

Arboricultural Impact Assessment

Site:

10 Sandpiper Court,
Ocean Grove VIC 3226

Prepared for:

Aphi Projects
VIC 3220

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1. Executive Summary

██████████ has been engaged by Aphi Projects to assess the trees on 10 Sandpiper Court, Ocean Grove and those nearby (within 3m of the boundary) to provide recommendations in relation to the proposed development of a single-story dwelling.

Under the proposed development 8 trees will experience encroachment by the construction, these are trees 5 (major encroachment), 6 (major), 7 (major), 8 (moderate), 17 (moderate), 18 (major), 19 (major) and 20 (minor).

It is my recommendation that of these trees, trees 5, 6, 7, 18 and 19 be removed and trees 8, 17 and 20 be retained with the encroachment of these latter three being within acceptable tolerances and manageable (see section 5.1).

In addition, I would also recommend the removal of trees 2, 3, 4, 10, 11, 14, 15, 26 and 29. These trees do not have any proposed encroachment but are either dead, extremely poor specimens, showing increased likelihoods of failure and/or weed species. The site, especially with reference to SLO15 will be improved with the removal and replacement of these trees.

2. Objectives

To assess the existing trees on-site and within 3m of site boundary of 10 Sandpiper Court in order to:

- Record data such as their species, age, origin, height, canopy width, trunk diameter at shoulder height, health and structure.
- Assign retention values to each tree and calculate their NRZs (notional root zones), TPZs (tree protection zones) and SRZs (structural root zones) to evaluate possible encroachment by proposed development.
- Assess how tree health may be affected by this development.
- To provide recommendations on the retention value of trees and methods to protect tree health from potential impacts of development.

3. Methodology

Site inspection and data collection was carried out by ██████████ on the 2nd of May 2026.

██████████ is an AQF level 3 and 5 Arborist (Arbortrim) and holds a TRAQ - Tree Risk Assessment Qualification (ISA – International Society of Arboriculture).

Inspections were carried out from the ground using a diameter tape. For trees outside of the site on privately held land DSH was estimated with the exception of Tree 8 (*Eucalyptus globulus*) at 8 Sandpiper Court which was able to be measured with the consent of the property owner.

Detailed visual inspections were undertaken of each tree with height estimated from the ground and canopy spread measured using the step-out method when possible and otherwise estimated.

Tree locations and thus NRZs are aligned with survey plans provided by Aphi Projects and completed by Smith Land Surveyors. The locations on these survey plans are assumed to be accurate.

4. Observations

4.1. Site and trees

10 Sandpiper court is a currently **vacant block of 709m²** and is located in a Neighbourhood Residential Zone Schedule 4 (**NRZ4**) subject to the Greater Geelong planning scheme. It is also under a Significant Landscape Overlay Schedule 15 (**SLO15**).

The proposed development involves construction of a single storey, lightweight clad dwelling and retention of as many quality trees as possible.

The site contains a variety of primarily juvenile or semi-mature trees with some larger trees generally occupying the front, rear and Westerly sides of the site. There is a variety of native, indigenous, exotic and weed species present.

8 trees from neighbouring properties were also assessed with 6 trees belonging to 12 Sandpiper Crt to the East and 2 trees belonging to 8 Sandpiper Crt on the Western boundary. One of the latter trees Tree 8 (*Eucalyptus globulus*) being the largest and with the highest level of encroachment (of 3rd party trees) at 11.8% (moderate)

Of the trees on-site trees 4, 5 and 7 *Acacia mearnsii* (indigenous), *Acacia mearnsii* (indigenous) and *Eucalyptus cladocalyx* (Aus native) respectively are the most encroached upon site trees due to their proximity to the proposed location of the carport which will require significant excavation as opposed to the rest of the build which is to be built generally at or above grade and only require drilling for footings.

The possible locations for the proposed carport are somewhat limited due to the necessity of it being in-line with the current street cross-over which is in turn limited to the Western side of the street frontage due to an electricity pole/street light occupying the other side.

Table 1: All Trees with Proposed Encroachment

Tree No	Botanical Name	Common Name	Origin	Ownership	DBH/DS H (cm)	NRZ radius (m)	NRZ Area (m ²)	Encroachment %	Encroachment Category
5	<i>Acacia mearnsii</i>	Black Wattle	Indigenous	site	24.7	3.0	27.5	25.4%	Major
6	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Weed	site	12.6	1.5	7.2	39.0%	Major
7	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	site	43.4	5.2	85.2	29.9%	Major
8	<i>Eucalyptus globulus</i>	Blue Gum	Indigenous	3 rd Party (8 sandpiper)	99.6	12.0	448.8	11.8%	Moderate
17	<i>Eucalyptus tricarpa</i>	Ironbark	Indigenous	site	38.4	4.6	66.7	11.5%	Moderate
18	<i>Camellia sp.</i>	Camellia	Exotic	site	n/a	2.0	12.6	88.3%	Major
19	<i>Prunus serrulata</i>	Double flowering cherry	Exotic	site	n/a	2.0	12.6	65.3%	Major
20	<i>Leptospermum laevigatum</i>	ti-tree	Weed	3 rd Party (12 sandpiper)	17.5*	2.1*	13.9	2.2%*	Minor*

*DSH estimated

5. Conclusions and Recommendations

5.1. Trees with proposed encroachment

Of the 8 trees with proposed encroachment, of which 6 are located on site **it is my recommendation that trees 5, 6, 7 removed.** Based on the guidelines provided by AS4970-2025 the proposed encroachment to Trees 5, 6 and 7 are considered major.

That leaves **three trees with proposed encroachment to be retained. Trees 8 (*E.globulus*), 17 (*E.tricarpa*) and 20 (*L.laevigatum*).** The encroachments levels for these trees are **moderate, moderate and minor** respectively. Australian native eucalyptus species are typically somewhat tolerant of root loss when compared to many exotic species due to their evolutionary adaptations to drought and nutrient-poor soils. Moderate encroachment in this case is acceptable.

Tree 8 (*E.globulus*) is a mature southern blue gum that likely has a significantly developed root system to sustain itself. At the time of the site inspection, it appeared to have quite recently had a significant portion of its canopy harshly lopped. This will certainly adversely affect the tree much more than the potential harm posed by a moderate NRZ encroachment. In addition to the heavy lopping tree 8 also displays multiple hollows and some weeping sap. The owner of the tree also has stated that they are considering removal of the tree in the near future.

Tree 17 (*E.tricarpa*) will not be prone to any heavy excavation but a shallow sight scrape will extend into it's NRZ. It is a relatively young tree (juvenile-semimature) which will likely have no trouble recovering from the effects of moderate encroachment.

Tree 20 *L.laevigatum* is located at the neighbouring 12 Sandpiper Ct and has a negligible encroachment of 2.2% proposed which will not adversely harm this tree.

Tree 5 (*A.mearnsii*) is an indigenous species that often results in short lived specimens prone to borer infestation and significant failures both of which are present in this specimen. Additionally, tree 5 displays a heavily co-dominant growth habit with a large canker ~2.5m above ground and signs of heavy borer activity all of which greatly increase the risk of failure in this individual. (Much of the same can be said for Tree 4).

Tree 6 (*Pittosporum undulatum*) is an environmental weed and has been assessed as having a "low" retention value.

Tree 7 (*Eucalyptus cladocalyx*) is an Australian native (introduced in Victoria) however its structure has been assessed as only 'fair' and the pruning required to maintain distance between the crown and the proposed building would significantly reduce its structural rating. In addition, the species is poorly suited for its location with this individual displaying a poor ULE (useful life expectancy) and "low" retention rating.

Table 2: Trees with proposed encroachment recommended for removal

Tree No	Botanical Name	Common Name	Origin	Canopy Tree	Boundary Canopy Tree	Arb Value	Retention Value	Reason for removal
5	<i>Acacia mearnsii</i>	Black Wattle	Indigenous	yes	no	Low-moderate	Low	Co-dominant growth (from ground), one leader with heavy lean. Significant cankers and borer infestation.
6	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Weed	no	no	low	Low	COGG weed species, juvenile with low arb rating.

7	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	yes	no	Low-moderate	Low-moderate	Poorly suited for its location. <i>E. cladocalyx</i> is often impossible to prune to standards ie. Without lopping and thus increasing risk of failures (epicormic growth). Asymmetrical canopy, some deadwood noted and significant canker at 1.6m above ground with likely evidence of borer (frass/fine 'sawdust')
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5.2. Trees with no proposed encroachment

Of the 16 trees growing on-site with no encroachment proposed **it is my recommendation that trees 2, 3, 4, 10, 11, 14, 15, 26 and 29 be removed.** While these trees are largely unlikely to be affected by development they all provide little or negative arboricultural, environmental or amenity value and can easily be replaced by more appropriate, valuable specimens.

Tree 2 is only a small, dead specimen and provides no arboricultural value.

Tree 3 is an extremely poor specimen which is almost entirely dead and leaning into the fence with its foliage occurring well into the adjoining property. assessed as having a "low" arb value and retention value. It is extremely unlikely and probably impossible through any combination of means to turn this tree back into a viable state.

Tree 4 is an indigenous species but much the same as tree 5 (another *Acacia melanoxylon*) it is displaying signs of significant borer infestation which is largely untreatable and will impact the trees health and stability long term. As a generally fast-growing genus trees 4 and 5 will not be too difficult to replace with more appropriate specimens in the long term.

Trees 10 and 11 are small exotic fruit trees with poor health and structure and low retention values.

Tree 14 *Fraxinus excelsior* or "Common Ash" is an exotic tree which, while it is not itself a COGG weed species it is closely related to one; "*Fraxinus rotundifolia*" and from my own anecdotal observations displays similar 'weedy' tendencies. Such tendencies are here displayed in Tree 14 which is nothing more than vigorous coppice regrowth from an old stump and in its current state does not fit most definitions of the word "tree".

Coppice regrowth is widely accepted to have poor structural stability and an increased likelihood of failure. Tree 14 is also clearly in competition with and physical impacting tree 13 which is an indigenous species and a significant canopy tree that is proposed for retention. The removal of tree 14 is recommended so as to promote the health and viability of the much more appropriate and valuable tree 13 (*E.viminalis*).

