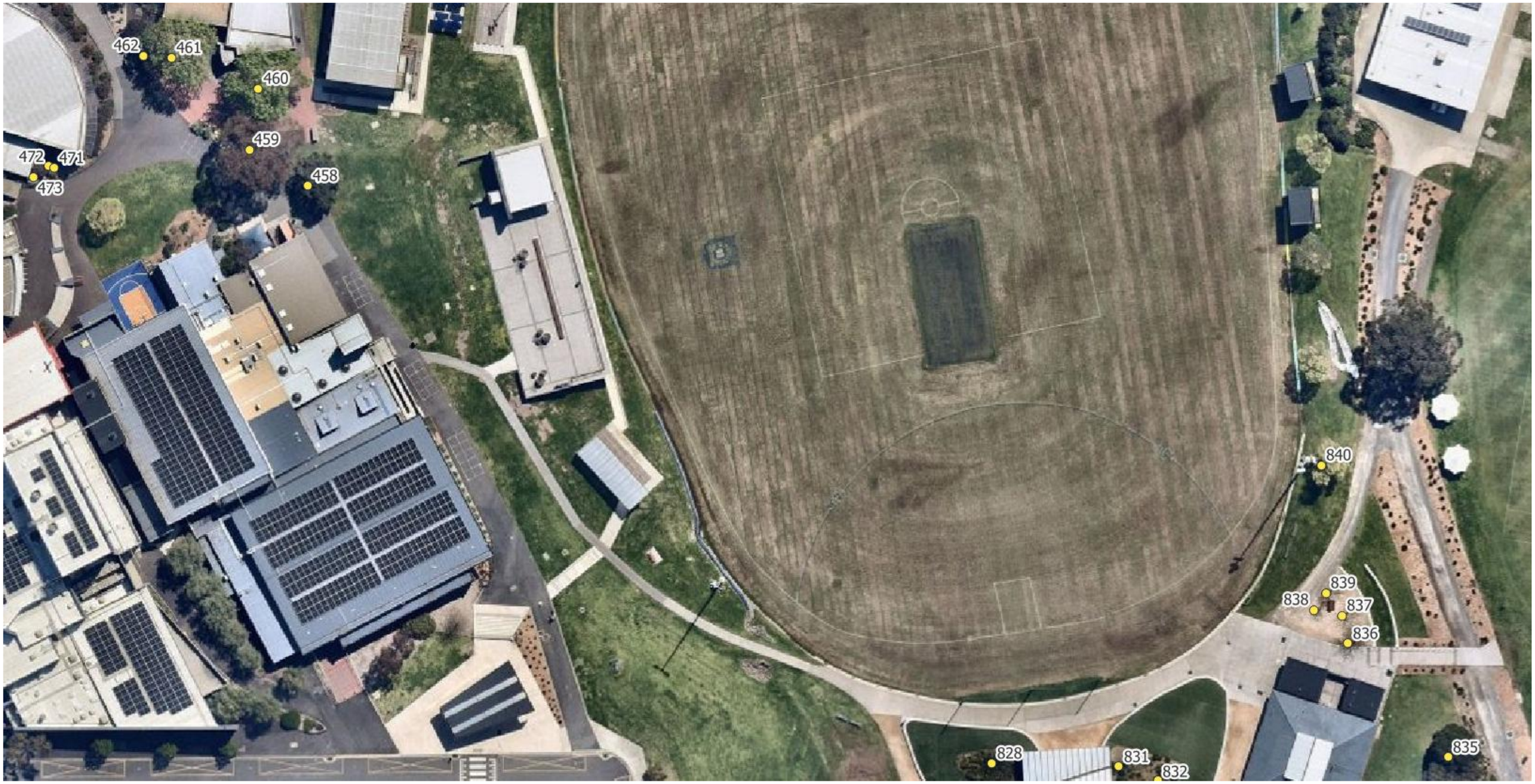
5.1 Site address

The subject site for this Arboricultural Impact Assessment is the Caulfield Grammar School, Wheelers Hill Campus, located at 74-82 Jells Road, Wheelers Hill, Victoria, 3150.



6 TREE DETAILS

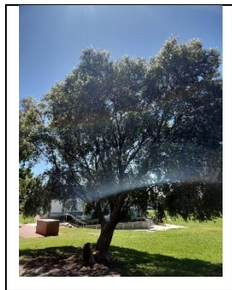
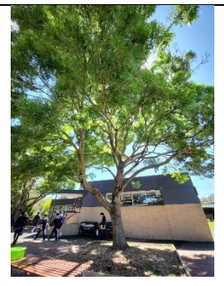
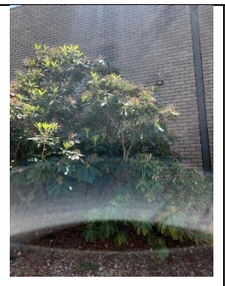
6.1 Indicative tree locations



ADVERTISED PLAN

6.2 Table of data

Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
458	Callistemon viminalis	6 m	8 m	46 cm	145 cm	55 cm	2.6 m	5.5 m	History of stem failure, poorly attached stem union	Good	Poor	Mature	Medium
459	Eucalyptus leucoxylon	10 m	14 m	54 cm	170 cm	61 cm	2.7 m	6.5 m	History of stem failure	Good	Fair	Mature	Medium
460	Fraxinus angustifolia	10 m	16 m	54 cm	170 cm	62 cm	2.7 m	6.5 m		Good	Fair	Mature	Medium
461	Fraxinus angustifolia	10 m	10 m	55 cm	173 cm	60 cm	2.7 m	6.6 m		Good	Fair	Mature	Medium
462	Lophostemon confertus 'Variegatus'	8 m	6 m	21 cm	66 cm	26 cm	1.9 m	2.5 m		Good	Fair	Mature	Medium
471	Rhododendrum maximum	3 m	2 m	9 cm	28 cm	29 cm	2.0 m	2.0 m		Good	Fair	Mature	Short
472	Rhododendrum maximum	4 m	3 m	14 cm	44 cm	27 cm	1.9 m	2.0 m		Good	Fair	Mature	Short
473	Rhododendrum maximum	4 m	4 m	11 cm	35 cm	22 cm	1.8 m	2.0 m		Good	Fair	Mature	Short
649	Corymbia citriodora	5 m	4 m	13 cm	41 cm	21 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
650	Corymbia citriodora	5 m	4 m	12 cm	38 cm	17 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium

458	459	460	461	462	471	472	473	649	650
									

Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
651	Corymbia citriodora	6 m	4 m	16 cm	50 cm	21 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
652	Corymbia citriodora	3 m	2 m	6 cm	19 cm	9 cm	1.5 m	2.0 m	Health is declining	Poor	Fair	Semi-Mature	Short
653	Corymbia citriodora	5 m	2 m	9 cm	28 cm	14 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
654	Corymbia citriodora	10 m	6 m	22 cm	69 cm	28 cm	1.9 m	2.6 m		Good	Fair	Semi-Mature	Medium
655	Corymbia citriodora	11 m	4 m	23 cm	72 cm	28 cm	1.9 m	2.8 m		Good	Fair	Semi-Mature	Medium
656	Corymbia maculata	5 m	5 m	13 cm	41 cm	18 cm	1.6 m	2.0 m	Poorly form due to suppression from adjacent tree	Good	Fair	Semi-Mature	Medium
657	Corymbia maculata	13 m	12 m	54 cm	170 cm	68 cm	2.8 m	6.5 m		Good	Fair	Mature	Medium
658	Corymbia maculata	10 m	7 m	38 cm	119 cm	48 cm	2.4 m	4.6 m		Good	Fair	Mature	Medium
659	Corymbia maculata	4 m	2 m	7 cm	22 cm	12 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
660	Corymbia maculata	17 m	8 m	52 cm	163 cm	61 cm	2.7 m	6.2 m		Good	Fair	Mature	Medium

