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Presbyterian Ladies College  
Sports Aquatic And Fitness Centre Project  
Preliminary Arboricultural Impact Assessment

Client: Presbyterian Ladies College  
141 Burwood Hwy, Burwood  
Contact: Steve McNamara, Head of Grounds  
Inspected by: Heather Stanley, Dip. Hort (Arb)  
Report date: 21 October 2021

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## Brief

This report provides preliminary arboricultural advice regarding the proposed SAAFC development works and their impact on the adjacent trees on the school grounds.

## Relevant Drawings – Warren And Mahoney

- TP10.10 – Rev A Issued 20.10.2021

This report has been prepared with reference to the above plans. Areas of the plan have been included in this report at a reduced resolution to provide visual aid to interpretation. Please refer to the full drawings for detailed information as needed.

The trees adjacent to the proposed works are numbered and their protection zones are marked. The tree locations are shown surrounded by an inner ring showing the SRZ (Structural Root Zone) and an outer ring showing the TPZ (Tree Protection Zone). The dimensions of both zones are also shown.

## Tree Information

Please refer to the appendices of this document for the tree assessment methodologies used, aerial site views, individual tree data and full information on the descriptors used in that data.

## Trees proposed to be removed

There are 142 trees that have been inventoried in and around the location to the proposed works; a total of 7 trees in and around the proposed SAFCF area are proposed for retention. Please refer to page 4 of the Landscape Design Development document for the tree locations. These trees include indigenous, native and exotic species. Tree data on all assessed trees adjacent to the proposed works is included in Appendix C of this report.

## Tree Protection Zones

The Australian Standard AS4970-2009 'Protection of trees on development sites' states: *The tree protection zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. This is calculated as a circle with the radius from the centre of the trunk.*

An encroachment of 10% of the total TPZ area is considered a minor encroachment and permitted provided there is adjacent and continuous soil protected to permit the replacement of lost root mass and the project arborist is satisfied it will not significantly compromise the health or stability of the tree.

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## Structural Root Zones

The SRZ of a tree is defined as: the area needed for tree stability. This is calculated as a circle with the radius from the centre of the trunk.

Any encroachment into an SRZ must be demonstrated to have no negative impact on the stability of the tree.

## Trees adjacent to works without TPZ encroachments

Smaller trees adjacent to the proposed works but with no encroachment by those works into their TPZ have not been assessed at this time. It is anticipated that these trees and their root zones will be protected during works by TPZ fencing installed under the advice of the project arborist.

## Tree provenance - Whitehorse Planning Scheme Clause 52.17

Native vegetation on the campus is subject to the Whitehorse Planning Scheme Clause 52.17, that states:

*To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation a permit is required to remove, destroy or lop native vegetation, including dead native vegetation. This does not apply if the table to Clause 52.17-7 specifically states that a permit is not required.*

The table to Clause 52.17-7 Planted vegetation includes a permit exemption for:

*Planted vegetation: Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding (does not apply to vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity).*

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

The current cohort of trees on the grounds adjacent to the Burwood Highway boundary includes trees of all ages, provenance and origins. The majority of these trees have been planted after 1963. These trees were not planted or managed with public funding for the purposes of land protection or enhancing biodiversity.

Two large, mature indigenous trees are located near the proposed works: Tree # 463 (*Eucalyptus viminalis*) and Tree # 475 (*Eucalyptus camaldulensis*).

These trees are clearly identifiable in aerial images from 1963. Images from 1956 do not show Tree 475 and the canopy edge of adjacent mature trees obscures the location of Tree 463. These images do not provide sufficient evidence to confirm the provenance of Tree 463; it may have been planted after the boundary clearance or it may have established naturally from those trees and not been removed due to its small size.

As the site has been progressively cleared and replanted, some young indigenous trees have naturally established from adjacent planted mature trees and are less than 10 years in age (identified as being young or juvenile in age within Appendix D).

The 'planted vegetation' exemption applies to older, semi-mature indigenous trees that were planted after 1963. The 'regrowth' exemption applies to all young or juvenile indigenous trees, as these trees are naturally established after the subject site was cleared of any previous vegetation in 1963 and are less than 10 years old. Therefore, these trees are considered to be exempt from removal permit requirements under Clause 52.17-7.

### Tree Impact Assessments

The plans detail 6 trees to be retained that directly impacted by the proposed works. These works have been assessed for their short and long term impacts to the trees. All trees affected by landscaping will be shown in the Landscape Design Development documentation along with the proposed changes to their growing environment. These works have not been assessed in this report and no comment is made on their impact on long term tree retention and good health.

#### Tree # 378

Tree 378 is a mature, 14m tall English Oak (*Quercus robur*) in good health and showing good structure. The species is exotic, originating in Europe. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of High and Useful Life Expectancy of Long.

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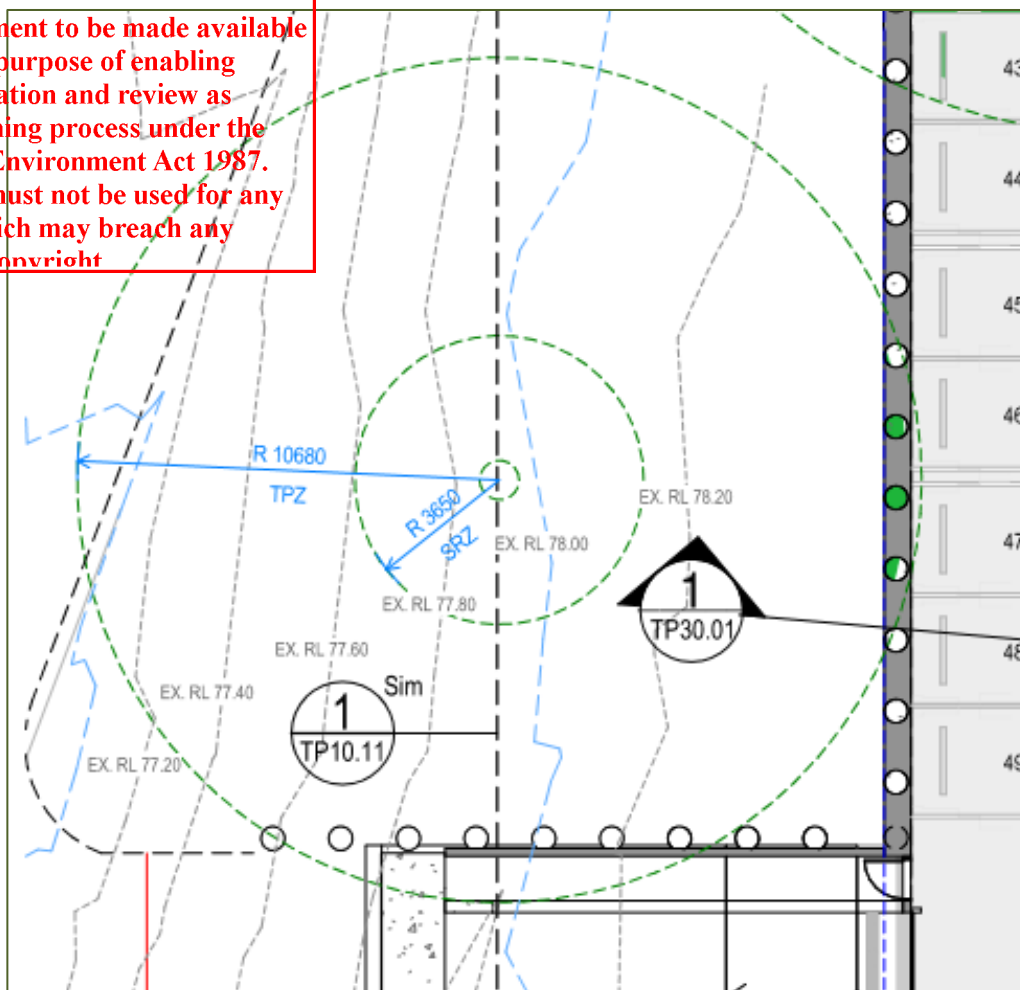