Tree 15 is a small and shrubby specimen, only slightly closer to meeting the definition of "tree" than Tree 14 (*F. excelsior*). Whilst the removal of tree 15 is not as strongly recommended as that of tree 14 it is providing little besides competition for resources to the adjacent tree 13 (*E.viminalis*) and tree 16 (*A.costata*) which are both attractive indigenous and native species (respectively) which are proposed for retention.

Trees 26 and 29, both *Leptospermum laevigatum* are City of Greater Geelong environmental weeds and are quite small with low arboricultural and retention values. They do provide good screening at the front of the block but as weed species they could quickly be replaced with more appropriate indigenous under-story plants.

Table 3: Trees with no proposed encroachment recommended for removal

Tree No	Botanical Name	Common Name	Origin	Canopy Tree	Bound-ary Canopy Tree	Arb Value	Retenti on Value	Reason for removal
2	<i>Eucalyptus leucoxylon</i>	Yellow Gum	Indig.	no	no	low	Low	Dead, very small tree.
3	<i>Eucalyptus gomphocephala</i>	Tuart	Native	yes	yes	low	Low	Very small, young tree with poor form. Leaning on fence.
4	<i>Acacia mearnsii</i>	Black Wattle	Indig.	yes	no	Low-moderate	Low	Tall tree and indigenous species but significant borer damage and canker low on trunk increases likelihood of failure and will forever impact tree health.
10	<i>Prunus persica</i>	Peach Tree	Exotic	no	no	low	Low	Very small tree, poor health and form.
11	<i>Prunus sp.</i>	n/a	Exotic	no	no	low	Low	Very small tree, poor health and form
14	<i>Fraxinus excelsior</i>	Common Ash	Exotic	no	no	low	Low	Coppice regrowth. Closely related to <i>Fraxinus rotundifolia</i> which is a COGG weed
15	Unidentified	n/a	n/a	no	no	low	Low	Unidentified species of very shrubby tree. Competing with much better <i>E.viminalis</i>
26	<i>Leptospermum laevigatum</i>	ti-tree	Weed	no	no	low	Low	Dead, COGG weed species
29	<i>Leptospermum laevigatum</i>	ti-tree	Weed	no	no	low	Low	Cogg weed species, young tree, low arb value.

5.3. Works Within Significant Tree Driplines (SLO 15)

Significant Landscape Overlay Schedule 15 makes specific mention of managing building and works within the driplines of significant trees. Assuming the removal of all of the trees suggested above then works within the dripline of any significant trees on or adjacent to the property will be nil.

The canopies of trees 8 and 17 will be the closest to the area of proposed works but at the time of the site inspection appear to both be just clear of the intended works zone. The works occurring adjacent to these canopies are also of minor consequence being primarily the installation of footings which do not require extensive excavation (associated excavation is mostly vertical therefore impacts only a relatively small surface area) and will not pose significant risk to the health or viability of either tree.

6. Tree Retention and Impact Mitigation recommendations

6.1. Protection and Impact mitigation of retained trees

There are three trees proposed to be retained that will experience encroachment into their NRZ by the proposed building envelope. **These are trees 8, 17 and 20.**

Beginning from the least impacted to the most, **tree 20** (*L.laevigatum*) is located on an adjoining block and has a negligible level of proposed encroachment. No special protections are recommended due to the level of encroachment and the hardiness of the species. No adverse effects from construction are expected.

Tree 17 (*E.tricarpa*) is located close to the corner of the building envelope and a moderate sight scrape will extend into its NRZ. As a hardy native species and a relatively young specimen tree 17 is expected to be minimally affected by this encroachment. Tree 17 will be fenced off in-line with AS 4970 with a TPZ slightly altered to compensate for the proposed encroachment of 11.9% of its NRZ area. Any significant severed roots should be covered as soon as practicable with soil and kept moist (for further recommendations on root damage see section 6.2). Tree 17 is to be retained as part of the boundary planting around the rear of the site which is to be mulched and watered to aid in tree 17's recovery.

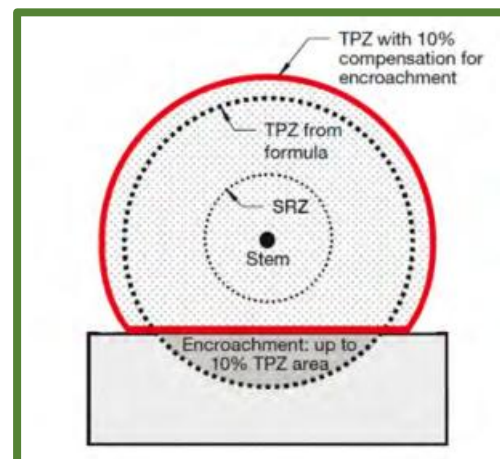


Figure 1: Example of TPZ compensation for encroachment

Tree 8 (*E.globulus*) is located on an adjoining property and is due to experience moderate encroachment (11.8%). Tree 8 is a significant mature tree with a large NRZ and presumably an extensive root system to sustain itself thus the proposed moderate encroachment is not expected to impact the tree significantly.

However tree 8 has recently had an *extremely* heavy and poor prune that will certainly be putting the tree under significant stress. In comparison a moderate encroachment into its NRZ is minor. In addition, the removal of trees 5, 6, 7, 10 and 11 will hugely reduce the competition against tree 8 for water and resources and the proposed landscape plan has a large portion of the encroachment area to be mulched (both wood and gravel mulch) and watered which will aid tree 8's recovery.

The TPZ for tree 8 will be altered to compensate for encroachment as much as is practical incorporating the whole rear boundary of the site. In addition, the majority of its NRZ is located in the adjoining property and well clear of any construction works.

The movement of heavy machinery within the NRZ of tree 8 should be limited as much as possible with heavy plant being situated outside or on the outer edge of the NRZ when possible.

Other Impact mitigation measures:

Tree 1 is not directly impacted by construction or excavation however due to its location directly at the front of the site machinery and vehicle access will likely be necessary through its NRZ. Rumble boards (Appendix 8.2.3) of a sturdy timber or similar ground protection (like heavy duty plastic bog mats) should be laid out over a thick layer of mulch from the cross-over to a distance of approximately 9 metres to reduce soil compaction. The driveway to be installed in this location will be of an unsealed gravel material built largely above grade (light sight scrape of vegetative material acceptable) allowing for water filtration to the roots of Tree 1.

6.2. Tree Protection Zones

Tree Protection Zones are an industry standard method for protecting the future health of trees that are adjacent to development. Tree Protection Zones are based off of a tree's NRZ or Notional Root Zone which is the theoretical area in which a tree's roots are located that are necessary for its survival and future

health. The TPZ is a physical area usually restricted with fencing and appropriate signing that is meant to reflect and protect a trees NRZ although in some cases it can be modified.

The Australian Standard 4970-2025 'Protection of Trees on Development Sites' identifies three levels of encroachment into a trees TPZ of minor (<10%), moderate (10-20%) and major (>20%). With minor encroachment generally considered to be manageable while moderate encroachment should trigger the engagement of a project arborist to review the proposed designs and assess the viability of retained trees whilst major encroachment calls for detailed investigation and serious investigation of design alternatives.

The most common method of tree protection on development sites is the erection of barrier fencing which forms a physical exclusion zone. Appropriate signage should be attached to fencing panels in this situation and be viewable from all directions

6.3. Activities to be restricted within the Tree Protection Zone (TPZ)

This list is derived from the current Australian Standard AS4970:2025 – Protection of Trees on Development Sites. The following activities are restricted within any tree protection zones unless approved by the Project Arborist or Responsible Authority.

- Machine excavation including trenching
- Excavation for silt fencing
- Soil cultivation
- Storage of waste or materials (especially heavy machinery, fuels, oils and chemicals)
- Preparation of any paints or cement products
- Storage or parking of any vehicles or plant
- Washing down of any equipment or refuelling
- Placement of soil, fill, gravel or similar
- Soil level changes
- Lighting of fires
- Temporary or permanent or installation of utilities or signs
- Physical damage to the tree including affixing anything to any part of the tree

6.4. Tree Protection Zone Specifications

Fencing:

Protective fencing must be erected to secure the TPZ. AS 4687 specifies applicable fencing requirements but generally temporary fencing of at least 1.8 metre height with heavy concrete feet are used. Further example images of TPZ fencing are in the appendices if necessary

Signage: Signage identifying the TPZ should be placed around the edge of the TPZ so as to be easily visible from within the development site and easily visible. Examples of acceptable TPZ signage can be found in the appendices if necessary.

