Eastern Creek Business Hub Stage 3
Arboricultural Impact Assessment

Frasers Property Pty Ltd

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Template 2.8.1

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Abbreviations

Abbreviation	Description
AQF	Australian Qualifications Framework
AS	Australian Standards
DBH	Diameter at Breast Height
ELA	Eco Logical Australia
m	Metre
mm	Millimetre
NDE	Non-Destructive Excavation
NO	Number
NSW	New South Wales
SP	Species
SRZ	Structural Root Zone
TPZ	Tree Protection Zone
VTA	Visual Tree Assessment

1. Introduction

1.1 Background

This Arboricultural Impact Assessment (AIA) has been prepared for Frasers Property Australia to support a State Significant Development Application (SSDA) submitted to the Department of Planning, Industry and Environment (DPIE) relating to Lot 3 of the Eastern Creek Quarter (ECQ) site at Rooty Hill Road South, Eastern Creek. The application seeks Concept Plan approval for the staged construction of a new retail outlet centre at Lot 3 with supporting food and beverage tenancies, and ancillary entertainment and recreation usages. The Concept Plan will establish the following framework to guide the future detailed design of the Lot 3 development, including:

- Land uses, including retail (factory outlet), food and drink premises, amusement centre and indoor recreation facility;
- Building footprints, including basement, with a maximum height of 12 m;
- A maximum GFA of 39,500 m^2 at Lot 3 which will be staged as follows:
    - Phase A: 29,500 m^2
    - Phase B: 10,000 m^2
- Upgrade of Church Street for vehicular access, including traffic signals at the Church Street/Rooty Hill Road South intersection;
- Modifications to the Cable Place/Rooty Hill Road South/Site Access intersection; and
- Modifications to the Francis Street/Eastern Road/Rooty Hill Road South intersection.

It is also proposed to seek consent for a series of early works including:

- Removal of up to 0.73 ha of Cumberland Plains Woodlands in the south west corner of the site;
- Bulk earthworks within Lot 3; and
- Extension of the internal access road to connect to the basement car park.

The proposed outlet centre at Lot 3 will necessitate the inclusion of conditions of consent which requires the modification of SSD 5175 (the existing Concept Plan for the broader ECQ site) to amend the overall allocation of GFA and associated uses, relevant Concept Plans and the existing Design Guidelines.

1.2 Report purpose

The purpose of this report is to:

- identify the trees within the site that are likely to be affected by the proposed works
- undertake a visual tree assessment of the subject trees
- assess the current overall health and condition of the subject trees
- evaluate the retention value of the subject trees
- identify trees to be removed, retained or transplanted
- determine the likely impacts on trees to be retained
- recommend tree protection measures to minimise adverse impacts.

1.3 The site

The 34 ha ECQ site is situated to the north of the Great Western Highway between Rooty Hill Road South and the M7 Motorway. Church Street marks the site's northern boundary. The site forms part of the Western Sydney Parklands and is located within the Blacktown Local Government Area. It is located approximately 1.5km south east of Rooty Hill Station.

The SSDA relates to Lot 3 of the ECQ site, which is the final lot proposed to be developed. It is in the northern part of the site and has an area of approximately 7.29 ha.

The address of the subject site is in Table 1 and mapped in Figure 1.

Features of the subject site are tabulated below.

Table 1: Development site

Criteria	Description
Street address	Rooty Hill Road South
Lot and DP	Lot 1 DP1267436
Local Government Area	Blacktown City Council

The description of the proposed activity in Table 2 is based on information available at the time of preparing this report. It is based on the Masterplan prepared by i2C, shown in Appendix F.

Table 2: Proposed activity

Activities that can impact trees	Description of proposed activities
Clearing vegetation	Yes
Pruning vegetation	No
Earthworks including regrading, excavation and trenching for buildings and services	Yes
Compaction • Storage of materials • Installation of structures • Stockpiling fill or materials • Parking	Yes
Refuelling and chemical use (e.g. herbicides)	Yes
Erection of scaffolding	Yes
Vehicle movements	Yes
Changes to stormwater management	Yes
Landscaping	Yes – existing trees in this area are proposed to be removed

Figure 1: Location (Ethos Urban 2020)

2. Method

2.1 Definition of a tree

A tree is defined under the Australian Standard*, AS 4970-2009, Protection of Trees on Development Sites* as a long lived woody perennial plant greater than (or usually greater than) 3 m in height with one or relatively few main stems or trunks.

Blacktown City Council defines a tree as:

"a perennial plant with a self-supporting stem which has a height of more than 3 m; or a trunk diameter of more than 200 mm or more measured 1 m above ground level" (Blacktown City Council 2020).

2.2 Visual tree assessment

The subject trees were assessed in accordance with a stage one visual tree assessment (VTA) as formulated by Mattheck and Breloer (1994) and practices consistent with modern arboriculture.

A total of **152 subject trees** were inspected on 30 October and 4 November 2020 by AQF Level 5 Consulting Arborist, Sophie Diller.

The following limitations apply to this methodology:

- Trees were inspected from ground level, without the use of any invasive or diagnostic tools and testing.
- Trees were inspected within limits of site access.
- The locations of the subject trees were tagged and recorded using hand-held GPS units. These placements have error in the accuracy of approximately 6 m.
- No aerial inspections or root mapping was undertaken.
- Tree heights, canopy spread and diameter at breast height (DBH) were estimated, unless otherwise stated.
- Tree identification was based on broad taxonomical features present and visible from ground level at the time of inspection.

2.3 Retention value

The retention value or importance of a tree or group of trees, is determined in accordance with the Institute of Australian Consulting Arborists (IACA) Significance of a Tree Assessment Rating System (STARS©), which is summarised in Appendix A. The method considers the Useful Life Expectancy (ULE) and landscape significance of a tree. Trees are provided one of the following ratings:

- **High - priority for retention**. These trees are considered important and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by Australian Standard *AS 4970–2009 Protection of trees on development sites.*
- **Medium - consider for retention**. These trees are moderately important for retention. Their removal should only be considered if adversely affected by the proposed works and all other alternatives have been considered and exhausted.

- **Low - consider for removal**. These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
- **Priority for removal.** These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

2.4 Protection zones

2.4.1 Tree protection zone (TPZ)

The TPZ is a specific area above and below ground and at a distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by the development. The TPZ (as defined by AS 4970-2009) requires restriction of access during the development process. Groups of trees with overlapping TPZs may be included within a single protection area. Tree sensitive measures must be implemented if works are to proceed within the TPZ.

2.4.2 Structural root zone (SRZ)

The SRZ is the area of the root system (as defined by AS 4970-2009) used for stability, mechanical support and anchorage of the tree. It is critical for the support and stability of trees. Severance of roots within the SRZ is not recommended as it may lead to the destabilisation and/or decline of the tree.