Figure 1 - Tree 378

The proposed works are below the 10% encroachment threshold, however the excavation and construction of the building are significant works. The tree must be protected from these works with TPZ fencing to exclude all access to the unaffected area of root zone by machinery and personnel.

Canopy pruning may be necessary to permit access for construction. This must be undertaken by a suitably qualified professional.

Tree Impact Assessments (cont.)

Tree # 376

Tree 376 is a mature, 13m tall English Oak (*Quercus robur*) in good health and showing good structure. The species is exotic, originating in Europe. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of High and Useful Life Expectancy of Long.

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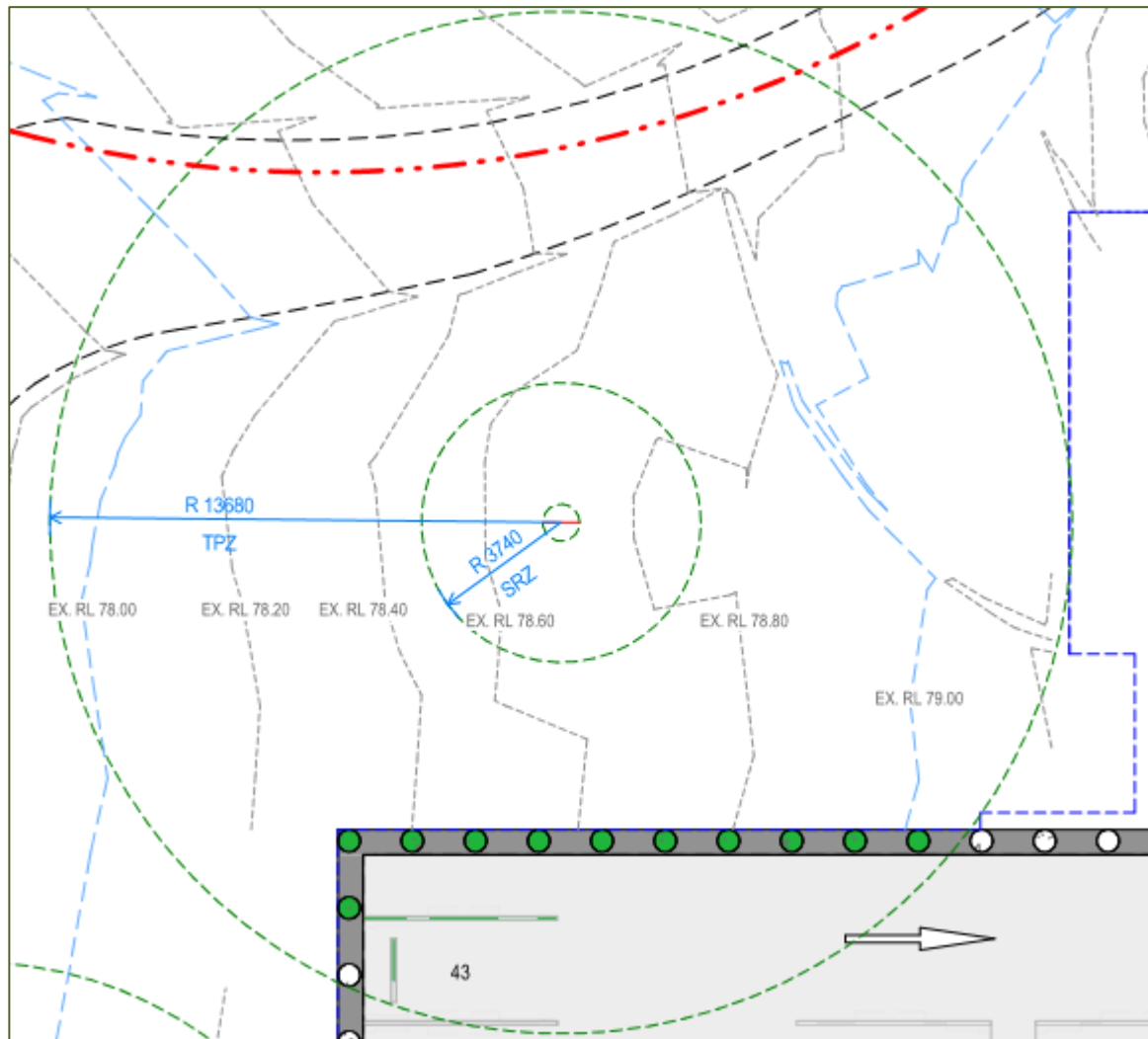


Figure 2 - Tree 376

The proposed works encroach significantly into the TPZ and the loss of root mass will have a long term negative impact on the health of the tree.

The tree must be protected from these works with TPZ fencing to exclude all access to the unaffected area of root zone by machinery and personnel. Canopy pruning may be necessary to permit access for construction. This must be undertaken by a suitably qualified professional.

Any repaving works must be above grade and using permeable materials.

Long term works to support the health of the tree will be required.

Tree Impact Assessments (cont.)

Tree # 373

Tree 373 is a mature, 13m tall English Oak (*Quercus robur*) in good health and showing good structure. The species is exotic, originating in Europe. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of High and Useful Life Expectancy of Long.

