



WOODLAND TREE REPORTS

Arboricultural Impact and Canopy Tree Assessment

3 Talbot Street
Newtown VIC

9 April 2026

This copied document is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach copyright legislation

██████████
AQF Level 5 Diploma
Consulting Arborist
Mobile : ██████████
Email : ██████████



Summary

Woodland Tree Reports Pty Ltd has been engaged by [REDACTED], [REDACTED] to provide an update to the preliminary arboricultural assessment report for 3 Talbot Street, Newtown presented in July 2025 after a request was made by the City of Greater Geelong for further information in relation to the development of the site as part of the Planning Permit Application No: PP-1035-2025.

FURTHER INFORMATION REQUIRED:

1. Clarification regarding Clause 52.37 (Canopy Trees) (See Critical Issues 3).

MERIT ISSUES:

The preliminary assessment has also identified the following issues with the proposal. These concerns have been graded as follows:

Critical Issue/s: *It is unlikely Council will issue a planning permit if the application is not amended to respond to these critical issue/s:*

3. *While the location of trees being retained and removed have been identified on the site plan, further information is required to identify these trees. It is encouraged that a landscape plan is provided or the arboricultural report is updated to include the;*

- *The canopy trees proposed to be removed, destroyed or lopped, including species, height and canopy diameter and;*

- *The location and details of existing and new canopy trees, including species, type, expected height and expected canopy diameter at maturity, soil conditions and proposed irrigation.*

This will assist in determining whether trees can be categorised as canopy or boundary canopy trees that require assessment or can contribute to the canopy tree requirement at Clause 52.37-3. An explanation of why these trees are being removed should be provided, and in the event the canopy tree requirement is not being met, an explanation of why it is not being met. If the removal of the canopy tree is associated with the development of the site, it should be explained whether the proposed development has been sited or designed to minimise the impact on canopy trees.

Table of Contents

1. Assignment.....	4
2. Assessment Methodology.....	4
3. Observations	5
4. Discussion.....	8
5. Conclusion	15
6. Recommendation(s).....	16
7. Appendix 1. Design provided by C+M Build Group.....	21
8. Appendix 2. Photos	22
9. References.....	28
10. Descriptors	29
11. Terms and Limitations of the Report	32

1. Assignment

1.1 Woodland Tree Reports Pty Ltd has been commissioned to provide an update to the preliminary arboricultural assessment report for 3 Talbot Street, Newtown presented in July 2025 to assist with the development 3 Talbot Street, Newtown VIC.

1.2 The following information has been added to the original Arboricultural Impact Assessment:

1.2.1 *The canopy trees proposed to be removed, destroyed or lopped, including species, height and canopy diameter and;*

1.2.2 *The location and details of existing and new canopy trees, including species, type, expected height and expected canopy diameter at maturity, soil conditions and proposed irrigation.*

1.3 The report will address:

- Tree identification both botanical and common name.
- Origin
- Dimensions (Height and width), Diameter at Standard Height (DSH), Diameter above root flare (DARF)
- Health, structure and condition.
- Risk, Amenity Value, Useful Life Expectancy (ULE)
- Notional Root Zone (NRZ), Structural Root Zone (SRZ)
- Canopy Tree (Y/N)
- Retention (Y/N)

2. Assessment Methodology

2.1 Assessed by

██████████ - Diploma Horticulture (Arboriculture) – Level 5 Consulting Arborist

2.2 Dates of inspection

23 January 2026

2.3 Inspection Method

The subject tree has been assessed by visual tree assessment (VTA) (Matheny & Clark 1998) from the ground only. Only the visual aspect has been undertaken. No invasive methods have been undertaken at this stage.

No inspection was conducted on the root system other than any that were visible due to soil erosion.

All photos have been taken using a 10 mega pixel digital camera.

Weather at the time of assessment was sunny and/or partially cloudy with light winds and reasonable visibility.

2.4 Limitations

None. All areas of the trees were easily accessible.

3. Observations

3.1 The subject site, 3 Talbot Street, Newtown, is a residential block within the Geelong suburb of Newtown.

3.2 The land size is 874.37m².

3.3 In total twenty-five (25) trees and shrubs have been assessed with twenty (20) located within the subject property, four (4) within the neighbouring property (5 Talbot Street) and one (1) within Talbot Street in front of the subject property (this tree was the focus of the original arboricultural impact assessment).

3.4 The majority of the vegetation assessed has been modified, with crowns lopped or maintenance pruning carried out to ensure the size and shape of the trees and shrubs either remains small and manageable, doesn't impact or damage the buildings or assets, or in regard to the street tree occurs regularly by the City of Greater Geelong for electrical line clearance as regulated by Energy Safe Victoria to ensure compliance.

3.5 All vegetation appears to have been planted within garden beds located around the perimeter of the property or in the garden area at the front of the property as well.

3.6 Of the twenty-five (25) trees and shrubs assessed, there are seven (7) Canopy Trees within the property.

3.7 The health of the majority of vegetation assessed is good although structure is slightly more varied with the majority fair.

3.8 The subject site has the following Planning Overlays in place. Neither have tree controls:

3.8.1 Heritage Overlay – Schedule (HO1627)

3.8.2 Special Building Overlay

3.9 The table of observations on the following pages for all assessed trees is a recording of Tree identification both botanical and common name, Dimensions (Height and width), Diameter at standard height (DSH), Diameter above root flare (DARF), Age, Health, Structure, Condition, Risk, Amenity Value, Useful life expectancy (Years), Notional Root Zone (m), Structural Root Zone (SRZ), Distance to works (m), NRZ Encroachment (%), Encroachment Notes and Observations.