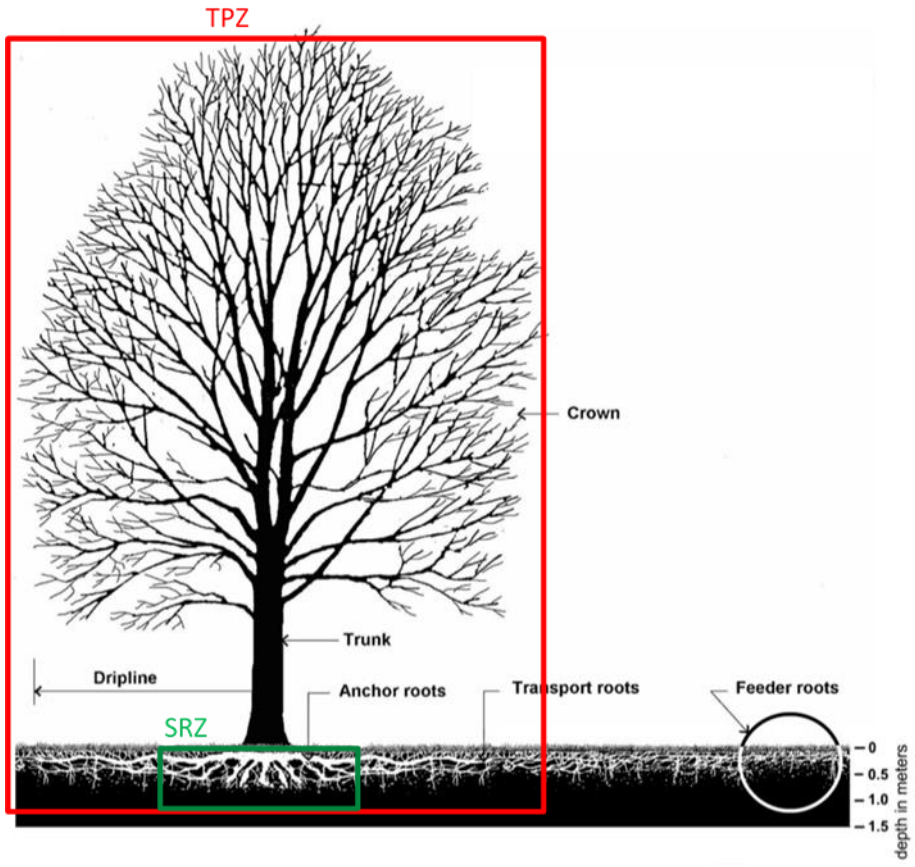

Figure 2: Representative tree structure and indicative TPZ and SRZ

2.5 Potential impacts

Trees may be impacted by physical or chemical damage to roots or above tree parts. Examples include impacts associated with site grading, soil compaction, excavation, stock piling within TPZ as well as changes in site hydrology, changes in soil level and site contamination. The extent of encroachment to the TPZ and SRZ determines the level of potential impact. AS 4970-2009 defines types of encroachment as follows and as illustrated in Appendix B:

- **Major encroachment** - If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ, the project arborist must demonstrate that the tree(s) would remain viable. The location and distribution of roots may be determined through non-destructive excavation (NDE) methods such as hydro-vacuum excavation (sucker truck), Air Spade or manual extraction. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.
- **Minor encroachment** – If the proposed encroachment is less than 10% of the TPZ, and outside of the SRZ, detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.

For the purposes of this Arboricultural Impact Assessment, impacts are defined as follows:

- **High impact:** The SRZ is directly affected or the proposed encroachment is greater than 20% of the TPZ. Trees may not remain viable if they are subject to high impact. These trees cannot be retained unless the proposal is changed.
- **Medium impact:** If the proposed encroachment is greater than 10% of the TPZ (but less than 20% of the TPZ) and outside of the SRZ, the project arborist may require detailed root investigation to demonstrate that the tree(s) would remain viable. These trees may be retained subject to further investigation and mitigation measures.
- **Low impact:** If the proposed encroachment is less than 10% (total area) of the TPZ, and outside of the SRZ, detailed root investigations should not be required. These trees can be retained.
- **No impact:** No likely or foreseeable encroachment within the TPZ. These trees can be retained.

Impacts are calculated using geographic information systems techniques.

3. Results and discussion

Most trees were *Eucalyptus moluccana* and *Eucalyptus tereticornis.* These species are the dominant trees of the Cumberland Plain Woodland Critically Endangered Ecological Community.

Results of the arboricultural assessment are summarised in Table 3. Detailed results are included in Appendices C and D. Site plans are provided in Appendix F and site photos are in Appendix G.

Table 3: Summary of tree retention values and impacts

Retention value	High Impact	Medium Impact	Low Impact	No impact	Total
Priority for retention (High)	75	-	1	1	**77**
Consider for retention (Medium)	53	-	-	3	**56**
Consider for removal (Low)	17	-	-	-	**17**
Priority for removal (Dead)	2	-	-	-	**2**
Total	**147**	**0**	**1**	**4**	**152**

3.1 High impact trees

A total of **147 trees** will be subject to more than 20% TPZ encroachment by the proposed development. These trees cannot be retained under the current proposed development. Tree retention values are as follows:

- **Priority for retention (High)**: a total of **75 high retention value trees** will be highly affected by the proposed development. These trees are considered important and should be retained and protected. Tree IDs are as follows:
  - Trees 2 – 6, 9, 11, 14, 15, 16, 19, 20, 22, 23, 28, 34, 38, 42, 44 – 48, 51.1, 52, 54, 57 – 60, 67, 69 – 82, 84 – 89, 91, 93, 96, 97, 100, 105 – 111, 115, 117, 121, 122, 132, 138, 139, 142, 143, 146, 147 and 148

- **Consider for retention (Medium)**: a total of **53 medium retention value trees** will be highly affected by the proposed development. These trees are moderately important for retention. Tree IDs are as follows:
  - Trees 7, 8, 10, 12, 13, 17, 18, 21, 24, 25, 32, 33, 39, 40, 41, 43, 49, 50, 53, 55, 61, 62, 90, 92, 94, 95, 98, 99, 101, 102, 103, 104, 112, 113, 114, 116, 118, 119, 120, 124, 126 – 131, 133, 136, 140, 141 and 145

- **Consider for removal (Low)**: a total of **17 low retention value trees** will be highly affected by the proposed development. These trees are not considered important for retention. Tree IDs are as follows:
  - Trees 1, 26 (group of 5), 27 (group of 2), 29, 30, 31, 35, 36, 56, 83, 134 and 135

- **Priority to remove (Dead)**: a total of **two dead trees** (Trees 37 and 51.2) will be highly affected by the proposed development.

Any loss of trees should be offset with replacement planting in accordance with the BDAR (ELA 2020).

3.2 Low and no impact

A total of **one high retention value tree** (Tree 66) will be subject to low impact from the proposed development. This tree can be retained.

A total of **three medium retention value trees** (Trees 64, 65 and 68) and **one high retention value tree** (Tree 63) will not be affected by the proposed development. These trees can be retained.

The tree protection plan for trees to be retained is provided in Chapter 4 and tree protection guidelines are outlined in Appendix E.

3.3 Health and structure issues

Trees that have minor or no structural or health issues were assigned a high retention value. Trees with multiple health and structural issues were assessed as having a medium retention value. Tree with major issues and short lifespan were given a low retention value. There were many younger trees considered semi mature, in good health and fair to good structure that can be expected to live a long life and are of high retention value. Further information regarding dieback, parasites and structure are outlined below.

DIEBACK

Many trees had some branch tip dieback or lower branch dieback which is an indicator of drought stress however, recovery was evident with new extension foliage on remaining branches. Some trees had not recovered from drought and show major branch dieback compromising long term tree health and structure. Refer to the notes section of Appendix D table for trees affected by dieback.

PARASITES

Some trees were infected with mistletoe, a parasitic plant that feeds off the sap of the tree. Most trees can survive well with only one of two clumps of mistletoe however, mistletoe growing throughout a tree on multiple branches compromises tree health, shortens tree life and can eventually lead to tree death. Refer to the notes section of Appendix D table for Tree IDs.

STRUCTURE

Many trees with codominant stems had stable unions whilst some trees had poor branch unions and were at risk of major branch failure. Some trees displayed trunk injuries from wire fencing or machinery damage and other had wounds from branch failures or pruning. Wounds can lead to decay and formation of cavities. A tree in good vigour with minor wounds can seal over the wounds and strengthen the wood either side of a cavity. Refer to the notes section of Appendix D table for Tree IDs.