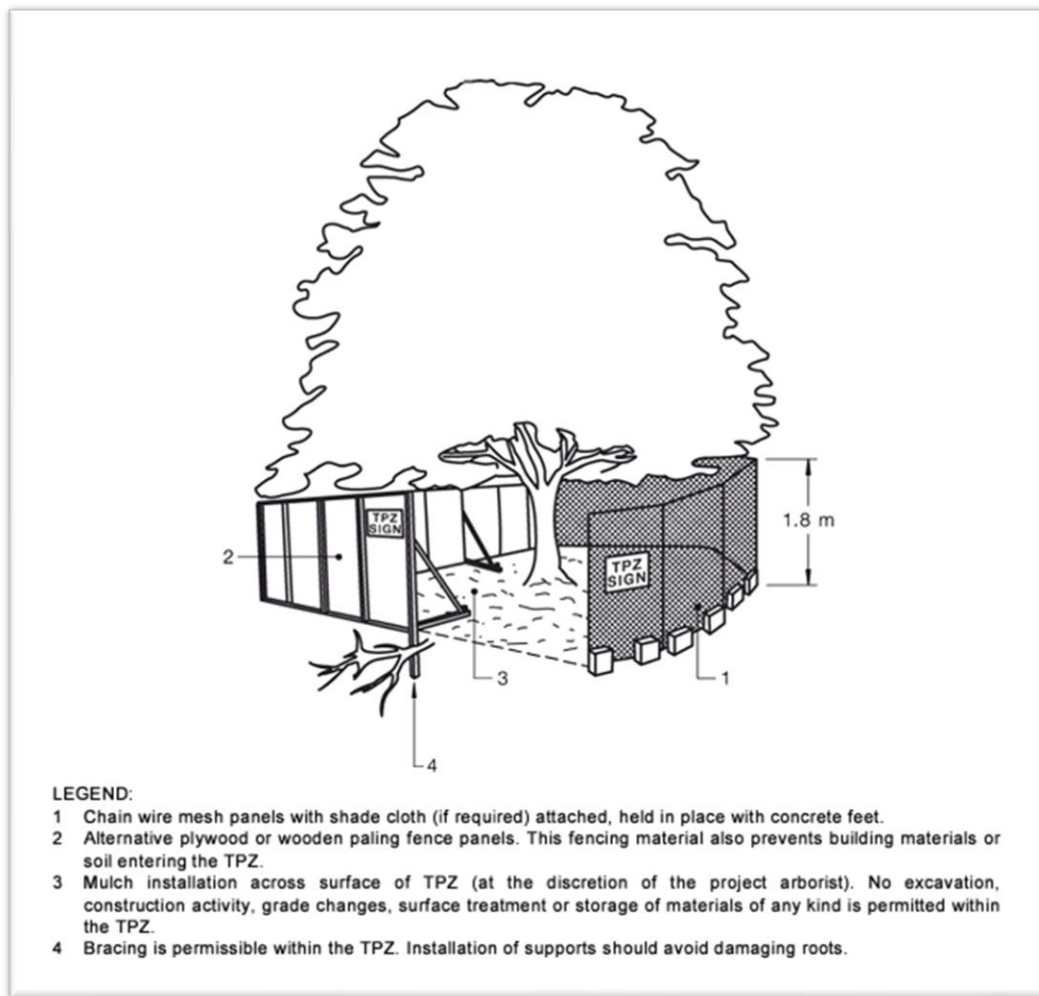


Figure 2: TPZ Fencing from AS 4970:2025

6.5. Damage to Protected Trees

Minor damage to roots:

If physical damage occurs to any root(s) less than 50mm diameter they should immediately be pruned back with a sharp cut by sterilised secateurs or handsaw.

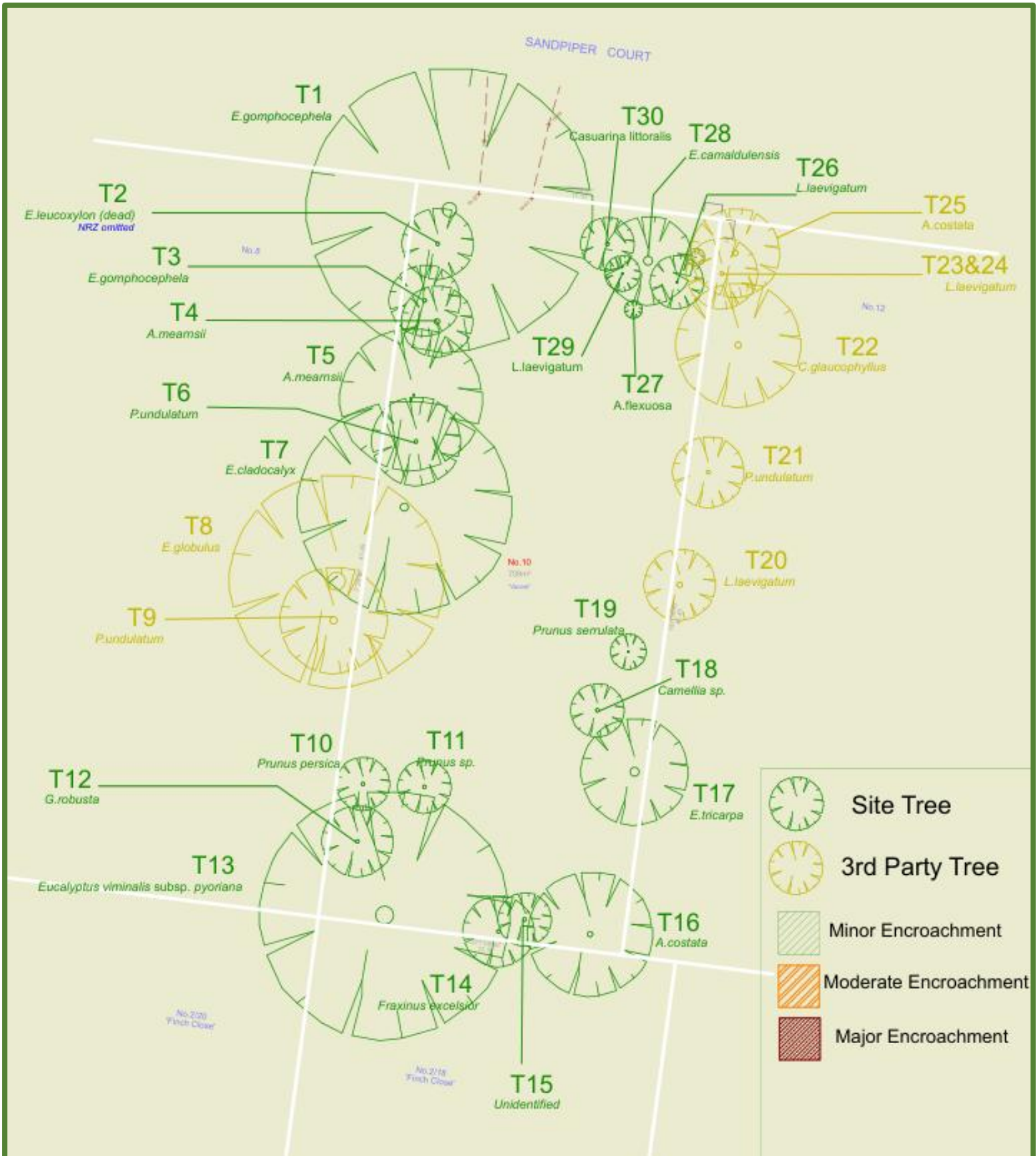
If roots of any size are exposed where they were not previously, they should be kept moist and covered with soil as or more porous than that below it to allow for water infiltration. Soil should then be covered with a layer of mulch to a minimum of 50mm.

Major damage to roots, trunk or branches:

Any major damage to any tree parts including the severance or damage of roots above 50mm or mechanical damage to trunks or branches must be reported to the Project Arborist. The Project Arborist is then to attend the site to assess and document the damage and provide further advice to the Responsible Authority.