Table 1 – Observations

Location	I.D No.	Botanical Name	Common Name	Origin	Type	Height (m)	Width (m)	DSH (mm)	DARF (mm)	Age	Health	Structure	Condition	Risk	Amenity Value	U.L.E (Years)	NRZ (m)	SRZ (m)	Distance to works (m)	NRZ Encroachment (%)	NRZ Encroachment Level	Canopy Tree (Y/N)	Retention (Y/N)	Notes
Subject Site (3 Talbot St)	1	<i>Hibiscus Sp.</i>	Hibiscus	Australian Native	Tree	3.5	2x4	30 x 5 = 70	380	Mature	Fair	Poor	Fair	Low	Low	0-10	2	2.20	0.00	50.00%	Major NRZ encroachment (greater than 20% or inside the SRZ) as per AS4970.2025.	No	No	Small shrub that has been lopped regularly to keep its current shape. Tree will require removal due to encroachment from footprint of new dwelling.
Subject Site (3 Talbot St)	2	<i>Crataegus monogyna</i>	Common Hawthorn	Exotic	Tree	3	3	20 x 5 = 40	220	Mature	Fair	Poor	Fair	Low	Low	10-20	2	1.75	0.00	100.00%	Major NRZ encroachment (greater than 20% or inside the SRZ) as per AS4970.2025.	No	No	Small tree that has been lopped regularly to keep its current shape. Tree will require removal due to encroachment from footprint of new dwelling.
Neighbouring property (5 Talbot St)	3	<i>Pyrus calleryana 'Capital'</i>	Capital Pear	Exotic	Tree	3.5	2	40	80	Juvenile	Good	Good	Good	Low	Low	20+	2	1.50	1.60	5.20%	Minor NRZ encroachment (less than or equal to 10%) as per AS4970.2025.	No	Yes	Small juvenile tree in neighbouring property in good condition. Minimum NRZ/SRZ distances. New tree so no root system interaction will occur.
Neighbouring property (5 Talbot St)	4	<i>Malus sp.</i>	Apple	Exotic	Tree	3	2	80	120	Mature	Good	Fair	Fair	Low	Low	20+	2	1.50	2.50	0.00%	No encroachment	No	Yes	Small tree in neighbouring property that has been lopped regularly to keep its current shape or for fruiting purposes.
Neighbouring property (5 Talbot St)	5	<i>Coprosma repens</i>	Mirror Bush	Exotic	Tree	3	4	60	90	Mature	Good	Poor	Fair	Low	Low	10-20	2	1.50	3.80	0.00%	No encroachment	No	Yes	Small tree in neighbouring property that has been lopped regularly to keep its current shape or for fruiting purposes.
Neighbouring property (5 Talbot St)	6	<i>Pyrus calleryana 'Capital'</i>	Capital Pear	Exotic	Tree	5	5	140	200	Mature	Good	Fair	Fair	Low	Low	20+	3.6	1.68	6.60	0.00%	No encroachment	No	Yes	Small tree in neighbouring property in good condition.
Subject Site (3 Talbot St)	7	<i>Fraxinus excelsior</i>	European Ash	Exotic	Tree	6	10	300	420	Mature	Good	Fair	Fair	Low	Low	20+	3.6	2.30	4.10	0.00%	No encroachment	Yes	Yes	Small tree with spreading canopy located on north side of existing dwelling in fair condition.
Subject Site (3 Talbot St)	8	<i>Prunus cerasifera 'Nigra'</i>	Black Cherry Plum	Exotic	Tree	5	7	100 x 5 = 220	280	Mature	Fair	Fair	Fair	Low	Low	10-20	2.64	1.94	3.70	0.00%	No encroachment	Yes	Yes	Small tree with declining canopy located on north side of existing dwelling in fair condition.
Subject Site (3 Talbot St)	9	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Australian Native	Tree	6	10	280, 350 = 450	520	Mature	Good	Fair	Fair	Low	Low	20+	5.4	2.51	4.7 (.75x1.9 incursion)	0.92%	Minor NRZ encroachment (less than or equal to 10%) as per AS4970.2025.	Yes - Boundary	Yes	Small tree with spreading canopy located on north side of existing dwelling in fair condition. Footing of carport to encroach NRZ. Ensure care is taken and roots are pruned by project arborist as per AS4373.2007.
Subject Site (3 Talbot St)	10	<i>Phoenix canariensis</i>	Canary Island Date Palm	Exotic	Tree	5	9	1200	1200	Mature	Good	Good	Good	Low	Low	20+	10*	2*	8.3 (2x2.7 incursion)	0.96%	Minor NRZ encroachment (less than or equal to 10%) as per AS4970.2025.	Yes - Boundary	Yes	Small tree with spreading canopy located on the north side of the existing dwelling against side boundary fence in good condition. NRZ and SRZ differ due to being a monocot. See AS4970.2025. Footing of carport to encroach NRZ. Ensure care is taken and roots are pruned by project arborist as per AS4373.2007.
Subject Site (3 Talbot St)	11	<i>Fraxinus excelsior</i>	European Ash	Exotic	Tree	2.5	2	30 x 3 = 60	90	Mature	Fair	Fair	Fair	Low	Low	20+	2	1.50	11.50	0.00%	No encroachment	No	No	Small self-sown tree located on the north side of the existing dwelling against side boundary fence.
Subject Site (3 Talbot St)	12	<i>Eucalyptus macrandra</i>	Long-flowered Marlock	Australian Native	Tree	4	4	300	600	Mature	Fair	Poor	Fair	Low	Low	0-10	3.6	2.67	10.70	0.00%	No encroachment	No	No	Small tree located on the north side of the existing dwelling against side boundary fence that has been lopped. Entire crown new epicormic growth which has failed recently during wind event.
Subject Site (3 Talbot St)	13	<i>Cotoneaster glaucophyllus</i>	Cotoneaster	Exotic	Tree	5	8	100 x 5 = 220	600	Mature	Good	Fair	Fair	Low	Low	20+	2.64	2.67	11.20	0.00%	No encroachment	Yes - Boundary	Yes	Small multi-stemmed tree with spreading canopy and located on the north side of the existing dwelling against side boundary fence in fair condition.
Subject Site (3 Talbot St)	14	<i>Cupressus sempervirens Swanes Golden</i>	Golden Pencil Pine	Exotic	Tree	3	1.5	100	190	Mature	Good	Fair	Fair	Low	Low	10-20	2	1.65	2.00	0.00%	No encroachment	No	No	Small tree located on the west side of the existing dwelling against house wall where it has been lopped on the east side to keep the crown away from the eve and roof of the property.

Location	I.D No.	Botanical Name	Common Name	Origin	Type	Height (m)	Width (m)	DSH (mm)	DARF (mm)	Age	Health	Structure	Condition	Risk	Amenity Value	U.L.E (Years)	NRZ (m)	SRZ (m)	Distance to works (m)	NRZ Encroachment (%)	NRZ Encroachment Level	Canopy Tree (Y/N)	Retention (Y/N)	Notes
Subject Site (3 Talbot St)	15	<i>Rhamnus alaternus</i>	Italian Buckthorn	Exotic	Tree	3.5	3	20 x 5 = 40	190	Semi-mature	Fair	Poor	Fair	Low	Low	0-10	2	1.65	3.80	0.00%	No encroachment	No	No	Small tree located on the west side of the existing dwelling in the middle of the lawn area in fair condition. Listed as an environmental weed by City of Greater Geelong.
Subject Site (3 Talbot St)	16	<i>Abelia x grandiflora 'Kaleidoscope'</i>	Glossy Abelia	Exotic	Shrub	1.75	3	20 x 5 = 40	300	Semi-mature	Good	Fair	Good	Low	Low	20+	2	2.00	10.00	0.00%	No encroachment	No	No	Small shrub located on the west side of the existing dwelling against the front boundary brick fence in good condition.
Subject Site (3 Talbot St)	17	<i>Hakea laurina</i>	Pin-cushion Hakea	Australian Native	Tree	2	4	20, 30, 40 = 50	190	Semi-mature	Good	Fair	Good	Low	Low	10-20	2	1.65	9.00	0.00%	No encroachment	No	No	Small tree located on the west side of the existing dwelling against the front boundary brick fence in good condition. Listed as an environmental weed by City of Greater Geelong.
Subject Site (3 Talbot St)	18	<i>Kunzea baxteri</i>	Crimson Kunzea	Australian Native	Shrub	2.5	3	20, 30, 40 = 50	180	Semi-mature	Good	Fair	Good	Low	Low	10-20	2	1.61	6.50	0.00%	No encroachment	No	No	Small shrub located on the west side of the existing dwelling against the front boundary brick fence in good condition.
Subject Site (3 Talbot St)	19	<i>Abelia x grandiflora 'Kaleidoscope'</i>	Glossy Abelia	Exotic	Shrub	2	2	20 x 5 = 40	350	Semi-mature	Good	Fair	Good	Low	Low	10-20	2	2.13	5.60	0.00%	No encroachment	No	No	Small shrub located on the west side of the existing dwelling against the front boundary brick fence in good condition.
Subject Site (3 Talbot St)	20	<i>Photinia robusta</i>	Photinia	Exotic	Tree	3	3	30 x 5 = 70	200	Semi-mature	Good	Fair	Fair	Low	Low	20+	2	1.68	0.6 (1.4x2.1 incursion)	17.87%	Moderate Encroachment (greater than 10% and less than or equal to 20% of the area of the NRZ) as per AS4970.2025.	No	No	Small tree located on the west side of the existing dwelling against the front boundary brick fence in fair condition. Tree will require removal due to encroachment from proposed entrance path and gateway.
Subject Site (3 Talbot St)	21	<i>Pittosporum tenuifolium James Stirling</i>	James Stirling Pittosporum	Exotic	Tree	5	7	130, 220 = 260	290	Semi-mature	Good	Fair	Good	Low	Low	10-20	3.12	1.97	0.00	100.00%	Major NRZ encroachment (greater than 20% or inside the SRZ) as per AS4970.2025.	Yes - Boundary	No	Small tree located on the west side of the existing dwelling against the front boundary brick fence in good condition. Tree will require removal due to encroachment from proposed entrance path and gateway.
Subject Site (3 Talbot St)	22	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic	Tree	7	8	350	360	Mature	Good	Fair	Good	Low	Low	20+	4.2	2.15	0.00	50.00%	Major NRZ encroachment (greater than 20% or inside the SRZ) as per AS4970.2025.	Yes - Boundary	No	Small tree located on the west side of the existing dwelling in the middle of the lawn area in good condition. Tree will require removal due to encroachment from proposed driveway and entrance path and gateway.
Subject Site (3 Talbot St)	23	<i>Pittosporum eugenioides Variegatum</i>	Lemonwood	Exotic	Tree	5	6	80, 90, 130, 160 = 240	300	Mature	Good	Fair	Fair	Low	Low	10-20	2.88	2.00	0.50	39.00%	Major NRZ encroachment (greater than 20% or inside the SRZ) as per AS4970.2025.	Yes - Boundary	No	Small tree located on the west side of the existing dwelling against the south boundary fence in fair condition. Tree will require removal due to encroachment from proposed driveway.
Subject Site (3 Talbot St)	24	<i>Cotoneaster glaucophyllus</i>	Cotoneaster	Exotic	Tree	6	8	100 x 3, 120, 150 = 260	500	Semi-mature	Good	Fair	Good	Low	Low	20+	3.12	2.47	1.7 (1.2x3.4 incursion)	11.27%	Moderate Encroachment (greater than 10% and less than or equal to 20% of the area of the NRZ) as per AS4970.2025.	Yes - Boundary	Yes	Small tree located on the west side of the existing dwelling against the south boundary fence in fair condition. NRZ and SRZ encroachment from proposed driveway footprint. Existing driveway is closer to the base of the tree so feasible to suggest minimal actual impact will occur.
Talbot Street (Council Tree)	25	<i>Camphora officinarum</i>	Camphor Tree	Exotic	Tree	8	12x17	360, 640 = 740	660	Mature	Fair	Poor	Fair	Low	Medium	10-20	8.88	2.78	1.70	0.00%	No encroachment	Yes	Yes	A large mature tree with a spreading canopy that has been severely modified for electrical line clearance located within the thin parcel of partially grassed nature strip in front of the subject site. The NRZ and SRZ encroach into the subject site.

