ARBORICULTURAL REPORT
20 DAVID HILL ROAD, MONBULK

May 2022

Revised
October 2022

PREPARED BY

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TABLE OF CONTENTS

1 Introduction

1.1 John Patrick, consulting arborists, have been engaged TAL GP Projects No. 20 Pty Ltd to prepare an arboricultural report for 20 David Hill Road, Monbulk to accompany planning application documents for the site. This report was revised on the 7th of October 2022 to update the impact assessment based on revised design plans.

2 Objectives

2.1 The intent of this report is to:

- Assess the condition of trees within the subject site and those neighbouring that may be impacted by the proposed development and estimate the extent of any impact.
- Identify any trees worthy of retention and provide preliminary arboricultural advice to assist in their protection and retention.

2.2 The report will include the following;

- Botanic / Common names
- Tree Location
- Canopy width and height
- DBH (trunk diameter)
- Tree health & structure condition
- Useful Life Expectancy (ULE)
- Tree Protection Zones (TPZ's) in accordance with *AS4970*
- Arboricultural value
- Other tree characteristics of consideration.

3 Methodology

3.1 The site was visited on the 7th of March 2022 and a visual assessment of the subject trees was undertaken from ground level. Each tree was assigned an identification number for reference purposes, denoted on the

attached Tree Location Plan (Section 4) which is based on the Feature and Level Survey prepared for the site by Beveridge Williams, Surveyors Ref. 2200586, March 2022.

3.2 No aerial or diagnostic testing was undertaken as part of this assessment.

3.3 The DBH of trees was measured using a diameter tape measure at 1.4m above ground level in accordance with *AS4970*.

3.4 Heights of canopies were measured using a laser range finder.

3.5 Widths of canopies were measured by stepping out.

3.6 Where access directly to the trees was not possible DBH, heights and widths were estimated.

4 Observations

EXISTING CONDITIONS

4.1 The subject site is located on the southwest corner of David Hill Road and Victoria Avenue. Currently it exists as a residential site with a single storey weatherboard dwelling. The existing garden consists of exotic species along the boundaries and clustered in the rear yard, as well as a large native species in the front yard.

Fig. 1: Subject site (Nearmap.com 05/02/2022)

VEGETATION CONTROLS

4.2 An internet search of 'VicPlan' reveals that the site is covered by a Significant Landscape Overlay – Schedule 22 (SLO22) of the Yarra Ranges Council Planning Scheme.

4.3 Under this overlay the following applies:

> ***Vegetation***
>
> *A permit is required to remove, destroy or lop any indigenous vegetation or substantial tree. A substantial tree is defined as having a diameter at breast height (DBH) greater than 0.16 metres 1.3m above the ground. (Equivalent to a circumference of 0.5 metres at breast height).*
>
> *This does not apply:*
>
> - *If the lopping of vegetation is undertaken to assist its regeneration or*
> - *If the vegetation is dead or*
> - *To the partial removal of branches directly overhanging dwellings, garages or outbuildings so that they are not overhanging or within 2 metres of the building or*
> - *If the vegetation to be removed is within 2 metres of a building*
> - *If the species appears in the Shire of Yarra Ranges Environmental Weed List - Clause 22.05.*

4.4 Several trees on site have a DBH of 0.16m or more and will require a permit for their removal. Several trees have also been identified as environmental weeds. The trees affected are detailed below under section *5. Discussion*.

4.5 The Yarra Ranges Neighbourhood Amenity Local Law 2020 also applies to the site. Under this law there are no requirements for tree controls.

Note: It is recommended that vegetation controls be confirmed with the local authority prior to any tree removal.

TREE INFORMATION

4.6 A total of 31 trees or tree groups were assessed including 17 trees or tree groups within the subject site and 14 trees within the road reserve or neighbouring properties. Information on these can be found in the following table.

TREE DATA

Table 1: Tree Data

Tree No.	Botanic Name	Common Name	Origin	Size (m) HXW	DBH (cm)	TPZ (m)	Base (m)	Age	Health	Structure	ULE (Yrs.)	Arb Value	Comments
1	*Malus sp.*	Apple	Exotic	8 x 7	27	3.2	36	Mature	Poor	Fair	0-5	Low	50% canopy dieback
2	*Pittosporum eugenioides* 'Variegatum'	Lemonwood	Exotic	12 x 10	55	6.6	66	Mature	Good	Fair	10-20	Medium	Multi-stemmed form, minor deadwood
3	*Photinia robusta*	Red-leaf Photinia	Exotic	8 x 11	40	4.8	61	Mature	Good	Fair	10-20	Low	Multi-stemmed form
4	*Liquidambar styraciflua*	Liquidambar	Exotic	20 x 10.5	62	7.4	78	Mature	Good	Poor	10-20	Low	Bifurcated at ~0.7m, union appears suspect, minor decay in buttressing root.
5	*Pittosporum eugenioides* 'Variegatum'	Lemonwood	Exotic	8 x 8.5	39	4.7	47	Mature	Fair	Fair	10-20	Low	Broken branch on west side, lower epicormic growth
6	*Prunus persica var. nucipersica*	Nectarine	Exotic	5 x 5.5	15	2.0	17	Mature	Fair	Fair	5-10	Low	Failed branch
7	*Fraxinus angustifolia*	Narrow-leaved Ash	Exotic	6.5 x 4.5	15	2.0	17	Semi-mature	Good	Poor	0-5	Low	Multi-stemmed from ground, vine and holly choked
8	*Fraxinus angustifolia*	Narrow-leaved Ash	Exotic	7.5 x 5.5	21	2.5	25	Mature	Good	Good	10-20	Low	Ivy
9	*Betula pendula*	Silver Birch	Exotic	13.5 x 8	50	6.0	57	Mature	Good	Good	10-20	Medium	Ivy choked 50% of trunk, understory or Rhododendron, Pittosporum, and Privet
10	*Pittosporum eugenioides* 'Variegatum'	Lemonwood	Exotic	10.5 x 9	39	4.7	47	Mature	Good	Fair	10-20	Low	On fence line, lower epicormic growth, ivy
11	*Fraxinus angustifolia*	Narrow-leaved Ash	Exotic	11.5 x 8	24	2.9	29	Mature	Good	Fair	10-20	Low	On fence line
12	*Morus alba*	Mulberry	Exotic	3 x 5	32	3.8	33	Mature	Fair	Fair	5-10	Low	
13	*Corymbia ficifolia*	Red Flowering Gum	Aust. Native	8.5 x 12.5	94	11.3	97	Mature	Good	Good	10-20	Medium	Minor deadwood
14	*Photinia robusta*	Red-leaf Photinia	Exotic	4 x 3*	Multi	2.0	Multi	Mature	Fair-Good	Fair	10-20	Low/Med	x8 trees making up a hedge, *=average
15	*Camellia japonica*	Camellia	Exotic	4.5 x 6	19	2.3	23	Mature	Fair	Fair	10-20	Low	Minor deadwood and dieback
16	*Pittosporum undulatum*	Sweet Pittosporum	Vic. Native	8.5 x 4	15	2.0	17	Mature	Good	Fair	10-20	Low	
17	*Quercus robur*	English Oak	Exotic	11 x 12	32	3.8	39	Mature	Fair	Fair	5-10	Low	Ivy choked, thinning canopy
18	*Camellia japonica*	Camellia	Exotic	5 x 4.5	16	2.0	19	Mature	Poor	Fair	5-10	Low	~2.5m from fence line
19	*Juniperus sp.*	Juniper	Exotic	5 x 2	15	2.0	17	Mature	Fair	Poor	5-10	Low	On fence line
20	*Prunus sp.*	Stone Fruit	Exotic	6 x 4*	12*	2.0	14*	Mature	Poor	Poor	0-5	Low	x2 trees, on fence line, *=largest
21	Mix of *Prunus sp., Acacia sp., and Cytisus sp.*	Stone Fruit, Wattle, Tree Lucerne	Mixed	8 x 7*	<17	2.0	<17	Mature	Poor-Fair	Fair	5-10	Low	Some trees on fence line, *=largest
22	*Acer palmatum*	Japanese Maple	Exotic	8 x 8	35	4.2	43	Mature	Good	Fair	10-20	Medium	On fence line
23	*Acer palmatum*	Japanese Maple	Exotic	8 x 4	28	3.4	34	Mature	Fair	Fair	5-10	Low	Ivy choked
24	*Syzygium smithii*	Lilly Pilly	Vic. Native	6 x 7.5	17	2.0	20	Mature	Good	Fair	5-10	Low	On fence line
25	Suspected *Malus sp.*	Apple	Exotic	8 x 5.5	17	2.0	20	Mature	Poor	Fair	0-5	Low	On fence line