4. Tree protection plan

- All tree pruning and removal is to be carried out by an arborist with a minimum AQF Level 3 qualification in Arboriculture.
- All tree work must be in accordance with Australian Standard *AS 4373-2007, Pruning of Amenity Trees* and the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998).
- Permission must be granted from the relevant consent authority prior to removing or pruning of any of the subject trees. Approved tree works should not be carried out before the installation of tree protection measures.
- Any additional construction activities within the TPZ of the subject trees must be assessed and approved by the project arborist and must comply with *AS 4970-2009 - Protection of trees on development sites.*

Tree protection measures are summarised in Table 4 and further information is in Appendix E.

Table 4: Summary of tree protection measures

Type	More details	Comment
Signage	Appendix E1	Prominently sign posted with 300 mm x 450 mm boards stating, “NO ACCESS - TREE PROTECTION ZONE”.
Tree protection fencing	Appendix E1	Protective cyclone chain wire link fence to be erected around the TPZ to protect and isolate retained trees from the construction works. Existing boundary fencing may be used.
Crown protection	Appendix E2	Where required, crown protection may include the installation of a physical barrier, pruning selected branches to establish clearance, or the tying/bracing of branches.
Trunk and branch protection	Appendix E3	When fencing is not practical or prior to any activities within the TPZ, trunk protection is required and consist of a layer geotextile fabric or similar followed by 1.8 m lengths of softwood timbers spaced evenly around the trunk and secured with a galvanised hoop strap.
Ground protection	Appendix E4	Install and maintain 100mm thick layer of mulch around tree in TPZ. For machine or vehicle access within TPZ geotextile fabric beneath crushed rock or rumble boards may be required.
Soil moisture		Soil moisture levels should be regularly monitored by the project arborist. Temporary irrigation or watering may be required within TPZ.
Root protection and investigation	Appendix E5	If incursions/excavation within the TPZ are unavoidable, root investigation may be needed to determine the extent and location of roots within the area of construction activity using non-destructive excavation (NDE) methods.
Underground services	Appendix E6	All underground services should be routed outside of the TPZ. If underground services need to be installed within the TPZ, they should be installed using horizontal directional drilling (HDD), non-destructive excavation (NDE) methods such as hydro-vacuum, Air Spade or manually excavated trenches.

5. Hold points, inspection and certification

An AQF Level 5 Consulting Arborist needs to be engaged to supervise work within the TPZ, provide advice regarding tree protection and monitor compliance. Once each stage is reached, the work will be inspected and certified by the project arborist and the next stage may commence. Alterations to this schedule may be required due to necessity, however, this shall be through consultation with the project arborist only.

A copy of this report must be available on-site prior to the commencement of works, and throughout the entirety of the project. Hold points have been specified in the schedule of works below to ensure trees are adequately protected during construction. It is the responsibility of the principal contractor to complete each of the tasks.

Pre-construction

Indicate clearly (with spray paint on trunks) trees marked for removal.

During construction

Monthly inspection of trees by the project arborist (or other timing as agreed with the project arborist). Notification to be given prior to the commencement of work within the TPZ, with supervision by the project arborist of any work undertaken in this zone.

Post-construction

Final inspection of trees by project arborist after all major construction has ceased and following the removal of tree protection measures.

6. References

6.1 General references

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6.2 Project specific references

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ELA 2020. *Eastern Creek Business Hub Stage 3 Biodiversity Development Assessment Report*. Prepared for Frasers Property Pty Ltd.

Ethos Urban 2020. *Figure 1 – Site location map Eastern Creek Quarter Stage 3 Standard Consultant Text.* Source: Nearmap.

i2C 2020. *Stage 3 Master Plan Eastern Creek Quarter.* Proj. 2018-217, dwg no. SK23, dated 11 December 2020.

Appendix A Tree retention assessment method

A1 Tree Significance Assessment Criteria - STARS©

The tree is to have a minimum of three criteria in a category to be classified in that group.

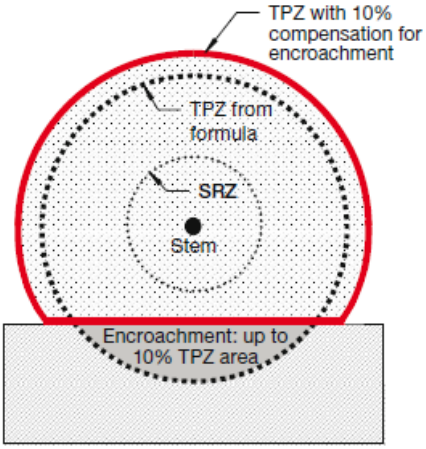
Low	Medium	High
The tree is in fair-poor condition and good or low vigour. The tree has form atypical of the species The tree is not visible or is partly visible from the surrounding properties or obstructed by other vegetation or buildings The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area The tree is a young specimen which may or may not have reached dimensions to be protected by local Tree Preservation Orders or similar protection mechanisms and can easily be replaced with a suitable specimen The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms The tree has a wound or defect that has the potential to become structurally unsound. **Environmental Pest / Noxious Weed** The tree is an environmental pest species due to its invasiveness or poisonous/allergenic properties. The tree is a declared noxious weed by legislation. **Hazardous /Irreversible Decline** The tree is structurally unsound and / or unstable and is considered potentially dangerous. The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.	The tree is in fair to good condition and good or low vigour The tree has form typical or atypical of the species The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street The tree provides a fair contribution to the visual character and amenity of the local area The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ	The tree is in good condition and good vigour The tree has a form typical for the species The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age. The tree is listed as a heritage item, threatened species or part of an endangered ecological community or listed on Council's significant tree register The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity. The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values. The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.

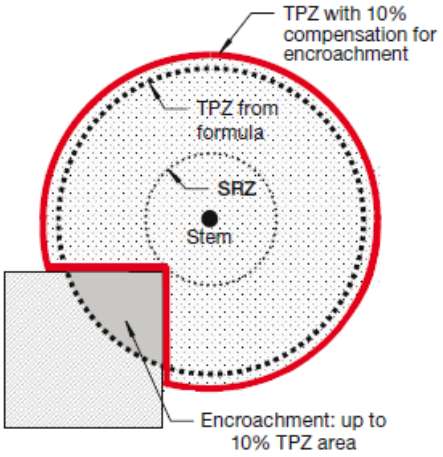
A2 Matrix assessment - STARS©

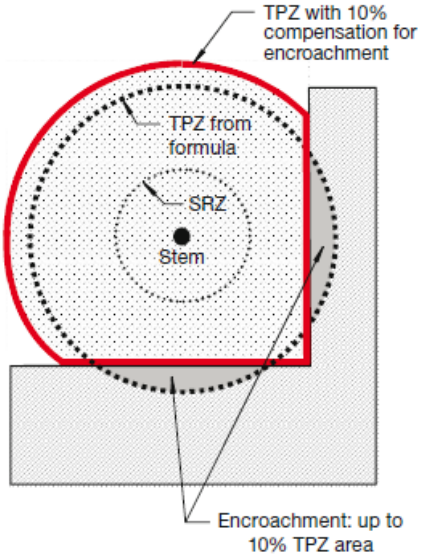
		Tree significance				
		High	Medium	Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest/Noxious Weed Species	Hazardous/ Irreversible Decline
Useful Life Expectancy	Long >40 years					
	Medium 15-40 years					
	Short <1-15 years					
	Dead					

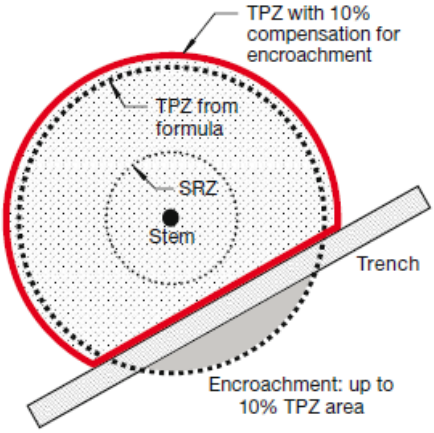
	Priority for retention (High): Tree considered important so should be retained and protected. Design modification or re-location of structure should be considered to accommodate the setbacks as prescribed by the *Australian Standard AS4970 Protection of trees on development sites*. Tree sensitive construction measures must be implemented if works are to proceed within the Tree Protection Zone.
	Consider for retention (Medium): Tree considered less important; however, retention should remain priority. Removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for removal (Low): Tree not considered important for retention, nor requiring special works or design modification to be implemented for their retention.
	Priority for removal: These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.