4. Discussion

4.1 The object of this assessment is to provide information on the subject trees (and shrubs) identified and assessed within the subject property, neighbouring property and road reserve outside the subject property that have the potential to be impacted by the proposed development.

4.2 Recently the Australian Standard *AS4970.2009 Protection of trees on development sites* (2009) was updated to *AS4970.2025 Protection of trees on development sites* (2025) which was published in May 2025. As such the measurement for tree protection outlined in the previous version of the standard has been superseded with the Tree Protection Zone (TPZ) replaced by the Notional Root Zone (NRZ).

4.3 The following is an excerpt from AS4970.2025.

4.3.1 **Minor NRZ Encroachment**

The proposed encroachment is considered minor if it is less than or equal to 10% of the area of the NRZ, has not had recent NRZ encroachments and is outside the SRZ (Structural Root Zone). Generally, it is unlikely that there will be a significant impact to tree health, longevity or structure. Tree protection should be implemented during site works. To avoid net loss of soil area volume, an area equivalent to the encroachment shall be incorporated into the TPZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

4.3.2 **Moderate NRZ Encroachment**

The proposed encroachment moderate if it is greater than 10% and less than or equal to 20% of the area of the NRZ, and outside the SRZ. A project arborist shall be engaged to review the proposed impact and undertake any other necessary investigation to address the factors listed in Clause 3.3.2 to demonstrate how the tree will remain viable. This may be through the implementation of suitable design measures and construction controls to mitigate impacts during the development process as part of TPS (Tree Protection Specifications) and TPP (Tree Protection Plan). To avoid net loss of soil area volume, an area equivalent to the encroachment shall be incorporated into the TPZ, unless the project arborist otherwise demonstrates that the tree will remain viable.

4.3.3 **Major NRZ Encroachment**

The proposed encroachment is considered major if it is greater than 20% of the area of the NRZ (Notional Root Zone) or inside the SRZ (Structural Root Zone). The project arborist shall be engaged to explore alternative designs with the design team and/or demonstrate that the tree will remain viable.

4.3.4 **Structural Root Zone (SRZ)**

The SRZ is a notional area required for tree stability. A larger area is required to maintain a viable tree.

The SRZ shall be calculated when major encroachment (greater than 20%) into an NRZ is proposed. SRZ locations and dimensions may be included on arboriculture documentation.

4.3.5 Any NRZ radius shall not be less than 2 metres nor greater than 15 metres.

4.3.6 The SRZ for trees with trunk diameters less than 0.15 metres is 1.5 metres.

4.4 Based on the design by C + M Build Group, the Table of Observations provides the NRZ and SRZ measurements along with the percentage of encroachment.

4.5 These percentages are based on the NRZ/SRZ footprints and the potential encroachment incurred each of the new assets identified on the design including –

- The new dwelling
- New vehicle driveway and crossover
- Front entry footpath from the street to the front door of the existing dwelling.

4.6 The following table provides a breakdown of the encroachment types – None, Minor, Moderate and Major, subject tree numbers, quantity of trees in each encroachment and percentage of trees within each encroachment category as referenced in Australian Standard AS 4970-2025, *Protection of Trees on Development Sites* (Standards Australia, 2025).

Table 2. NRZ/SRZ Encroachment Observations

Encroachment	Tree Numbers	Quantity	%
No NRZ or SRZ Encroachment.	4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 25	15	60%
Minor Encroachment - less than or equal to 10% of the area of the NRZ.	3, 9, 10	3	12%
Moderate Encroachment - greater than 10% and less than or equal to 20% of the area of the NRZ.	20, 24	2	8%
Major Encroachment - greater than 20% of the area of the NRZ or inside the SRZ.	1, 2, 21, 22, 23	5	20%
	Total	25	100%

4.7 The NRZ and/or SRZ of two (2) of the five (5) trees located within the property adjacent do encroach into the subject site although minimally and based on the design provided and size/age off Tree No.3 (Juvenile), neither will be impacted by proposed construction footprint (Tree No.3 is theoretical at this stage of development as the tree is newly planted resulting in a root system that is much smaller than the minimum NRZ of 2 metres).

4.8 Although stating no impact will occur to neighbouring trees, it is still preferred tree protection fencing is erected around the perimeter of any NRZ or if applicable SRZ of a tree that is to be retained.

4.9 There are fourteen (14) subject trees and shrubs within the subject site that have been identified on the proposed plans to be removed to allow the demolition of the existing dwelling and allow construction of the new dwelling, carport, driveway and entrance path.

4.10 Of the fourteen (14) identified for removal, there are three (3) that have been assessed as Canopy Trees as outlined in Clause 52.37 Canopy Trees of the Victorian Planning Scheme within the project area. They are Tree No's 21, 22 and 23. All are classed as Boundary Canopy Trees.

4.11 Canopy Trees

4.12 The following points provide information required as part of the canopy tree assessment requested as part of the RFI from the City of Greater Geelong and as outlined in Clause 52.37 Canopy Trees.

4.13 As already outlined in the observations section of this report, the subject site is a residential block located on the east side Talbot Street, Newtown. The land size is 874.37m².

4.14 In total twenty-five (25) trees and shrubs have been assessed with twenty (20) located within the subject property, four (4) within the neighbouring property to the south (5 Talbot St), and one (1) within the nature strip of Talbot Street in front of the subject site.