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Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
661	Corymbia maculata	5 m	2 m	10 cm	31 cm	19 cm	1.6 m	2.0 m	Poorly attached stem union	Good	Poor	Semi-Mature	Medium
662	Corymbia maculata	16 m	10 m	63 cm	198 cm	73 cm	2.9 m	7.6 m	Poorly attached stem union	Good	Poor	Mature	Medium
663	Corymbia citriodora	4 m	2 m	7 cm	22 cm	10 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
664	Corymbia citriodora	6 m	4 m	14 cm	44 cm	17 cm	1.6 m	2.0 m		Fair	Fair	Semi-Mature	Medium
665	Eucalyptus melliodora	13 m	5 m	34 cm	107 cm	40 cm	2.3 m	4.1 m		Good	Fair	Mature	Medium
666	Corymbia citriodora	10 m	7 m	17 cm	53 cm	22 cm	1.8 m	2.0 m		Poor	Fair	Semi-Mature	Short
667	Callistemon viminalis	4 m	3 m	12 cm	38 cm	18 cm	1.6 m	2.0 m	Poorly attached stem union	Good	Poor	Semi-Mature	Medium
668	Callistemon viminalis	4 m	3 m	12 cm	38 cm	13 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
669	Callistemon viminalis	3 m	5 m	16 cm	50 cm	16 cm	1.5 m	2.0 m		Good	Poor	Semi-Mature	Medium
670	Callistemon viminalis	4 m	3 m	10 cm	31 cm	14 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium

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Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
671	Callistemon viminalis	4 m	3 m	10 cm	31 cm	12 cm	1.5 m	2.0 m	Tree has split	Good	Poor	Semi-Mature	Short
672	Callistemon viminalis	4 m	4 m	19 cm	60 cm	33 cm	2.1 m	2.3 m		Good	Fair	Semi-Mature	Medium
673	Callistemon viminalis	4 m	2 m	8 cm	25 cm	11 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
674	Corymbia maculata	12 m	10 m	37 cm	116 cm	46 cm	2.4 m	4.4 m		Good	Fair	Mature	Medium
675	Callistemon viminalis	4 m	3 m	6 cm	19 cm	9 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
677	Corymbia maculata	6 m	4 m	16 cm	50 cm	18 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
678	Corymbia ficifolia	4 m	2 m	9 cm	28 cm	11 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
679	Corymbia ficifolia	10 m	4 m	19 cm	60 cm	23 cm	1.8 m	2.3 m		Good	Fair	Semi-Mature	Medium
680	Callistemon viminalis	4 m	2 m	9 cm	28 cm	12 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
681	Callistemon viminalis	4 m	3 m	7 cm	22 cm	12 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium


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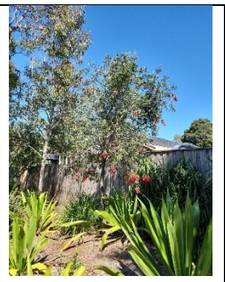
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Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
682	Corymbia maculata	8 m	5 m	20 cm	63 cm	24 cm	1.8 m	2.4 m		Good	Fair	Semi-Mature	Medium
683	Corymbia maculata	6 m	5 m	14 cm	44 cm	18 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
684	Callistemon viminalis	4 m	8 m	36 cm	113 cm	59 cm	2.7 m	4.3 m		Good	Fair	Mature	Medium
685	Corymbia maculata	10 m	5 m	24 cm	75 cm	30 cm	2.0 m	2.9 m		Good	Fair	Semi-Mature	Medium
686	Callistemon viminalis	4 m	2 m	7 cm	22 cm	10 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
687	Callistemon viminalis	4 m	2 m	7 cm	22 cm	9 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
688	Corymbia maculata	8 m	5 m	19 cm	60 cm	28 cm	1.9 m	2.3 m		Good	Fair	Mature	Medium
689	Callistemon viminalis	6 m	6 m	31 cm	97 cm	41 cm	2.3 m	3.7 m		Good	Fair	Mature	Medium
690	Corymbia maculata	7 m	4 m	16 cm	50 cm	20 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
691	Callistemon viminalis	5 m	6 m	20 cm	63 cm	37 cm	2.2 m	2.4 m		Good	Fair	Mature	Medium


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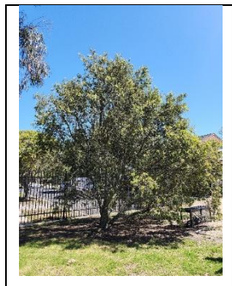
Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
692	Callistemon viminalis	7 m	8 m	36 cm	113 cm	53 cm	2.5 m	4.3 m		Good	Fair	Mature	Medium
693	Callistemon viminalis	5 m	5 m	25 cm	79 cm	52 cm	2.5 m	3.0 m	Poorly attached stem union	Good	Poor	Mature	Medium
694	Eucalyptus scoparia	6 m	4 m	18 cm	57 cm	21 cm	1.7 m	2.2 m		Good	Fair	Semi-Mature	Medium
695	Eucalyptus scoparia	4 m	3 m	12 cm	38 cm	17 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
696	Eucalyptus scoparia	4 m	2 m	10 cm	31 cm	14 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
697	Corymbia citriodora	5 m	4 m	13 cm	41 cm	17 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
698	Corymbia citriodora	9 m	4 m	15 cm	47 cm	18 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
699	Agathis robusta	4 m	1 m	5 cm	16 cm	8 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
700	Eucalyptus melliodora	10 m	6 m	28 cm	88 cm	33 cm	2.1 m	3.4 m	Poorly attached stem union	Good	Poor	Semi-Mature	Medium
701	Eucalyptus melliodora	11 m	6 m	30 cm	94 cm	33 cm	2.1 m	3.6 m	Poorly attached stem union	Good	Poor	Mature	Medium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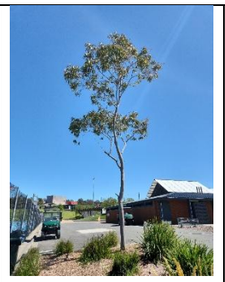
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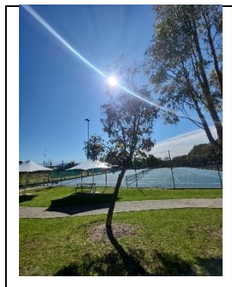
Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
702	Eucalyptus melliodora	4 m	2 m	12 cm	38 cm	16 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
703	Eucalyptus melliodora	7 m	4 m	20 cm	63 cm	22 cm	1.8 m	2.4 m	Poorly attached stem union	Good	Poor	Semi-Mature	Medium
704	Eucalyptus melliodora	9 m	6 m	25 cm	79 cm	30 cm	2.0 m	3.0 m		Good	Fair	Semi-Mature	Medium
705	Eucalyptus melliodora	8 m	6 m	23 cm	72 cm	26 cm	1.9 m	2.8 m		Good	Fair	Semi-Mature	Medium
706	Corymbia maculata	6 m	4 m	16 cm	50 cm	21 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
707	Corymbia citriodora	8 m	4 m	16 cm	50 cm	20 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
708	Corymbia citriodora	10 m	6 m	24 cm	75 cm	28 cm	1.9 m	2.9 m		Good	Fair	Semi-Mature	Medium
709	Eucalyptus scoparia	6 m	3 m	12 cm	38 cm	18 cm	1.6 m	2.0 m		Good	Fair	Semi-Mature	Medium
710	Eucalyptus scoparia	12 m	9 m	51 cm	160 cm	62 cm	2.7 m	6.1 m		Good	Fair	Mature	Medium
711	Corymbia maculata	14 m	8 m	46 cm	145 cm	55 cm	2.6 m	5.5 m		Good	Fair	Mature	Medium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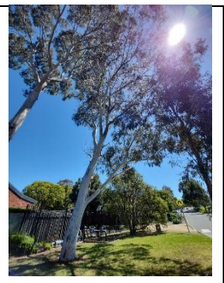
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Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
724	Corymbia citriodora	5 m	3 m	11 cm	35 cm	15 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
747	Corymbia citriodora	12 m	7 m	20 cm	63 cm	26 cm	1.9 m	2.4 m		Good	Fair	Semi-Mature	Medium
756	Corymbia citriodora	5 m	3 m	14 cm	44 cm	16 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
757	Corymbia citriodora	7 m	4 m	15 cm	47 cm	18 cm	1.7 m	2.0 m		Good	Fair	Semi-Mature	Medium
758	Agathis robusta	6 m	2 m	10 cm	31 cm	13 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
759	Agathis robusta	5 m	2 m	10 cm	31 cm	13 cm	1.5 m	2.0 m		Good	Fair	Semi-Mature	Medium
760	Agathis robusta	3 m	1 m	4 cm	13 cm	6 cm	1.5 m	2.0 m		Good	Fair	Young	Short
761	Agathis robusta	3 m	1 m	4 cm	13 cm	6 cm	1.5 m	2.0 m		Good	Fair	Young	Short
828	Melia azedarach	5 m	7 m	24 cm	75 cm	29 cm	2.0 m	2.9 m		Good	Fair	Mature	Medium
829	Melia azedarach	5 m	6 m	20 cm	63 cm	25 cm	1.8 m	2.4 m		Good	Fair	Mature	Medium