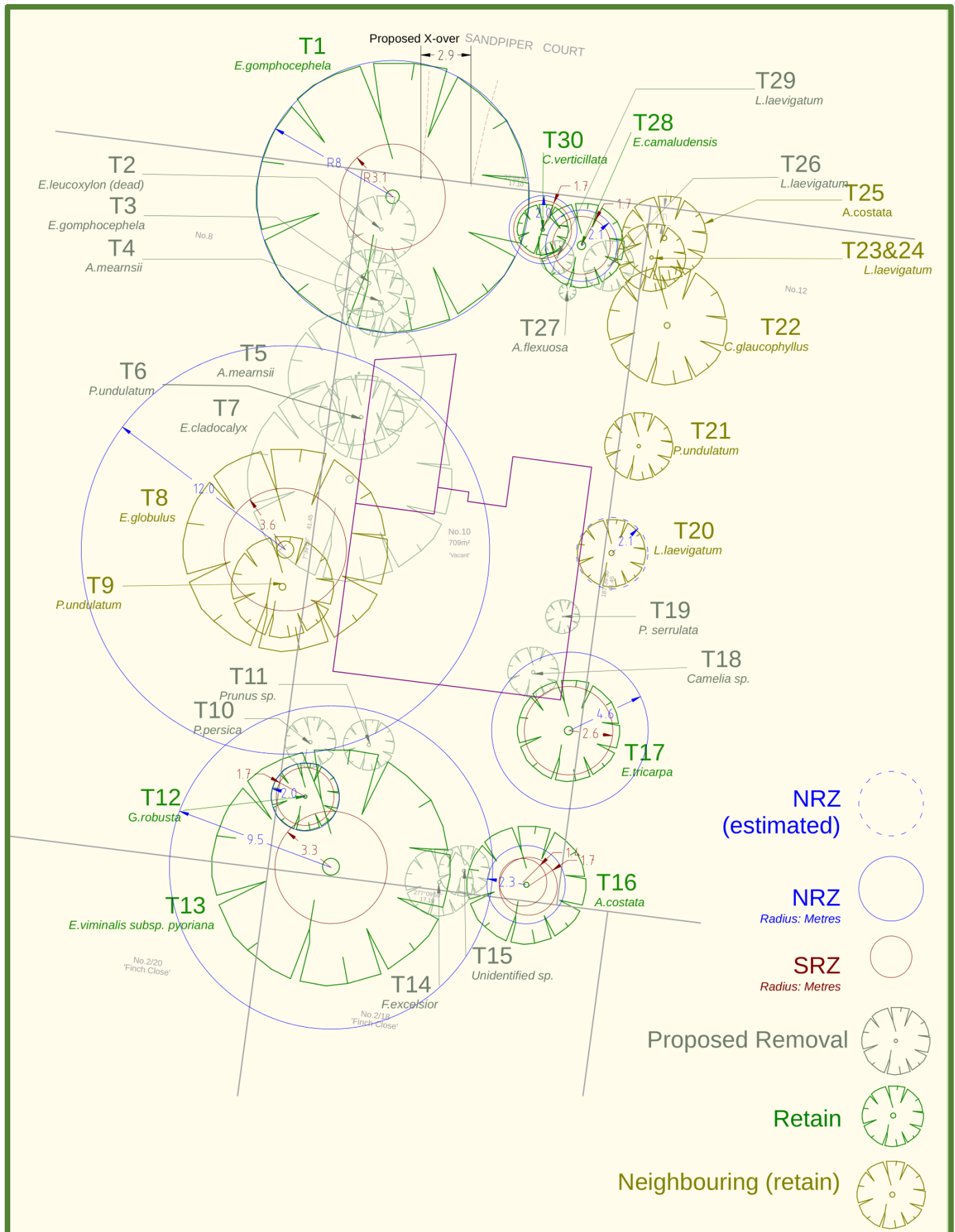
7. Site Plans

7.1. Current, Vacant Site with Trees

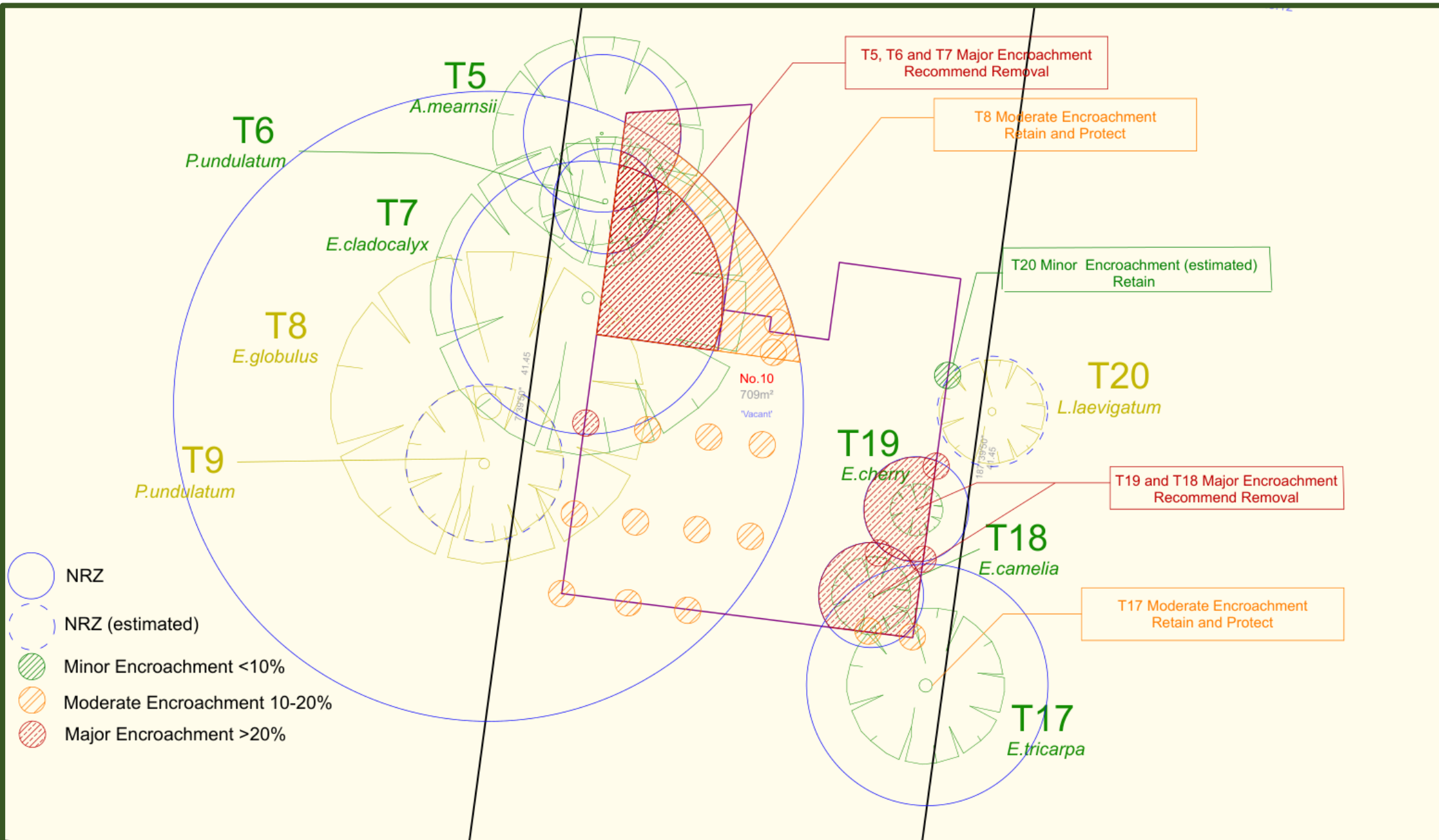


Note: See attached PDFs for higher fidelity versions of all three of these plans.

7.2. All trees with proposed building footprint, NRZs and SRZs for all retained trees and neighbouring trees with proposed encroachment



7.3. Proposed Build Footprint, NRZs, Encroachment

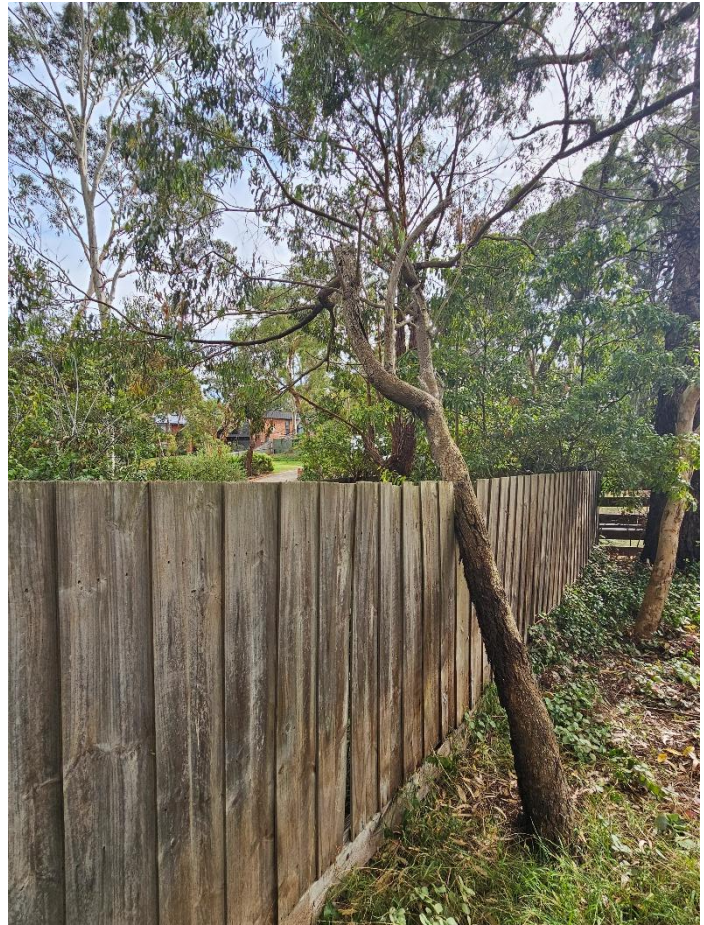


8. Appendices

8.1. Tree Images



Tree 3



Tree 3



Tree 14



Tree 14



Tree 15



Tree 15

See attached document "AIA Appendix 8.1 – Tree Images" for all tree images.

8.2. TPZ examples

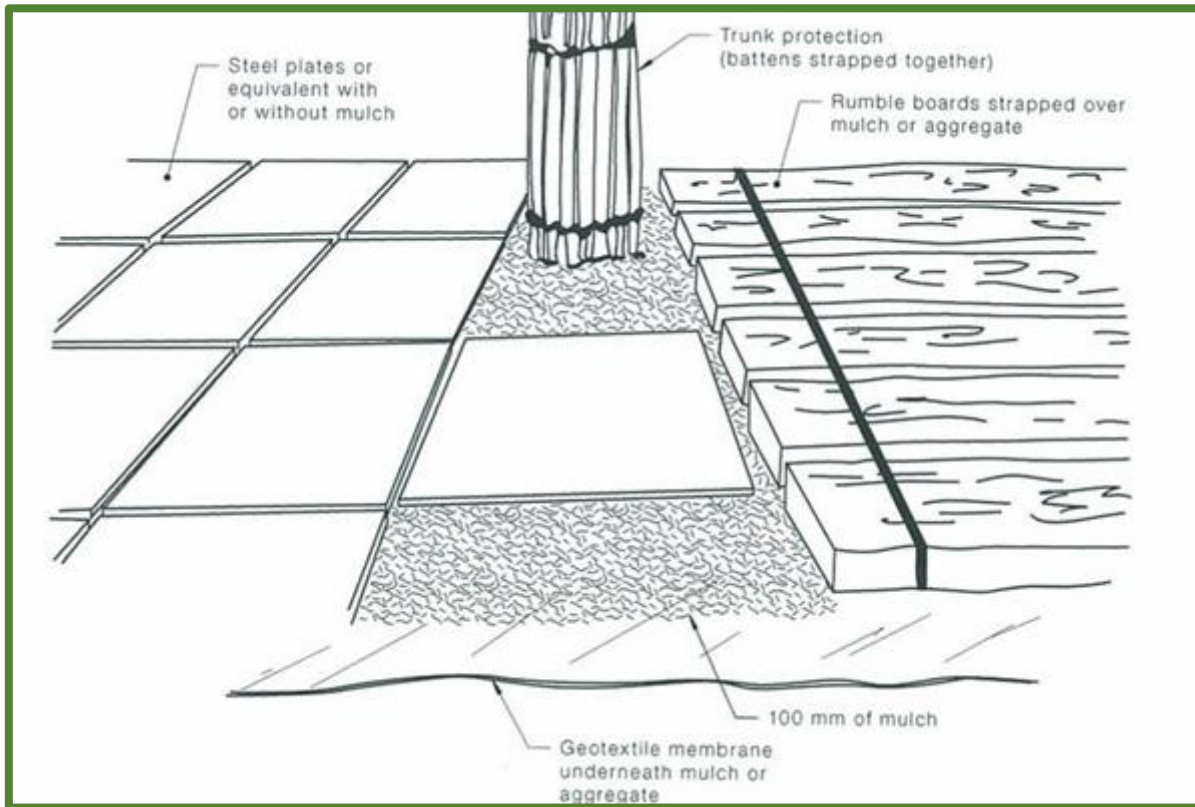
8.2.1. Examples of TPZ fencing:



8.2.2. TPZ Signage examples



8.2.3. Rumble Boards



Ground protection example from AS 4970



Rumble Boards (Moreton 2018)