4.15 All vegetation appears to have been planted within garden beds located around the perimeter of the property or in the lawn areas between the existing dwelling and boundaries.

4.16 Of the twenty-five (25) trees and shrubs assessed, there are nine (9) Canopy Trees within the property and one (1) within the nature strip of Talbot Street.

4.17 The definition of a canopy tree as outlined in Clause 52.37 Canopy Trees of the Victoria Planning Scheme is as follows:

Clause 52.37 Canopy Trees

Clause 52.37 requires a permit to remove, destroy or lop a canopy tree.

- *A 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.*

- *A boundary Canopy Tree means a canopy tree as defined above if any of its trunk is within:*
 - *6 metres of the narrowest street frontage of the lot; or*
 - *4.5 metres of the rear boundary of the lot*

4.18 Based on the above definitions, all canopy trees within the site have been assessed and included within this report.

4.19 The table below identifies the nine (9) Canopy Trees assessed within the site with canopy measurements including spread and area (m²).

Table 3. Canopy Trees

Tree No.	Botanical Name	Common Name	Origin	Height (m)	Canopy spread (X/Y)		Canopy Area(m ²)	Area of Canopy Tree to be removed (m ²)	Area of Canopy Tree to be retained (m ²)	
7	<i>Fraxinus excelsior</i>	European Ash	Exotic	6	6	8	48		48	
8	<i>Prunus cerasifera 'Nigra'</i>	Black Cherry Plum	Exotic	5	6.5	6	39		39	
9	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Australian Native	6	10	9	90		90	
10	<i>Phoenix canariensis</i>	Canary Island Date Palm	Exotic	5	8	8	64		64	
13	<i>Cotoneaster glaucophyllus</i>	Cotoneaster	Exotic	5	8	7	56		56	
21	<i>Pittosporum tenuifolium James Stirling</i>	James Stirling Pittosporum	Exotic	5	7	5	35	35		
22	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic	7	8	7	56	56		
23	<i>Pittosporum eugenioides Variegatum</i>	Lemonwood	Exotic	5	6	5	30	30		
24	<i>Cotoneaster glaucophyllus</i>	Cotoneaster	Exotic	6	7	7	49		49	
							Totals	467	121	346

4.20 The following statement details the canopy tree requirement for a site if canopy trees are proposed to be removed.

Canopy tree requirement

The number of canopy trees on the site should meet the minimum canopy tree requirements specified in Table 1.

If the site has an area of more than 1000 square metres and the existing total canopy cover within the site is more than 20 per cent of the site area, the canopy trees on the site should achieve a total canopy cover within the site that is equal to at least 20 per cent of the site area plus 50 per cent of the area of existing canopy cover that exceeds 20 per cent.

Example: If the site area is 2000 square metres and the existing total canopy cover within the site is 30 per cent of the site area, the required total canopy cover is 25 per cent (20% + [(0.5 x (30% - 20%)) = 25%].

The minimum canopy tree requirement may be met with either an existing canopy tree, by planting a new canopy tree, or a combination of both.

Table 4. Minimum canopy tree requirement

Site area	Canopy tree requirement
100 square metres or less	1 tree
101 sqm to 200 sqm	2 trees
201 sqm to 500 sqm	3 trees
501 sqm to 700 sqm	4 trees
701 sqm to 1000 sqm	6 trees
Above 1001 sqm	A total canopy cover within the site that is equal to at least 20 per cent of the site area.

4.21 The calculations outlined in the Canopy Tree Table of Observations on the previous page show the total area of canopy trees assessed on the site is 467m².

4.21.1 The total area of canopy trees recommended to be removed is 121m².

4.21.2 The total area of canopy trees to be retained is 346m².

4.21.3 The total area of the site including the building floor is 874.37m².

4.22 Based on the total area of the canopy trees assessed being 467m², the current canopy tree cover is 53.40% of the site.

4.23 The removal of the three (3) canopy trees (Tree No’s 21, 22 and 23) will reduce the current canopy cover to 39.57% although still retain 6 trees which is the minimum canopy tree requirement.

- 4.24 As outlined in in Table 1 – Minimum canopy tree requirement, the minimum requirement for this site is based on the site area of 701 sqm to 1000sqm which equates to 6 trees.
- 4.25 This may be met with either an existing canopy tree, by planting a new canopy tree, or a combination of both.
- 4.26 In this instance there are already six (6) canopy trees on the site that have been identified as retained resulting in no new trees being required to offset the loss of the three (3) canopy trees.

4.27 Retention Values

- 4.27.1 A trees worthiness of retention is based upon several criteria, taking into consideration such factors as health, condition, and structure, as well as age, species, location, and other factors which may affect the long-term tenure of the tree. The retention value does not take into consideration the future use of the land, rather that of the current situation and conditions, whereas worthiness of retention considers the trees tenure in the future use of the landscape.
- 4.27.2 Trees designated as high retention value are those of good health, site significance and semi-mature trees with potential for good growth and development within the completed landscape.
- 4.27.3 Trees designated as moderate retention value are those of fair health and structure which are considered to have potential within the future landscape, provided they do not impact upon the necessary development works. If these trees can be retained with minimal changes, they should be. However, they are not considered valuable enough to necessitate changes and adaptations to any development plans. By default, all trees on adjoining properties are classified with a moderate retention value, regardless of health or structural condition.
- 4.27.4 Low retention values have been attributed to trees within the subject site that are either displaying poor health and/or structural integrity, are of inappropriate species selection, are inappropriate for the site or have reached their useful life expectancy.

4.28 Tree Preservation Measures

- 4.28.1 Where trees are to be retained protection measures should be implemented to minimise inadvertent damage during construction activities. Tree preservation zones (TPZ) are nominated for each tree based on the trunk diameter of the tree, using the Australian Standard AS 4970-2025, *Protection of Trees on Development Sites* (Standards Australia, 2025).
- 4.28.2 The method allows for a theoretical root zone area only. Actual root distributions are often significantly different from those predicted and alterations to the TPZ can be made if further arboricultural investigations are carried out. The Australian Standard allows for disturbance of up to 10% of the TPZ before undertaking investigations or other means to demonstrate that a tree will remain viable. Investigations may be needed to discover the actual location of tree roots; this is done by careful hand excavation of the area.
- 4.28.3 The TPZ is specifically to protect tree roots and not necessarily the trunk or canopy of the tree. Where the canopy of the tree is low enough to be damaged by construction activities then the TPZ, if not adequate to protect the canopy, must be enlarged to the canopy edge. Where specific details of planned constructions are known then the arborist may devise a specific TPZ that may be different from the nominal one given in this report. The TPZ shape and area will consider protection of the tree's canopy, if necessary, minimization of risk to public and actual root distributions. Development within the TPZ requires an arborist's advice at the planning stage and may require specific building or excavation techniques to minimise damage to the tree(s).

4.29 Tree Preservation

- 4.29.1 The overall aim of tree preservation on construction sites is the long-term survival and stability of all trees retained. For trees to survive for their 'normal' life expectancy following construction, several principals must be recognised:
- Trees are living, growing dynamic organisms. Decisions regarding tree suitability to the modified environment need to be based on current scientific information and knowledge about the habits, behaviour, and other properties of individual tree species (e.g., limb, fruit and leaf shedding, poisonous parts, heavy shading, soil drying capacity, disturbance tolerance etc.)
 - Preservation must focus on damage prevention. There is very little that arboricultural practice can do to repair construction damage to a tree or its environment.
 - Tree preservation requires space. Trees need large volumes and areas of space for their basic biological needs. Allowance must be made for an unobstructed root zone and canopy environment and, for reasonable future growth of the tree without causing undue nuisance or damage to its modified environment.