Tree No.	Botanic Name	Common Name	Origin	Size (m) HXW	DBH (cm)	TPZ (m)	Base (m)	Age	Health	Structure	ULE (Yrs.)	Arb Value	Comments
26	*Mix of Privet sp., Ilex sp., Fraxinus sp., Cotoneaster sp.*	Privet, Holly, Ash, Cotoneaster	Exotic	8 x 5*	<20	2.0	<22	Mature	Poor-Good	Poor-Fair	5-10	Low	Multiple trees
27	*Ceratonia siliqua*	Carob	Exotic	5.5 x 11	40	4.8	50	Mature	Good	Fair	10-20	Low	Roots lifting concrete path, leaning form, minor deadwood
28	*Prunus sp.*	Stone Fruit	Exotic	5 x 5.5	34	4.1	38	Mature	Fair	Fair	5-10	Low	Minor deadwood and dieback
29	*Melaleuca sp.*	Paperbark	Aust. Native	4 x 4	18	2.2	26	Mature	Poor	Poor	0-5	Low	Base decay, asymmetrical form, half failed, deadwood, dieback
30	*Prunus sp.*	Stone Fruit	Exotic	5 x 7.5	43	5.2	51	Mature	Fair	Fair	5-10	Low	Decay in trunk and limbs, deadwood, dieback, fungal growth
31	*Juniperus communis*	Common Juniper	Exotic	4.5 x 9	32	3.8	39	Mature	Poor	Fair	5-10	Low	Multi-stemmed from ground, canopy dieback and deadwood

NOTE: **Values marked in red represent estimates**
Values marked in blue represent multi-stem calculations

TREE IMAGES

Fig. 2: Tree 1.

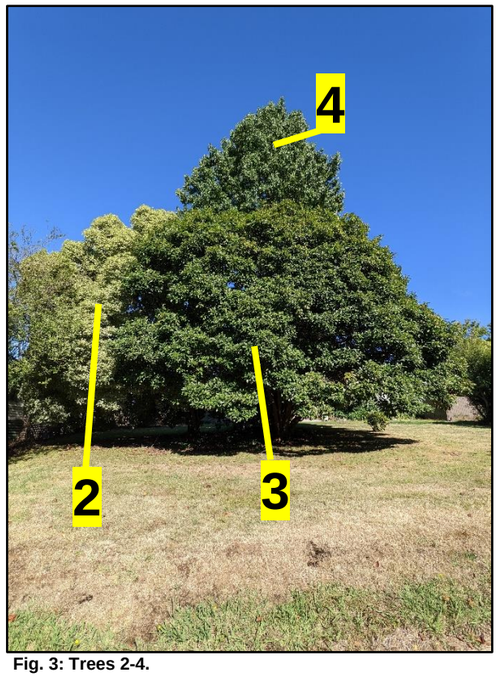


Fig. 3: Trees 2-4.

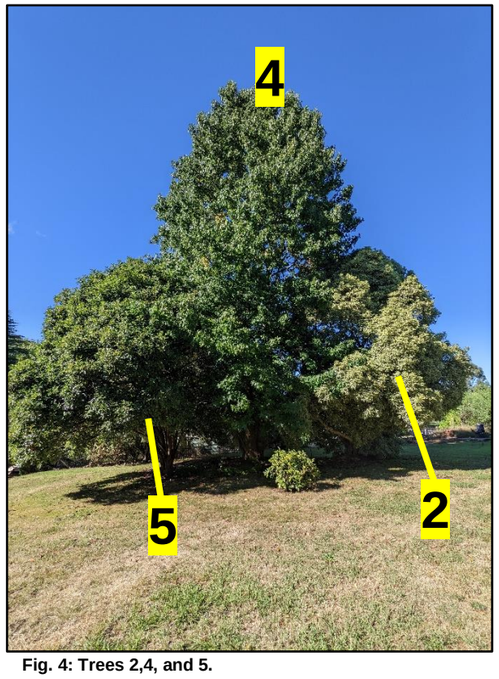


Fig. 4: Trees 2,4, and 5.

Fig. 5: Tree 6.

