

**ARBORICULTURAL REPORT
ARBORICULTURAL IMPACT ASSESSMENT
AUSTRALIAN CATHOLIC UNIVERSITY
115B VICTORIA PARADE, FITZROY**

PREPARED BY

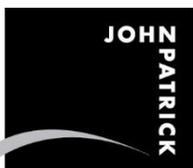
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1 INTRODUCTION

1.1 Trees within and adjacent to the Australian Catholic University, 115B Victoria Parade, Fitzroy were assessed on the 15th September, 2016. Trees within the subject site as well as trees in adjacent road reserves (Young and Napier Streets, Victoria Parade) were assessed as part of the study.

2 DISCUSSION

2.1 32 trees or tree groups were assessed as part of this study:

- 10 trees or tree groups within the subject site have been assessed of medium retention value;
- 8 trees within the subject site have been assessed of low retention value;
- 14 trees have been assessed outside the subject site.

2.2 Of the ten trees assessed within the site of medium retention value, nine are semi-mature Pin Oaks within the car park in the east of the site. These are generally developing well within a highly urbanised environment. A pair of Bangalow Palms (Tree 1) are located adjacent to the north- west corner of the car park.

TABLE 1 Trees assessed of medium retention value

No	Species	Common Name
1	<i>Archontophoenix cunninghamiana</i>	Bangalow Palm
2	<i>Quercus palustris</i>	Pin Oak
3	<i>Quercus palustris</i>	Pin Oak
4	<i>Quercus palustris</i>	Pin Oak
5	<i>Quercus palustris</i>	Pin Oak
6	<i>Quercus palustris</i>	Pin Oak
10	<i>Quercus palustris</i>	Pin Oak
11	<i>Quercus palustris</i>	Pin Oak
12	<i>Quercus palustris</i>	Pin Oak
13	<i>Quercus palustris</i>	Pin Oak

2.3 The balance of trees assessed within the site are of low retention value, Silver Birch located to the periphery of the car park. The low retention value of these trees is a reflection of their overall condition and limited existing and potential amenity value.

TABLE 2 Trees assessed of low retention value

No	Species	Common Name
7	<i>Betula pendula</i>	Silver Birch
8	<i>Betula pendula</i>	Silver Birch
9	<i>Betula pendula</i>	Silver Birch
14	<i>Betula pendula</i>	Silver Birch
15	<i>Betula pendula</i>	Silver Birch
16	<i>Betula pendula</i>	Silver Birch
17	<i>Betula pendula</i>	Silver Birch
18	<i>Betula pendula</i>	Silver Birch

2.4 Trees assessed outside the site are street trees in the Napier Street, Young Street and Victoria Parade road reserves to the east, west and south respectively. Young Street is planted with developing Golden Robinia (Trees 19-25), their overall form reflecting the limited light between tall buildings in this section of Young Street. An older Locust (Tree 26) is located in the south west of the study area within Victoria Parade.

2.5 The west side of Napier Street is planted with a pair of semi-mature Pin Oaks (Trees 27 and 28) located in a roadside bed at the intersection of Victoria Parade, with a row of established Elms (Trees 29-32) planted in roadside cut-outs to the north of the intersection. The Elms are part of a larger avenue plantation that provide a high level of amenity to the streetscape.

TABLE 3 Trees assessed outside the site

No	Species	Common Name
19	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
20	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
21	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
22	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
23	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
24	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
25	<i>Robinia pseudoacacia</i> 'Frisia'	Golden Robinia
26	<i>Robinia pseudoacacia</i>	Locust
27	<i>Quercus palustris</i>	Pin Oak
28	<i>Quercus palustris</i>	Pin Oak
29	<i>Ulmus procera</i>	English Elm
30	<i>Ulmus procera</i>	English Elm
31	<i>Ulmus procera</i>	English Elm
32	<i>Ulmus procera</i>	English Elm

3 IMPACT OF PROPOSED DEVELOPMENT

- 3.1 Development of the site is proposed, including construction of a new 13 level building over basement car park in the existing car parking area. A new vehicular access is proposed from Napier Street, with changes proposed to the road functional layout of Napier Street. The following drawings have been reviewed in the preparation of these notes:

Lyons Architects ACU Development Plan October 2016;

&

Signage and Linemarking Plan. Functional Layout Plan Option 02 CG150178-TR-DG-2502 Rev 3 11.10.2016

Australian Catholic University, Napier Street, Fitzroy. City Of Yarra

Prepared by Cardno

Site Trees

- 3.2 All trees assess within the site will require removal to facilitate development. None are considered to be of sufficiently high value to require redesign to ensure retention.