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Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
830	Melia azedarach	5 m	6 m	20 cm	63 cm	25 cm	1.8 m	2.4 m		Good	Fair	Mature	Medium
831	Melia azedarach	5 m	8 m	22 cm	69 cm	31 cm	2.0 m	2.6 m		Good	Fair	Mature	Medium
832	Melia azedarach	4 m	5 m	19 cm	60 cm	24 cm	1.8 m	2.3 m		Good	Fair	Mature	Medium
833	Platanus orientalis 'Digitata'	8 m	7 m	33 cm	104 cm	39 cm	2.2 m	4.0 m		Good	Fair	Mature	Medium
834	Eucalyptus leucoxylon	7 m	11 m	45 cm	141 cm	50 cm	2.5 m	5.4 m	History of stem failure	Good	Fair	Mature	Medium
835	Melaleuca styphelioides	8 m	8 m	49 cm	154 cm	64 cm	2.7 m	5.9 m		Good	Fair	Mature	Medium
836	Melia azedarach	4 m	6 m	22 cm	69 cm	31 cm	2.0 m	2.6 m		Good	Fair	Semi-Mature	Medium
837	Melia azedarach	4 m	4 m	16 cm	50 cm	25 cm	1.8 m	2.0 m		Good	Fair	Semi-Mature	Medium
838	Melia azedarach	4 m	3 m	15 cm	47 cm	23 cm	1.8 m	2.0 m		Good	Fair	Semi-Mature	Medium
839	Melia azedarach	4 m	5 m	20 cm	63 cm	27 cm	1.9 m	2.4 m		Good	Fair	Semi-Mature	Medium


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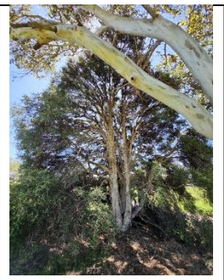
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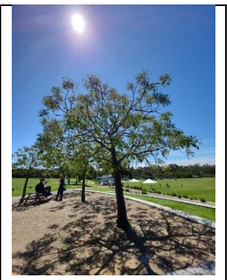
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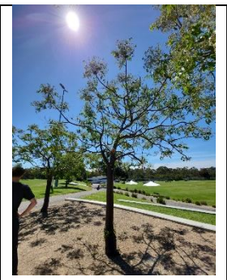
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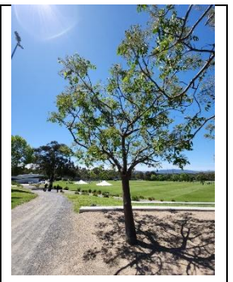
839

Num	ID	Height	Span	Stem diameter @ 1.4 m	Stem circumference @ 1.4 m	Stem diameter @ base	Structural Root Zone (radius)	Tree Protection Zone (radius)	Observations	Health	Structure	Age	Useful Life Expectancy
840	Ulmus glabra	7 m	8 m	26 cm	82 cm	37 cm	2.2 m	3.1 m		Good	Fair	Mature	Medium
875	Corymbia maculata	14 m	10 m	60 cm	188 cm	74 cm	2.9 m	7.2 m		Good	Fair	Mature	Medium
876	Angophora costata	17 m	10 m	70 cm	220 cm	79 cm	3.0 m	8.4 m	History of stem failure	Good	Fair	Mature	Medium
877	Ulmus procera	9 m	7 m	29 cm	91 cm	36 cm	2.2 m	3.5 m		Good	Fair	Mature	Medium
878	Ulmus procera	9 m	8 m	30 cm	94 cm	43 cm	2.3 m	3.6 m		Good	Fair	Mature	Medium
879	Ulmus procera	10 m	8 m	32 cm	101 cm	41 cm	2.3 m	3.8 m	History of stem failure	Good	Fair	Mature	Medium
880	Eucalyptus leucoxylon	8 m	12 m	41 cm	129 cm	52 cm	2.5 m	4.9 m		Good	Fair	Mature	Medium


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7 SITE CONTEXT

7.1 Development scope

The Caulfield Grammar School, Wheelers Hill Campus, is undertaking a major capital works program aimed at modernizing and expanding the existing educational infrastructure.

This proposed development encompasses the construction of new teaching and learning classroom facilities, the upgrading of select sports facilities, and the associated reconfiguration of the internal road network and parking areas.

7.1.1 Vegetation context in development zones:

The area subject to the immediate development footprint contains a mix of established trees, necessitating a detailed impact assessment:

- **Semi-mature specimens:** The majority of the vegetation within the core development area consists of semi-mature trees. These specimens, while generally smaller, require specific protection measures due to their rapid growth potential and the risk of permanent damage from construction activities.
- **Mature roadside trees:** A specific grouping of larger, more mature planted trees is located along the existing road network adjacent to the tennis courts.

The entire project is predicated on maintaining the existing high level of amenity while minimizing impact on all retained trees.

8 VEGETATION CONTROLS

8.1 Statutory planning controls

The subject property, Caulfield Grammar School at 74-82 Jells Road, Wheelers Hill, is subject to a complex, dual layer of planning controls stemming from its zone designation and land area.

8.1.1 Layer 1: Clause 52.37 (Canopy Trees):

The site is located within the Neighbourhood Residential Zone - Schedule 4 (NRZ4) of the Planning Scheme. This zoning mandates the application of Clause 52.37 (Canopy Trees), which establishes stringent requirements for the management, retention, and removal of specific large trees (Boundary Canopy Trees).

8.1.2 Layer 2: Clause 52.17 (Native Vegetation)

Due to the size of the land parcel—being greater than 4,000 square metres—the site also triggers the application of Clause 52.17 (Native Vegetation). This control is broad, governing the removal, destruction, or lopping of *all* native vegetation, regardless of its size, unless a specific statutory exemption applies.

8.1.3 Regulatory implication:

The concurrent application of Clause 52.37, and Clause 52.17 means that any proposed works impacting vegetation on the site are subject to a high level of scrutiny, requiring a detailed assessment and the issuance of a Planning Permit to ensure compliance with all of these controls.

8.2 Clause 52.37 (Canopy Trees)

All proposed tree works on the subject property, including removal and pruning, are governed by a specific set of requirements and potential exemptions as outlined in Clause 52.37 (Canopy Trees) of the relevant planning controls. This section details the criteria that must be met to ensure compliance.