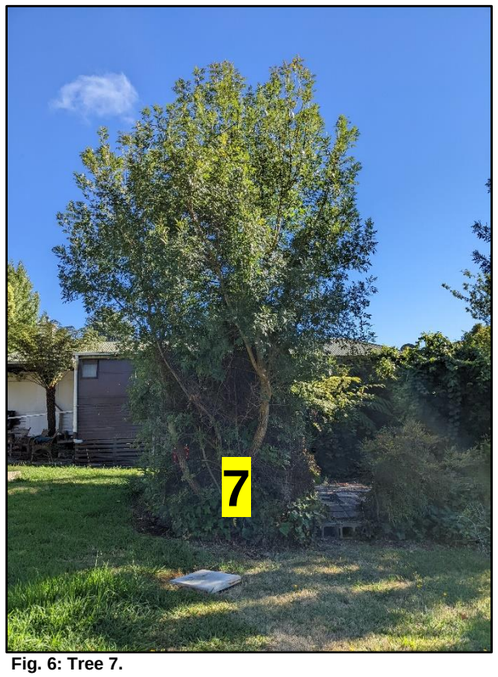


Fig. 6: Tree 7.

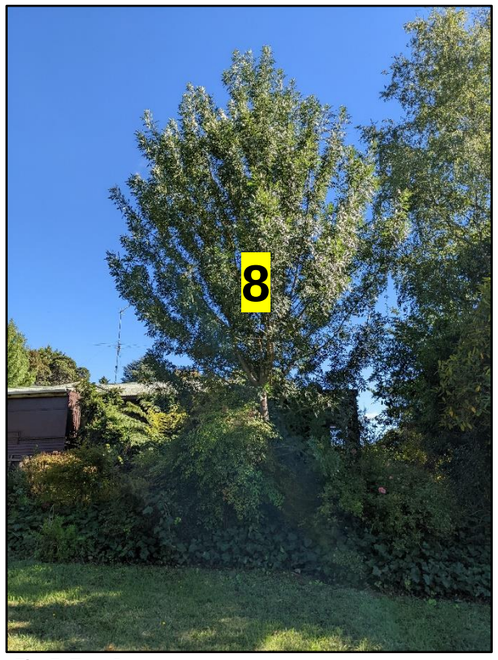


Fig. 7: Tree 8.

Fig. 8: Tree 9.

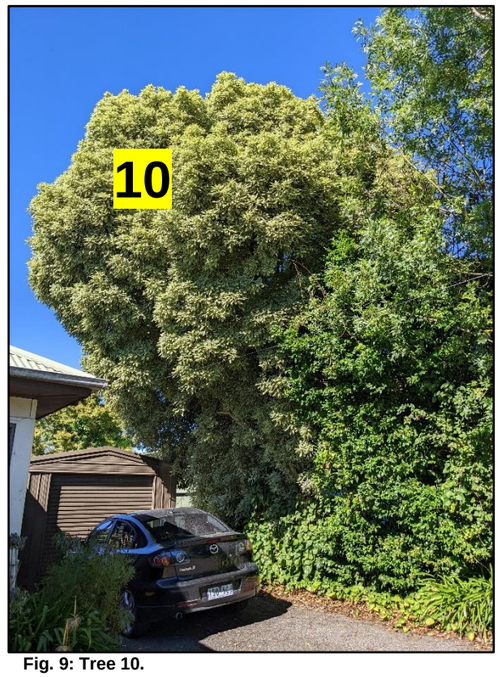


Fig. 9: Tree 10.

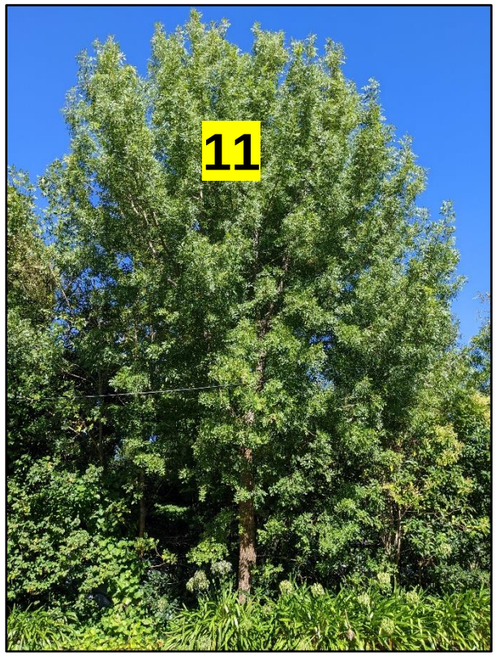


Fig. 10: Tree 11.

Fig. 11: Tree 12.

Fig. 12: Tree 13.

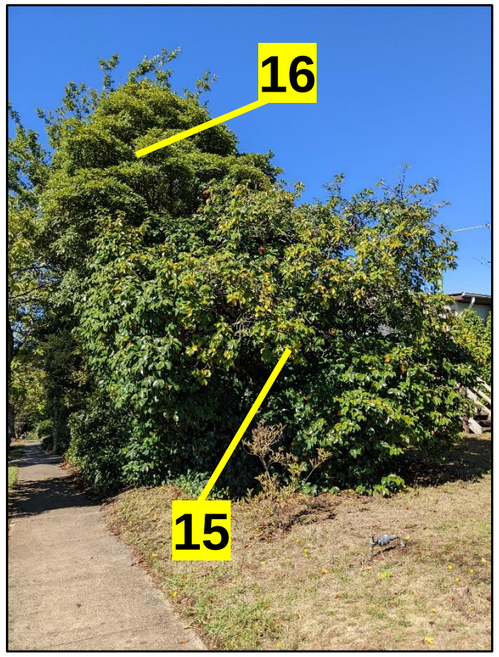


Fig. 13: Trees 15 and 16.

Fig. 14: Tree Group 14.

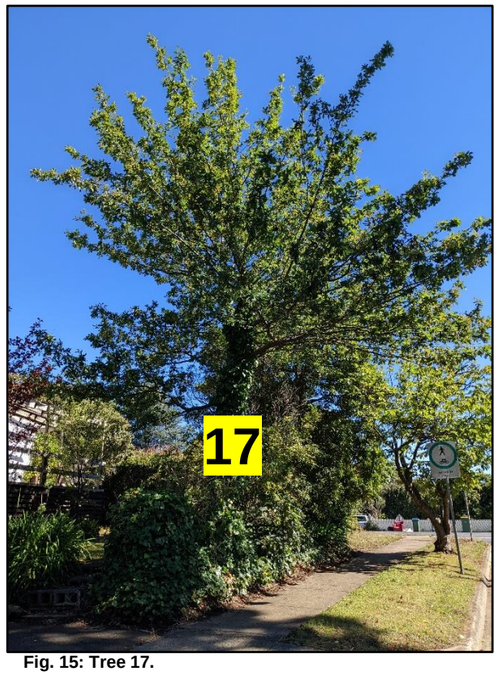


Fig. 15: Tree 17.

Fig. 16: Neighbouring Tree 18.

Fig. 17: Neighbouring Trees 19 and 20.