4.29.2 Decline of trees following construction damage is often slow, occurring over several years with trees eventually failing or being removed due to hazard, aesthetic, or nuisance considerations. Because of the long-time lapse between construction damage to a tree and eventual tree decline/death, cause and effect relationships are not always apparent to the layperson as they are to the arborist.

4.29.3 The proposal of good tree protection is that if adequate tree protection measures are not possible or probable and trees are likely to suffer significant impacts, then tree preservation should not be attempted. In such cases it is more realistic and a better long-term strategy to preserve space for new tree plantings/regeneration.

5. Conclusion

5.1 Based on the design provided by C+M Build Group and NRZ/SRZ encroachment percentage calculations, the following points are to be considered:

5.1.1 There are fifteen (15) trees (Tree No's 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 25) that will not have their Notional Root Zone (NRZ) encroached by the proposed development. Of these trees five have been identified for removal (Tree No's 14, 15, 16, 17 and 18) to allow the construction of the proposed dwelling to be carried out.

5.1.2 There are three (3) trees (Tree No's 3, 9, 10) with Minor encroachment that is less than or equal to 10% of the area of the NRZ. All are to be retained.

5.1.3 There are two (2) trees (Tree No's 20 and 24) with Moderate encroachment that is greater than 10% and less than or equal to 20% of the area of the NRZ. Tree No.20 has been identified as requiring removal to allow the pedestrian access path and gate to be constructed. Tree No.24 has been identified as being able to be retained due to the encroachment from the new driveway being further away from the base of the tree than the existing driveway.

5.1.4 There are five (5) trees with Major encroachment that is greater than 20% of the area of the NRZ or inside the SRZ (Structural Root Zone) – (Tree No's 1, 2, 21, 22, 23). All five (5) trees will require removal due to their location being within the footprint of the proposed dwelling, driveway or access footpath.

5.2 All subject trees that are to be retained will require protection. The more mature a tree is, the more susceptible it is to any damage or excessive changes to its growing environment.

5.3 Where any tree is to be retained, any proposed construction footprint that encroaches into the (NRZ) Notional Root Zone greater than 10%, or the SRZ (Structural Root Zone) of a subject tree, will have root mapping conducted by non-destructive root investigation (NDRI) through minimally destructive investigation methods (pneumatic, hydraulic, hand digging or ground penetrating radar), carried out along the encroachment alignment to determine if roots need to be pruned or other methods of construction are required as suggested by the project arborist.

5.4 It is critical to the tree's health that any root pruning required is conducted as per Australian Standard *AS4373-2007 Pruning of amenity trees* (Standards Australia, 2007), by a suitably qualified arborist to allow minimal wounding, which in turn allows maximum potential for reactive wood to form.

6. Recommendation(s)

6.1 Prior to commencing any form of demolition, development of the site or construction works, ensure Tree Protection Zones are marked out around the trees identified to be retained and Tree Protection Fencing is installed.

6.2 Arrange for the removal of trees identified as requiring removal to accommodate the proposed works.

6.3 Where proposed works footprint encroaches into the (NRZ) Notional Root Zone greater than 10%, or the SRZ (Structural Root Zone) of a subject tree that is to be retained, in the presence of a qualified arborist, carry out non-destructive root investigation (NDRI) through minimally destructive investigation methods to a depth informed by the project engineer sufficient for excavation and installation of assets proposed.

6.4 Where NDRI is carried out, if major or structural roots are exposed, onsite discussions with the project manager, engineer and project arborist will be required to determine if the works can be realigned to avoid impacting the root, or if removal of the tree is required.

6.5 Where NDRI is carried out and minor roots are found to be within the proposed construction alignment, root pruning will be required by a qualified arborist ensuring it is carried out as advised in Australian Standard *AS4373-2007 Pruning of amenity trees* (Standards Australia 2007).

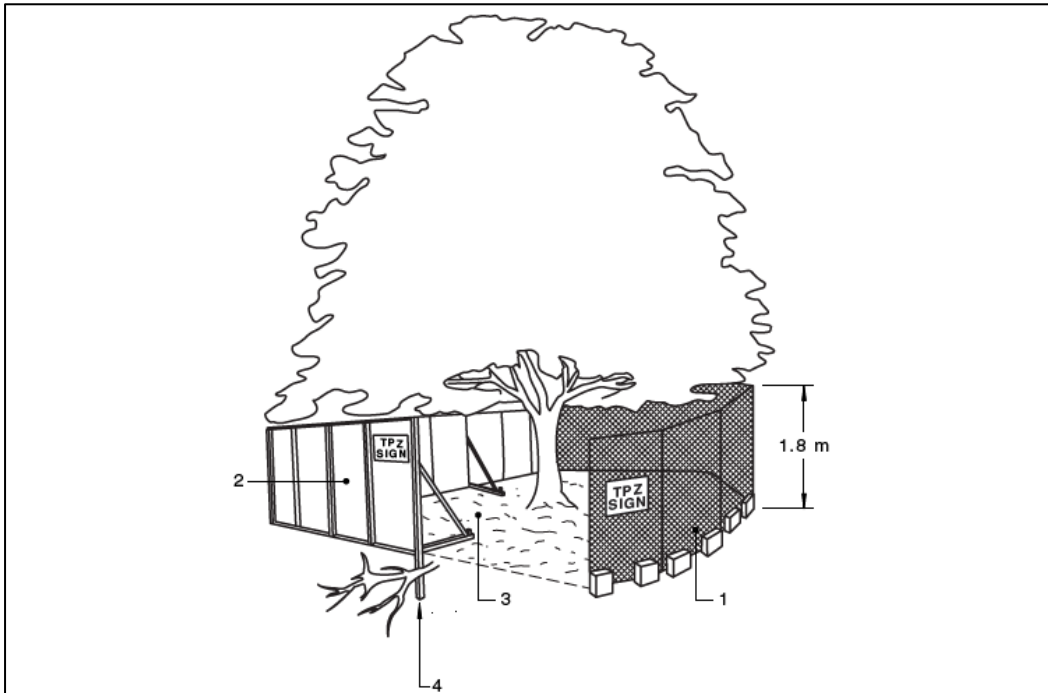
6.6 Where practical, ensure all investigative works is backfilled and watered in as soon as root mapping has occurred to alleviate increased stress to the trees and risk of decline in health and condition.

6.7 During investigation works, all remaining areas within the NRZ of subject tree and trees adjacent must be kept clear of encroachment or obstructions to prevent soil compaction.

6.8 Tree Protection Zones

- 6.8.1 General tree protection zones shall be established. The tree protection zone shall encompass as much of the TPZ area nominated in Table 1 and on plan in Appendix 1 of this report as possible and sufficient area to protect any low canopy from damage.
- 6.8.2 TPZs and management plans must be devised individually for any trees being retained once details of proposed constructions are known (ideally construction plans would be made in consultation with an arborist).
- 6.8.3 Where a tree is to be retained and disturbance must take place within the TPZ, special root investigation techniques and construction techniques shall be followed (see Minimising Tree Root Injury during Construction below).
- 6.8.4 No construction or machinery should be allowed to enter the TPZ without prior approval from an arborist. Where construction is required within a TPZ, the Project Arborist shall be consulted to assess the probable impact based on the tree size and condition and extent of construction. The arborist may be able to help devise modified or alternative construction methods that will minimise damage to the tree.
- 6.8.5 Where the construction is taking place in the vicinity of trees and it is probable that people or machinery may enter the TPZ area, tree protection fences shall be erected, and signs posted. Tree protection fences should be of a sturdy construction that is not easily moved or toppled (e.g., chainmesh fence). Signs shall be affixed to the fence at appropriate intervals and should be easily readable from 10 metres displaying the words: **“TREE PROTECTION ZONE. DO NOT ENTER OR STORE MATERIALS, POUR WASH OR CLEAN TOOLS IN THIS AREA.”**
- 6.8.6 Personnel and site visitors will not be allowed to enter this area without prior approval from an arborist. Materials shall not be stored, or buckets washed out (or any other similar potentially damaging activity) in the tree protection area.
- 6.8.7 Where natural ground covers do not exist below a tree’s canopy, the TPZ area shall be mulched with approximately 50mm deep of composted organic mulch such as rotted woodchips placed to no closer than 30cm from the trunk of any tree.
- 6.8.8 Any planting done within the TPZ shall be done using hand tools only with care not to do undue damage to tree roots.
- 6.8.9 The Project Arborist shall be consulted if there is any concern regarding tree preservation or if any trees are thought to have been damaged.