8.2.1 Meaning of terms:

In clause 52.37:

Canopy Tree means a tree that has:

– a height of more than 5 metres above ground level; and

– a trunk circumference of more than 0.5 metres, measured at 1.4 metres above ground level;

and

– a canopy diameter of at least 4 metres;

Boundary Canopy Tree means a canopy tree if any part of its trunk is within:

– 6 metres of the narrowest street frontage of a lot; or

– 4.5 metres of the rear boundary of a lot;

new Canopy Tree means a Canopy Tree proposed to be planted. It must be a species and type that will, at maturity, have:

– an expected height of at least 6 metres above ground level; and

– an expected canopy diameter of at least 4 metres.

8.2.2 Permit requirement:

A permit is required to remove, destroy or lop a canopy tree in the Mixed Use Zone, Township Zone, Residential Growth Zone, General Residential Zone, Neighbourhood Residential Zone, and Housing Choice and Transport Zone.

This does not apply:

If the table of exemptions in clause 52.37-8 specifically states that a permit is not required. To the removal, destruction or lopping of a Canopy Tree (other than a Boundary Canopy Tree)

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.

To the removal, destruction or lopping of a Canopy Tree (other than a Boundary Canopy Tree) if the site is developed with an existing dwelling.

8.3 Determination of Clause 52.37 applicability

In accordance with Clause 52.37 (Canopy Trees), a formal determination has been made regarding the protected status of the trees on the subject site.

Clause 52.37 aims to protect canopy trees, which are typically defined by specific minimum height and canopy spread thresholds within residential zones. The following assessment identifies which trees meet these statutory criteria and are therefore subject to permit requirements for removal or significant pruning.

Num	ID	Vegetation Controls	Height	Span	Stem circumference @ 1.4 m
458	Callistemon viminalis	Canopy Tree	6 m	8 m	145 cm
459	Eucalyptus leucoxylon	Canopy Tree	10 m	14 m	170 cm
460	Fraxinus angustifolia	Canopy Tree	10 m	16 m	170 cm
461	Fraxinus angustifolia	Canopy Tree	10 m	10 m	173 cm
462	Lophostemon confertus 'Variegatus'	Canopy Tree	8 m	6 m	66 cm
471	Rhododendrum maximum	Nil	3 m	2 m	28 cm
472	Rhododendrum maximum	Nil	4 m	3 m	44 cm
473	Rhododendrum maximum	Nil	4 m	4 m	35 cm
649	Corymbia citriodora	Nil	5 m	4 m	41 cm
650	Corymbia citriodora	Nil	5 m	4 m	38 cm
651	Corymbia citriodora	Canopy Tree	6 m	4 m	50 cm
652	Corymbia citriodora	Nil	3 m	2 m	19 cm
653	Corymbia citriodora	Nil	5 m	2 m	28 cm
654	Corymbia citriodora	Canopy Tree	10 m	6 m	69 cm
655	Corymbia citriodora	Canopy Tree	11 m	4 m	72 cm
656	Corymbia maculata	Nil	5 m	5 m	41 cm
657	Corymbia maculata	Canopy Tree	13 m	12 m	170 cm
658	Corymbia maculata	Canopy Tree	10 m	7 m	119 cm
659	Corymbia maculata	Nil	4 m	2 m	22 cm
660	Corymbia maculata	Canopy Tree	17 m	8 m	163 cm
661	Corymbia maculata	Nil	5 m	2 m	31 cm
662	Corymbia maculata	Canopy Tree	16 m	10 m	198 cm

Num	ID	Vegetation Controls	Height	Span	Stem circumference @ 1.4 m
663	Corymbia citriodora	Nil	4 m	2 m	22 cm
664	Corymbia citriodora	Nil	6 m	4 m	44 cm
665	Eucalyptus melliodora	Canopy Tree	13 m	5 m	107 cm
666	Corymbia citriodora	Canopy Tree	10 m	7 m	53 cm
667	Callistemon viminalis	Nil	4 m	3 m	38 cm
668	Callistemon viminalis	Nil	4 m	3 m	38 cm
669	Callistemon viminalis	Nil	3 m	5 m	50 cm
670	Callistemon viminalis	Nil	4 m	3 m	31 cm
671	Callistemon viminalis	Nil	4 m	3 m	31 cm
672	Callistemon viminalis	Nil	4 m	4 m	60 cm
673	Callistemon viminalis	Nil	4 m	2 m	25 cm
674	Corymbia maculata	Canopy Tree	12 m	10 m	116 cm
675	Callistemon viminalis	Nil	4 m	3 m	19 cm
677	Corymbia maculata	Canopy Tree	6 m	4 m	50 cm
678	Corymbia ficifolia	Nil	4 m	2 m	28 cm
679	Corymbia ficifolia	Canopy Tree	10 m	4 m	60 cm
680	Callistemon viminalis	Nil	4 m	2 m	28 cm
681	Callistemon viminalis	Nil	4 m	3 m	22 cm
682	Corymbia maculata	Canopy Tree	8 m	5 m	63 cm
683	Corymbia maculata	Nil	6 m	5 m	44 cm
684	Callistemon viminalis	Nil	4 m	8 m	113 cm
685	Corymbia maculata	Canopy Tree	10 m	5 m	75 cm
686	Callistemon viminalis	Nil	4 m	2 m	22 cm
687	Callistemon viminalis	Nil	4 m	2 m	22 cm
688	Corymbia maculata	Canopy Tree	8 m	5 m	60 cm
689	Callistemon viminalis	Canopy Tree	6 m	6 m	97 cm
690	Corymbia maculata	Canopy Tree	7 m	4 m	50 cm
691	Callistemon viminalis	Nil	5 m	6 m	63 cm
692	Callistemon viminalis	Canopy Tree	7 m	8 m	113 cm
693	Callistemon viminalis	Nil	5 m	5 m	79 cm
694	Eucalyptus scoparia	Canopy Tree	6 m	4 m	57 cm
695	Eucalyptus scoparia	Nil	4 m	3 m	38 cm
696	Eucalyptus scoparia	Nil	4 m	2 m	31 cm
697	Corymbia citriodora	Nil	5 m	4 m	41 cm
698	Corymbia citriodora	Nil	9 m	4 m	47 cm
699	Agathis robusta	Nil	4 m	1 m	16 cm
700	Eucalyptus melliodora	Canopy Tree	10 m	6 m	88 cm
701	Eucalyptus melliodora	Canopy Tree	11 m	6 m	94 cm
702	Eucalyptus melliodora	Nil	4 m	2 m	38 cm
703	Eucalyptus melliodora	Canopy Tree	7 m	4 m	63 cm
704	Eucalyptus melliodora	Canopy Tree	9 m	6 m	79 cm
705	Eucalyptus melliodora	Canopy Tree	8 m	6 m	72 cm
706	Corymbia maculata	Canopy Tree	6 m	4 m	50 cm