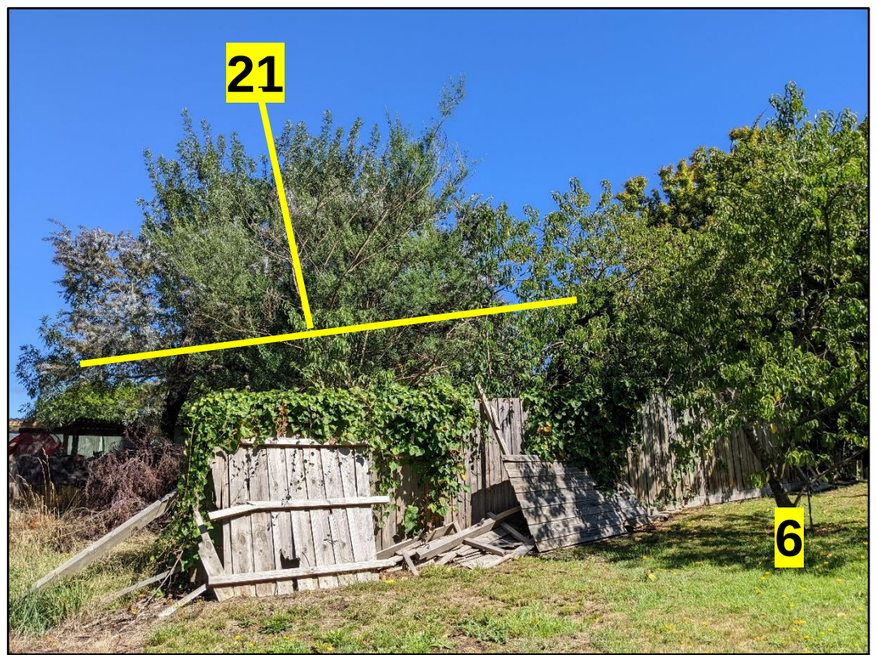


Fig. 18: Neighbouring Tree Group 21 and Tree 6.

Fig. 19: Neighbouring Tree 22.

Fig. 20: Neighbouring Tree 24.

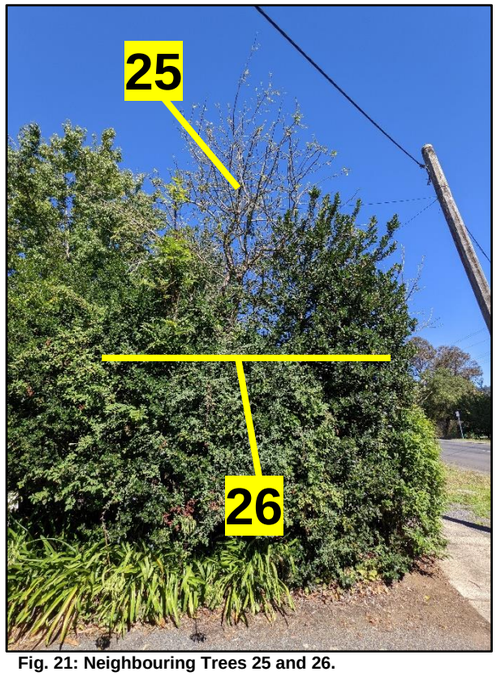


Fig. 21: Neighbouring Trees 25 and 26.

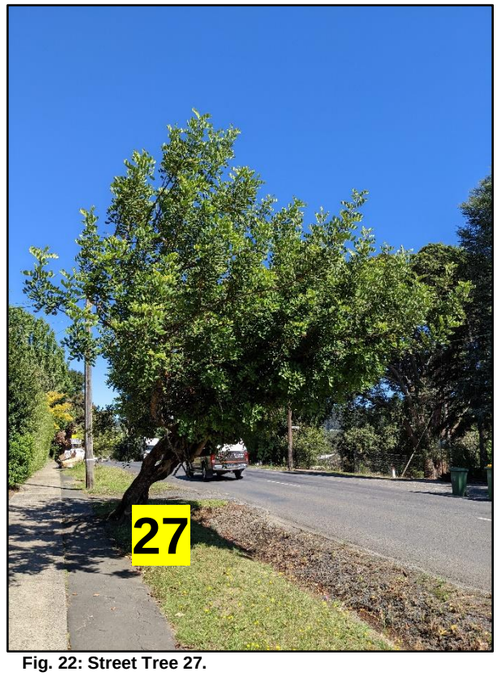


Fig. 22: Street Tree 27.

Fig. 23: Street Tree 28.

Fig. 24: Street Tree 29.

Fig. 25: Street Tree 30.