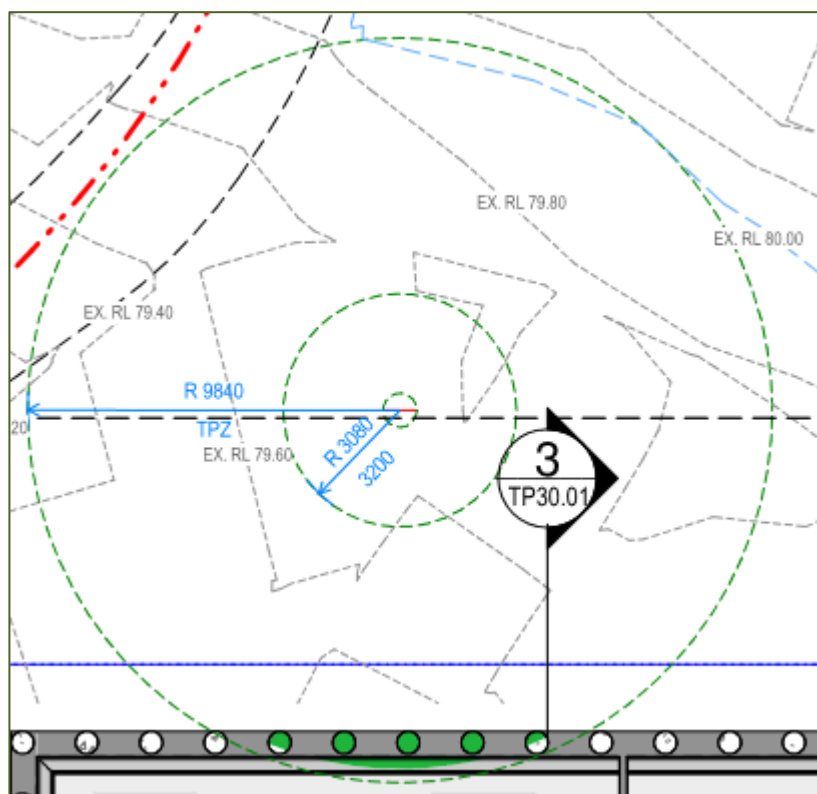


Figure 3 - Tree 373

The proposed works are below the 10% encroachment threshold, however the excavation and construction of the building are significant works. The tree must be protected from these works with TPZ fencing to exclude all access to the unaffected area of root zone by machinery and personnel.

Canopy pruning may be necessary to permit access for construction. This must be undertaken by a suitably qualified professional.

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## Tree Impact Assessments (cont.)

## Tree # 364

This tree is a mature, 15m tall Holly Oak (*Quercus ilex*) in excellent health and showing good structure. The species is exotic, originating in Europe. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of High and Useful Life Expectancy of Long.

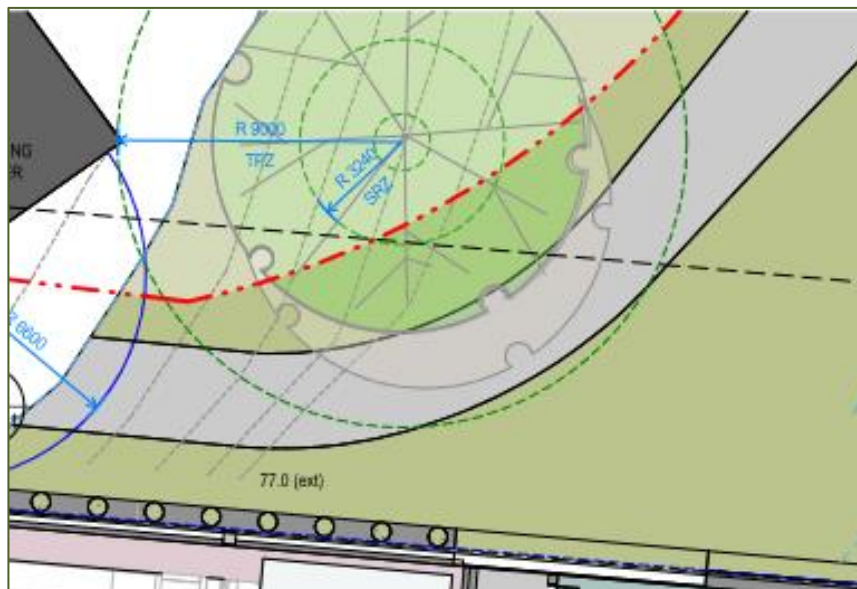


Figure 4 - Tree 364

This tree does not have an encroachment from the proposed building works. Any resurfacing or relocation of the existing vehicle access will encroach into the TPZ and must be assessed by the project arborist for suitable method and materials to protect the health and longevity of this tree.

This tree must not be pruned without consultation with the project arborist prior to any works.

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## Tree Impact Assessments (cont.)

## Tree # 494

Tree 494 is a mature, 18m tall Spotted Gum (*Corymbia maculata*) in excellent health and showing good structure. The species is native to Australia, originating in NSW. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of High.

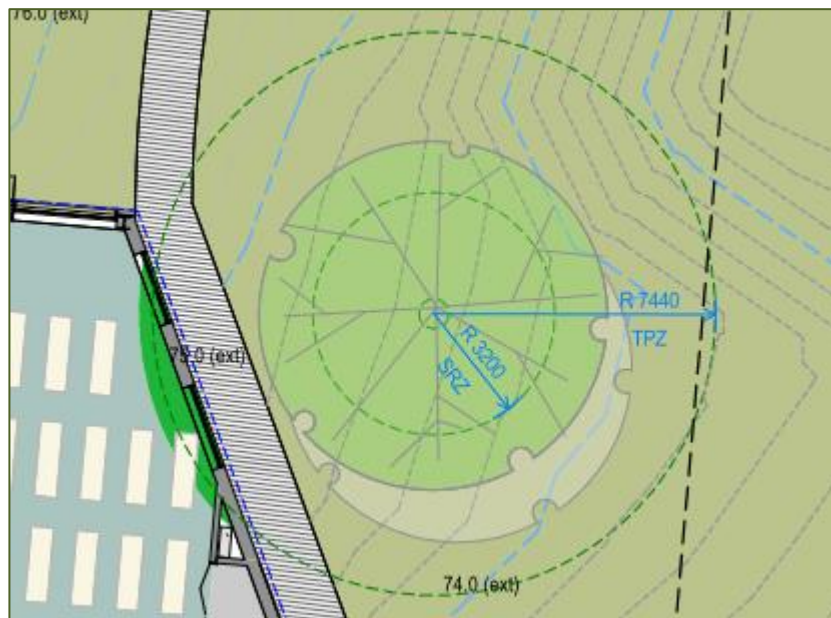


Figure 5 - Tree 494

The proposed works encroach significantly into the TPZ and the loss of root mass will have a long term negative impact on the health of the tree.

The tree must be protected from these works with TPZ fencing to exclude all access to the unaffected area of root zone by machinery and personnel. Canopy pruning may be necessary to permit access for construction. This must be undertaken by a suitably qualified professional. Any footpath or boardwalk works must be above grade and using permeable materials.

Works to support tree recovery have a reasonable expectation of success due to the age, species and type of the proposed works.

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## Tree Impact Assessments (cont.)

## Tree # 484

Tree 484 is a mature, 10m tall Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) in good health and showing average structure. The species is native to Australia. The tree has no visible habitat hollows or cavities. The tree has an assessed retention value of Moderate.