Trees Outside the Site

- 3.3 Two trees outside the site, a pair of Pin Oaks (Trees 27 and 28) at the south western end of Napier Street will require removal for the revised road functional layout.
- 3.4 The balance of trees to the west side of Napier Street outside the development area can be retained, subject to appropriate protection conforming to AS4970-2009 *Protection of Trees on Development Sites*. The only noted encroachments by works are for :
- The basement, <1% of the tree protection zone of Tree 29.
 - The basement ramp crossover, <= 3% for Tree 30, <1% for Tree 31.
- 3.5 All are minor encroachments under the provisions of AS4970-2009.
- 3.6 The road functional layout has been developed so that new kerb and channel is limited to the crossover within the tree protection zones of trees to be retained, and traffic separation within TPZs can be accomplished with line-marking and surface texturing.
- 3.7 There may be the potential to provide permeability through removal of bituminous concrete to portions of the west side of Napier Street (currently sealed to the kerb) to improve growing conditions for existing trees.

- 3.8 A full survey of all trees is included below.
- 3.9 The location of each tree is shown in 7 Appendix 1 – Tree Location Plan.

4 SITE PHOTOGRAPHS



Figure 1 From right, Trees 2, 3 and 4 in the car park.



Figure 2 Tree 1, a pair of Bangalow Palms .



Figure 3 Tree 32 in the Napier Street road reserve.



Figure 4 Golden Robinias in the Young Street road reserve.

5 RESULTS OF TREE SURVEY

Tree-1	<i>Archontophoenix cunninghamiana</i>, Bangalow Palm		
Origin: Australian native	Type: Evergreen Broadleaf	Age: Semi-mature	
DBH (cm): 16	Height: 10m	Width: 5m	TPZ: 3.5m
Crown class: Symmetrical	Health: Fair-Good	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments: Can be transplanted		
Retention Value: Medium	Reason:		
Impact of Development: Remove			
Tree-2	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 35.5	Height: 13m	Width: 6m	TPZ: 4.3m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments: Good developing specimen		
Retention Value: Medium	Reason:		
Impact of Development: Remove			
Tree-3	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 20.5	Height: 8m	Width: 5m	TPZ: 2.5m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Low	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			
Tree-4	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 23	Height: 11m	Width: 6m	TPZ: 2.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments: Slightly kinked trunk, otherwise good developing specimen		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-5	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 30	Height: 12m	Width: 6m	TPZ: 3.6m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-6	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 31.5	Height: 12m	Width: 7m	TPZ: 3.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Contorted trunk. Codominant pruned out.		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-7	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 17	Height: 6m	Width: 4m	TPZ: 2.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 10-20years
Amenity value: Low	Comments:		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-8	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 25.5	Height: 10m	Width: 6m	TPZ: 3.1m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 10-20years
Amenity value: Medium	Comments: Narrow primary union		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-9	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 18	Height: 9m	Width: 6m	TPZ: 2.2m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Poor	SULE: 0-10years
Amenity value: Low	Comments: Dead wood evident		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-10	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 23.5	Height: 9m	Width: 6m	TPZ: 2.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-11	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 22.5	Height: 8m	Width: 6m	TPZ: 2.7m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-12	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 23.5	Height: 8m	Width: 7m	TPZ: 2.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-13	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age:	
DBH (cm): 31	Height: 8m	Width: 7m	TPZ: 3.7m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: years
Amenity value: Medium	Comments:		
Retention Value: Medium	Reason:		
Impact of Development: Remove			