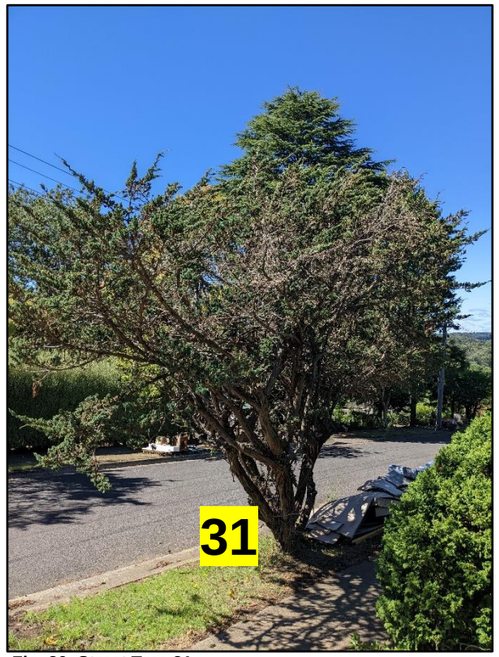
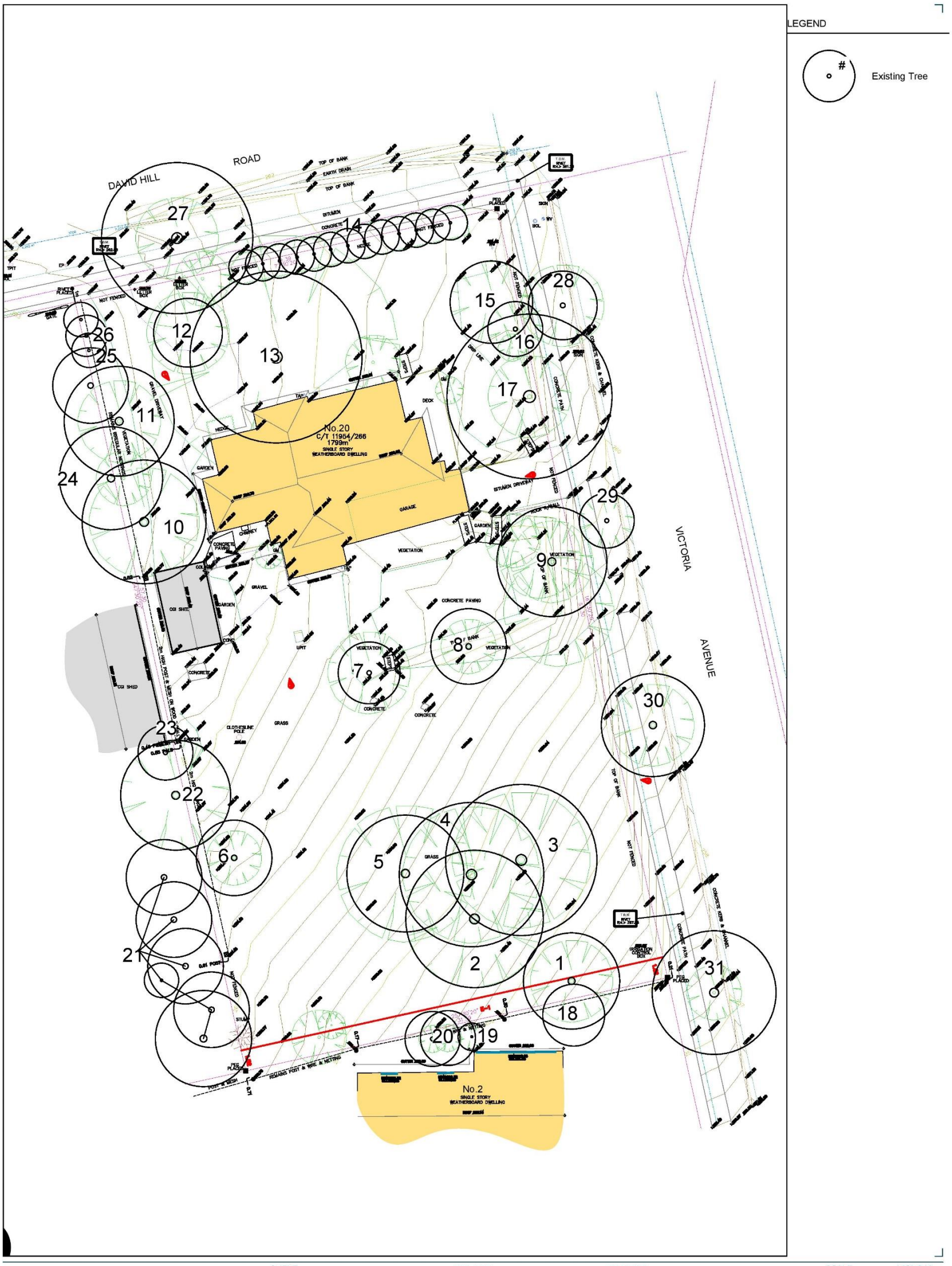


Fig. 26: Street Tree 31.

TREE LOCATION PLAN



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CLIENT
TAL GP Projects No. 20 Pty. Ltd.

PROJECT

ADDRESS
20 David Hill Road, Monbulk

DRAWING
Tree Location Plan

SCALE	1:250 @A3
DATE	31-March-22
DRAWN	JH
CHECKED	
JOB NO	22-065 TLP
DWG NO	TLP01

5 Discussion

5.1 A childcare centre is proposed for the site. The following plans have been reviewed and form the basis of the following impact assessment:

Child Care Facility
20 Davids Hill Road, Monbulk
Job No. 202200028
Prepared by ON Architecture, 09/2022

5.2 This report assumes that the levels, dimensions, and drawings provided by the surveyors and architects named within this report are correct as these have been used as the basis for this impact assessment.

5.3 As no survey was available at the time of the initial site visit tree locations are based on a recent aerial survey and visual estimations. Therefore, though attention has been paid to accuracy, their location on the later supplied survey which forms the basis of the Tree Location Plan and subsequent Impact Assessment Plan are approximate only.

SITE TREES

5.4 All site trees are proposed to be removed to accommodate the development.

5.5 Tree 1 is a *Malus sp.* (Apple) located towards the southeast corner of the site along the southern boundary. It is of poor health, fair structure, of low arboricultural value, and not worthy of retention. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.6 Tree 2 is a *Pittosporum eugenioides* 'Variegatum' (Lemonwood) located in a small grove of trees within the rear yard towards the southern site boundary. It is of good heath, fair structure, medium arboricultural value, and is proposed to be removed to accommodate the development. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.7 Trees 3-5 are a *Photinia robusta* (Red-leaf Photinia), *Liquidambar styraciflua* (Liquidambar), and a *Pittosporum eugenioides* 'Variegatum' (Lemonwood) respectively, all located as a small grove of trees within the rear yard towards the southern boundary. Tree 3 is of good health, fair structure, low arboricultural value, and not worthy or retention. Tree 4 is of good health with a poor structure due to a suspect bifurcated union close to the ground. It is of low arboricultural value and not worthy of retention. Tree 5 is of fair health and structure, low arboricultural value, and not worthy of retention. Due to their sizes all trees will require a permit for their removal under the *SLO22*.

5.8 Tree 6 is a *Prunus persica* var. *nucipersica* (Nectarine) located along the western boundary within the rear yard. It is of fair health and structure, low arboricultural value, and not worthy of retention.

5.9 Trees 7 and 8 are both *Fraxinus angustifolia* (Narrow-leaved Ash) located approximately central to the site. They are of good health, while structurally Tree 7 has been considered poor, and Tree 8 good. This taxon is listed as a weed on the *Shire of Yarra Ranges Environmental Weed List* and does not require a permit for its removal. They are of low arboricultural value and not worthy of retention.

5.10 Tree 9 is a *Betula pendula* (Silver Birch) located centrally along the eastern boundary of the site. It is of good health and structure. It has been assessed as being of medium arboricultural value and can be considered for retention. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.11 Trees 10 and 11 are a *Pittosporum eugenioides* 'Variegatum' (Lemonwood) and a *Fraxinus angustifolia* (Narrow-leaved Ash) respectively located along the boundary towards the northwest of the site. Both are of good health, fair structure, low arboricultural value, and not worthy of retention. Due to its DBH Tree 10 will require a permit for its removal under the *SLO22*. Tree 11 is listed as a weed on the *Shire of Yarra Ranges Environmental Weed List* and does not require a permit for its removal.