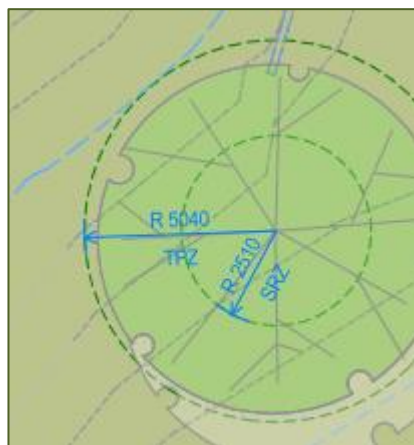


Figure 6 - Tree 484

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This tree is adjacent to the proposed works but has no TPZ encroachments and is not directly impacted by the works. The tree must be protected from these works with TPZ fencing to exclude all access to the TPZ by machinery and personnel.

### Recommendations

The extent and location of the proposed works are compatible with the long term retention of all six trees.

The damage to the soil in this area and the root mass present within it will have short term negative impacts on the health of the trees. These works must be undertaken by suitably experienced contractors to prevent any unnecessary damage to the tree roots in these areas.

Tree health support works must be undertaken during and after construction as scheduled by the project arborist.

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## Appendix A - Tree Assessments

The trees on the school grounds adjacent to the areas proposed for the SAAFC, as per supplied drawings, were assessed in August 2019 for:

- Species
- Age
- Health
- Origin
- Size (DBH, Height, Canopy radius)
- Structural condition
- TPZ and SRZ radius
- Useful Life Expectancy
- Amenity/Retention value
- Habitat value

Trees affected by works were reassessed in September 2021 and the TPZ and SRZ dimensions shown on the plans are made from the updated measurements. These will not match those shown in the tables of Appendix C as the trees have put on growth over the past two years.

### Assessment Method

All trees were measured for DBH at 1.4m above ground level using a tape. Where a tree was measured below 1.4m the standard locations as set out in Australian Standard AS4970-2009 were used. Where plans were likely to encroach into a Structural Root Zone the tree was measured for trunk diameter above the root buttressing with a tape.

Multi trunk trees were measured for DBH at 1.4m above ground level using a tape and the combined diameter calculated using the algorithm provided in AS4970-2009. Where a tree was measured below 1.4m the standard locations as set out in Australian Standard AS4970-2009 were used.

Tree heights are visual estimates and rounded down to the nearest metre.

Canopy radius measurements are visual estimates. Where the canopy is asymmetrical the radius has been adjusted to the combined average.

### Assessment Limitations

No aerial, invasive or diagnostic inspections were carried out.

No exploratory trenches were dug and no tree roots were exposed. Only the parts of the tree visible above ground level have been assessed.

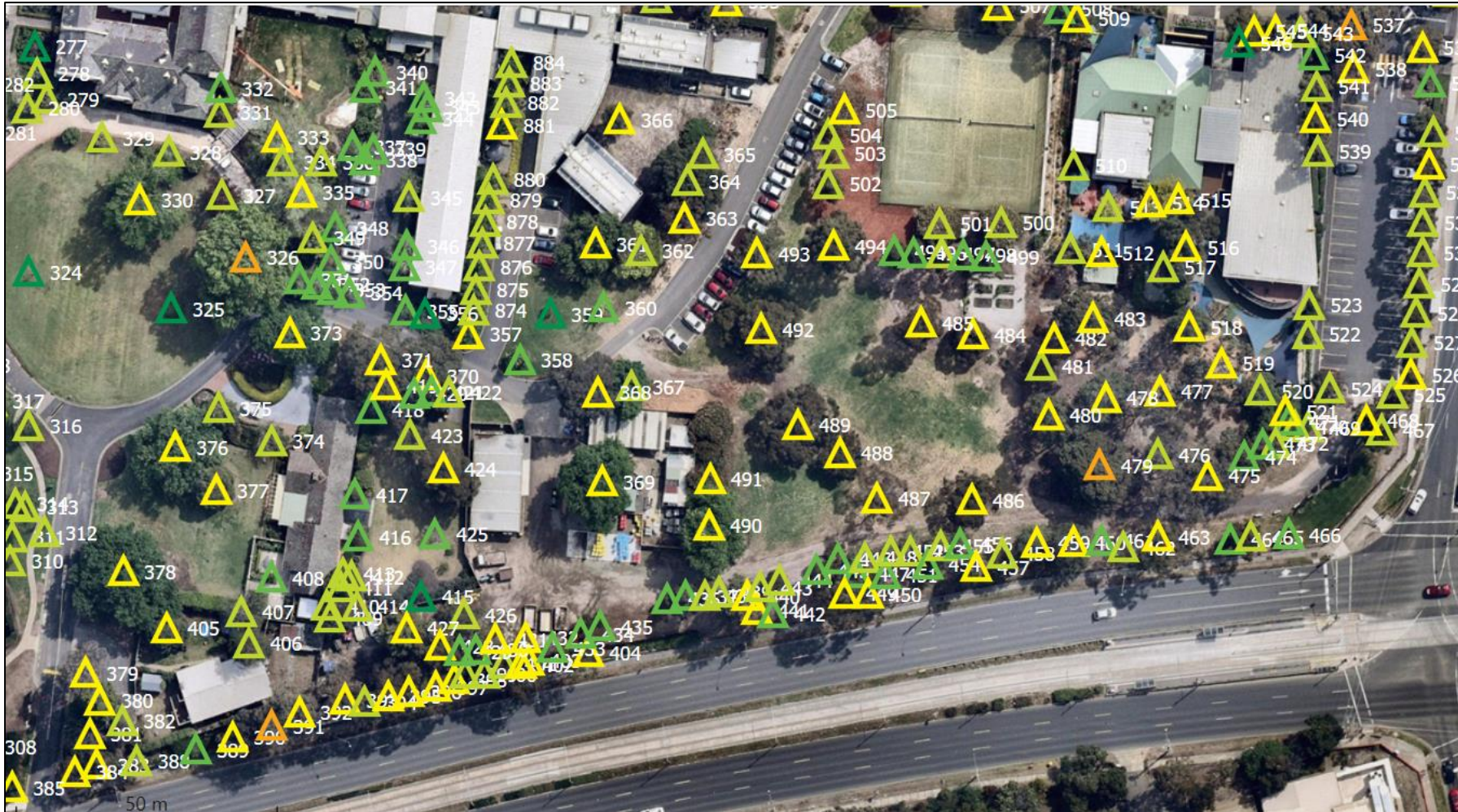
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### Appendix B - Aerial View

Images are taken from the school ArborPlan database; triangle colours do not indicate any information relevant to this project. This image cannot be used in place of a survey for the calculation of TPZs for planning purposes. Not all trees shown have been assessed.