Appendix B Encroachment into tree protection zones - AS 4970-2009









Appendix C Maps

Figure 3: Tree locations

Figure 4: Retention values, west

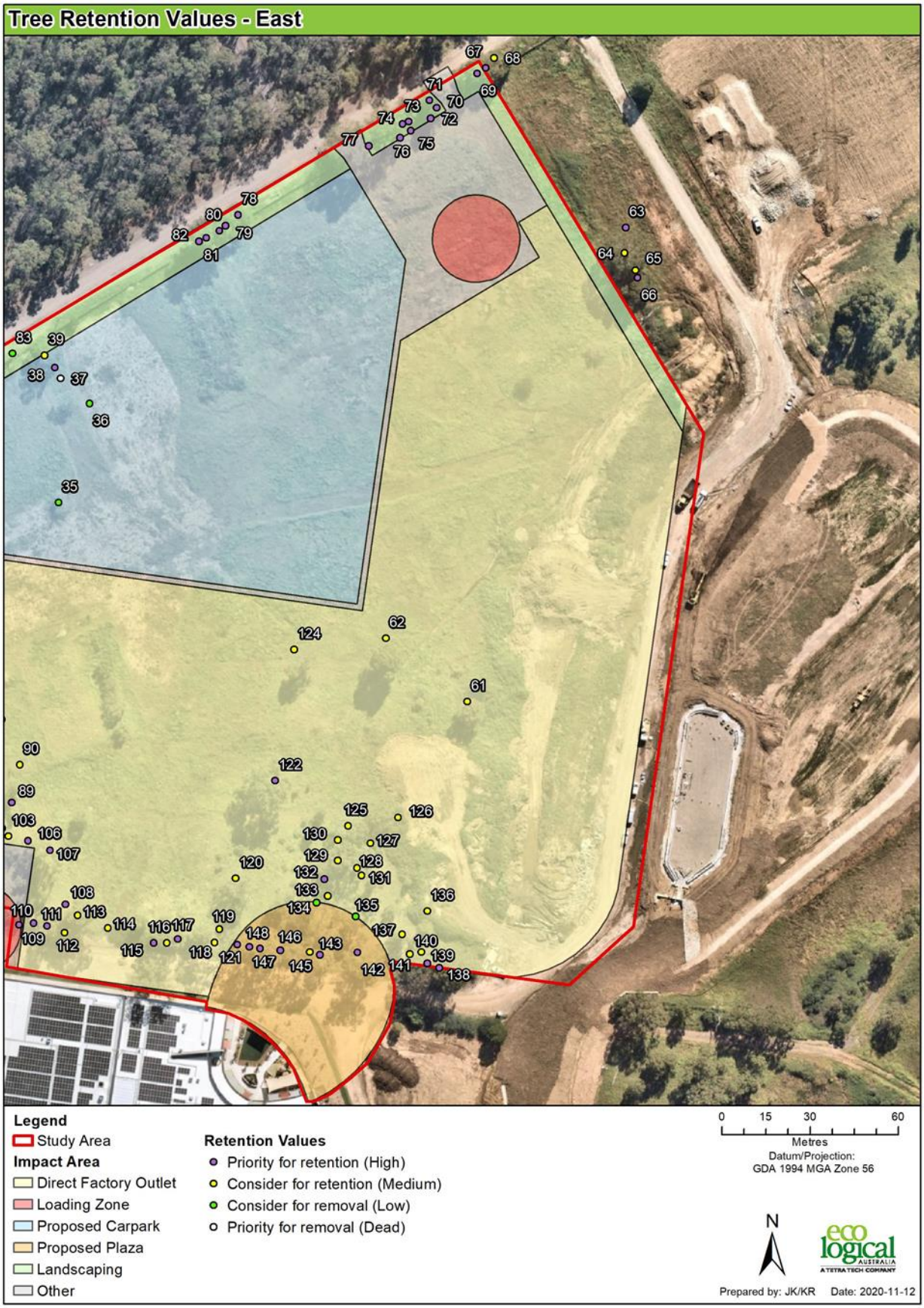


Figure 5: Retention values, east

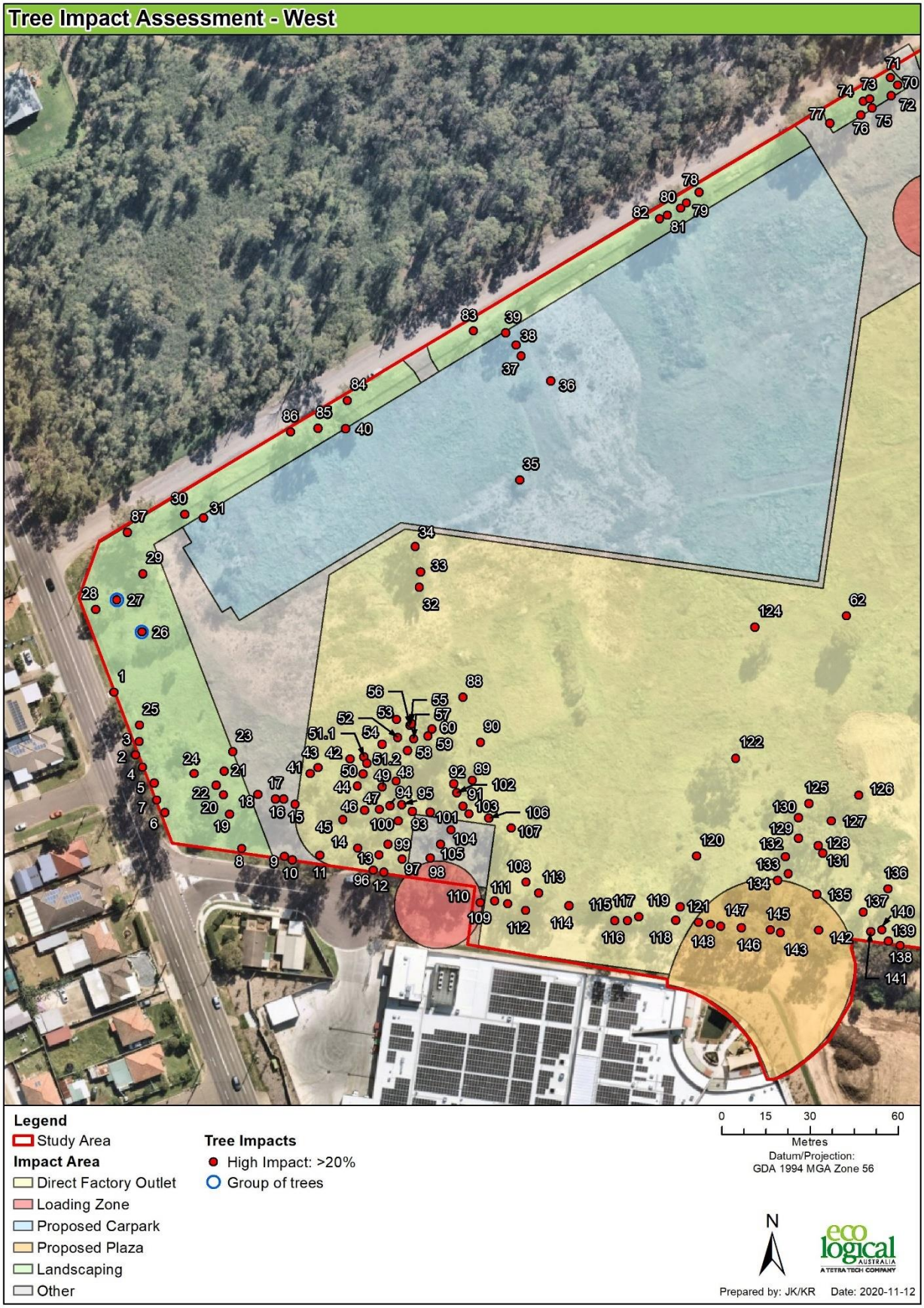


Figure 6: Arboricultural impact assessment, west

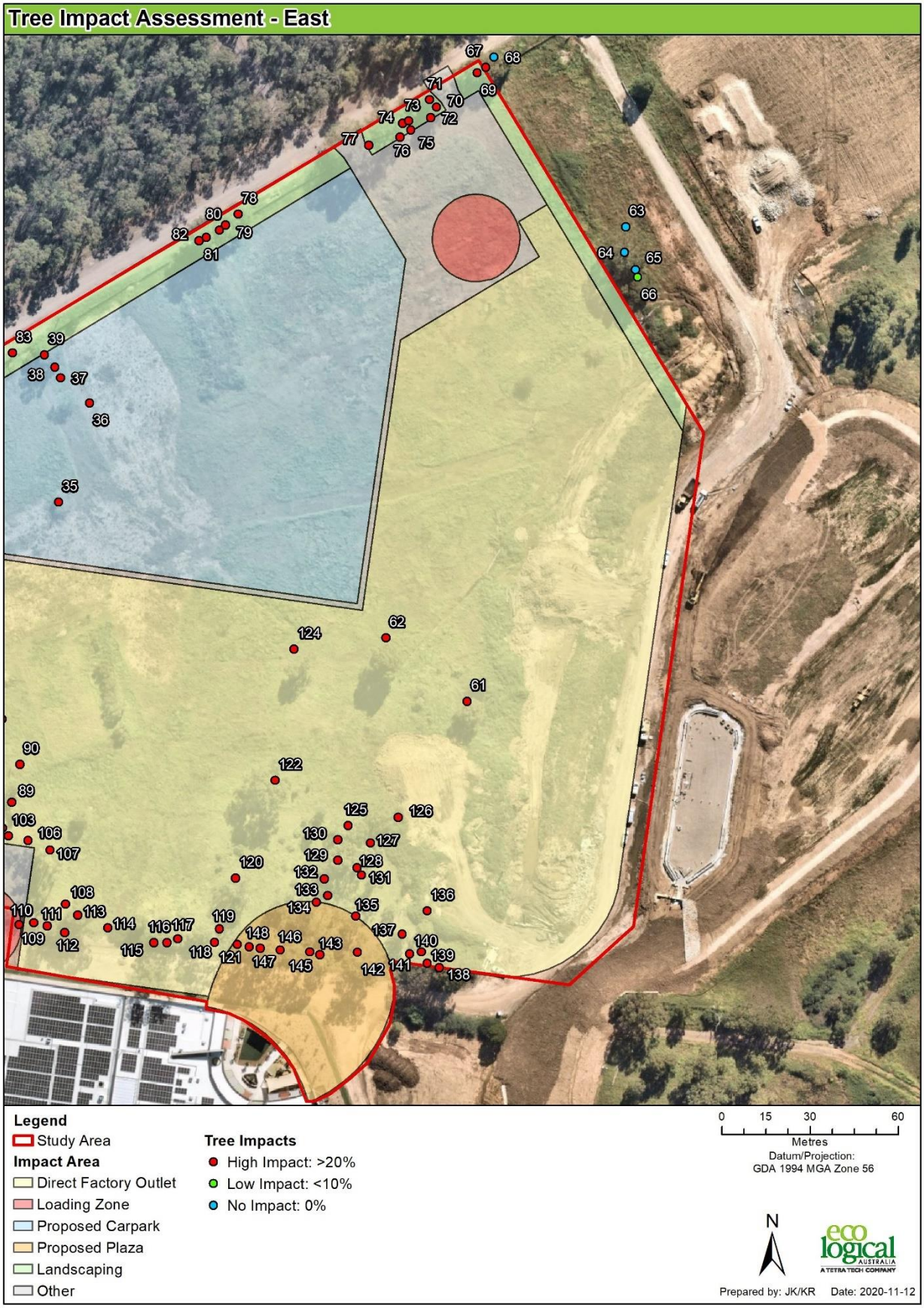


Figure 7: Arboricultural impact assessment, east

Appendix D Tabulated results of arboricultural assessment

Tree	Botanical name	Trees in group	Height (m)	Spread (m)	DBH (mm)	Health	Structure	ULE	Landscape significance	Retention value	TPZ (m)	SRZ (m)	Impact	Notes
1	*Eucalyptus moluccana*	1	14	10	650	Poor	Good	Short (5-15 years)	Medium	Consider for removal (Low)	7.8	2.8	High Impact	mistletoe throughout
2	*Eucalyptus moluccana*	1	23	10	480	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	5.8	2.4	High Impact	branch dieback, start of mistletoe
3	*Eucalyptus moluccana*	1	20	7	400	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	4.8	2.3	High Impact	dieback
4	*Eucalyptus moluccana*	1	20	10	850	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	10.2	3.1	High Impact	branch dieback
5	*Eucalyptus tereticornis*	1	20	12	680	Fair	Good	Long (>40 years)	High	Priority for retention (High)	8.2	2.8	High Impact	some branch dieback
6	*Eucalyptus moluccana*	1	19	12	900	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	10.8	3.2	High Impact	some canopy dieback, multitrunked
7	*Eucalyptus moluccana*	1	16	7	400	Fair	Good	Medium (15-40 years)	High	Consider for retention (Medium)	4.8	2.3	High Impact	epicormic throughout, major branch dieback
8	*Eucalyptus moluccana*	1	12	6	300	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.6	2.0	High Impact	mistletoe, trunk damage
9	*Eucalyptus moluccana*	1	15	6	450	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.4	2.4	High Impact	trunk damage
10	*Eucalyptus moluccana*	1	17	7	400	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.8	2.3	High Impact	soil level changed, trunk dieback
11	*Eucalyptus moluccana*	1	18	10	550	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	6.6	2.6	High Impact	trunk damage, mistletoe
12	*Eucalyptus moluccana*	1	17	8	320	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.8	2.1	High Impact	trunk damage, codominant dead
13	*Eucalyptus moluccana*	1	16	8	800	Poor	Fair	Short (5-15 years)	Medium	Consider for retention (Medium)	9.6	3.0	High Impact	major dieback, epicormic, major trunk wound
14	*Eucalyptus tereticornis*	1	22	12	1000	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	12.0	3.3	High Impact	some branch dieback, multi stem stable union