5.12 Tree 12 is a *Morus alba* (Mulberry) located towards the northwest corner of the site. It is of fair health and structure, low arboricultural value, and not worthy of retention. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.13 Tree 13 is a *Corymbia ficifolia* (Red Flowering Gum) located within the front yard of the subject site. It is of good health and structure, of medium arboricultural value, and worthy of retention. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.14 Tree Group 14 is a hedge of *Photinia robusta* (Red-leaf Photinia) along the northern boundary of the site. The trees are of fair to good health and fair structure. Considered as a hedge they have been assessed as being of medium arboricultural value for the screening they provide and can be considered for retention.

5.15 Trees 15 and 16 are a *Camellia japonica* (Camellia) and a *Pittosporum undulatum* (Sweet Pittosporum) respectively, located towards the northeast corner of the site. They are of good to fair health, fair structure, low arboricultural value, and not worthy of retention. Due to its DBH Tree 15 will require a permit for its removal under the *SLO22*. Tree 16 is listed as a weed on the *Shire of Yarra Ranges Environmental Weed List* and does not require a permit for its removal.

5.16 Tree 17 is a *Quercus robur* (English Oak) located along the eastern boundary of the site. It is of fair health and structure with ivy starting to choke the trunk and canopy. It is of low arboricultural value and not worthy of retention. Due to its DBH it will require a permit for its removal under the *SLO22*.

5.17 Tree Group 26 is a mix of *Privet sp.* (Privet), *Ilex sp.* (Holly), *Fraxinus sp.* (Ash), and *Cotoneaster sp.* (Cotoneaster) located at the northwest corner of the site. Their health ranges from good to poor, their structure from fair to poor, and all are of low arboricultural value. This group of trees are all listed on the *Shire of Yarra Ranges Environmental Weed List* and do not require a permit for their removal.

NEIGHBOURING TREES

5.18 Trees 18-20 are a *Camellia japonica* (Camellia), *Juniperus sp.* (Juniper), and a *Prunus sp.* (Stone Fruit) respectively, located in the neighbouring yard along the southern boundary of the site. Their TPZs are not encroached, and they are not expected to be impacted by the proposed development.

5.19 Tree Group 21 is a mix of *Prunus sp.* (Stone Fruit), *Acacia sp.* (Wattle), and *Cytisus sp.* (Tree Lucerne) located in the neighbouring yard along the western boundary towards the south of the site. One of these trees' TPZ is encroached by 6.7% caused by the proposed retaining wall. This is considered a minor encroachment (<10%) under *AS4970* and is not expected to impact the long-term health of the tree. The rest of the trees within this group are not encroached and are not expected to be impacted.

5.20 Trees 22 and 23 are both *Acer palmatum* (Japanese Maple) located in the neighbouring yard along the western boundary of the site. Tree 22's TPZ is encroached by 6.7% caused by the proposed retaining wall. This is considered a minor encroachment (<10%) under *AS4970* and is not expected to impact the long-term health of the tree. Tree 23's TPZ is encroached by 12.7% cause by the proposed retaining wall, considered a major encroachment (>10%) under *AS4970*. The retaining wall is proposed to be constructed of post and rail with no strip-footing. If pads for the posts are located to avoid any major roots (>40mm dia.) within the tree's TPZ, the long-term health of the tree is not expected to be impacted.

5.21 Trees 24 and 25 are a *Syzygium smithii* (Lilly Pilly) and a suspected *Malus sp.* (Apple) located within the neighbouring property along the western boundary of the site. Their TPZs are encroached by 39.6% and 42.8% respectively caused by the proposed retaining wall, considered a major encroachment (>10%) under *AS4970*. The retaining wall is proposed to be constructed of post and rail with no strip-footing. If pads for the posts are located to avoid any major roots (>40mm dia.) within the trees' TPZ, the long-term health of the trees are not expected to be impacted.

5.22 Tree 27 is a *Ceratonia siliqua* (Carob) located in the nature strip along David Hill Road to the north of the subject site. Its TPZ is encroached by 13.6% caused by the proposed stepping retaining wall. This is considered a major encroachment (>10%) under *AS4970*. If any major root located within the site are cleanly severed by hand the tree is not expected to suffer any long-term health effects due to the development.

5.23 Tree 28 is a *Prunus sp.* (Stone Fruit) located in the nature strip along Victoria Avenue towards the northwest corner of the site. Its TPZ is encroached by 8.2% caused by the proposed stepping retaining wall and new crossover. This is considered a minor encroachment under *AS4970* and is not expected to significantly impact the long-term health of the tree.

5.24 Trees 29 and 31 are a *Melaleuca sp.* (Paperbark) and a *Juniperus communis* (Common Juniper) located in the nature strip along Victoria Avenue to the east of the subject site. Their TPZs are not encroached, and they are not expected to be impacted by the development.