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Appendix C Tree Data Table

Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
358	<i>Liquidambar formosana</i>	Formosan Sweet Gum	Exotic	7	2.5	13	2.00	Semi mature	Long	Good	Average	Medium	Moderate
359	<i>Araucaria bidwillii</i>	Bunya	Indigenous	2.5	1.5	6	2.00	Juvenile	Long	Excellent	Good	High	Moderate
360	<i>Liquidambar formosana</i>	Formosan Sweet Gum	Exotic	6	2.5	10	2.00	Juvenile	Long	Excellent	Good	Medium	Low
362	<i>Ulmus glabra 'Lutescens'</i>	Golden Scotch Elm	Exotic	9	5	44	5.28	Semi mature	Long	Good	Average	Medium	Moderate
363	<i>Corymbia maculata</i>	Spotted Gum	Native	18	6	46	5.52	Mature	Long	Stressed	Good	High	Moderate
364	<i>Quercus ilex</i>	Holm Oak	Exotic	15	6	70	8.40	Mature	Long	Excellent	Good	High	Moderate
367	<i>Quercus robur</i>	English Oak	Exotic	12	6	56	6.72	Mature	Long	Good	Average	High	Moderate
368	<i>Corymbia maculata</i>	Spotted Gum	Native	18	8	68	8.16	Mature	Long	Excellent	Good	High	High
369	<i>Quercus palustris</i>	Pin Oak	Exotic	19	7	71	8.52	Mature	Long	Excellent	Average	High	High
370	<i>Corymbia citriodora</i>	Lemon-scented Gum	Native	15	6.5	47	5.64	Mature	Long	Excellent	Good	High	High
371	<i>Corymbia citriodora</i>	Lemon-scented Gum	Native	16	8	50	6.00	Mature	Long	Excellent	Good	High	High
373	<i>Quercus robur</i>	English Oak	Exotic	13	6	79	9.48	Mature	Long	Good	Good	High	Moderate
374	<i>Malus cvr.</i>	Apple	Exotic	5	3	37	4.44	Mature	Long	Good	Average	Medium	Moderate
375	<i>Lagunaria patersonii</i>	Norfolk Island Hibiscus	Native	9	2	38	4.56	Mature	Long	Excellent	Good	Medium	Moderate
376	<i>Quercus robur</i>	English Oak	Exotic	13	8	109	13.08	Mature	Long	Good	Good	High	High
377	<i>Melaleuca linariifolia</i>	Snow in Summer	Native	8	3.5	65	7.80	Mature	Medium	Good	Good	Medium	Moderate
378	<i>Quercus robur</i>	English Oak	Exotic	14	10	86	10.32	Mature	Long	Good	Good	High	Moderate
379	<i>Eucalyptus baueriana</i>	Blue Box	Indigenous	13	4	49	5.88	Mature	Long	Good	Average	High	Moderate
380	<i>Cupressus torulosa</i>	Bhutan Cypress	Exotic	16	3.5	72	8.64	Mature	Long	Good	Average	Medium	Moderate
381	<i>Ulmus glabra 'Lutescens'</i>	Golden Scotch Elm	Exotic	9	3.5	53	6.36	Mature	Long	Good	Average	Medium	Moderate
382	<i>Grevillea robusta</i>	Silky Oak	Native	9	3	29	3.48	Semi mature	Long	Good	Average	Medium	Moderate
383	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	10	4	34	4.08	Mature	Long	Excellent	Average	Medium	High

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
384	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	6	3.5	51	6.12	Mature	Long	Excellent	Average	Medium	High
388	<i>Banksia integrifolia</i>	Coast Banksia	Indigenous	5	1.5	20	2.40	Mature	Long	Stressed	Good	Medium	High
389	<i>Liquidambar styraciflua</i>	Sweet Gum	Exotic	4	1	10	2.00	Semi mature	Long	Good	Good	Low	Low
390	<i>Eucalyptus polyanthemos</i>	Red Box	Indigenous	9	3	45	5.40	Mature	Medium	Good	Poor	Medium	Low
391	<i>Eucalyptus polyanthemos</i>	Red Box	Indigenous	13	3	43	5.16	Mature	Long	Stressed	Good	High	Moderate
392	<i>Eucalyptus polyanthemos</i>	Red Box	Indigenous	17	5	63	7.56	Mature	Long	Good	Good	High	Moderate
393	<i>Eucalyptus polyanthemos</i>	Red Box	Indigenous	15	5	51	6.12	Mature	Long	Good	Good	High	Moderate
394	<i>Eucalyptus polyanthemos</i>	Red Box	Indigenous	9	2.5	31	3.72	Mature	Long	Good	Good	High	Moderate
395	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	6	2	19	2.28	Mature	Long	Good	Average	Medium	Moderate
396	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	14	4	41	4.92	Mature	Long	Good	Average	High	High
397	<i>Eucalyptus melliodora</i>	Yellow Box	Indigenous	13	3.5	39	4.68	Mature	Long	Excellent	Good	High	Moderate
398	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	10	3.5	31	3.72	Mature	Long	Good	Good	High	High
399	<i>Casuarina cunninghamiana</i>	River She-oak	Native	8	1	9	2.00	Semi mature	Long	Excellent	Poor	Low	Low
400	<i>Casuarina cunninghamiana</i>	River She-oak	Native	7	0.5	8	2.00	Semi mature	Long	Excellent	Average	Low	Low
401	<i>Eucalyptus melliodora</i>	Yellow Box	Indigenous	13	2.5	32	3.84	Mature	Long	Excellent	Poor	High	Moderate
402	<i>Eucalyptus camaldulensis</i>	River Red Gum	Indigenous	13	4	34	4.08	Mature	Long	Good	Good	High	Moderate