15	*Eucalyptus moluccana*	1	12	6	320	Good	Good	Long (>40 years)	High	Priority for retention (High)	3.8	2.1	High Impact	semi mature tree in good health
16	*Eucalyptus moluccana*	1	16	8	350	Good	Good	Long (>40 years)	High	Priority for retention (High)	4.2	2.1	High Impact	crowded
17	*Eucalyptus tereticornis*	1	20	10	900	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	10.8	3.2	High Impact	basal wound, madeira vine, weak branch union
18	*Eucalyptus tereticornis*	1	17	8	550	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	6.6	2.6	High Impact	codominant stem, poor union, mistletoe,
19	*Eucalyptus tereticornis*	1	19	9	480	Good	Good	Long (>40 years)	High	Priority for retention (High)	5.8	2.4	High Impact	semi mature
20	*Eucalyptus tereticornis*	1	18	6	300	Good	Good	Long (>40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	semi mature
21	*Eucalyptus tereticornis*	1	13	6	320	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.8	2.1	High Impact	basal wound, thinning canopy, crowded
22	*Eucalyptus tereticornis*	1	19	6	350	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.2	2.1	High Impact	multi trunk, semi mature
23	*Eucalyptus tereticornis*	1	11	7	300	Good	Good	Long (>40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	semi mature
24	*Eucalyptus moluccana*	1	18	7	550	Fair	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	6.6	2.6	High Impact	group of 8 trunks, some dead, live trunks measured
25	*Eucalyptus moluccana*	1	16	7	500	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	6.0	2.5	High Impact	major mistletoe, multitrunked, some trunks dead
26	*Ligustrum sinense*	5	7	10	300	Good	Fair	Medium (15-40 years)	Low	Consider for removal (Low)	3.6	2.0	High Impact	weed, hedge of 5 shrubs
27	*Quercus robur*	2	6	10	350	Fair	Fair	Medium (15-40 years)	Low	Consider for removal (Low)	4.2	2.1	High Impact	group of two, epicormic regrowth
28	*Melaleuca decora*	1	10	9	500	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	6.0	2.5	High Impact	Multi trunked
29	*Ulmus parvifolia*	1	11	10	450	Good	Good	Medium (15-40 years)	Low	Consider for removal (Low)	5.4	2.4	High Impact	weedy, self-seeded saplings nearby
30	*Ulmus parvifolia*	1	8	8	420	Fair	Fair	Medium (15-40 years)	Low	Consider for removal (Low)	5.0	2.3	High Impact	weedy, dieback and poor form
31	*Fraxinus excelsior*	1	9	7	350	Poor	Fair	Medium (15-40 years)	Low	Consider for removal (Low)	4.2	2.1	High Impact	poor form
32	*Eucalyptus moluccana*	1	10	5	320	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.8	2.1	High Impact	multitrunked, mistletoe, trunk dieback
33	*Eucalyptus moluccana*	1	14	7	450	Good	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	5.4	2.4	High Impact	multitrunked, epicormic, wound, decay