Tree-14	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Senescent	
DBH (cm): 0	Height: 5m	Width: 2m	TPZ: 2.0m
Crown class: Symmetrical	Health: Poor	Structure: Poor	SULE: 0years
Amenity value: Very Low	Comments: Cracks in trunk, possibly dead.		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-15	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 13.5	Height: 5m	Width: 2m	TPZ: 2.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 10-20years
Amenity value: Low	Comments:		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-16	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 19.5	Height: 7m	Width: 5m	TPZ: 2.3m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 10-20years
Amenity value: Medium	Comments:		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-17	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 15	Height: 10m	Width: 4m	TPZ: 2.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 10-20years
Amenity value: Medium	Comments:		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-18	<i>Betula pendula</i>, Silver Birch		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 20	Height: 10m	Width: 6m	TPZ: 2.4m
Crown class: Asymmetrical	Health: Dormant	Structure: Fair-Good	SULE: 10-20years
Amenity value: Medium	Comments:		
Retention Value: Low	Reason:		
Impact of Development: Remove			

Tree-19	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 20	Height: 12m	Width: 6m	TPZ: 2.4m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-20	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 17.5	Height: 12m	Width: 6m	TPZ: 2.1m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-21	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Juvenile	
DBH (cm): <15	Height: 2m	Width: 1m	TPZ: 2.0m
Crown class: Symmetrical	Health: Fair-Good	Structure: Fair-Good	SULE: 20years
Amenity value: Low	Comments: Newly planted Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-22	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): <15	Height: 2m	Width: 1m	TPZ: 2.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Low	Comments: Newly planted Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-23	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 13	Height: 12m	Width: 7m	TPZ: 2.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Low	Comments: Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-24	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 23	Height: 12m	Width: 7m	TPZ: 2.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: Medium	Comments: Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-25	<i>Robinia pseudoacacia</i> 'Frisia', Golden Robinia		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 30	Height: 12m	Width: 7m	TPZ: 3.6m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 0-10years
Amenity value: Medium	Comments: Basal trunk canker and frass. Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			
Tree-26	<i>Robinia pseudoacacia</i>, Locust		
Origin: Exotic weed	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 19.5	Height: 6m	Width: 5m	TPZ: 2.3m
Crown class: Symmetrical	Health: Fair	Structure: Fair	SULE: 10-20years
Amenity value: Medium	Comments: Fungal bodies on trunk. Street tree		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			
Tree-27	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 32	Height: 10m	Width: 9m	TPZ: 3.8m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Canyon pruned.		
Retention Value: Outside property	Reason:		
Impact of Development: Remove			
Tree-28	<i>Quercus palustris</i>, Pin Oak		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 34	Height: 13m	Width: 10m	TPZ: 4.1m
Crown class: Intermediate	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Canyon pruned and asymmetric		
Retention Value: Outside property	Reason:		
Impact of Development: Remove			
Tree-29	<i>Ulmus procera</i>, English Elm		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 34	Height: 13m	Width: 10m	TPZ: 4.1m
Crown class: Symmetrical	Health: Dormant	Structure: Fair-Good	SULE: 20years
Amenity value: High	Comments: Basal wounding.		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-30	<i>Ulmus procera</i>, English Elm		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 29	Height: 12m	Width: 6m	TPZ: 3.5m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 10-20years
Amenity value: High	Comments: Large tear-out wound east side.		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-31	<i>Ulmus procera</i>, English Elm		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 36.5	Height: 13m	Width: 7m	TPZ: 4.4m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: Medium	Comments: Lost co-dominant. Trunk wounding.		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

Tree-32	<i>Ulmus procera</i>, English Elm		
Origin: Exotic	Type: Deciduous Broadleaf	Age: Semi-mature	
DBH (cm): 33	Height: 11m	Width: 7m	TPZ: 4.0m
Crown class: Symmetrical	Health: Dormant	Structure: Fair	SULE: 20years
Amenity value: High	Comments: Some trunk wounds		
Retention Value: Outside property	Reason:		
Impact of Development: Retain			

6 DESCRIPTORS

Tree Number: Refers to location of tree as per the plan at Appendix 1.

Botanical Name: Botanical name of species, based on nomenclature and spelling used by Spencer in *Horticultural Flora of South Eastern Australia* (vols 1-5). Where *Eucalyptus spp.* are not found in this source, nomenclature is based on *Euclid: Eucalypts of Australia* (2006). 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 certain, difficult to determine, genera (e.g. *Cotoneaster* and *Ulmus*) and with cultivars which can have similar characteristics.

Where a doubt as to exact species is indicated, the common name and origin are based on the listed species, and would change if the species were found to be incorrect.