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
403	<i>Eucalyptus camaldulensis</i>	River Red Gum	Indigenous	13	2.5	29	3.48	Mature	Long	Good	Good	Medium	Moderate
404	<i>Allocasuarina verticillata</i>	Drooping She-oak	Indigenous	12	3	37	4.44	Mature	Medium	Stressed	Average	Medium	Moderate
405	<i>Melaleuca linariifolia</i>	Snow in Summer	Native	7	8	98	11.76	Mature	Medium	Excellent	Average	Medium	Moderate
406	<i>Sequoia sempervirens</i>	Californian Redwood	Exotic	12	3	56	6.72	Semi mature	Long	Good	Good	Medium	Moderate
407	<i>Ulmus x hollandica</i>	Dutch Elm	Exotic	9	4.5	50	6.00	Mature	Long	Good	Good	Medium	Moderate
408	<i>Lagerstroemia indica</i>	Crepe Myrtle	Exotic	3	0.5	5	2.00	Semi mature	Long	Good	Good	Low	Low
409	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Native	7	2.5	25	3.00	Mature	Medium	Good	Average	Medium	Moderate
410	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Native	7	2	22	2.64	Mature	Medium	Good	Average	Medium	Moderate
411	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Native	9	2	26	3.12	Mature	Medium	Good	Average	Medium	Moderate
412	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Native	9	1.5	32	3.84	Mature	Medium	Good	Average	Medium	Moderate
413	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Native	9	1.5	21	2.52	Mature	Medium	Good	Average	Medium	Moderate
414	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	8	3	26	3.12	Mature	Short	Stressed	Average	Low	Moderate
416	<i>Callistemon viminalis</i>	Weeping Bottlebrush	Native	4	1.5	10	2.00	Mature	Long	Excellent	Good	Medium	Moderate
417	<i>Callistemon citrinus</i>	Crimson Bottlebrush	Indigenous	4	1.5	11	2.00	Mature	Long	Excellent	Good	Medium	Moderate
418	<i>Ilex aquifolium</i>	Common Holly	Exotic	5	1.5	20	2.40	Mature	Long	Excellent	Average	Medium	Low
419	<i>Melaleuca armillaris</i>	Bracelet Honey Myrtle	Indigenous	9	4.5	51	6.12	Mature	Medium	Good	Poor	Medium	Moderate
420	<i>Hakea salicifolia</i>	Willow Hakea	Indigenous	5	2	18	2.16	Mature	Medium	Excellent	Good	Medium	Moderate
421	<i>Eriobotrya japonica</i>	Loquat	Exotic	5	2	11	2.00	Semi mature	Medium	Good	Good	Medium	Moderate
422	<i>Melaleuca linariifolia</i>	Snow in Summer	Native	6	2	39	4.68	Mature	Medium	Excellent	Good	Medium	Moderate

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Arbority Value	Habitat Value
423	<i>Lophostemon confertus</i>	Queensland Box	Native	9	3.5	29	3.48	Mature	Long	Good	Good	Medium	Moderate
424	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	Native	17	6	88	10.56	Mature	Medium	Excellent	Average	High	High
425	<i>Malus cvr.</i>	Apple	Exotic	3	1.5	25	3.00	Mature	Medium	Good	Average	Medium	Moderate
426	<i>Lophostemon confertus</i>	Queensland Box	Native	6	3	26	3.12	Semi mature	Medium	Poor	Average	Low	Low
427	<i>Hesperocyparis macrocarpa</i>	Monterey Cypress	Exotic	16	5	53	6.36	Mature	Long	Good	Average	High	Moderate
428	<i>Eucalyptus melliodora</i>	Yellow Box	Indigenous	16	5	37	4.44	Mature	Long	Good	Average	High	Moderate
429	<i>Corymbia maculata</i>	Spotted Gum	Native	6	1	9	2.00	Juvenile	Short	Stressed	Poor	Low	Low
430	<i>Corymbia maculata</i>	Spotted Gum	Native	8	1.5	13	2.00	Semi mature	Long	Good	Average	Low	Low
431	<i>Eucalyptus viminalis ssp. viminalis</i>	Manna Gum	Indigenous	16	4	52	6.24	Mature	Long	Stressed	Good	Medium	Moderate
432	<i>Eucalyptus viminalis ssp. viminalis</i>	Manna Gum	Indigenous	16	3	32	3.84	Semi mature	Long	Stressed	Average	Medium	Moderate
433	<i>Eucalyptus camaldulensis</i>	River Red Gum	Indigenous	5	1.5	9	2.00	Juvenile	Long	Stressed	Average	Low	Low
434	<i>Corymbia maculata</i>	Spotted Gum	Native	7	2	17	2.04	Semi mature	Long	Excellent	Good	Medium	Moderate
435	<i>Corymbia maculata</i>	Spotted Gum	Native	7	1.5	13	2.00	Semi mature	Long	Excellent	Average	Medium	Moderate
436	<i>Corymbia maculata</i>	Spotted Gum	Native	7	1.5	14	2.00	Semi mature	Long	Excellent	Good	Medium	Moderate
437	<i>Corymbia maculata</i>	Spotted Gum	Native	10	2.5	27	3.24	Semi mature	Long	Excellent	Good	High	Moderate
438	<i>Eucalyptus mannifera ssp. mannifera</i>	Brittle Gum	Native	6	1	9	2.00	Juvenile	Short	Poor	Average	Low	Low
439	<i>Eucalyptus mannifera ssp. mannifera</i>	Brittle Gum	Native	13	3	25	3.00	Semi mature	Long	Excellent	Good	Medium	Moderate
440	<i>Casuarina glauca</i>	Swamp she-oak	Indigenous	14	4	47	5.64	Mature	Long	Excellent	Average	High	Moderate

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
441	<i>Casuarina glauca</i>	Swamp she-oak	Indigenous	16	2.5	34	4.08	Mature	Long	Excellent	Good	High	Moderate
442	<i>Casuarina glauca</i>	Swamp she-oak	Indigenous	9	2	18	2.16	Semi mature	Long	Excellent	Average	Medium	Moderate
443	<i>Eucalyptus elata</i>	River Peppermint	Indigenous	6	2	25	3.00	Senescent	Short	Poor	Poor	Low	Low
444	<i>Eucalyptus melliodora</i>	Yellow Box	Indigenous	8	2	26	3.12	Semi mature	Long	Excellent	Good	High	Moderate
445	<i>Eucalyptus mannifera ssp. mannifera</i>	Brittle Gum	Native	3	0.75	7	2.00	Juvenile	Long	Good	Average	Low	Low
446	<i>Eucalyptus melliodora</i>	Yellow Box	Indigenous	9	2	20	2.40	Semi mature	Long	Good	Good	Medium	Moderate
447	<i>Casuarina cunninghamiana</i>	River She-oak	Native	4	1.5	9	2.00	Semi mature	Long	Good	Average	Low	Low
448	<i>Casuarina cunninghamiana</i>	River She-oak	Native	10	2.5	30	3.60	Mature	Long	Good	Good	Medium	Moderate
449	<i>Eucalyptus elata</i>	River Peppermint	Indigenous	17	5	58	6.96	Mature	Long	Excellent	Good	High	Moderate
450	<i>Eucalyptus elata</i>	River Peppermint	Indigenous	10	3	39	4.68	Mature	Long	Good	Average	Medium	Moderate
451	<i>Casuarina cunninghamiana</i>	River She-oak	Native	6	2	14	2.00	Semi mature	Long	Good	Good	Medium	Low
452	<i>Casuarina cunninghamiana</i>	River She-oak	Native	10	2.5	23	2.76	Mature	Long	Good	Average	Medium	Moderate
453	<i>Casuarina cunninghamiana</i>	River She-oak	Native	11	2.5	27	3.24	Mature	Long	Good	Good	Medium	Moderate
454	<i>Casuarina cunninghamiana</i>	River She-oak	Native	7	2	15	2.00	Semi mature	Long	Good	Good	Medium	Moderate
455	<i>Casuarina cunninghamiana</i>	River She-oak	Native	11	2.5	35	4.20	Mature	Long	Good	Good	High	Moderate
456	<i>Casuarina cunninghamiana</i>	River She-oak	Native	11	2	24	2.88	Semi mature	Long	Good	Good	Medium	Moderate
457	<i>Casuarina cunninghamiana</i>	River She-oak	Native	12	2.5	35	4.20	Mature	Long	Excellent	Good	High	Moderate
458	<i>Eucalyptus leucoxylon ssp. leucoxylon</i>	Yellow Gum	Indigenous	6	2	19	2.28	Semi mature	Long	Excellent	Good	Medium	Moderate