Tree	Botanical name	Trees in group	Height (m)	Spread (m)	DBH (mm)	Health	Structure	ULE	Landscape significance	Retention value	TPZ (m)	SRZ (m)	Impact	Notes
34	*Eucalyptus moluccana*	1	18	10	700	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	High Impact	occluding trunk and basal wound, good form
35	*Morus sp.*	1	7	6	350	Poor	Fair	Short (5-15 years)	Low	Consider for removal (Low)	4.2	2.1	High Impact	major dieback
36	*Jacaranda mimosifolia*	1	7	5	300	Poor	Fair	Medium (15-40 years)	Low	Consider for removal (Low)	3.6	2.0	High Impact	deciduous
37	*Eucalyptus sp.*	1	13	6	400	Poor	Poor	Remove (<5 years)	Low	Priority for removal (Dead)	4.8	2.3	High Impact	dead
38	*Eucalyptus fibrosa*	1	15	10	330	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	4.0	2.1	High Impact	
39	*Eucalyptus sp.*	1	10	5	350	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	deadwood, epicormic
40	*Eucalyptus moluccana*	1	12	7	350	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	major trunk cavity, multiple trunk wounds
41	*Eucalyptus tereticornis*	1	15	6	340	Fair	Good	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.1	2.1	High Impact	occluding trunk wound
42	*Eucalyptus tereticornis*	1	14	7	330	Good	Good	Long (>40 years)	High	Priority for retention (High)	4.0	2.1	High Impact	semi mature
43	*Eucalyptus tereticornis*	1	15	6	280	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.4	1.9	High Impact	Leaning
44	*Eucalyptus tereticornis*	1	22	9	650	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	7.8	2.8	High Impact	occluding trunk wound, dominant
45	*Eucalyptus tereticornis*	1	13	5	259	Good	Good	Long (>40 years)	High	Priority for retention (High)	3.1	1.9	High Impact	semi mature
46	*Eucalyptus tereticornis*	1	9	6	300	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	deadwood
47	*Eucalyptus tereticornis*	1	21	5	430	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	5.2	2.3	High Impact	deadwood, tall slender
48	*Eucalyptus tereticornis*	1	20	7	400	Fair	Good	Long (>40 years)	High	Priority for retention (High)	4.8	2.3	High Impact	some deadwood, good form
49	*Eucalyptus tereticornis*	1	22	4	450	Fair	Good	Medium (15-40 years)	High	Consider for retention (Medium)	5.4	2.4	High Impact	deadwood, epicormic throughout
50	*Eucalyptus tereticornis*	1	18	5	200	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	2.4	1.7	High Impact	multitrunked, deadwood, epicormic
51.1	*Eucalyptus tereticornis*	1	18	7	320	Good	Good	Long (>40 years)	High	Priority for retention (High)	3.8	2.1	High Impact	semi mature, good form
51.2	*Eucalyptus sp.*	1	18	6	450	Poor	Fair	Remove (<5 years)	Low	Priority for removal (Dead)	5.4	2.4	High Impact	dead
52	*Eucalyptus tereticornis*	1	19	6	400	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.8	2.3	High Impact	Multiple trunks
53	*Eucalyptus tereticornis*	1	20	7	450	Good	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	5.4	2.4	High Impact	multi trunk
54	*Eucalyptus tereticornis*	1	20	6	420	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.0	2.3	High Impact	Multiple trunks
55	*Eucalyptus tereticornis*	1	14	6	400	Fair	Good	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.8	2.3	High Impact	leaning, madeira vine, deadwood
56	*Eucalyptus tereticornis*	1	16	5	350	Fair	Poor	Short (5-15 years)	Medium	Consider for removal (Low)	4.2	2.1	High Impact	multitrunked, extensive dead and broken branches, epicormic throughout, madeira vine invading
57	*Eucalyptus tereticornis*	1	18	6	370	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	4.4	2.2	High Impact	madeira vine invading
58	*Eucalyptus tereticornis*	1	17	8	550	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	6.6	2.6	High Impact	multitrunked, good union, madeira vine
59	*Eucalyptus tereticornis*	1	20	7	640	Good	Good	Long (>40 years)	High	Priority for retention (High)	7.7	2.7	High Impact	dominant tree
60	*Eucalyptus tereticornis*	1	23	10	900	Good	Good	Long (>40 years)	High	Priority for retention (High)	10.8	3.2	High Impact	multitrunked, dominant tree
61	*Eucalyptus moluccana*	1	12	8	380	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.6	2.2	High Impact	mistletoe throughout, multitrunked
62	*Eucalyptus moluccana*	1	16	9	450	Fair	Fair	Medium (15-40 years)	High	Consider for retention (Medium)	5.4	2.4	High Impact	mistletoe throughout, multitrunked
63	*Eucalyptus tereticornis*	1	18	12	700	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	No Impact	good form, codominant with good union, deadwood,
64	*Eucalyptus punctata*	1	10	4	359	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.3	2.2	No Impact	supressed, multitrunked, one trunk dead
65	*Eucalyptus punctata*	1	12	7	359	Fair	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.3	2.2	No Impact	multitrunked, supressed by tree 66
66	*Melaleuca decora*	1	13	13	700	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	Low Impact	fence wire around trunk, tree 65 crowding