Num	ID	Vegetation Controls	Height	Span	Stem circumference @ 1.4 m
707	Corymbia citriodora	Canopy Tree	8 m	4 m	50 cm
708	Corymbia citriodora	Canopy Tree	10 m	6 m	75 cm
709	Eucalyptus scoparia	Nil	6 m	3 m	38 cm
710	Eucalyptus scoparia	Canopy Tree	12 m	9 m	160 cm
711	Corymbia maculata	Canopy Tree	14 m	8 m	145 cm
724	Corymbia citriodora	Nil	5 m	3 m	35 cm
747	Corymbia citriodora	Canopy Tree	12 m	7 m	63 cm
756	Corymbia citriodora	Nil	5 m	3 m	44 cm
757	Corymbia citriodora	Nil	7 m	4 m	47 cm
758	Agathis robusta	Nil	6 m	2 m	31 cm
759	Agathis robusta	Nil	5 m	2 m	31 cm
760	Agathis robusta	Nil	3 m	1 m	13 cm
761	Agathis robusta	Nil	3 m	1 m	13 cm
828	Melia azedarach	Nil	5 m	7 m	75 cm
829	Melia azedarach	Nil	5 m	6 m	63 cm
830	Melia azedarach	Nil	5 m	6 m	63 cm
831	Melia azedarach	Nil	5 m	8 m	69 cm
832	Melia azedarach	Nil	4 m	5 m	60 cm
833	Platanus orientalis 'Digitata'	Canopy Tree	8 m	7 m	104 cm
834	Eucalyptus leucoxylon	Canopy Tree	7 m	11 m	141 cm
835	Melaleuca styphelioides	Canopy Tree	8 m	8 m	154 cm
836	Melia azedarach	Nil	4 m	6 m	69 cm
837	Melia azedarach	Nil	4 m	4 m	50 cm
838	Melia azedarach	Nil	4 m	3 m	47 cm
839	Melia azedarach	Nil	4 m	5 m	63 cm
840	Ulmus glabra	Canopy Tree	7 m	8 m	82 cm
875	Corymbia maculata	Canopy Tree	14 m	10 m	188 cm
876	Angophora costata	Canopy Tree	17 m	10 m	220 cm
877	Ulmus procera	Canopy Tree	9 m	7 m	91 cm
878	Ulmus procera	Canopy Tree	9 m	8 m	94 cm
879	Ulmus procera	Canopy Tree	10 m	8 m	101 cm
880	Eucalyptus leucoxylon	Canopy Tree	8 m	12 m	129 cm

8.4 Clause 52.17 Native Vegetation (52.17):

A permit is required to remove, destroy, or lop native vegetation, including dead native vegetation. This does not apply:

- If the table to Clause 52.17-7 specifically states that a permit is not required.
- If a native vegetation precinct plan corresponding to the land is incorporated into this scheme and listed in the schedule to Clause 52.16.
- To the removal, destruction or lopping of native vegetation specified in the schedule to this clause.

8.4.1 Relevant 52.17 Native Vegetation exemptions:

Planted Vegetation	Native vegetation that is to be removed, destroyed, or lopped that was either planted or grown because 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.

8.5 Determination of Clause 52.17 applicability

8.5.1 Arboricultural determination of origin:

A thorough assessment of all trees within the project area confirmed a consistent pattern of origin and establishment. The key evidence is derived from the uniformity of species selection and the highly regular and structured arrangement of the trees, which are definitive indicators of planned landscape planting rather than natural self-establishment.

8.5.2 Regulatory conclusion:

Pursuant to the determination that all assessed trees are *planted vegetation*, they satisfy the exemption criteria under Clause 52.17-7 of the Planning Scheme.

Therefore, all trees within the subject property are confirmed to be exempt from the permit requirements of Clause 52.17 (Native Vegetation). This significantly streamlines the regulatory process for the proposed development works.

8.5.3 Exemption from vegetation controls:

The arboricultural assessment confirms that all trees within the Caulfield Grammar School boundary are exempt from the primary planning controls:

1. **Clause 52.37 (Canopy Trees):** None of the assessed trees meet the criteria for a "Boundary Canopy Tree."
2. **Clause 52.17 (Native Vegetation):** All trees are determined to be planted vegetation, which satisfies the statutory exemption under this clause.

9 TREE REMOVAL

9.1 Subject property trees

The development plans for the site explicitly indicate the removal of the following trees to accommodate the proposed works.

9.1.1 Table of tree removals:

Num	ID	Vegetation Controls	Height	Span	Stem circumference @ 1.4 m
649	Corymbia citriodora	Nil	5 m	4 m	41 cm
650	Corymbia citriodora	Nil	5 m	4 m	38 cm
651	Corymbia citriodora	Canopy Tree	6 m	4 m	50 cm
652	Corymbia citriodora	Nil	3 m	2 m	19 cm
653	Corymbia citriodora	Nil	5 m	2 m	28 cm
654	Corymbia citriodora	Canopy Tree	10 m	6 m	69 cm
692	Callistemon viminalis	Canopy Tree	7 m	8 m	113 cm
694	Eucalyptus scoparia	Canopy Tree	6 m	4 m	57 cm
702	Eucalyptus melliodora	Nil	4 m	2 m	38 cm
703	Eucalyptus melliodora	Canopy Tree	7 m	4 m	63 cm
704	Eucalyptus melliodora	Canopy Tree	9 m	6 m	79 cm
705	Eucalyptus melliodora	Canopy Tree	8 m	6 m	72 cm
707	Corymbia citriodora	Canopy Tree	8 m	4 m	50 cm
708	Corymbia citriodora	Canopy Tree	10 m	6 m	75 cm
724	Corymbia citriodora	Nil	5 m	3 m	35 cm
747	Corymbia citriodora	Canopy Tree	12 m	7 m	63 cm
756	Corymbia citriodora	Nil	5 m	3 m	44 cm
757	Corymbia citriodora	Nil	7 m	4 m	47 cm
758	Agathis robusta	Nil	6 m	2 m	31 cm
759	Agathis robusta	Nil	5 m	2 m	31 cm

Num	ID	Vegetation Controls	Height	Span	Stem circumference @ 1.4 m
760	Agathis robusta	Nil	3 m	1 m	13 cm
761	Agathis robusta	Nil	3 m	1 m	13 cm
828	Melia azedarach	Nil	5 m	7 m	75 cm
829	Melia azedarach	Nil	5 m	6 m	63 cm
830	Melia azedarach	Nil	5 m	6 m	63 cm
831	Melia azedarach	Nil	5 m	8 m	69 cm
832	Melia azedarach	Nil	4 m	5 m	60 cm
877	Ulmus procera	Canopy Tree	9 m	7 m	91 cm
878	Ulmus procera	Canopy Tree	9 m	8 m	94 cm
879	Ulmus procera	Canopy Tree	10 m	8 m	101 cm
880	Eucalyptus leucoxylon	Canopy Tree	8 m	12 m	129 cm

The removal of the specified trees is required to progress the current development proposal. These trees are located directly within the essential footprint of the proposed infrastructure. All trees slated for removal are clearly designated on the accompanying development plans.

The majority of the trees designated for removal are characterized as small, semi-mature specimens.

- They possess a relatively low structural significance and are generally easily replaceable without substantial ecological impact due to their size and stage of development.
- Their removal will primarily facilitate construction without compromising the health or stability of significant adjacent trees.

The development proposal has prioritized the minimization of large, mature tree removal. Where removal is necessary, a robust compensatory strategy can be implemented:

- **Net tree canopy gain:** The ample size and layout of the development site provide a significant opportunity for compensatory replacement planting. This strategy is designed to achieve a net gain in future canopy cover.
- **Species selection:** Replacement planting can focus on the use of large canopy species to ensure rapid establishment and the long-term reinstatement of ecological values.

In summary, tree removal has been strictly limited to the necessary development footprint, and the majority of trees being removed are small and replaceable. This approach ensures the development can proceed while committing to the long-term enhancement of the site's overall tree canopy and environmental value.

10 TREE PROTECTION

10.1 Impact of development on trees

The integration of living trees within development projects requires careful planning and execution due to their intrinsic biological complexity and vulnerability. Trees are intricate organisms that depend on specific environmental conditions for healthy growth and are highly susceptible to stress, damage, and irreversible injury from construction activities. The subterranean root system, often extending far beyond the canopy dripline, is particularly sensitive to disturbance, and damage sustained during development can lead to long-term decline or even tree mortality. Therefore, the implementation of robust preventative measures is paramount for successful tree retention.

Effective tree protection must be considered and applied throughout every stage of the development process, from initial conceptualization to post-construction. Early identification and comprehensive assessment of valuable trees during the preliminary planning phases are crucial. This proactive approach allows for informed decisions regarding tree retention and enables the development design to seamlessly integrate existing vegetation, optimizing site utilization in a tree-sensitive manner. By understanding the extensive nature of tree root systems and canopy spreads, potential conflicts can be identified and mitigated before they become problematic, ensuring minimal negative impact on trees designated for preservation.