Heavy duty plastic bogmats (Envirex 2022)

8.3. Tree Data Table

Tree No	Species	Common Name	Origin	Ownership	Height	DBH (cm)	Canopy Diam Widest (M)	Age Class	Health	Structure	Arb Value	Retention Value	TPZ/NRZ (M) (radius)	SRZ (M) (radius)	Encroachment %	Recommendation	Comments
1	<i>Eucalyptus gomphocephala</i>	Tuart	Native	site	16	66.5	17	mature	good	fair-good	med-high	High	8.0	3.1		Retain	East leader showing asymmetrical dominance
2	<i>Eucalyptus leucoxylon</i>	Yellow Gum	Indigenous	site	6	15.3	4	dead	dead	poor	low	Low	2.0	1.6		Remove	Entirely dead
3	<i>Eucalyptus gomphocephala</i>	Tuart	Native	site	6	17.1	5	juvenile	fair	poor	low	Low	2.1	1.7		Remove	extremely poor specimen
4	<i>Acacia mearnsii</i>	Black Wattle	Indigenous	site	13	22.1	6	juvenile-semimature	fair	good	low-mod	Low	2.7	2.0		Remove	substantial canker at base and 2.5 AG. massive borer infestation
5	<i>Acacia mearnsii</i>	Black Wattle	Indigenous	site	11	24.7	7.5	juvenile-semimature	poor-fair	fair	low-mod	Low	3.0	2.2	25.4%	Remove	co-dominant at base, one stem significant lean towards neighbours with substantial canker and borer infestation 3m AG on tension side
6	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Weed	site	9	12.6	5	juvenile	good	fair-good	low	Low	2.0	1.7	39.0%	Remove	weed
7	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	site	12	43.4	14	semi-mature	fair-good	fair	low-mod	Low-Mod	5.2	2.4	29.9%	Remove	significant deadwood through up to 60mm~. asymmetrical crown, possum damage on foliage, canker at 1.6m AG with minor borer damage
8	<i>Eucalyptus globulus</i>	Blue Gum	Indigenous	8 sandpiper	12.5	99.6	8	mature	fair-good	poor	moderate	n/a	12.0	3.6	11.8%	n/a	significant poor pruning (lopping)

																	significant hollows. asymmetrical form. minor deadwood
9	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Weed	8 sandpiper	8	24.7	5	juvenile-semimature	good	poor	low	n/a	3.0			n/a	assymetrical canopy, significant lopping in centre canopy, growing into globulus
10	<i>Prunus persica</i>	Peach Tree	Exotic	site	4	16.8	4	juvenile	poor	poor	low	Low	2.0	1.6		Remove	leggy, very poor form, low value
11	<i>Prunus sp.</i>	n/a	Exotic	site	4.5	n/a	4	juvenile	poor	poor	low	Low	2.0	1.7		Remove	dbh taken below main union @ 300mm AG
12	<i>Grevillea robusta</i>	Silky Oak	Native	site	7	18.4	4	juvenile	fair-good	fair	low	Low-Mod	2.2	1.7		Retain	previous history of small failures. small cankers present
13	<i>Eucalyptus viminalis</i> subsp. <i>pyoriana</i>	Gippsland Mana Gum	Indigenous	site	12	79.0	9	semi-mature	poor-fair	fair	moderate	Moderate	9.5	3.3		Retain	significant deadwood approx 40% of canopy. hard up on rear fence (DAB aproximate). competiton by undergrowth trees
14	<i>Fraxinus excelsior</i>	Common Ash	Exotic	site	4.5	n/a	3	juvenile	good	poor	low	Low	2.0			Remove	coppice regrowth, intefering with manna gum. DAB estimated.
15	<i>unknown</i>	n/a	n/a	site	4.5	n/a	4.5	juvenile	good	fair	low	Low	2.0			Remove	species unknown, shrub, could be replaced w/ boobiala, banksia etc
16	<i>Angophora costata</i>	Smook Bark Angophora	Native	site	7	19.2	5.5	juvenile	good	fair	low	Low-Moderate	2.3	1.7, 1.4		Retain	minor snapped limb. minimal/no deadwood
17	<i>Eucalyptus tricarpa</i>	Ironbark	Indigenous	site	9	38.4	5	juvenile-semimature	good	fair	low-mod	Low-Noderate	4.6	2.6	11.5%	Retain	right canopy biased to the

																	west, minor deadwood
18	<i>Camellia sp.</i>	Camellia	Exotic	site	3.5	n/a	2	juvenile	good	fair	low	Low	2.0	1.1	88.3%	Remove	
19	<i>Prunus serrulata</i>	Double flowering cherry?	Exotic	site	4	n/a	2	juvenile	good	good	low	Low	2.0	1.1	65.3%	Remove	
20	<i>Leptospermum laevigatum</i>	ti-tree	Weed	12 sandpiper	7	17.5	5	juvenile	good	fair	low	N/A	2.1		2.2%	N/A	weed
21	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Weed	12 sandpiper	7	17.5	5	semi-mature	poor	fair	low	n/a	2.1			n/a	weed
22	<i>Cottoneaster glaucophyllus</i>	Cottoneaster	Weed	12 sandpiper	6	15	6	semi-mature	good	fair	low	n/a	2.0			n/a	weed
23	<i>Leptospermum laevigatum</i>	ti-tree	Weed	12 sandpiper	5	12.5	3	juvenile	fair	fair	low	n/a	2.0			n/a	weed
24	<i>Leptospermum laevigatum</i>	ti-tree	Weed	12 sandpiper	4	12.5	2	juvenile	dead	poor	low-mod	n/a	2.0			n/a	weed
25	<i>Angophora costata</i>	Smook Bark Angophora	Native	12 sandpiper	11	15	5	semi-mature	poor	poor	low	n/a	2.0			n/a	significant canker at 2m AG
26	<i>Leptospermum laevigatum</i>	ti-tree	Weed	site	5	12.7	n/a	juvenile	dead	poor-fair	low	n/a	2.0	1.6		Remove	good wound wood. significant deadwood, sparse crown, asymmetrical canopy. suppressed by adjacent angophora
27	<i>Agonis flexuosa</i>	Willow Myrtle	Native	site	5	<5	n/a	juvenile	good	good	low	Low	2.0			n/a	sapling
28	<i>Eucalyptus camaludensis</i>	Red Gum	Vic Native	site	14	17.7	6	semi-mature	fair-good	fair-good	low-moderate	Moderate-High	2.1	1.7		Retain	slightly sparse crown. very narrow crown, suppressed by tuart and angophora. acute codominant union at 5m AG
29	<i>Leptospermum laevigatum</i>	ti-tree	Weed	site	6	9.3	n/a	juvenile	good	fair	low	Low	2.0	1.4		Remove	weed
30	<i>Casuarina verticillata</i>	Drooping SheOak	Indigenous	site	5	13.8	n/a	juvenile	good	fair-good	low	Low-Moderate	2.0	1.7		Retain	pretty avg form. Could be improved with less competition, teatree removal.

8.4. Arborist Qualifications

Qualifications

- AQF Level 3 Arborist (Arbortrim)
- AQF Level 5 Arborist (Arbortrim)
- Registered ISA TRAQ User

Professional Memberships

- International Society of Arboriculture (ISA) member
- Victorian Tree Industry (VTIO) member
- Arboriculture Australia member

8.5. Glossary of commonly used terms

Diameter at breast height (DBH) / Diameter at Shoulder Height (DSH)

The nominal trunk diameter at 1.4 m above ground level determined from the circumference of the trunk divided by π (3.14192). In trees with multiple stems at 1.4m DBH may be taken from just below the branching point or individual stems will be measured and the overall DBH will be the square root of the sum of each stem's diameter squared.

Diameter at Shoulder Height is the preferred term as of the publication of AS 4970:2025

(Standards Australia, AS4970:2025 Australian Standard for Protection of trees on development sites)

Notional Root Zone (NRZ)

The theoretical root area required to be maintained free of damage or disturbance in order to ensure a trees health and viability after development. NRZ was previously referred to simple as TPZ and the calculation remains the same (DSH x 12)

Structural root zone (SRZ)

The area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres.

This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.

(Standards Australia, AS4970 – 2025 Australian Standard for Protection of trees on development sites)

Tree protection zone (TPZ)

The physical area on a development site that is protected during development activities. This protection is generally achieved through fencing and signage. The TPZ is based on the NRZ. The former being the ideal protection area and the TPZ being the actually implemented protected area since TPZs cannot always match the NRZ exactly.

Health

Relates to tree vigour including canopy density, leaf colour, size and shape, bud formation and presence or absence of pest and disease.

(Mark Reynolds, 2024, Tree Assessment Descriptors)

Structure

Relates to the physical form of the tree, including the roots, trunk(s), and main scaffold branches. Structure includes the attributes that may influence the probability of trunk, limb, or root plate failure. In these instances, there may be a combination of the characteristics listed below. In some cases, 'structure' may be noted as being 'very good' which indicates optimal condition or 'very poor' which indicates the tree has major structural defects and may be at a high risk of failure of the identified tree part.

Arboricultural Value

Arboricultural value is an assessment of the quality of an individual tree taking into account the health, structure and growth of a tree. A well-formed, symmetrical tree that is true to type with little or no deadwood and displaying good new growth will be assessed as having a 'high' arboricultural value. A tree with poor form, thick deadwood and little new growth or extensive epicormic growth as a stress response may be given a 'poor' rating. A completely dead tree will have an arboricultural value rating of 'none.'

Retention Value

Retention value is rated according to overall health, structure, and estimated life expectancy (often referred to as 'Useful Life Expectancy – ULE'). The 'Retention Value' takes into account the overall condition and life expectancy of the tree. It may also include site specific considerations such as the landscape, environmental status and/or suitability of the tree in the landscape.