Tree	Botanical name	Trees in group	Height (m)	Spread (m)	DBH (mm)	Health	Structure	ULE	Landscape significance	Retention value	TPZ (m)	SRZ (m)	Impact	Notes
67	*Melaleuca decora*	1	14	10	800	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	9.6	3.0	High Impact	good form, 1m from fence
68	*Eucalyptus sp.*	1	8	6	400	Fair	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.8	2.3	No Impact	multitrunked, wire fence in trunk, dead middle trunk, supressed
69	*Eucalyptus moluccana*	1	17	8	390	Good	Good	Long (>40 years)	High	Priority for retention (High)	4.7	2.2	High Impact	good form, under wires, 3m from fence
70	*Eucalyptus moluccana*	1	18	7	500	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	6.0	2.5	High Impact	multitrunked, under wires, 3m from fence
71	*Eucalyptus moluccana*	1	12	6	350	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.2	2.1	High Impact	multitrunked, under wires, 4m from fence
72	*Eucalyptus moluccana*	1	14	6	380	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.6	2.2	High Impact	multitrunked, 70cm from fence
73	*Eucalyptus moluccana*	1	15	6	450	Fair	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.4	2.4	High Impact	multitrunked, under wires, 3m from fence
74	*Eucalyptus moluccana*	1	15	6	320	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	3.8	2.1	High Impact	under wires, crowded, 3m from fence
75	*Eucalyptus moluccana*	1	14	6	280	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	3.4	1.9	High Impact	supressed, 2m from fence
76	*Eucalyptus moluccana*	1	16	10	700	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	High Impact	good form, beehive in trunk wound, 1m from fence
77	*Eucalyptus tereticornis*	1	18	12	870	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	10.4	3.1	High Impact	good form, canopy under wires, 1m from fence,
78	*Eucalyptus tereticornis*	1	16	10	480	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.8	2.4	High Impact	multitrunked, 50cm from fence
79	*Eucalyptus moluccana*	1	18	10	650	Good	Good	Long (>40 years)	High	Priority for retention (High)	7.8	2.8	High Impact	good form, 50cm from fence
80	*Eucalyptus tereticornis*	1	14	5	320	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	3.8	2.1	High Impact	supressed
81	*Eucalyptus moluccana*	1	17	8	450	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.4	2.4	High Impact	20cm from fence
82	*Eucalyptus tereticornis*	1	20	8	630	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	7.6	2.7	High Impact	multitrunked, 1.5m from fence
83	*Eucalyptus moluccana*	1	16	7	450	Poor	Fair	Remove (<5 years)	Low	Consider for removal (Low)	5.4	2.4	High Impact	dying
84	*Eucalyptus moluccana*	1	15	8	450	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	5.4	2.4	High Impact	dieback, good form, 2m from fence
85	*Eucalyptus moluccana*	1	24	12	850	Good	Good	Long (>40 years)	High	Priority for retention (High)	10.2	3.1	High Impact	multitrunked, good union, 20cm from fence, good form,
86	*Eucalyptus moluccana*	1	15	7	380	Good	Good	Long (>40 years)	High	Priority for retention (High)	4.6	2.2	High Impact	crowded by privet, good form, 2m from fence
87	*Eucalyptus moluccana*	1	21	15	700	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	High Impact	some mistletoe, pruning wound, dominant, 3m from fence
88	*Eucalyptus tereticornis*	1	20	9	600	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	7.2	2.7	High Impact	madeira vine
89	*Eucalyptus moluccana*	1	9	5	180	Good	Good	Long (>40 years)	Medium	Priority for retention (High)	2.2	1.6	High Impact	young
90	*Eucalyptus tereticornis*	1	8	4	260	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.1	1.9	High Impact	overlapping multi branches, dieback
91	*Eucalyptus moluccana*	1	19	8	480	Good	Good	Long (>40 years)	High	Priority for retention (High)	5.8	2.4	High Impact	good form
92	*Eucalyptus moluccana*	1	19	5	400	Poor	Fair	Short (5-15 years)	Medium	Consider for retention (Medium)	4.8	2.3	High Impact	large basal cavity, epicormic throughout trunk
93	*Eucalyptus tereticornis*	1	12	6	300	Fair	Good	Long (>40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	young, lower branch dieback
94	*Eucalyptus tereticornis*	1	14	4	240	Poor	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	2.9	1.8	High Impact	branch dieback
95	*Eucalyptus tereticornis*	1	14	5	380	Fair	Good	Medium (15-40 years)	High	Consider for retention (Medium)	4.6	2.2	High Impact	lower branch dieback
96	*Eucalyptus moluccana*	1	16	5	320	Fair	Good	Long (>40 years)	High	Priority for retention (High)	3.8	2.1	High Impact	lower branch dieback
97	*Eucalyptus tereticornis*	1	23	10	650	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	7.8	2.8	High Impact	branch tip dieback, dominant
98	*Eucalyptus moluccana*	1	12	6	300	Good	Fair	Medium (15-40 years)	High	Consider for retention (Medium)	3.6	2.0	High Impact	supressed
99	*Eucalyptus tereticornis*	1	19	8	500	Fair	Fair	Medium (15-40 years)	High	Consider for retention (Medium)	6.0	2.5	High Impact	multitrunked, branch dieback
100	*Eucalyptus moluccana*	1	16	5	300	Fair	Good	Long (>40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	young, lower branch dieback, room to grow

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101	*Eucalyptus tereticornis*	1	14	5	300	Good	Fair	Medium (15-40 years)	High	Consider for retention (Medium)	3.6	2.0	High Impact	multitrunked, supressed by 99
102	*Eucalyptus tereticornis*	1	14	5	280	Good	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.4	1.9	High Impact	supressed, leaning, lower branch dieback
103	*Eucalyptus tereticornis*	1	10	7	350	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	branch dieback, canker
104	*Eucalyptus tereticornis*	1	8	5	280	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.4	1.9	High Impact	lower branch dieback, crossing branches, wound
105	*Eucalyptus moluccana*	1	22	10	500	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	6.0	2.5	High Impact	lower branch dieback, good form
106	*Eucalyptus tereticornis*	1	14	6	450	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	5.4	2.4	High Impact	semi mature
107	*Eucalyptus moluccana*	1	19	7	480	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	5.8	2.4	High Impact	dead tree hanging in branch, lower branches deadwood
108	*Eucalyptus moluccana*	1	20	14	500	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	6.0	2.5	High Impact	wire fence around trunk, slight lean
109	*Eucalyptus moluccana*	1	12	6	300	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	semi mature, good form, mistletoe,
110	*Eucalyptus moluccana*	1	16	5	350	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.2	2.1	High Impact	semi mature, crowded
111	*Eucalyptus moluccana*	1	10	6	270	Good	Fair	Medium (15-40 years)	High	Priority for retention (High)	3.2	1.9	High Impact	supressed
112	*Eucalyptus moluccana*	1	9	6	300	Good	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.6	2.0	High Impact	supressed, crowded,
113	*Eucalyptus moluccana*	1	18	7	350	Good	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	torn branch, hanger, crowded
114	*Eucalyptus moluccana*	1	13	5	250	Good	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.0	1.8	High Impact	young tree, good extension growth, pruned multi trunks
115	*Eucalyptus moluccana*	1	20	11	460	Good	Good	Long (>40 years)	High	Priority for retention (High)	5.5	2.4	High Impact	good form, good health
116	*Eucalyptus moluccana*	1	18	5	230	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	2.8	1.8	High Impact	crowded
117	*Eucalyptus moluccana*	1	20	6	300	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	3.6	2.0	High Impact	good health, narrow form
118	*Eucalyptus moluccana*	1	17	4	300	Fair	Good	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.6	2.0	High Impact	lower branch dieback, crowded
119	*Eucalyptus tereticornis*	1	19	7	550	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	6.6	2.6	High Impact	multitrunked, good union, previous failure, large occluding wound
120	*Eucalyptus tereticornis*	1	20	8	600	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	7.2	2.7	High Impact	multi trunk, wounds, thinning canopy
121	*Eucalyptus tereticornis*	1	17	6	400	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	4.8	2.3	High Impact	broken branches lower trunk
122	*Eucalyptus tereticornis*	1	20	14	800	Good	Poor	Medium (15-40 years)	High	Priority for retention (High)	9.6	3.0	High Impact	3 trunks, middle trunk poor union,
124	*Eucalyptus moluccana*	1	12	6	300	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.6	2.0	High Impact	mistletoe throughout, multi trunk
125	*Eucalyptus tereticornis*	1	20	9	400	Fair	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.8	2.3	High Impact	large trunk wound, lower branch dieback
126	*Eucalyptus tereticornis*	1	17	12	700	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	8.4	2.8	High Impact	good form, thinning canopy, multibranched
127	*Eucalyptus moluccana*	1	9	7	350	Fair	Poor	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	part trunk torn, multitrunked, deadwood
128	*Eucalyptus tereticornis*	1	15	7	430	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	5.2	2.3	High Impact	thinning canopy, multitrunked, deadwood
129	*Eucalyptus tereticornis*	1	17	9	480	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	5.8	2.4	High Impact	thinning canopy, codominant with fair union
130	*Eucalyptus tereticornis*	1	14	5	280	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	3.4	1.9	High Impact	trunk wound, deadwood, pruning cuts
131	*Eucalyptus tereticornis*	1	13	6	370	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.4	2.2	High Impact	multitrunked, fair union, thinning canopy, trunk swelling
132	*Eucalyptus tereticornis*	1	15	8	380	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	4.6	2.2	High Impact	good form, semi mature, occluding branch wound
133	*Eucalyptus tereticornis*	1	16	7	370	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.4	2.2	High Impact	trunk wounds, deadwood, lean
134	*Eucalyptus moluccana*	1	15	8	380	Poor	Poor	Remove (<5 years)	Low	Consider for removal (Low)	4.6	2.2	High Impact	dying