10.2 Structural Root Zone (SRZ)

The Structural Root Zone (SRZ) is a fundamental component of the overall Tree Protection Zone, representing the essential area required for a tree's structural stability and anchorage. It is typically modelled as a hypothetical radius around the base of the tree where the majority of critical structural roots are expected to be found. Any proposed impact or encroachment within the SRZ is considered a major disturbance and necessitates rigorous additional investigation by a qualified arborist, often involving non-destructive excavation techniques. The removal or significant severance of tree roots within the SRZ is rarely permissible due to the direct threat it poses to the tree's stability and long-term survival. It is important to note that environmental factors, such as soil type, topography, and previous site disturbance, can significantly influence the actual establishment and distribution of structural roots. The SRZ radius is also measured from the centre of the tree stem at ground level.

10.3 Notional Root Zone

The Notional Root Zone (NRZ) serves as the initial calculation for establishing a tree's critical Tree Protection Zone (TPZ). It provides a preliminary estimate of the minimum area required to support the tree's root system, based on its trunk size.

The radius of the NRZ is determined using a straightforward calculation:

Radius of the NRZ = Stem Diameter @ 1.4m × 12

Here, the stem diameter is measured at a standard height of 1.4 meters above ground level. This measurement point is commonly used in arboriculture for consistency.

The calculated NRZ radius is measured outwards from the true centre of the tree's stem at ground level.

10.3.1 Important constraints for NRZ calculation:

To ensure realistic and practical protection zones, the calculated NRZ radius is subject to specific minimum and maximum limits:

- The NRZ radius shall not be less than 2 meters. This minimum ensures that even small trees receive a basic level of root protection.
- The NRZ radius shall not be greater than 15 meters. This maximum acknowledges that root systems, while extensive, have practical limits, and an overly large protection zone may not always be warranted or feasible in developed areas.

The NRZ is a foundational element, acting as the starting point for determining the more comprehensive Tree Protection Zone (TPZ), which often requires further refinement based on specific site conditions and proposed impacts.

10.4 Tree Protection Zone

Establishing and maintaining a Tree Protection Zone (TPZ) is the most important part of protecting trees during the onsite stages of work (e.g. site establishment, demolition, construction). The TPZ is the zone determined by the project arborist as set out below.

10.4.1 Determining a Tree Protection Zone:

The Notional Root Zone is the starting point for determining the Tree Protection Zone. The TPZ should be determined using the considerations and encroachments as follows:

(a) Location and distribution of the roots.

(b) Potential loss of root mass resulting from encroachment (number of roots and diameter of roots).

(c) Tree species and tolerance to root disturbance.

(d) If the work will result in temporary (e.g. service trench) or permanent (e.g. basement car park loss of available soil volume.

(e) Age, health, current size and projected size of the tree.

(f) Presence of other trees with overlapping NRZ or grafted roots.

(g) Proposed staging and timing of excavation or root cutting.

(h) Proposed maintenance and tree care activities.

(i) Lean and stability of the tree.

(j) Soil characteristics and volume, topography and drainage.

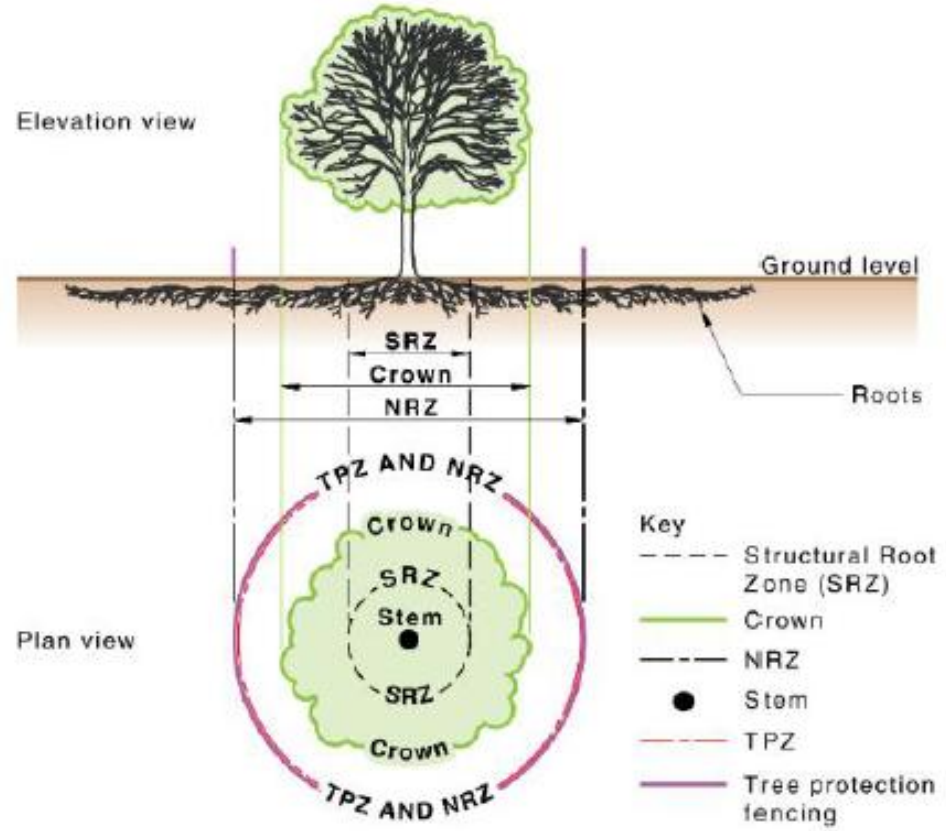
(k) Presence of existing or past structures, obstacles affecting root growth or recent encroachments.

(l) Proposed construction measures that reduce the impact on trees.

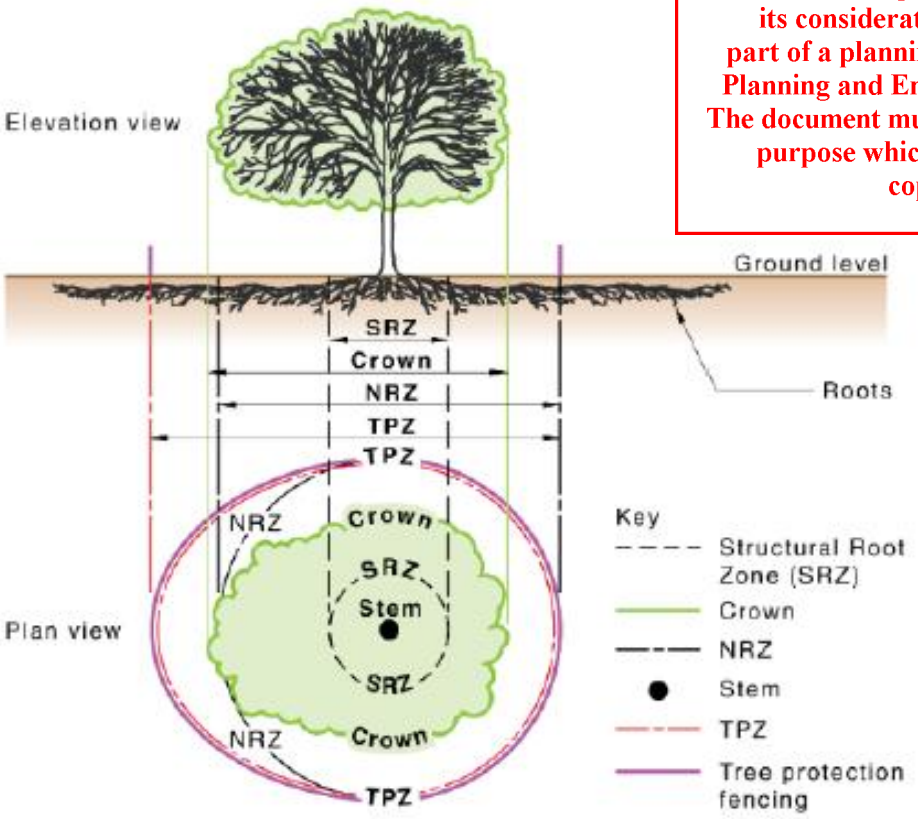
(m) Whether a root investigation is required. The location and distribution of the roots should be determined through minimal destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar). Photographs should be taken and were needed to address geospatial issues; a root map should be prepared.