Example of Tree Protection Fencing and signage from AS4970.2025




KEY:

- 1 Chain wire mesh panels that are held in place with concrete feet.
- 2 Alternatively, plywood or wooden paling fence panels may be used. This fencing material also prevents building materials or soil from entering the TPZ.
- 3 Mulch installation across the surface of the TPZ (as detailed in the TPS). No excavation, construction activity grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ other than those indicated in the TPS.
- 4 Bracing may be used within the TPZ. Installation of posts or supports should avoid damaging roots.

Figure 4 — Protective fences

TREE PROTECTION ZONE



NO ACCESS

Activities excluded from the TPZ include —

- (a) Excavation or disturbance of the soil, including scraping of the surface
- (b) Spreading or stockpiling of fill
- (c) Cultivation
- (d) Equipment and material storage
- (e) Preparation of chemicals, including preparation of cement products
- (f) Parking of vehicles and plant
- (g) Refuelling
- (h) Dumping of waste
- (i) Wash down and cleaning of equipment
- (j) Fires
- (k) Physical damage to the tree

Contact:
Contact Project Manager for copy of the Tree Protection Specifications (TPS).

6.9 Site Supervision

6.9.1 A responsible person who will be on site frequently during the construction (i.e., Project Manager or site Foreman) must be given the responsibility of making sure that no potentially damaging activities such as excavations, material or debris placement, soil build up or washing of buckets (including disposing of any substances) occur within the protection zone. This person must call on the Project Arborist for immediate consultation should there be any doubt about the potential of activities to cause damage. Any potentially damaging activities should be stopped until the Project Arborist is satisfied that the activities will not further impact the tree's health, stability, or aesthetics.

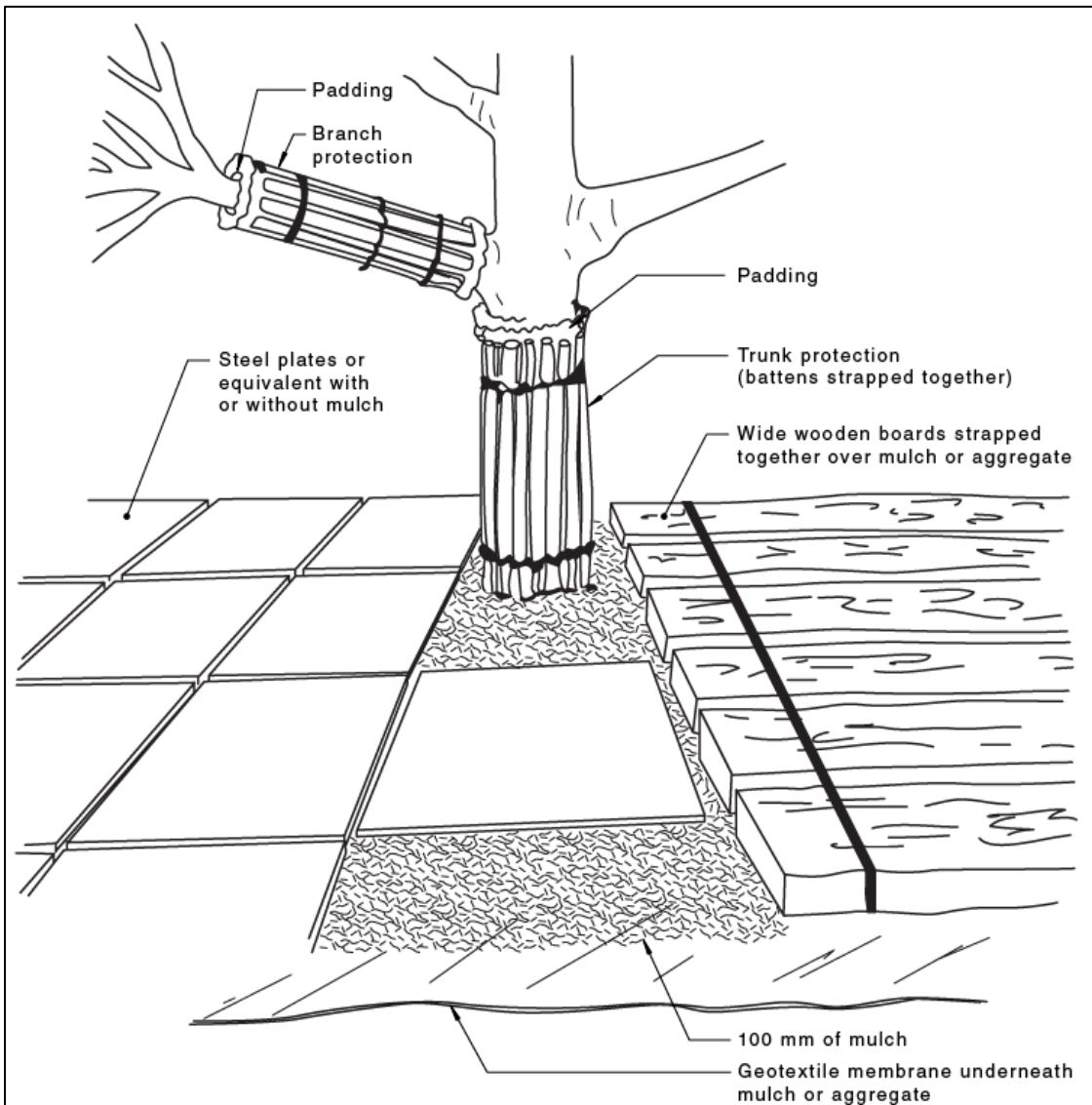
6.10 Minimising Tree Root Injury during Construction

6.10.1 Most absorbing tree roots under normal conditions are found in the top 30 centimetres of soil and few roots grow below 1 metre. Roots require that air and water infiltrate the soil for healthy function. Any activities that damage roots or prevent normal air and water infiltration (e.g., non-permeable surfaces, soil compaction, raised water tables etc.) increase the risk of tree decline, death, or instability.

6.10.2 Where construction must take place within the TPZ of trees to be retained, the following precautions are recommended:

- As far as possible plan paths and roads as close to original grade as possible.
- Where a soil cut or excavation must be made within a TPZ, conduct root investigations first to discover the size and location of significant sized roots. The ideal method of excavation is hydro-vac excavation where high pressure water is used to remove the soil from the location.
- The size of roots that are considered significant to a tree varies with the size and species of tree as well as the location of the root. Roots of more than 50 millimetres diameter within 3 metres of the trunk may be significant to the stability of the tree and should not be damaged. As a rule, unless specified otherwise by an arborist, any roots of 50 millimetres diameter or more within the TPZ should be considered significant to the health or stability of the tree.
- Where root investigations find significant sized roots, the Project Arborist can determine whether the roots can be severed or must be preserved for the health and stability of the tree.
- Any roots that are exposed through excavation shall be kept moist and any work in the excavated hole completed and filled in as soon as possible.
- Where shallow constructions such as curb and channel or pavement are planned in the vicinity of significant roots and it is determined that the roots must be preserved, construction techniques that bridge around roots can be devised. Such techniques may straddle roots allowing room for reasonable root expansion. Crushable polystyrene foam or similar materials may be used in making formwork around roots to assure sufficient space for root expansion growth.
- Low cultivation garden beds or similar permeable surfaces should be preferred to sealed surfaces in the vicinity of trees as far as possible.