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:

1. Single name supplied in *Horticultural Flora of South Eastern Australia*;
2. First in list of names supplied in *Horticultural Flora of South Eastern Australia*, unless another name in the list is deemed more appropriate;
3. As per name supplied in *Trees of Victoria and Adjoining Areas*;
4. Then by best known common name if not available in either source.

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

Origin: **Exotic:** Tree origin is from outside the Australian mainland, Tasmania or near islands.

Australian Native: Origin is from within the Australian mainland or near islands, but outside Victoria.

Victorian Native: Origin is from within Victoria but outside the Melbourne region. This includes trees whose native range extends beyond Victoria into other states.

Melbourne: Origin is from within Melbourne, as defined by plants listed in the *Flora of Melbourne*. This includes trees also found outside Melbourne, and those only within the area at the far extent of their range.

Locally Indigenous: Tree's range includes the local area.

Weed: Trees known to show tendencies to weediness within Victoria. Based on the City of Knox weed list, Department of Primary Industries (Victoria) weed list and past experience. Trees with the addition of "(nox.*)" indicate a declared noxious weed; refer to the Department of Primary Industries website for further information.

Type:

Broadleaf: Tree is a dicotyledon flowering plant.

Conifer: Tree is a cone bearing non-flowering plant.

Palm: Tree is a monocotyledon Palm (that is *Areaceae*).

Palm Like: Tree is a monocotyledon, but is not a palm (that is not *Areaceae*).

Deciduous: Tree seasonally loses its leaves in Victoria.

Evergreen: Tree maintains its leaves throughout the year.

Semi-deciduous: Tree may or may not lose its leaves, or may only partially lose them.

Age:

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

Semi-mature: Tree is still actively growing but has reached an age and size where it is starting to make a contribution to the landscape.

The size of the tree would still be expected to increase considerably given no significant changes to the current situation.

Mature: Tree growth has slowed, and the size of the tree would not be expected to increase considerably without significant changes to the current situation (e.g. vegetation removal). Tree is not exhibiting any major signs of health or structural weakness as a result of age.

Over mature: Tree is no longer actively putting out extension growth, and is starting to show decline in health or structural stability as a result of age.

Senescent: Tree is senescing. Trees in this category may not be especially large or old, but are reaching the end of their expected life, often indicated by extreme poor health.

Height: Estimate of the tree's height in metres

DBH: The tree's trunk Diameter at Breast Height (1.4m above ground) unless specified as having been taken lower. This can be either estimated or measured as specified in the report.

Stems of multi-stemmed trees may be listed individually, or a measurement given at a lower point where the tree still has one stem. 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: The tree's health is rated as **Good**, **Fair** and **Poor** as listed below. Tree ratings of **Fair-Good** and **Fair-Poor** indicate that the tree falls between the two categories. Dead trees are not given a rating, but are listed as **Dead**.

Ratings generally meet the following descriptions:

Good: *Tree is showing no obvious signs of poor health or stress with a dense canopy that is free of dieback. Rot or pathogens are not obvious or are not considered to be a threat to the tree. Growth rates are acceptable.*

Fair: *Tree is showing signs of reduced health or stress.* This is apparent through moderate foliage density, minor dieback, moderate stress response growth, minor to moderate rot, moderate pathogen infestation, stunted growth or a combination of the above symptoms.

Poor: *Tree is showing signs of poor health and/or severe stress.* This is apparent through either low foliage density, moderate to large-scale dieback, severe stress response growth, severe rot, severe pathogen infestation, failure of wounds to heal, overall tree decline or a combination of the above symptoms.

Note on Deciduous Species: Assessment of deciduous species can be problematic and results may vary depending on the time of year of assessment. 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 whole tree in detail for each characteristic. The comments category should be referred to for further information.

Structure:

The tree's structure is rated as **Good**, **Fair** and **Poor**. Tree ratings of **Fair-Good** and **Fair-Poor** indicate that the tree falls between the two categories.

As a general rule, the structure rating is based on the tree's likelihood of failure. However, it must be noted that this is not a full hazard or failure assessment of the tree.