Tree No	Species	Data										Assessments					Development										Recommendation	Comments
		Common Name	Origin	Character Class	Height (m)	DBH (cm)	Canopy Cover (%)	Canopy Density	Canopy Shape	Canopy Colour	Canopy Texture	Age Class	Health	Structure	AG Value	Retention	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	TPS/AG	
1	<i>Eucalyptus gomphocephala</i>	Tuart	Native	shrub	16	66.5	83	17	15	yes	yes	juvenile	good	fair-good	med-high	high	8.0	200.1	3.1	29.4							Retain	East leader showing asymmetrical dominance
2	<i>Eucalyptus acuminata</i>	Yellow Gum	Indigenous	shrub	6	15.3	19	4	1			dead	dead	poor	low	low	2.0	12.6	1.6	8.5							Remove	Entirely dead
3	<i>Eucalyptus gomphocephala</i>	Tuart	Native	shrub	6	17.1	21.8	5	3	yes	yes	juvenile	fair	poor	low	low	2.1	13.2	1.7	8.8							Remove	extremely poor specimen
4	<i>Acacia menziesii</i>	Black Wattle	Indigenous	shrub	13	22.1	29.2	6	4	yes	yes	juvenile	very	fair	low-mid	low	2.7	22.1	2.0	12.2							Remove	substantial center at base and 2.5 AG, massive lower infestation
5	<i>Acacia menziesii</i>	Black Wattle	Indigenous	shrub	11	24.7	37.6	7.5	5	yes	yes	juvenile	very	poor	low	low	3.0	27.5	2.2	12.1							Remove	no dominance at base, one stem significant lean towards neighbours with substantial center and lower infestation 3m AG on tension side
6	<i>Pittosporum undulatum</i>	Seaside Pittosporum	Waved	shrub	9	14.6	20.5	5	5			juvenile	good	fair-good	low	low	2.0	12.6	1.7	8.5							Remove	weed
7	<i>Eucalyptus globulus</i>	Sugar Gum	Native	shrub	12	43.4	66.5	14	3	yes	yes	semi-mature	fair	poor	low	low-mid	5.2	65.2	2.4	18.1							Remove	significant deadwood throughout up to 10m, asymmetrical crown, narrow crown on foliage, center at 1.6m AG with minor lower damage
8	<i>Eucalyptus globulus</i>	Blue Gum	Indigenous	8	12.5	99.6	124.8	8	5	yes	yes	juvenile	fair	good	poor	moderate	11.0	441.8	3.0	41.4							Remove	significant poor growing, leaning significant hollow, asymmetrical form, minor deadwood
9	<i>Pittosporum undulatum</i>	Seaside Pittosporum	Waved	8	12.5	24.7	n/a	5	4	yes	yes	juvenile	very	poor	low	low	3.0	27.5	2.2	12.1							Remove	asymmetrical canopy, significant toppling in centre canopy, growing into globulus
10	<i>Phormium tenax</i>	Peace Tree	Exotic	shrub	4	14.6	17	4	4			juvenile	poor	poor	low	low	2.0	12.6	1.6	8.8							Remove	large, very poor form, low value
11	<i>Phormium sp.</i>	n/a	Exotic	shrub	4.5	n/a	20	4	3			juvenile	poor	poor	low	low	2.0	12.6	1.7	8.9							Remove	dbh taken below main union @ 300mm AG
12	<i>Grevillea robusta</i>	Silky Oak	Native	shrub	7	18.4	21.5	4	4	yes	yes	juvenile	fair	good	low	low-mid	2.2	15.3	1.7	8.5							Retain	previous history of small foliage, small canopies present
13	<i>Eucalyptus viminalis</i> subsp. p	Gippsland Manna Gum	Indigenous	shrub	12	79.0	97	9	8	yes	yes	semi-mature	poor	fair	moderate	Moderate	9.5	202.6	3.3	33.5							Retain	significant deadwood approx 40% of canopy, hard up on rear fence (DAB approximate), competition by undergrowth trees
14	<i>Freycinetia excelsior</i>	Common Ash	Exotic	shrub	4.5	n/a	30	5	3			juvenile	good	poor	low	low	2.0	12.6	1.6	8.8							Remove	exposed north-east, infestation with thorns, etc. DAB estimated
15	<i>Ulmus minor</i>	n/a	n/a	shrub	4.5	n/a	n/a	4.5	3.5			juvenile	good	fair	low	low	2.0	12.6	1.6	8.8							Remove	species unknown, should be replaced w/ local native, bark etc
16	<i>Angophora costata</i>	Smooth Bark Angophora	Native	shrub	9	19.2	104.12	5.5	3	yes	yes	juvenile	good	fair	low	low-mid	2.3	16.6	1.7	14.4							Retain	minor exposed limb, minimal/no deadwood
17	<i>Eucalyptus cinerea</i>	Ironbark	Indigenous	shrub	9	38.4	17	5	4	yes	yes	juvenile	very	poor	low	low	4.6	66.7	2.6	22.5							Remove	right canopy bound to the west, minor deadwood
18	<i>Camellia sp.</i>	Camellia	Exotic	shrub	15	n/a	7.2	2	2			juvenile	good	fair	low	low	2.0	12.6	1.1	1.8							Remove	11.1%
19	<i>Phormium tenax</i>	Peace Tree	Exotic	shrub	4	n/a	8	2	2			juvenile	good	poor	low	low	2.0	12.6	1.1	1.8							Remove	88.3%
20	<i>Lepidospermum levispermum</i>	Double Flowering Ole	Exotic	shrub	4	17.5	n/a	5	1	yes	yes	juvenile	good	poor	low	low	2.0	12.6	1.1	1.8							Remove	65.3%
21	<i>Pittosporum undulatum</i>	Seaside Pittosporum	Waved	12	12.5	17.5	n/a	5	3	yes	yes	semi-mature	poor	fair	low	low	2.1	13.9	1.6	8.8							Remove	2.2%
22	<i>Cotoneaster glaucophyllus</i>	Cotoneaster	Waved	12	12.5	15	n/a	6	6			semi-mature	good	fair	low	low	2.0	12.6	1.6	8.8							Remove	n/a
23	<i>Lepidospermum levispermum</i>	Double Flowering Ole	Exotic	shrub	4	17.5	n/a	5	1	yes	yes	juvenile	good	poor	low	low	2.0	12.6	1.6	8.8							Remove	n/a
24	<i>Lepidospermum levispermum</i>	Double Flowering Ole	Exotic	shrub	4	17.5	n/a	5	1	yes	yes	juvenile	good	poor	low	low	2.0	12.6	1.6	8.8							Remove	n/a
25	<i>Angophora costata</i>	Smooth Bark Angophora	Native	shrub	12	12.5	15	n/a	5	5		semi-mature	poor	poor	low	low	2.0	12.6	1.6	8.8							Remove	n/a
26	<i>Lepidospermum levispermum</i>	Double Flowering Ole	Exotic	shrub	4	17.5	n/a	5	1	yes	yes	juvenile	good	poor	low	low	2.0	12.6	1.6	8.8							Remove	n/a
27	<i>Acacia menziesii</i>	Black Wattle	Native	shrub	5	17.7	19.5	6	3	yes	yes	juvenile	good	poor	low	low	2.0	12.6	1.6	8.8							Remove	n/a
28	<i>Eucalyptus camaldulensis</i>	Red Gum	Native	shrub	14	17.7	19.5	6	3	yes	yes	semi-mature	fair	poor	low-mid	Moderate	2.1	14.2	1.7	8.7							Retain	slightly sparse crown, very narrow crown, surrounded by tuart and anethora, acute codominant union at 5m AG
29	<i>Lepidospermum levispermum</i>	Double Flowering Ole	Exotic	shrub	6	9.3	12.8	n/a	n/a			juvenile	good	fair	low	low	2.0	12.6	1.4	8.2							Remove	weed
30	<i>Cassiope verticillata</i>	Dropcap Olive	Indigenous	shrub	5	13.9	19.3	n/a	n/a			juvenile	good	fair	low	low-mid	2.0	12.6	1.7	8.9							Retain	poorly growing form, could be improved with less competition, last year removed

Legend:

DBH: Estimated DBH

"N/A" Not applicable OR unable to be recorded.

~> approximate

bold: Emphasis on important column/data

Recommendation Code Legend:

Minor

Moderate

Major

Notes:

"AG" = Above Ground

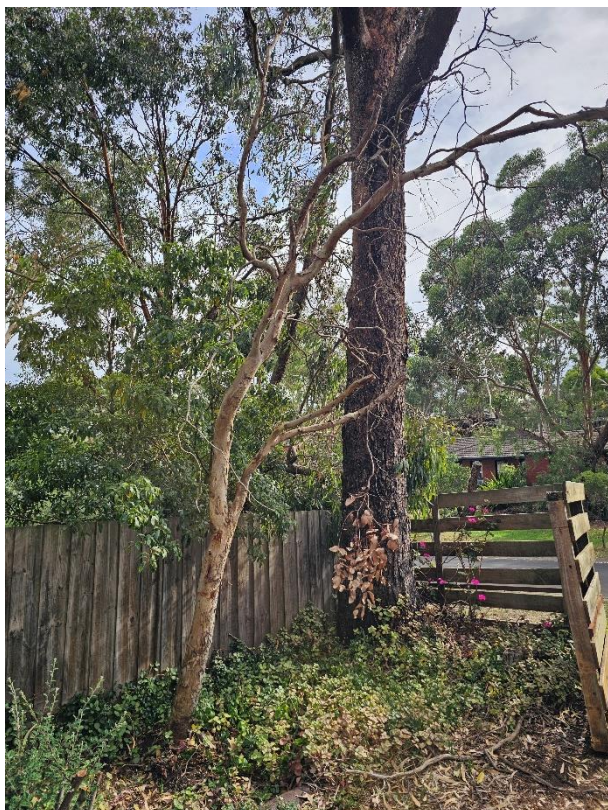
8. Appendices

8.1. Tree Images

Tree 1



Tree 2



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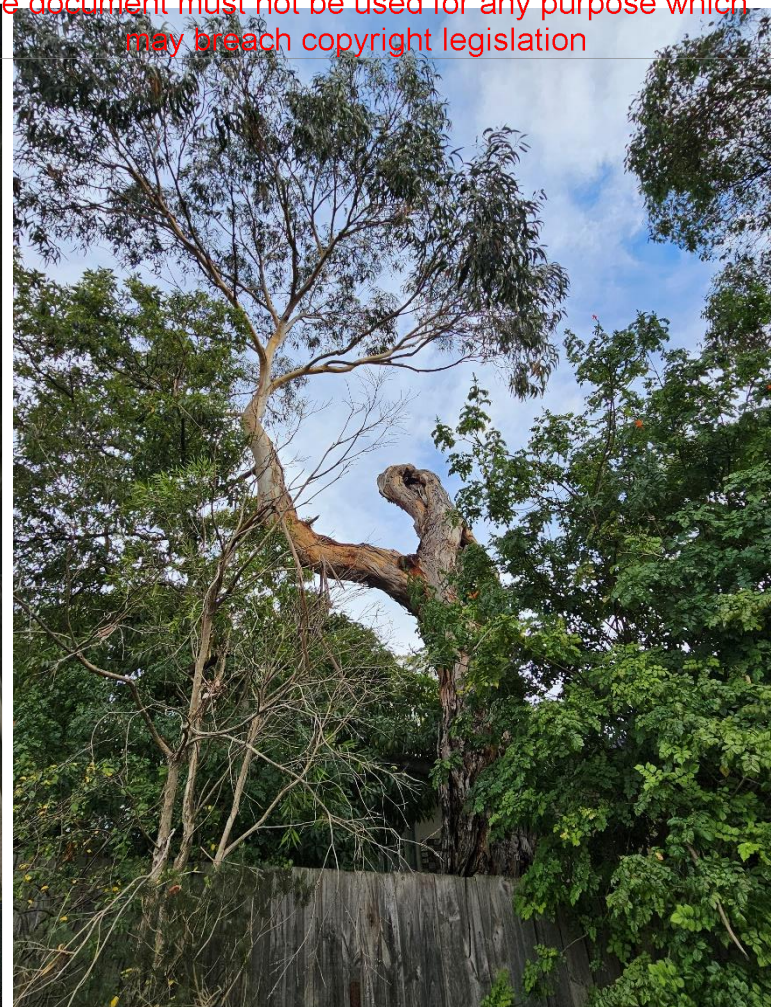
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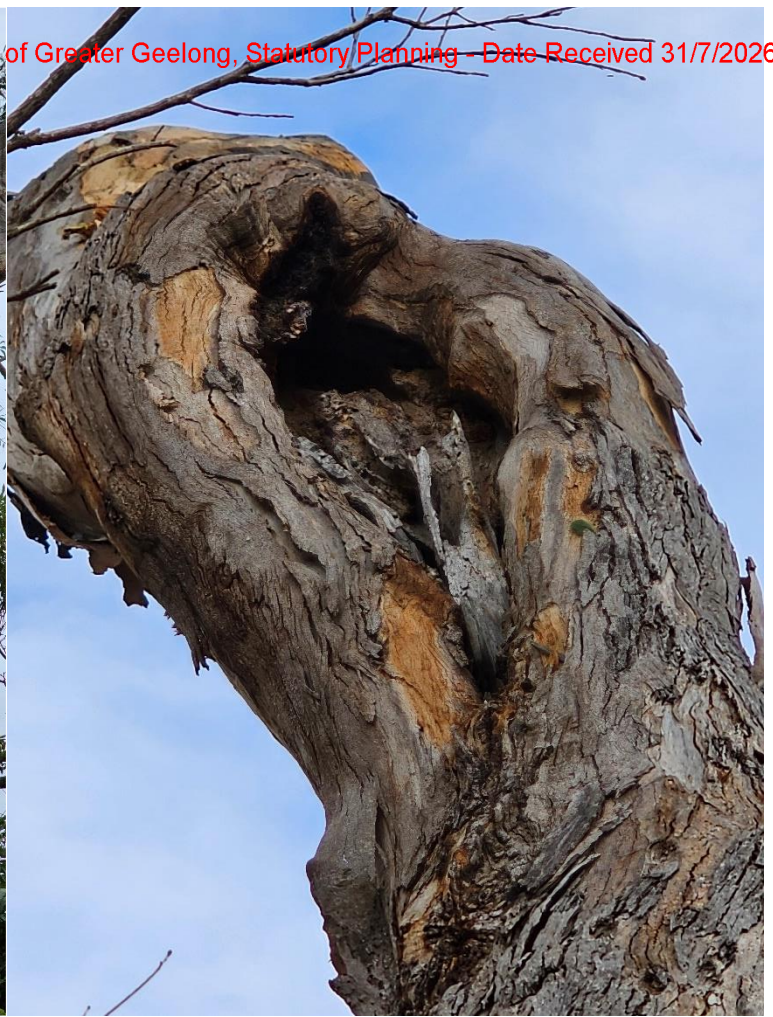