NOTE 1 Construction measures such as pier and beam, suspended slabs, cantilevered building sections and screw piles can reduce the impact of the encroachment.

NOTE 2 Root damage should be minimised during this process. The roots should only be exposed for as long as required to meet the purposes of the investigation.



(a) No development within NRZ



(b) No development within NRZ but with crown protection required

11 MANAGING PROPOSED ENCROACHMENTS

11.1 Tree Protection Zone encroachments

The management of development within Tree Protection Zones (TPZs) requires a balanced approach that respects both development needs and the imperative of tree preservation. Australian Standard 4970-2025 (Protection of trees on development sites) provides a robust framework for this balance.

11.2 Balancing development needs with tree preservation

Australian Standard 4970-2025 acknowledges that some level of encroachment into a TPZ may be unavoidable in urban development. It generally considers minor encroachments (defined as impacting less than 10% of the total TPZ area and occurring outside the critical Structural Root Zone) as potentially acceptable, provided appropriate mitigation strategies are employed. However, the overarching principle remains to always minimize any direct or indirect impact on trees. The aim is to integrate the built environment with the natural landscape in a way that allows both to thrive.

11.3 Benefits of tree retention

Retaining and protecting trees within development sites offers a multitude of immediate and long-term benefits that significantly enhance the project's value and sustainability:

- **Enhanced aesthetics and amenity:** Trees contribute significantly to the visual appeal of development, softening hardscapes, improving streetscapes, and creating a more pleasant environment for occupants and the broader community.
- **Environmental sustainability:** They provide crucial ecological services such as natural shade (reducing urban heat island effect and energy consumption for cooling), effective stormwater management (reducing runoff and erosion), air quality improvement (filtering pollutants), and carbon sequestration.
- **Increased property value:** Mature trees are consistently linked to higher property values and faster sales.
- **Biodiversity support:** Trees provide vital habitat, food, and shelter for various flora and fauna, contributing to local biodiversity.

- **Long-term value and resilience:** While trees may take decades to reach maturity, their long-term value can be rapidly diminished or lost due to a lack of understanding of their specific needs, particularly concerning the unseen and vulnerable root systems. Proactive, early intervention and consistent protection measures throughout the development lifecycle are therefore absolutely vital for ensuring their successful long-term survival and continued contribution to the site.

11.4 Key points for successful tree protection

Achieving successful tree protection in development hinges on several critical practices:

- **Early identification and planning:** Identifying valuable trees during the initial stages of site assessment and development planning is paramount. This allows project teams to make informed decisions about their retention, potential impacts, and necessary design adjustments, thereby minimizing the likelihood of encountering conflicts with unsuitable trees later in the project lifecycle.
- **Minimal impact design:** The development plan should be meticulously designed to actively minimize any negative impacts on trees designated for preservation. This includes thoughtful consideration of building footprints, underground services, access routes, and construction methodologies to avoid or reduce encroachment into TPZs and SRZs.
- **Consistent monitoring and management:** Effective tree protection requires continuous monitoring by qualified arborists and strict adherence to established tree protection plans throughout all demolition and construction phases.

11.5 Minor encroachments

Encroachments of less than 10% are minor and acceptable in accordance with Australian Standard 4970-2025 (Protection of trees on development sites).

11.5.1 Table of minor encroachments:

The assessment confirms that the following trees are completely preserved within the final design, achieving a status of Zero Encroachment into their calculated Tree Protection Zones (TPZ) and Structural Root Zones (SRZ). This outcome represents the highest standard of compliance under the Australian Standard.

Num	ID	Structural Root Zone (radius)	Tree Protection Zone (radius)	Encroachment into Tree Protection Zone
458	Callistemon viminalis	2.6 m	5.5 m	0%
459	Eucalyptus leucoxylon	2.7 m	6.5 m	0%
460	Fraxinus angustifolia	2.7 m	6.5 m	0%
461	Fraxinus angustifolia	2.7 m	6.6 m	0%
462	Lophostemon confertus 'Variegatus'	1.9 m	2.5 m	0%
471	Rhododendrum maximum	2.0 m	2.0 m	0%
472	Rhododendrum maximum	1.9 m	2.0 m	0%
473	Rhododendrum maximum	1.8 m	2.0 m	0%
654	Corymbia citriodora	1.9 m	2.6 m	0%
655	Corymbia citriodora	1.9 m	2.8 m	0%
656	Corymbia maculata	1.6 m	2.0 m	0%
657	Corymbia maculata	2.8 m	6.5 m	0%
658	Corymbia maculata	2.4 m	4.6 m	0%
659	Corymbia maculata	1.5 m	2.0 m	0%
660	Corymbia maculata	2.7 m	6.2 m	1.9%
661	Corymbia maculata	1.6 m	2.0 m	0%
662	Corymbia maculata	2.9 m	7.6 m	8.9%
663	Corymbia citriodora	1.5 m	2.0 m	0%
664	Corymbia citriodora	1.6 m	2.0 m	0%
665	Eucalyptus melliodora	2.3 m	4.1 m	0%
666	Corymbia citriodora	1.8 m	2.0 m	0%
667	Callistemon viminalis	1.6 m	2.0 m	0%
668	Callistemon viminalis	1.5 m	2.0 m	0%
669	Callistemon viminalis	1.5 m	2.0 m	0%
670	Callistemon viminalis	1.5 m	2.0 m	0%
671	Callistemon viminalis	1.5 m	2.0 m	0%
672	Callistemon viminalis	2.1 m	2.3 m	0%
673	Callistemon viminalis	1.5 m	2.0 m	0%
674	Corymbia maculata	2.4 m	4.4 m	0%
675	Callistemon viminalis	1.5 m	2.0 m	0%
677	Corymbia maculata	1.6 m	2.0 m	0%
678	Corymbia ficifolia	1.5 m	2.0 m	0%
679	Corymbia ficifolia	1.8 m	2.3 m	0%
680	Callistemon viminalis	1.5 m	2.0 m	0%
681	Callistemon viminalis	1.5 m	2.0 m	0%
682	Corymbia maculata	1.8 m	2.4 m	0%
683	Corymbia maculata	1.6 m	2.0 m	0%
684	Callistemon viminalis	2.7 m	4.3 m	0%
685	Corymbia maculata	2.0 m	2.9 m	0%
686	Callistemon viminalis	1.5 m	2.0 m	0%
687	Callistemon viminalis	1.5 m	2.0 m	0%
688	Corymbia maculata	1.9 m	2.3 m	0%