6.10.3 When tree protection fences cannot be installed or require temporary removal, other tree protection measures should be used including trunk and branch protection as well as ground protection methods as outlined in the figure below.

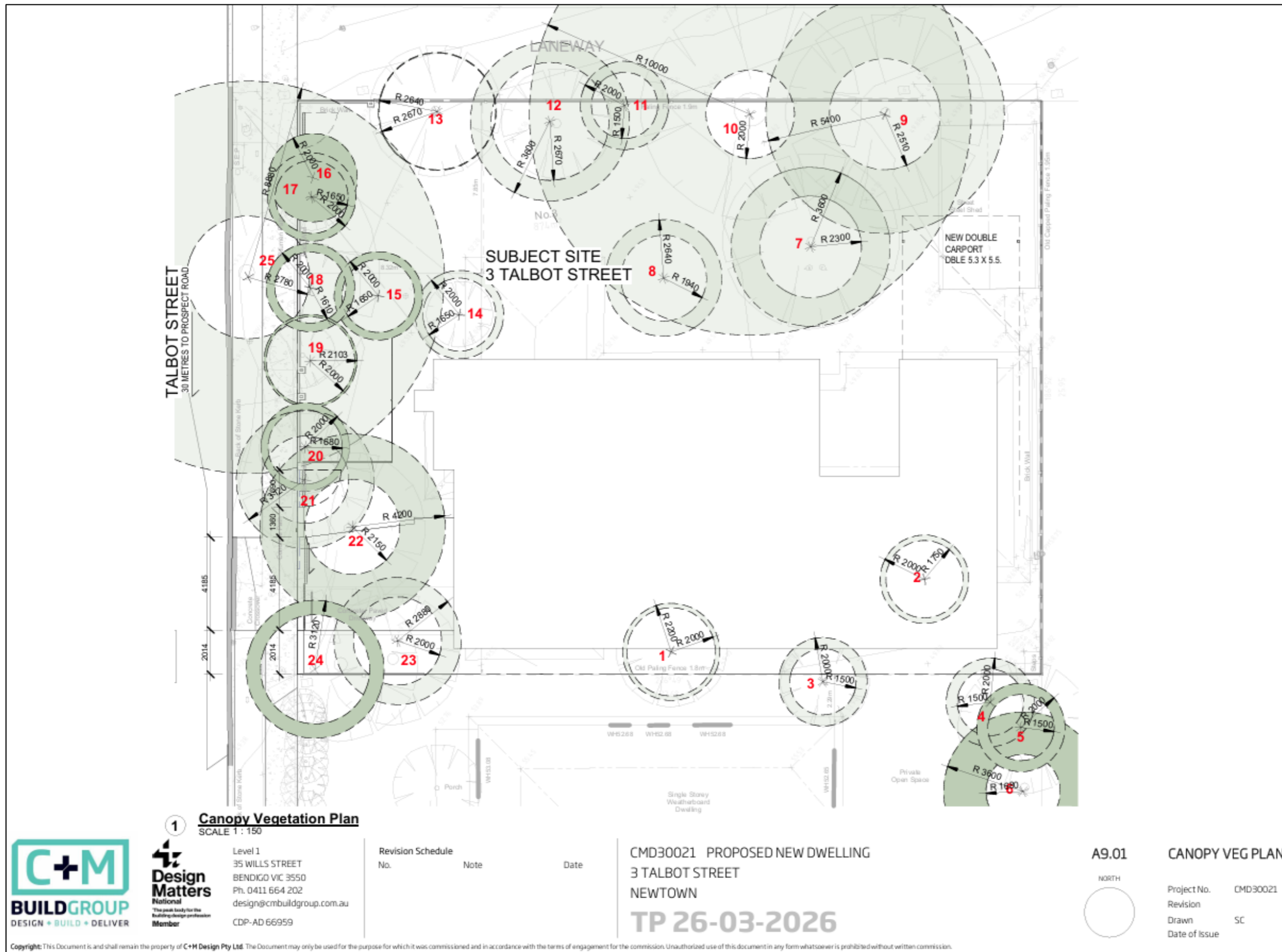


NOTE 1 For trunk and branch protection, boards and padding may be used to prevent damage to bark. Boards shall be joined to each other using hoop straps and screws or similar. They shall not be screwed or nailed to the tree.

NOTE 2 Wide wooden boards or plastic or metal plates should be of a suitable thickness to spread the load and prevent soil compaction and root damage.

Figure 5 — Examples of trunk, branch and ground protection

7. Appendix 1. Design provided by C+M Build Group



8. Appendix 2. Photos

Tree 1.



Tree 2.



Tree 3.



Tree 4, 5 and 6.



Tree 7.



Tree 8.



Tree 9.



Tree 10.



Tree 11



Tree 12.



Tree 13.



Tree 14.



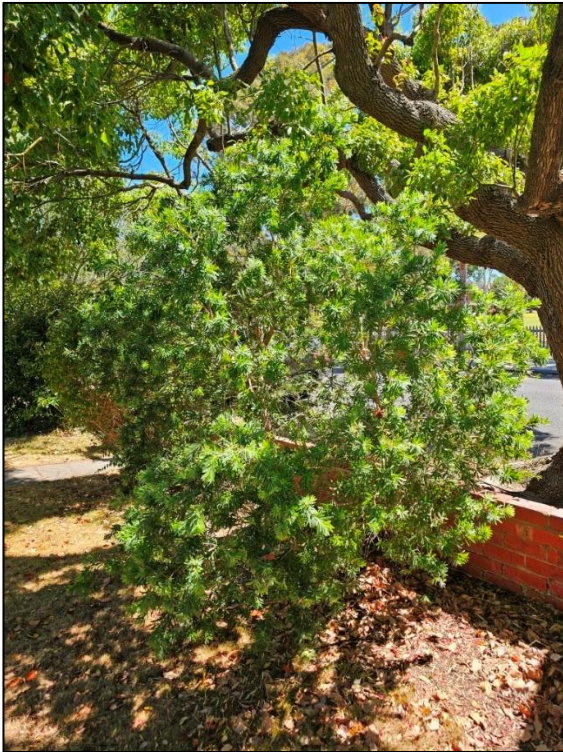
Tree 15.



Tree 16 and 17.



Tree 18.



Tree 19.



Tree 20.



Tree 21.



Tree 22.



Tree 23.



Tree 24.



Tree 25.



9. References

- 9.1 CAV arboricultural reporting - guidelines for developments (Version 1. 10 December 2008).
- 9.2 Costermans, L 2009, ***Native trees and shrubs of south eastern Australia***, 3rd edn, Reed New Holland, Chatswood NSW.
- 9.3 Richard W. Harris, James R. Clark, Nelda P Matheny, ***Arboriculture. Integrated management of Landscape Trees, Shrubs and Vines***. Fourth Edition. 2004. USA.
- 9.4 Standards Australia, *AS4970-2009 Protection of trees on development sites*.
- 9.5 Clause 52.37 Canopy Trees (2025)
- 9.6 <https://app.landchecker.com.au/>
- 9.7 <https://www.google.com.au/>

10. Descriptors

10.1 Risk Rating:

- 10.1.1 High: Severe structural or health problems. These are indicating imminent failure and cannot be satisfactorily rectified by any reasonable financial input, or heightened management regime. Trees in this category are usually recommended for removal, but it is recognised that some trees will always be worthy of retention of due to their significance. In these cases, the decline of the tree may be to the extent that all works will only slow the failure.
- 10.1.2 Medium: Moderate structural or health problems that can be managed to prevent the tree from increasing in risk of failure. Trees in this category will require financial and management commitments to maintain them in their current condition. The works that are needed will often need to be ongoing and not a single solution. In some cases, work that is conducted may reduce the risk to low.
- 10.1.3 Low: No significant problems are apparent. Health and structure are classed as fair, and the tree is actively repairing or controlling any damage or attack. Low rating does not imply that the tree will not fail.