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

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

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

Poor: Tree has at least one structural defect that is severe and considered to have a relatively high risk of failure. If targets are present then defect(s) require treatment, or alternatively the tree should be removed. In some cases removal may be the only option for these trees. Structural defects that may contribute to a poor rating are as follows:

- Poor branch attachment (including deadwood and large epicormics);
- Bifurcated with swelling and/or included bark;
- Severe trunk lean associated with other defects such as injury in the plane of lean or root plate lift;
- Major damage to the trunk base or root system;
- Rot or other damage severely compromising the structure;
- History of shedding large branches.

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

Crown class:

Symmetrical: For the most part canopy received light from all four sides and has the potential for even foliage distribution. Canopy may or may not be symmetrical, but is not suppressed.

Asymmetrical: Canopy is shaded or suppressed with one or more sides and dominant when compared to the remainder of the tree. Also includes crowns damaged by previous shading.

Intermediate: Canopy is only receiving light from top, and while shape may be even the upper portions of the canopy dominate over the lower.

Suppressed: Canopy is completely shaded by surrounding vegetation, buildings etc.

Regrowth: Canopy comprised of regrowth. This can be from the base, but also includes branches covered with small, stress related epicormics.

Trained: Canopy has been specifically trained. This may include trees that are pollarded, coppiced or espaliered.

Trees may exhibit a combination of the characteristics above (e.g. a symmetrical canopy of basal regrowth), or may fall between two categories. The characteristic listed is considered to be the best fit at the time.

Amenity value:

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

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

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

High: Tree makes a significant contribution to the amenity value of the site, or tree makes a moderate to significant contribution to the amenity vale of the larger landscape.

The amenity value rating considers the impact the tree has on any neighbouring sites as being of equal importance to that supplied to the

subject site. However, trees that contribute to the amenity of the general area (e.g. streetscape) are given greater weight.

Comments: Any additional comments in relation to the above categories.

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

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

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

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

20: Estimated SULE of 20 years or greater.

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

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

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

Notes: **Dead:** Tree is dead and should therefore be removed.

Good condition: Tree is worthy of retention based on its condition. Trees may still have some structural or health problems, but are generally worth retaining.

Good development potential: Tree is of a small size, but is considered to have a high potential to develop well. Retention of these trees should be considered as they should develop more quickly than new plantings.

Hazardous: Tree should be removed as it is hazardous.

Heritage tree: Tree is of heritage significance. Refer to the introduction for further information on any trees of heritage significance.

High landscape contribution: Tree is worthy of retention based on its contribution to the site or landscape (associated with amenity value).

Inappropriate location: The tree is not in an appropriate location for its species, size etc. Includes trees too large for their current location.

Juvenile – simple to replace: Tree does not have a high retention value as a similarly sized replacement specimen could be obtained. Alternatively, the tree is a candidate for relocation.

Limited life expectancy: Tree is in decline, or is expected to start to decline within a relatively short time period. As a result, it is not sensible to implement extensive tree protection measures to save the tree unless there are extenuating circumstances (e.g. outside ownership).

Low Amenity Value: Tree is unsightly, or has little potential to add to site amenity (e.g. a non-canopy fruit tree).

Outside ownership: Tree is located outside the subject site, and is therefore owned by another party. The tree may be in a neighbouring private property or fall within the council managed nature strip/road reserve.

It is assumed that the owner of the tree wishes to retain it, and the trees are listed as retain for that reason. The owner should be contacted for discussions if the removal of the tree is wanted. Recommendation of retention of any of these trees is based solely on the above mentioned reason, and is no indication of the tree's general worthiness for retention.

Poor condition: Tree's poor condition makes it unworthy of retention.

Rare / unusual species: Tree is of a species, cultivar or form (trained or otherwise) which is unusual, at least in the local area, and which has some retention value (usually amenity value). Trees of this nature may also classify as a "heritage tree".

Remnant Indigenous: The tree is a remnant indigenous specimen and therefore has environmental value. Trees of this nature, in reasonable condition are usually recommended for retention.

Senescent: Tree should be removed as it is dying.

Significant tree: The tree has been declared a significant tree by the local council, and retention is likely to be a permit requirement.