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
459	<i>Casuarina cunninghamiana</i>	River She-oak	Native	13	2.5	44	5.28	Mature	Long	Excellent	Good	High	High
460	<i>Casuarina cunninghamiana</i>	River She-oak	Native	11	3.5	48	5.76	Mature	Long	Excellent	Good	High	Moderate
461	<i>Corymbia maculata</i>	Spotted Gum	Native	6	0.5	9	2.00	Juvenile	Long	Good	Good	Low	Low
462	<i>Eucalyptus leucoxylon ssp. leucoxylon f. rosea</i>	Red-flowered Yellow Gum	Indigenous	7	1.5	15	2.00	Semi mature	Long	Excellent	Good	Medium	Moderate
463	<i>Eucalyptus viminalis ssp. viminalis</i>	Manna Gum	Indigenous	13	5.5	78	9.36	Mature	Long	Good	Good	High	High
464	<i>Corymbia ficifolia</i>	West. Aust. Red Flowering Gum	Native	3	0.75	15	2.00	Semi mature	Long	Excellent	Average	Low	Moderate
465	<i>Eucalyptus mannifera ssp. mannifera</i>	Brittle Gum	Native	12	3.5	38	4.56	Mature	Long	Good	Good	High	Moderate
466	<i>Corymbia ficifolia</i>	West. Aust. Red Flowering Gum	Native	3.5	1	18	2.16	Semi mature	Long	Stressed	Average	Low	Low
467	<i>Corymbia maculata</i>	Spotted Gum	Native	15	3.5	36	4.32	Mature	Long	Excellent	Good	High	Moderate
468	<i>Corymbia maculata</i>	Spotted Gum	Native	13	3	28	3.36	Semi mature	Long	Excellent	Average	High	Moderate
469	<i>Corymbia citriodora</i>	Lemon-scented Gum	Native	14	3	29	3.48	Semi mature	Long	Excellent	Good	High	Moderate
470	<i>Corymbia maculata</i>	Spotted Gum	Native	15	2.5	31	3.72	Semi mature	Long	Excellent	Good	High	Moderate
471	<i>Corymbia maculata</i>	Spotted Gum	Native	10	2	17	2.04	Semi mature	Long	Excellent	Good	Medium	Moderate
472	<i>Corymbia maculata</i>	Spotted Gum	Native	13	2.5	23	2.76	Semi mature	Long	Excellent	Good	Medium	Moderate
473	<i>Corymbia maculata</i>	Spotted Gum	Native	13	2	15	2.00	Semi mature	Long	Excellent	Good	Medium	Moderate
474	<i>Corymbia maculata</i>	Spotted Gum	Native	12	2	18	2.16	Semi mature	Long	Good	Good	Medium	Moderate
475	<i>Eucalyptus camaldulensis</i>	River Red Gum	Indigenous	18	7	78	9.36	Mature	Long	Stressed	Good	High	High
476	<i>Corymbia maculata</i>	Spotted Gum	Native	12	3	25	3.00	Semi mature	Long	Good	Good	Medium	Moderate

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Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
477	<i>Corymbia citriodora</i>	Lemon-scented Gum	Native	22	6	46	5.52	Mature	Long	Stressed	Good	High	High
478	<i>Casuarina cunninghamiana</i>	River She-oak	Native	13	3	42	5.04	Mature	Long	Good	Good	Medium	Moderate
479	<i>Eucalyptus conferruminata</i>	Bushy Yate	Native	14	8	59	7.08	Mature	Medium	Stressed	Average	Medium	Moderate
480	<i>Corymbia maculata</i>	Spotted Gum	Native	17	3	41	4.92	Mature	Long	Excellent	Good	Medium	Moderate
481	<i>Casuarina cunninghamiana</i>	River She-oak	Native	14	3.5	38	4.56	Mature	Long	Excellent	Good	Medium	Moderate
482	<i>Eucalyptus leucoxylon ssp. leucoxylon f. rosea</i>	Red-flowered Yellow Gum	Indigenous	8	3	26	3.12	Mature	Medium	Stressed	Average	Medium	Moderate
483	<i>Corymbia maculata</i>	Spotted Gum	Native	26	7	69	8.28	Mature	Long	Excellent	Good	High	High
484	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	Native	10	3	36	4.32	Mature	Long	Good	Average	Medium	Moderate
485	<i>Eucalyptus mannifera ssp. mannifera</i>	Brittle Gum	Native	17	5	63	7.56	Mature	Long	Excellent	Average	High	High
486	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	9	4	43	5.16	Mature	Long	Good	Good	High	Moderate
487	<i>Eucalyptus viminalis ssp. viminalis</i>	Manna Gum	Indigenous	18	6	72	8.64	Mature	Long	Stressed	Average	Medium	Moderate
488	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	6	4	44	5.28	Mature	Long	Good	Average	Medium	Moderate
489	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	9	7	54	6.48	Mature	Long	Good	Average	High	Moderate
490	<i>Quercus palustris</i>	Pin Oak	Exotic	17	5	67	8.04	Mature	Long	Excellent	Average	High	High
491	<i>Photinia serratifolia</i>	Chinese Hawthorn	Exotic	6	2.5	15	2.00	Mature	Short	Stressed	Average	Low	Moderate
492	<i>Eucalyptus cladocalyx</i>	Sugar Gum	Native	9	7	48	5.76	Mature	Long	Good	Average	High	Moderate
493	<i>Eucalyptus pulchella</i>	White Peppermint	Native	11	6	55	6.60	Mature	Medium	Good	Good	High	Moderate
494	<i>Corymbia maculata</i>	Spotted Gum	Native	18	4.5	65	7.80	Mature	Long	Excellent	Good	High	High
495	<i>Corymbia maculata</i>	Spotted Gum	Native	13	2.5	28	3.36	Semi mature	Long	Excellent	Good	Medium	Moderate