10.2 Age:

- 10.2.1 Juvenile: Tree is actively growing and is still in its establishment phase. Tree currently makes little contribution to the amenity of the landscape. Trees of this age are candidates for relocation during development.
- 10.2.2 Semi-mature: Tree is still actively growing but has reached an age and size where it is starting to contribute to the landscape. The size of the tree would still be expected to increase given no significant changes to the current situation.
- 10.2.3 Mature: Tree growth has slowed, and the size of the tree would not be expected to increase without significant changes to the current situation (e.g., vegetation removal). Tree is not exhibiting any major signs of health or structural weakness because of age.
- 10.2.4 Senescent: Tree is in decline. Trees in this category may not be especially large or old, but are reaching the end of their expected life, often indicated by extreme poor health.

10.3 Health:

- 10.3.1 The tree's health is rated as Good, Fair and Poor as listed below. Tree ratings of Fair-Good and Fair-Poor indicate that the tree falls between the two categories. Dead trees are not given a rating but are listed as Dead. Ratings meet the following descriptions:
- 10.3.1.1 Good: *Tree is showing no obvious signs of poor health or stress.* With a dense canopy that is free of dieback. Rot or pathogens are not obvious or are not considered to be a threat to the tree. Growth rates are acceptable.
- 10.3.1.2 Fair: *Tree is showing signs of reduced health or stress.* This is apparent through moderate foliage density, minor dieback, moderate stress response growth, minor to moderate rot, moderate pathogen infestation, stunted growth, or a combination of the above symptoms.
- 10.3.1.3 Poor: *Tree is showing signs of poor health and/or severe stress.* This is apparent through either low foliage density, moderate to large-scale dieback, severe stress response growth, severe rot, severe pathogen infestation, failure of wounds to heal, overall tree decline or a combination of the above symptoms.

10.4 Structure:

10.4.1 The tree's structure is rated as Good, Fair and Poor. Tree ratings of Fair-Good and Fair-Poor indicate that the tree falls between the two categories. As a rule, the structure rating is based on the tree's likelihood of failure. However, it must be noted that this is not a full hazard or failure assessment of the tree.

10.4.1.1 Good: Tree has no obvious structural defects and is therefore not considered likely to fail.

10.4.1.2 Fair: Tree has at least one obvious structural defect, but this is manageable and of only moderate failure risk or the piece likely to fail may be small. Structural defects that may contribute to a fair rating are as follows:

Poor branch attachment (including deadwood and large epicormics); Bifurcated, but with a join that is solid; Moderate trunk lean but without other defects; Minor damage to the trunk base; Rot or other damage starting to compromise the structure; History of shedding minor branches.

10.4.1.3 Poor: Tree has at least one structural defect that is severe and considered to have a relatively high risk of failure. If targets are present then defect(s) require treatment, or alternatively the tree should be removed. In some cases, removal may be the only option for these trees. Structural defects that may contribute to a poor rating are as follows: Poor branch attachment (including deadwood and large epicormics); Bifurcated with swelling and/or included bark; Severe trunk lean associated with other defects such as injury in the plane of lean or root plate lift; Major damage to the trunk base or root system; Rot or other damage severely compromising the structure; History of shedding large branches. Structural defects may include one or many of the above.

10.5 Amenity value:

10.5.1 Very Low: Tree makes little or no contribution to the amenity value of the site or surrounding area. In some cases, the tree may be detrimental to the area's amenity value (e.g., unsightly, risk of weed spread).

10.5.2 Low: Tree makes some contribution to the amenity value of the site but makes no contribution to the amenity value of the surrounding area. Removal of the tree would result in little loss of amenity. Juvenile trees (including street trees) are included in this category; however, they may have the potential to supply increased amenity in the future.

10.5.3 Medium: Tree makes a moderate contribution to the amenity of the site and/or may contribute to the amenity of the surrounding area.

10.5.4 High: Tree makes a significant contribution to the amenity value of the site, or tree makes a moderate to significant contribution to the amenity value of the larger landscape. The amenity value rating considers the impact the tree has on any neighbouring sites as being of equal importance to that supplied to the subject site. However, trees that contribute to the amenity of the general area (e.g., streetscape) are given greater weight. Comments: Any additional comments in relation to the above categories.

10.6 ULE:

10.6.1 The Useful Life Expectancy of the tree from a health, structure, amenity, and weediness viewpoint given no significant changes to the current situation. This category is difficult to determine, and should be taken as an estimate only, in addition to this, factors not observed at the time of inspection can lead to tree decline.

10.6.1.1 0: Tree is a hazard or a weed and should be removed immediately.

10.6.1.2 0-10: Estimated SULE of less than 10 years.

10.6.1.3 10-20: Estimated SULE of 10 to 20 years.

10.6.1.4 20+: Estimated SULE of 20 years or greater.

10.7 Recommendation:

10.7.1 Remove: Tree is either not worthy of retention or requires removal (e.g., weed species).

10.7.2 Retain or Remove: Tree does not require removal but is of low retention value.

10.7.3 Retain if practical: Tree has a moderate retention value and should be retained if possible, during any development of the site.

10.8 TPZ:

10.8.1 The Tree Protection Zone of the tree measured as a radial distance in metres from the centre of the trunk. The TPZ is calculated using the method specified in *Australian Standard AS4970-2009 Protection of trees on development sites*.

10.9 Tree Retention

10.9.1 Three retention values have been considered consisting of 'High,' 'Medium,' 'Low.' Retention value considers tree size and condition, ULE, contribution to landscape and individual tree significance and they provide useful information to planners, regarding which trees are considered worthy of protection in the design phase.

10.9.1.1 High: High retention trees are well suited to the site and offer amenity. They are normally in 'Good' to 'Fair' health and have 'Good' to 'Fair' structure. The ULE should be at least the same as the design life of any new buildings. In some circumstances, a 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 and thoroughfares.

10.9.1.2 Medium: The trees are moderate or large specimens with a general condition rating of fair. If designing around these trees is not feasible or practical, removal and replacement would be an acceptable compromise.

10.9.1.3 Low: Low retention value trees are either young or semi mature common varieties that are easily replaceable or are dead and require removal. Trees in poor health or with significant defects in structure are not suitable for preservation in areas where people or structures will be located (Matheny & Clark 1998).

11. Terms and Limitations of the Report

Any legal information in the report has been provided to the authors by an external source, and it is assumed to be correct. All references to property title and/or control of ownership of land are assumed to be correct as the authors has been advised.

Great care has been taken in sourcing information for this report so as it is correct. The authors cannot be responsible for information provided which is not directly under their control.

The report authors shall not be required to give testimony or attend court for any matter in relation to this report unless further contractual arrangements have been made.

This report is not to be altered in any way. It has been produced as a whole document and is intended for use as a whole document. Any changes or modifications are not to be undertaken. If this occurs the report shall be rendered invalid.

The content of this report is produced in the full and honest opinion of the authors. In no way is it biased or weighted.

No diagrams, pictures or other reference material in this report is said to be to scale or value unless stipulated. All measurements and values are made to the best of the author's ability at the time of the report being compiled. Care should be taken, and clarification sought before using as final measurements for whatever reason.

This report is developed around the information provided by the client in the assignment section of the report. Only issues and locations covered in the assignment section are discussed in this report.

All details, information and advice contained in this report have been researched and reference. Where no reference is included, it is the authors learned opinion, experience, and observations.

No section of this report may be reproduced for any reason without the written permission of the authors.