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Tree 8



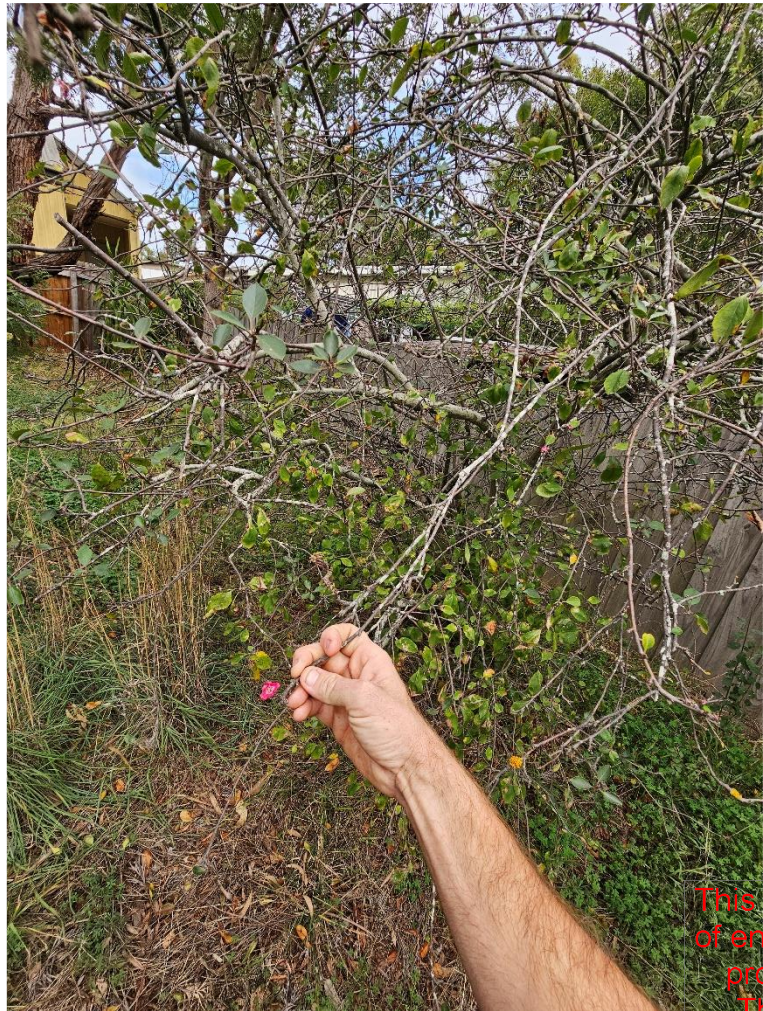


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Tree 9



Tree 10

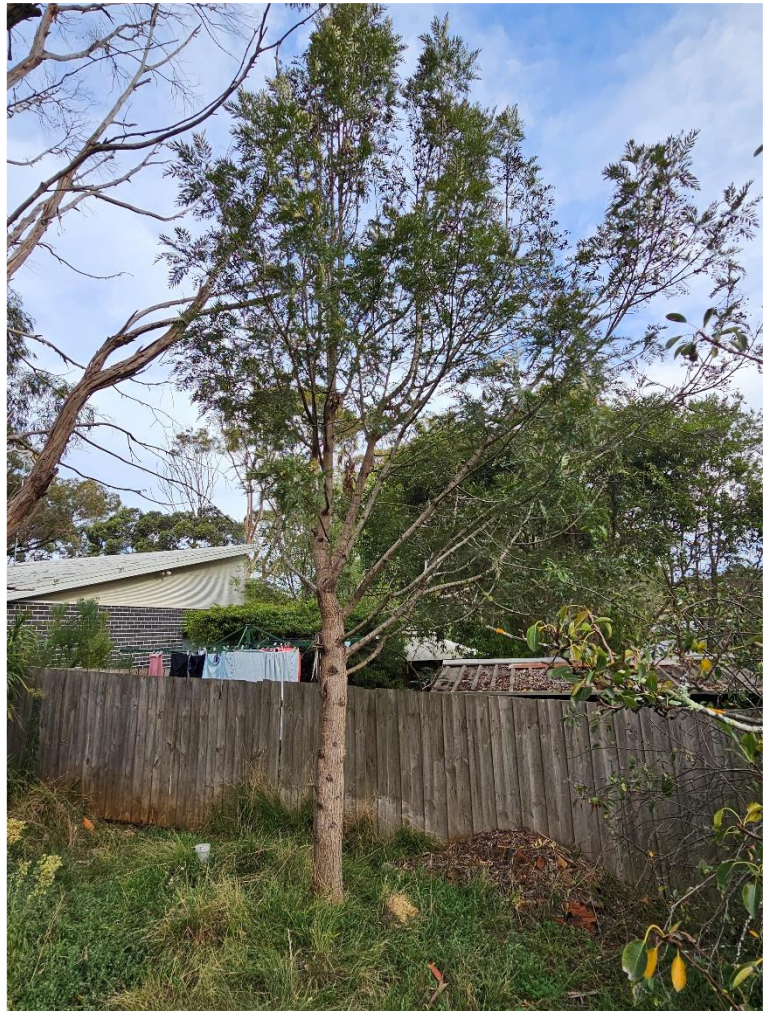


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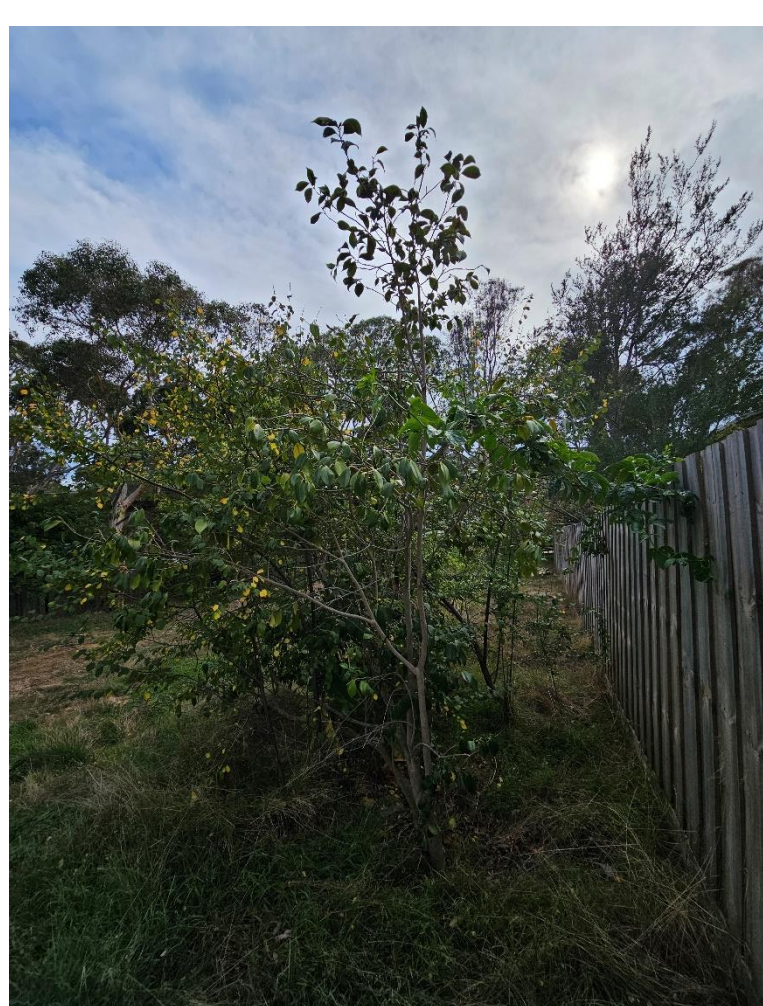
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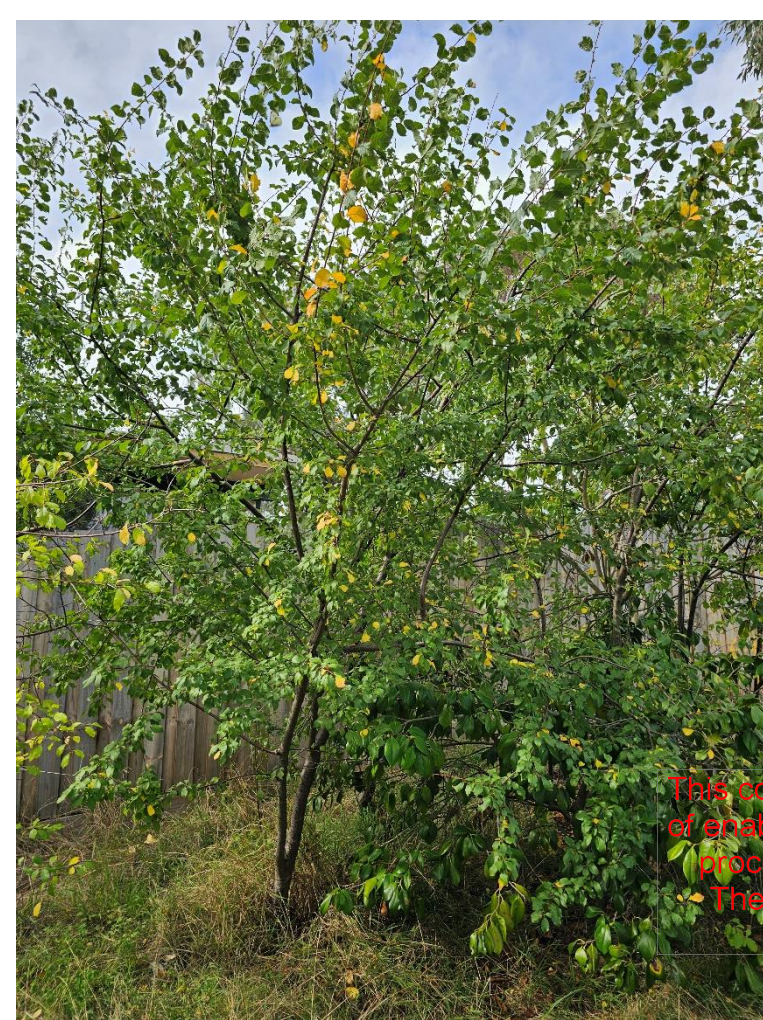
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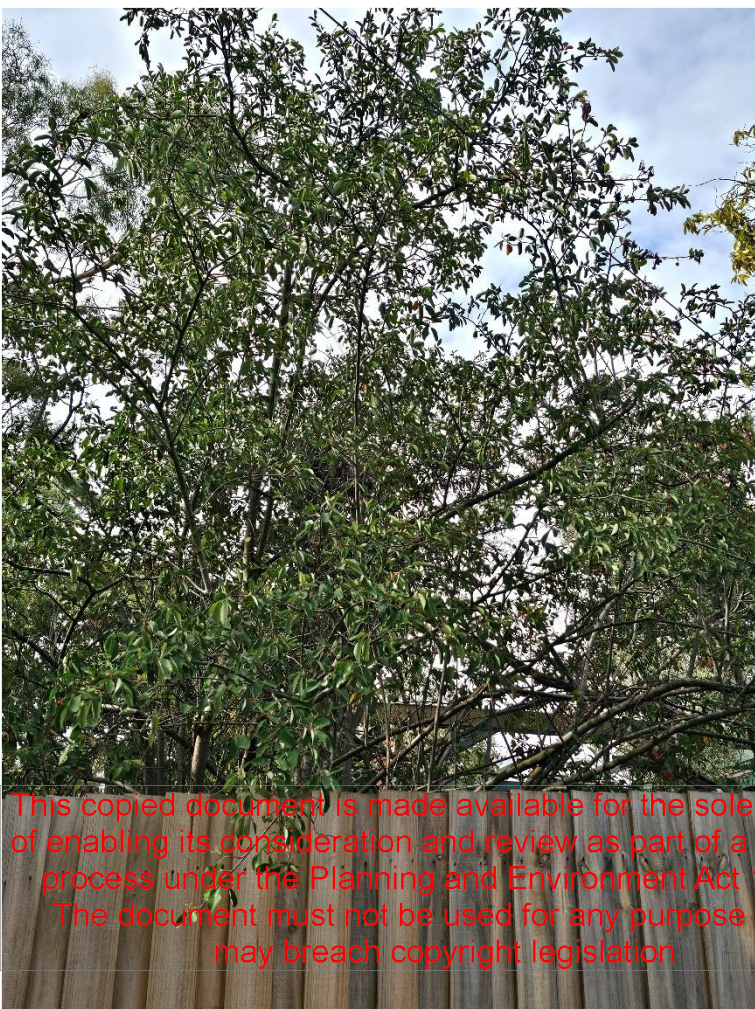
Tree 19



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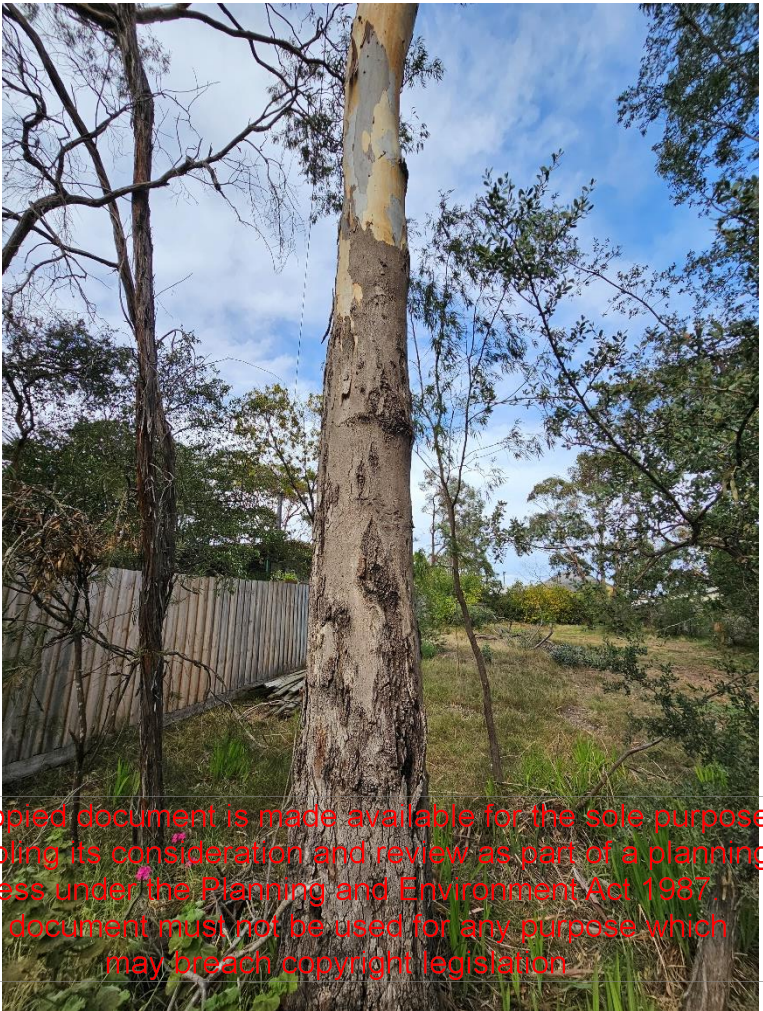
Tree 23 (entering from right of frame) and tree 26 (centre)



Tree 25 (background)



Tree 28



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Tree 30

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