Tag #	Species	Common Name	Origin	Height (m)	Canopy radius (m)	DBH (cm)	TPZ radius (m)	Age	ULE	Health	Structure	Amenity Value	Habitat Value
496	<i>Corymbia maculata</i>	Spotted Gum	Native	14	2.5	29	3.48	Semi mature	Long	Excellent	Good	Medium	Moderate
497	<i>Corymbia maculata</i>	Spotted Gum	Native	14	2	30	3.60	Semi mature	Long	Excellent	Good	Medium	Moderate
498	<i>Corymbia maculata</i>	Spotted Gum	Native	14	2	23	2.76	Semi mature	Long	Excellent	Good	Medium	Moderate
499	<i>Corymbia maculata</i>	Spotted Gum	Native	14	2.5	30	3.60	Semi mature	Long	Excellent	Good	Medium	Moderate
522	<i>Corymbia citriodora</i>	Lemon-scented Gum	Native	12	2	16	2.00	Semi mature	Long	Excellent	Good	Medium	Moderate
523	<i>Corymbia maculata</i>	Spotted Gum	Native	12	2	22	2.64	Semi mature	Long	Excellent	Good	Medium	Moderate
524	<i>Corymbia maculata</i>	Spotted Gum	Native	14	3	36	4.32	Mature	Long	Good	Good	High	Moderate
525	<i>Corymbia maculata</i>	Spotted Gum	Native	15	3	34	3.96	Mature	Long	Excellent	Good	High	Moderate
526	<i>Corymbia maculata</i>	Spotted Gum	Native	10	2	24	2.88	Semi mature	Long	Good	Average	Medium	Moderate
527	<i>Corymbia maculata</i>	Spotted Gum	Native	10	1.5	17	2.04	Semi mature	Long	Stressed	Good	Medium	Moderate
528	<i>Corymbia maculata</i>	Spotted Gum	Native	12	2	31	3.72	Mature	Long	Excellent	Good	High	Moderate

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## Appendix D - Local Government Planning Overlays

The school grounds are subject to both

- the Whitehorse Planning Scheme, applicable to all land within the City of Whitehorse, and
- the Significant Landscape Overlay + Schedule 9, applicable to the school grounds in particular

### Whitehorse Planning Scheme Clause 52.17

Native vegetation on the campus is subject to the Whitehorse Planning Scheme Clause 52.17 that states:

*To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation a permit is required to remove, destroy or lop native vegetation, including dead native vegetation. This does not apply if the table to Clause 52.17-7 specifically states that a permit is not required.*

### Whitehorse Planning Scheme Clause 52.17-7

The table to Clause 52.17-7 Planted vegetation includes a permit exemption for:

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

### Schedule 9 To Clause 42.03 Significant Landscape Overlay

All vegetation on the campus is subject to the SLO Schedule 9 that states:

*A permit is required to remove, destroy or lop a tree.*

*This does not apply to:*

*A tree less than 5m in height and having a single trunk circumference of 1.0 metre or less at a height of one metre above ground level*

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## Appendix E - Tree Assessment Criteria

### Age

<u>Category</u>	<u>Description</u>
Young	Juvenile or recently planted, approximately 1-7 years old
Semi Mature	Tree actively growing but not yet mature
Mature	Tree has reached expected size in situation
Senescent	Tree is in significant decline and unlikely to recover
Dead	Tree is dead

### Amenity Value

<u>Category</u>	<u>Description</u>
Low	Trees that offer little in terms of contributing to the future landscape for reasons of poor health or structural condition, species suitability in relation to unacceptable growth habit, noxious, poisonous or weed species or ULE, or a combination of these characteristics. These trees should be considered for removal.
Medium	Trees with some beneficial attributes that may benefit the site in relation to botanical, horticultural, historical or local significance but may be limited to some degree by their future growth potential at the site by maintenance requirements now or in the future. These trees should be considered for retention if possible within the development design; they may be modified to allow for construction. (E.g. pruning, etc.)
High	Trees with the potential to positively contribute to the site due to their botanical, horticultural, historical or local significance in combination with good characteristics of structure, health and future development. These trees should be retained and their long term considered for inclusion within development plans.

### Health

<u>Category</u>	<u>Description</u>
Excellent	Tree is virtually completely free from evidence of pests and disease organisms. Tree is exhibiting no signs of abiotic stress such as tip die back or loss of foliage. Growth is of typical coloration, size and quantity for that species at that location. Internode length is consistent or increasing from previous 3 increments. The tree crown appears complete and balanced.
Good	Tree is generally free of pests and diseases. Symptoms of any biotic or abiotic stress should be present over no more than 25% of the tree parts concerned. Internode length may be variable but generally consistent in length for the last 3 increments.
Stressed	Tree is presenting symptoms of stress that may be due to seasonal biotic or abiotic conditions e.g. water stress, seasonal defoliators. The symptoms may include tip die back (less than 25mm diameter), crown thinning, defoliation, leaf discoloration, reduced leaf and/or internode length (less than 75% normal average size of non-stressed specimen) up to 50% of crown is epicormic or juvenile growth. These symptoms should be present over more than 25% of the total tree parts concerned. The condition is reversible.

## Tree Assessment Criteria

### Health (cont.)

**Poor** Tree is presenting symptoms of strain (Shigo A.L. 1986); large quantities of crown die back extending from tip die back to major scaffolds. Persistent infections of pathogens, borers, fungal cankers and root disease. Irreversible condition ultimately leading to premature death. Any treatments may only be seen as temporary to achieve hazard reduction prior to removal. Dead or dying Tree is in severe decline; > 55% deadwood, very little foliage, possibly epicormic shoots, minimal extension growth.

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

### Structure

<u>Category</u>	<u>Description</u>
Good	Trunk and scaffold branches show good taper and attachment with minor or no notable structural defects. Tree is a good example of the species with a well-developed form showing no obvious root problems or pests and diseases.
Average	Tree has some structural weakness but failure of which is not a major structural component and does not present any imminent symptoms of potential failure. Tree does not appear to be significantly degraded by fungus in any structurally significant component.
Poor	Tree has structural weakness that may be due to poor growth development, fungal decay, mechanical damage or a combination of these but is not at this time presenting symptoms of imminent failure of major structural components.
Defective	Tree has pronounced structural weakness that may be due to poor growth development, fungal decay, mechanical damage or a combination of these and is presenting symptoms of instability and possible imminent failure of major structural components.

### Origin

<u>Category</u>	<u>Description</u>
Indigenous	Species indigenous to the state of Victoria, Australia
Native	Species indigenous to any single or several states of Australia
Exotic	Species originating in any country outside Australia

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## Tree Assessment Criteria

### Useful Life Expectancy – ULE

#### Long ULE

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

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

#### Medium ULE

Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

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

#### Short ULE

Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

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

#### Remove

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

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

## Tree Assessment Criteria

### Habitat Value

<u>Category</u>	<u>Description</u>
Low	Trees that are too young or small to provide roosting or hollows; a species that is invasive, toxic, benefits pests or is not a food source
Moderate	Trees that provide minor nesting sites or shelter to native wildlife, have habitat hollow/s forming, are used by birds of prey for hunting, are a non-invasive or nursery species for recovering indigenous vegetation or provide a seasonal food source
High	Trees that have well established habitat hollows or fissures, provide a large seasonal food source, have nesting sites, roosting or other shelter for native wildlife, contribute to genetic diversity or revegetation or are associated with adjacent water courses

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