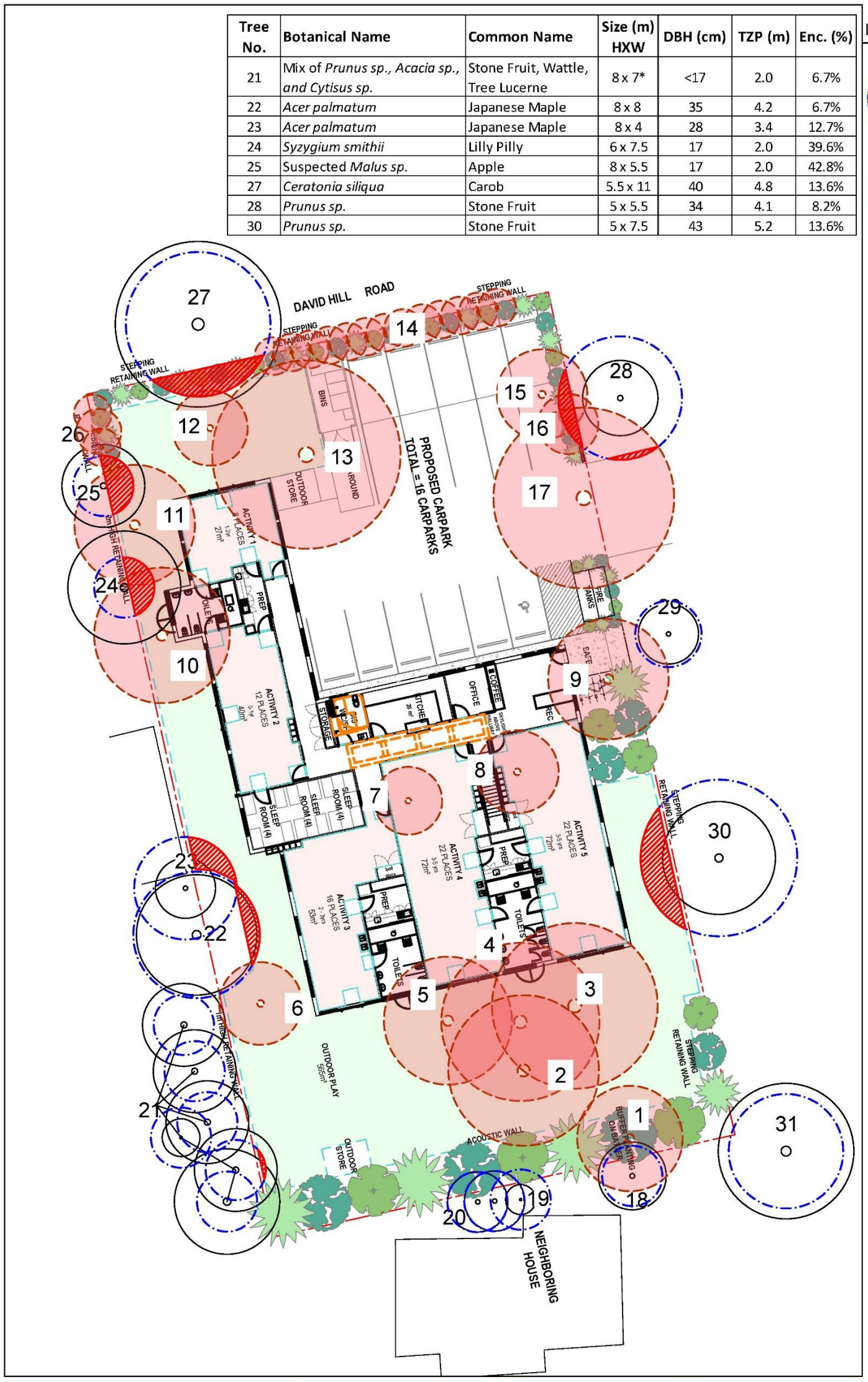
5.25 Tree 30 is a *Prunus sp*. (Stone Fruit) located in the nature strip along Victoria Avenue to the east of the subject site. Its TPZ is encroached by 13.6% caused by the proposed retaining wall, considered to be a major encroachment (>10%) under *AS4970*. The retaining wall is proposed to be constructed of post and rail with no

strip-footing. If pads for the post are located to avoid any major roots (>40mm dia.) within the tree's TPZ, the long term-health of the tree is not expected to be impacted.

5.26 If any boundary fences are to be replaced, it is recommended that any section of the new fences that pass through the TPZ of trees to be retained be of light-weight construction with post holes hand dug and relocated if necessary to avoid major roots. It is also recommended that all landscape areas within the TPZ of trees to be retained be maintained at existing grades.

TPZ IMPACT ASSESSMENT PLAN

Tree No.	Botanical Name	Common Name	Size (m) HXW	DBH (cm)	TZP (m)	Enc. (%)
21	Mix of *Prunus sp., Acacia sp., and Cytisus sp.*	Stone Fruit, Wattle, Tree Lucerne	8 x 7*	<17	2.0	6.7%
22	*Acer palmatum*	Japanese Maple	8 x 8	35	4.2	6.7%
23	*Acer palmatum*	Japanese Maple	8 x 4	28	3.4	12.7%
24	*Syzygium smithii*	Lilly Pilly	6 x 7.5	17	2.0	39.6%
25	Suspected *Malus sp.*	Apple	8 x 5.5	17	2.0	42.8%
27	*Ceratonia siliqua*	Carob	5.5 x 11	40	4.8	13.6%
28	*Prunus sp.*	Stone Fruit	5 x 5.5	34	4.1	8.2%
30	*Prunus sp.*	Stone Fruit	5 x 7.5	43	5.2	13.6%



LEGEND

- Existing Tree Blue = TPZ
- Existing Tree To Be Removed
- TPZ Encroachment

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CLIENT
TAL GP Projects No. 20 Pty. Ltd.

PROJECT

ADDRESS
20 David Hill Road, Monbulk

DRAWING
Impact Assessment Plan

SCALE	1:250 @A3
DATE	7-October-2022
DRAWN	JH
CHECKED	
JOB NO	22-065
DWG NO	IAP01rev2

6 Conclusion

6.1 A total of 31 trees or tree groups were assessed, comprising 17 within the subject site, and 14 within the road reserve or neighbouring properties.

6.2 Site Trees 1, 3-8, 10-12,15-17, and 26 are proposed to be removed to accommodate the development. They have been assessed as being of low arboricultural value and are not worthy of retention.

6.3 Site Trees 2, 9, and 13 are proposed to be removed to accommodate the development. They have been assessed as being of medium arboricultural value and can be considered for retention.

6.4 Site Tree Group 14 is proposed to be removed to accommodate the development. They have been assessed as being of medium arboricultural value as a group for the screening they provide. They can be considered for retention.

6.5 Site Trees 1-5, 9, 10, 12, 15, and 17 have a DBH greater than 0.16m at 1.3m from ground and will require a permit for their removal under the Significant Landscape Overlay – Schedule 22 (SLO22) of the Yarra Ranges Council Planning Scheme.

6.6 Site Trees 7, 8, 11, 16, and 26 appear on the *Shire of Yarra Ranges Environmental Weed List* and do not require a permit for their removal.

6.7 Neighbouring Trees 21, 22, and 28's TPZs are encroached by less than 10% and are not expected to suffer any long-term negative health effects.

6.8 Neighbouring Trees 23 and 30's TPZs are encroached by 10-20%. If the retaining wall causing these encroachments is constructed of post and rail with no strip-footing as proposed, the pads for the post are located to avoid any major roots (>40mm dia.) within the trees' TPZ, the long term-health of these trees is not expected to be impacted.

6.9 Neighbouring Trees 24 and 25 are encroached by more than 20%. If the retaining wall causing these encroachments is constructed of post and rail with no strip-footing as proposed, the pads for the post are located to avoid any major roots (>40mm dia.) within the trees' TPZ, the long term-health of these trees is not expected to be impacted

6.10 Neighbouring Trees 18-20, 29, and 31 are not expected to be impacted by the development.

6.11 Neighbouring Tree 27's TPZ is encroached by 13.6%. It any major roots within the site are cleanly severed the long-term health of the tree is not expected to be impacted.

7 Recommendations

7.1 A Tree Management Plan be prepared to direct works around trees to be retained.

8 Descriptors

Tree Number:

Refers to the identification number for reference purposes, denoted on the Tree Data and Tree Survey Plan.