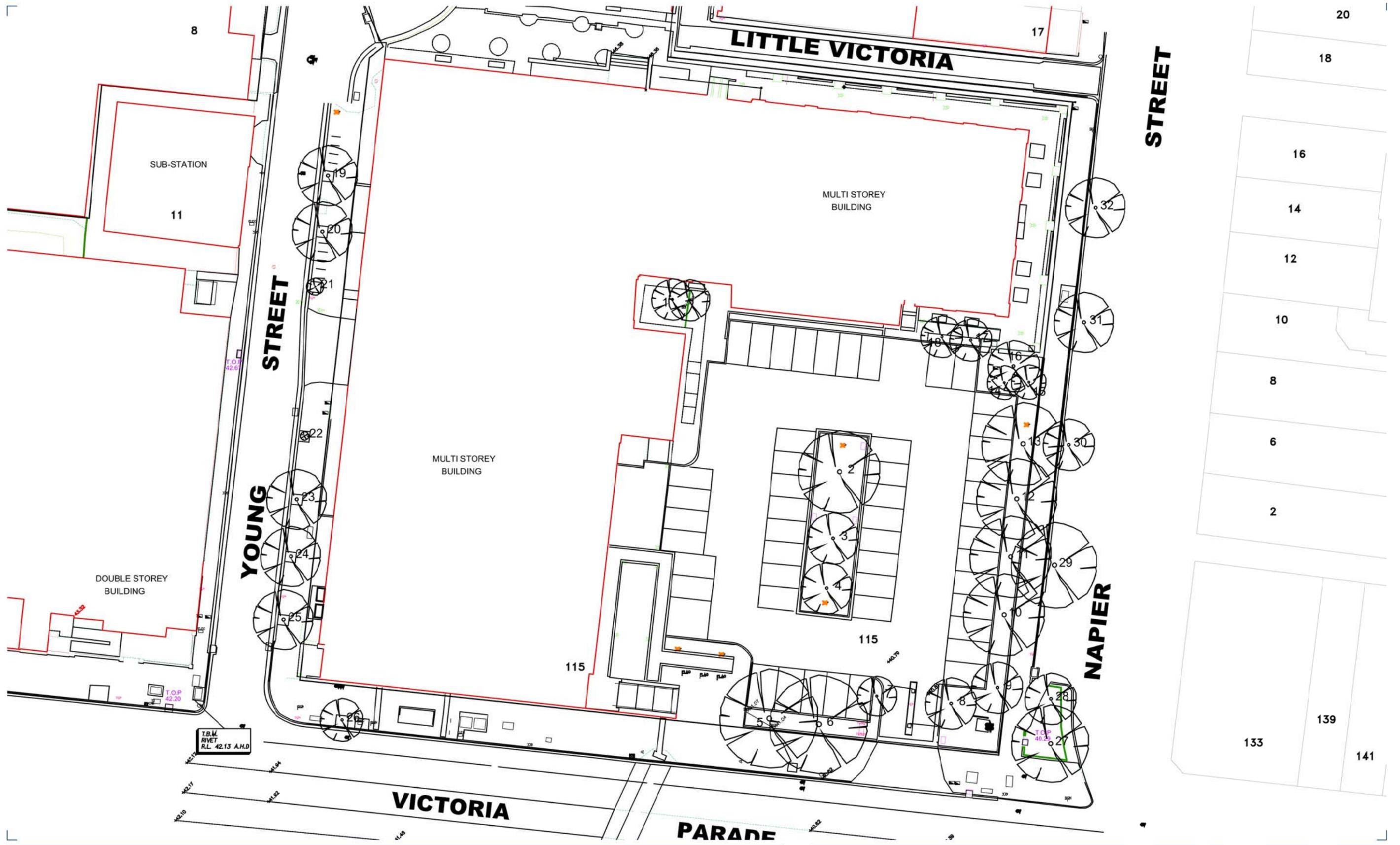
Unlikely to develop well: Tree is immature with a severe defect which will prevent its form developing as it should or tree has a severe defect, the correction of which will result in a tree shape that is unlikely to redevelop well .

Weed species: Tree should be removed due to weedy nature of the species.

TPZ: 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*.

TPZs are not listed for trees that are recommended for removal.

7 APPENDIX 1 – TREE LOCATION PLAN



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CLIENT
Avium Projects P/L

PROJECT
Tree Survey
 Australian Catholic University
 Fitzroy Campus

DRAWING
 Tree Location Plan

SCALE 1:400 @ A3
 DATE OCT 2016
 DRAWN SH
 CHECKED
 JOB NO 16-794
 DWG NO 16-794TS-01