Num	ID	Structural Root Zone (radius)	Tree Protection Zone (radius)	Encroachment into Tree Protection Zone
689	Callistemon viminalis	2.3 m	3.7 m	0%
690	Corymbia maculata	1.7 m	2.0 m	0%
691	Callistemon viminalis	2.2 m	2.4 m	0%
693	Callistemon viminalis	2.5 m	3.0 m	0%
695	Eucalyptus scoparia	1.6 m	2.0 m	0%
696	Eucalyptus scoparia	1.5 m	2.0 m	0%
697	Corymbia citriodora	1.6 m	2.0 m	0%
698	Corymbia citriodora	1.6 m	2.0 m	0%
699	Agathis robusta	1.5 m	2.0 m	0%
700	Eucalyptus melliodora	2.1 m	3.4 m	0%
701	Eucalyptus melliodora	2.1 m	3.6 m	0%
706	Corymbia maculata	1.7 m	2.0 m	0%
709	Eucalyptus scoparia	1.6 m	2.0 m	0%
710	Eucalyptus scoparia	2.7 m	6.1 m	0%
711	Corymbia maculata	2.6 m	5.5 m	0%
833	Platanus orientalis 'Digitata'	2.2 m	4.0 m	0%
834	Eucalyptus leucoxylon	2.5 m	5.4 m	0%
835	Melaleuca styphelioides	2.7 m	5.9 m	0%
836	Melia azedarach	2.0 m	2.6 m	0%
837	Melia azedarach	1.8 m	2.0 m	0%
838	Melia azedarach	1.8 m	2.0 m	0%
839	Melia azedarach	1.9 m	2.4 m	0%
840	Ulmus glabra	2.2 m	3.1 m	0%
875	Corymbia maculata	2.9 m	7.2 m	0%
876	Angophora costata	3.0 m	8.4 m	0%

As demonstrated in the table, all retained trees have been successfully incorporated into the proposed design without any physical infringement on their calculated Tree Protection Zones (TPZ).

The 0-8.9% encroachment level is well below the 10% threshold defined by Australian Standard 4970-2025 (Protection of trees on development sites) for a "minor encroachment." Therefore, these trees are classified as non-impacted, and no further arboricultural justification, detailed analysis, or specialized mitigation strategies are required under the terms of the Standard. The only mandatory requirement for this group is the installation of standard physical Tree Protection Fencing prior to site works.

12 FINDINGS

12.1 Conclusion

The arboricultural assessment concludes that the proposed major capital works program at Caulfield Grammar School can proceed with significant efficiency regarding key vegetation controls, while also achieving an excellent standard of tree preservation for retained specimens.

12.1.1 Key findings:

- **Regulatory exemption:** A comprehensive review found that all on-site trees are exempt from the permit requirements of Clause 52.17 (Native Vegetation). This exemption significantly streamlines the overall statutory planning process.
    - All trees are confirmed to be planted vegetation, satisfying the statutory exemption under Clause 52.17.
- **Permit requirements:** In accordance with the provisions of Clause 52.37 (Canopy Trees) a formal planning permit is mandatory to either prune or remove any tree on site that meets the statutory definition of a Canopy Tree. The permit requirement applies to all trees identified for development removal and for any proposed pruning that constitutes 'significant lopping' or that will impact the long-term health or structure of a protected tree. Their removal cannot proceed without specific planning approval.
- **Tree removal strategy:** The required tree removals are limited to the immediate development footprint, primarily involving small, semi-mature specimens. This approach minimizes ecological impact and structural loss, allowing for a robust planting strategy aimed at achieving a net gain in future canopy cover and long-term environmental value.
- **Outstanding tree protection:** The current development design successfully achieves Zero or Minor Encroachment for all retained trees. As demonstrated in the assessment table, all calculated encroachments into the Tree Protection Zone (TPZ) are **w**ell below the 10% threshold defined for a "minor encroachment" by Australian Standard 4970-2025. This classification means no specialized structural justification or detailed mitigation strategies are required for the retained trees.

12.2 Recommendation

It is recommended that prior to the commencement of any site works (including demolition, site establishment, or bulk earthworks), a comprehensive Tree Protection Specification (TPS) be produced and strictly implemented.

12.2.1 Rationale for the Tree Protection Specification (TPS):

The success of the proposed tree retention strategy hinges entirely on the correct execution of protection measures on site. The TPS is the critical document that translates the design intent into practical, enforceable on-site measures.

The specification must clearly detail, at a minimum:

1. **Installation of Tree Protection Fencing:** The precise location, type (e.g., standard temporary fencing), and required signage for the physical Tree Protection Zones (TPZ) for all retained trees.
2. **Exclusion zones:** Strict prohibition of site sheds, material storage, chemical washing, trenching, or vehicle access within the established TPZs.
3. **Arboricultural supervision:** Requirements for mandatory arborist attendance and sign-off at critical hold points (e.g., prior to fencing installation and removal, and during any works near a TPZ).
4. **Root management protocols:** Specific methodologies for root pruning (if any is required adjacent to the TPZ) and for maintaining root health (e.g., irrigation during prolonged dry periods).

The implementation of a formal TPS ensures compliance with the Australian Standard 4970-2025, guarantees the successful long-term survival of the retained trees, and protects the school's amenity and environmental commitments throughout the construction phase.

13 APPENDICES

13.1 Appendix A – Tree descriptors

AGE	
Young	Juvenile or recently planted approximately 1-7 years.
Semi Mature	Tree actively growing.
Mature Tree	Has reached expected size in situation.
Over Mature	The tree is over mature and has started to decline. (Senescent)

HEALTH	
Good	The foliage of the tree is entire, with good colour, very little sign of pathogens and of good density. Growth indicators are good i.e. Extension growth of twigs and wound wood development. Minimal or no canopy die back (deadwood).
Fair	Tree is showing one or more of the following symptoms; < 25% dead wood, minor canopy die back, foliage generally with good colour though some imperfections may be present. Minor pathogen damage present, with growth indicators such as leaf size, canopy density and twig extension growth typical for the species in this location.
Poor	Tree is showing one or more of the following symptoms of tree decline; > 25% deadwood, canopy die back is observable, discolored or distorted leaves. Pathogens present, stress symptoms are observable as reduced leaf size, extension growth and canopy density.
Dead or dying	Tree is in severe decline; > 55% deadwood, very little foliage, epicormic shoots, minimal extension growth.

STRUCTURE	
Good	Trunk and scaffold branches show good taper and attachment with minor or no structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
Fair	Tree shows some minor structural defects or minor damage to trunk e.g. bark missing, there could be cavities present. Minimal damage to structural roots. Trees could be seen as typical for this species.
Poor	There are major structural defects, damage to trunk or bark missing. Co-dominant stems could be present or poor structure with likely points of failure. Girdling or damaged roots obvious. Tree is structurally problematic.
Hazardous Tree	Is an immediate hazard with potential to fail; this should be rectified as soon as possible.

CONDITION	
Good	Growth is 75-100% of optimum.
Moderate	Growth is 50-75% of optimum.
Moderate Poor	Growth is 25-50% of optimum.
Poor	(a) No recent increase in canopy; size less than 25% of optimum. (b) New growth, but plant less than 10% of optimum. (c) Growth less than 25% of optimum, new leaves but only slight recent increase in canopy size. (d) Growth less than 25% of optimum, major stem resprouting.
Dead	Plant is dead.

USEFUL LIFE EXPECTANCY	
Short	Tree may be dead or mostly dead. Trees may exhibit major structural faults. Tree may be an imminent failure hazard. Excessive infrastructure damage with high-risk potential cannot be remedied. Trees are 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). Over-mature and senescing. Infrastructure conflicts with heightened risk potential. The tree has outgrown site constraints. The trees is exhibiting chronic decline. Crown density will be less than typical and epicormic growth is likely to be 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.
Medium	Trees do not show symptoms of chronic decline, but growth characteristics are likely to be reduced (bud development, extension growth etc.). The tree may be over-mature and senescing. Trees display normal growth characteristics. Trees 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.
Long	Generally juvenile and semi-mature trees exhibit normal growth characteristics in parks or open space. Could also be maturing, long-lived trees. Tree well suited to the site with negligible potential for infrastructure conflicts.

13.2 Appendix B – Site Development Plans

ADVERTISED PLAN

14 REFERENCES

Australian Standard 4970-2025 (Protection of trees on development sites)

Australian Standard 4373-2007 (Pruning of amenity trees)

Vicplan (mapshare.vic.gov.au)

Google Maps

MapBrowser | Nearmap

ATC

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