Botanical Name:

Botanical name of species, based on nomenclature and spelling in Spencer, R 1995, *Horticultural flora of South Eastern Australia* (vols. 1-5), University of NSW Press, Sydney. Where Eucalyptus spp. are not found in this source, nomenclature is based on Euclid: Eucalypts of Australia, 2006, Centre for Australian National Biodiversity Research (CANBR). Eucalypt subspecies information is also based on this source.

While accurate tree identification is attempted, and uncertainties are indicated, some inaccuracies in tree identification may still be present – especially in the case of difficult to determine genera (e.g. *Cotoneaster* and *Ulmus*), and with cultivars which can have similar characteristics.

From time to time taxonomists revise plant classification, and name changes are assigned. If it is known names have been revised post the publication of the relevant above listed source, the new nomenclature has been used.

Common Name:

Common names are based primarily on names and spelling used by Spencer in Horticultural Flora of South Eastern Australia (vols 1-5). The source of common names is taken in the following order:

- Single name supplied in Horticultural Flora of South Eastern Australia;
- First in list of names supplied in Horticultural Flora of South Eastern Australia, unless another name in the list is deemed more appropriate;
- Common name as per Costermans, LF 2006, *Trees of Victoria and adjoining areas*; Costermans Publishing, Victoria.
- Most widely used common name if not available in either source previously mentioned.

Common names are provided for thoroughness; the botanical name should be used when referring to the tree taxon.

Age:

Juvenile: Tree has recently been planted and is still in establishment phase. Tree currently makes little contribution to the amenity of the landscape. Trees of this age are possible candidates for relocation during development.

Semi-mature: Tree has established but has not yet developed mature habit. The tree provides some landscape contribution. Tree size would still be expected to increase considerably provided there are no significant changes to existing growing conditions.

Maturing: Tree has developed mature structural habit but has substantial potential to increase in size.

Mature: Tree has or is close to reaching full potential and expected size. Growth rate has slowed, however the tree does not exhibit any major signs of health or structural weakness due to age.

Over mature: Tree is no longer actively putting out extension growth, and is starting to show signs of decline in health due to age. Canopy may thinning and signs of die back in the canopy may be present

Height: The tree's height in metres

Width: The tree's average canopy width in meters. Variations in canopy width to that stated may be present due to canopy asymmetry.

DBH: The tree's trunk Diameter at Breast Height. Measured at 1.4m above ground level, in accordance with *AS4970 Protection of trees on development sites*, unless specified as having been measured lower. DBH may be estimated or measured, as specified in the report. In the case of multi-stemmed trees, stem diameter is either listed individually, or a measurement taken at a point lower than the point of stem divergence. In some cases, especially where trees are not considered worthy of retention or stems are too numerous the DBH may simply be listed as 'multi-stemmed'.

Health:

Good: Tree is not stressed and shows no obvious signs of pest or disease. It is free of wounding. Annual growth rate is as would be expected of a healthy specimen in the same area. There are no signs of die back and canopy is dense. Tree maybe partially suppressed by neighbouring trees.

Fair: Tree is showing signs of reduced health. It maybe drought stressed or show partial signs of pest or disease. Foliage density is less than optimal and minor die back may be present. Tree is typical of its species. Remedial works may improve tree health.

Poor: Tree exhibits signs of stress, e.g. sparse canopy and possibly stunted growth. A large number of dead branches or dieback are present. Tree is likely to be significantly affected by pests or disease. Tree often in decline. Remedial works not expected to improve long-term health.

Dead: Tree shows no signs of life and is not growing.

Note on Deciduous Species: Assessment of deciduous species can be problematic and results may vary depending on the time of year. Descriptor comments in relation to foliage density do not apply to deciduous trees assessed when dormant or entering or exiting dormancy. Time of leaf drop or bud burst and extent of bud swell may be considered in the health rating of these trees.

The ratings indicate that certain characteristics listed have, or have not, been observed. Inspections do not assess the entire tree in detail for each characteristic. The comments category should be referred to for further information.

Structure:

As a rule, the structure rating is based on identified faults in tree habit which reduce the structural integrity and may lead to partial or entire tree failure. It must be noted, however, that this is not a full hazard or failure assessment.

Good: Tree appears to have no obvious structural defects which would diminish the tree's structural integrity.

Fair: The tree has one or more obvious structural defects. e.g. dead branches or codominant stems, however the observed defects are unlikely to prevent retention of the tree. Judicious remedial intervention could remove structural defects and improve the structure rating.

Poor: Tree has at least one or more structural defects that remedial intervention cannot rectify without significantly reducing the retention value of the tree. These defects reduce the useful life expectancy of the tree.

Hazardous: The tree shows one or more structural faults that are prone to failure and present an immediate safety concern. Judicious intervention to remove structural faults and reduce safety risk would leave a tree not worthy of retention. These trees should be removed as a high priority.

Arboricultural Value:

The Arboricultural Values shown in the table below are based on the ULE of the tree which considers structure and health ratings and landscape contribution.

The arboricultural value assists in determining the positioning of structures and infrastructure outside the tree's identified TPZ.

ULE	Landscape Significance			
	High	Medium	Low	Very Low
20+ yrs.	High Arboricultural			
10-20 yrs.	Medium Arboricultural Value			
5-10 yrs.				
0-5 yrs.	Low Arboricultural Value			
0 yrs.	No Arboricultural Value			

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

- 0 yrs.: Tree should be removed due advanced decline/ dead or hazardous.
- 0-5 yrs. Tree is in decline and has poor health or structural faults which cannot be resolved by intervention. Tree is often over- mature.
- 5-10yrs. Tree of fair health or structure
- 10-20. Semi-mature or mature tree of fair health and structure
- 20+ yrs. Juvenile or semi-mature, or a long lived species of good health and structure.

TPZ (Tree Protection Zone):

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*. 12 x DBH=TPZ

Recommendation:

i.e. Further exploratory root investigation, alterations to proposed works to allow tree retention.

Comments:

Any additional comments specific to individual tree specimens.

AS4970-2009:

The recognised Australian Standard for the 'Protection of Trees on Development Sites'. It provides guidelines on tree protection and formulas for calculating Tree Protection Zones (TPZs), Structural Root Zones (SRZs) and the Diameter at Breast Height (DBH).

AS-4373-2007:

The recognised Australian Standard for the 'Pruning of Amenity Trees'. This Standard provides guidelines on tree pruning to encourage good health and structure.

Ecological Vegetation Class (EVC):

A type of native vegetation classification that is described through a combination of its floristics, life form and ecological characteristics, and through an inferred fidelity to environment attributes. Each EVC includes a collection of floristic communities (i.e. lower level in the classification that is based solely on groups in the same species) that occur across a biogeographic range, and although differing in species, have similar habitat and ecological processes operating.