Tree	Botanical name	Trees in group	Height (m)	Spread (m)	DBH (mm)	Health	Structure	ULE	Landscape significance	Retention value	TPZ (m)	SRZ (m)	Impact	Notes
135	*Eucalyptus tereticornis*	1	13	6	370	Poor	Fair	Short (5-15 years)	Medium	Consider for removal (Low)	4.4	2.2	High Impact	trunk wounds, broken limb, multi trunk, mistletoe
136	*Eucalyptus moluccana*	1	17	5	350	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.2	2.1	High Impact	Multi trunked. Raise root ball
137	*Eucalyptus moluccana*	1	14	6	400	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.8	2.3	High Impact	multitrunked, deadwood, fair union
138	*Eucalyptus moluccana*	1	21	15	700	Fair	Fair	Medium (15-40 years)	High	Priority for retention (High)	8.4	2.8	High Impact	dominant tree, mistletoe throughout, fair trunk union, deadwood
139	*Eucalyptus moluccana*	1	11	4	300	Good	Fair	Long (>40 years)	Medium	Priority for retention (High)	3.6	2.0	High Impact	semi mature, partly supressed, good foliage density
140	*Eucalyptus tereticornis*	1	19	8	500	Fair	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	6.0	2.5	High Impact	trunk wound, weak branch union, poor form
141	*Eucalyptus tereticornis*	1	18	6	370	Poor	Fair	Medium (15-40 years)	Medium	Consider for retention (Medium)	4.4	2.2	High Impact	major trunk wound, deadwood, crowded
142	*Eucalyptus moluccana*	1	20	10	800	Fair	Good	Medium (15-40 years)	High	Priority for retention (High)	9.6	3.0	High Impact	mistletoe, multitrunked good union
143	*Eucalyptus tereticornis*	1	9	5	300	Good	Good	Long (>40 years)	Medium	Priority for retention (High)	3.6	2.0	High Impact	semi mature with room to grow
145	*Eucalyptus moluccana*	1	19	8	450	Fair	Good	Medium (15-40 years)	Medium	Consider for retention (Medium)	5.4	2.4	High Impact	mistletoe throughout, two trunks, deadwood
146	*Eucalyptus tereticornis*	1	19	7	380	Fair	Fair	Medium (15-40 years)	High	Priority for retention (High)	4.6	2.2	High Impact	occluding trunk wound, multitrunked good union, lower branches deadwood
147	*Eucalyptus tereticornis*	1	22	10	439	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	5.3	2.3	High Impact	deadwood lower branches
148	*Eucalyptus tereticornis*	1	24	10	490	Good	Good	Medium (15-40 years)	High	Priority for retention (High)	5.9	2.5	High Impact	Multi trunked. Raise root ball

Appendix E Tree protection guidelines

The following tree protection guidelines must be implemented during the construction period if no tree-specific recommendations are detailed.

E1 Tree protection fencing

The TPZ is a restricted area delineated by protective fencing or the use of an existing structure (such as a wall or fence).

Trees that are to be retained must have protective fencing erected around the TPZ (or as specified in the body of the report) to protect and isolate it from the construction works. Fencing must comply with the Australian Standard, AS 4687-2007, Temporary fencing and hoardings.

Tree protection fencing must be installed prior to site establishment and remain intact until completion of works. Once erected, protective fencing must not be removed or altered without the approval of the project arborist.

If the protective fencing requires temporary removal, trunk, branch and ground protection must be installed and must comply with *AS 4970-2009, Protection of Trees on Development Sites*.

Tree protection fencing shall be:

- Enclosed to the full extent of the TPZ (or as specified in the Recommendations and Tree Protection Plan).
- Cyclone chain wire link fence or similar, with lockable access gates.
- Certified and Inspected by the Project Arborist.
- Installed prior to any machinery or material are brought to site and before the commencement of works.
- Prominently sign posted with 300 mm x 450 mm boards stating, “NO ACCESS - TREE PROTECTION ZONE”.

E2 Crown protection

Tree crowns/canopy may be injured or damaged by machinery such as; excavators, drilling rigs, trucks, cranes, plant and vehicles. Where crown protection is required, it will usually be located at least one meter outside the perimeter of the crown.

Crown protection may include the installation of a physical barrier, pruning selected branches to establish clearance, or the tying/bracing of branches.

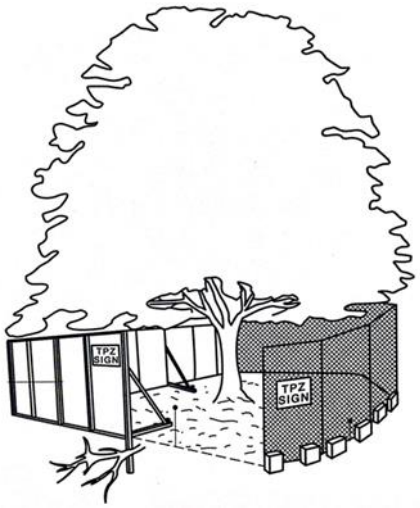
E3 Trunk protection

Where provision of tree protection fencing is impractical or must be temporarily removed, trunk protection shall be installed for the nominated trees to avoid accidental mechanical damage.

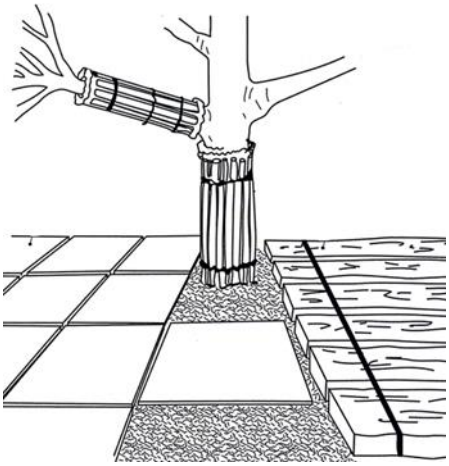
The removal of bark or branches allows the potential ingress of micro-organisms which may cause decay. Furthermore, the removal of bark restricts the trees' ability to distribute water, mineral ions (solutes), and glucose.

Trunk protection shall consist of a layer of either carpet underfelt, geotextile fabric or similar wrapped around the trunk, followed by 1.8 m lengths of softwood timbers aligned vertically and spaced evenly around the trunk (with an approx. 50 mm gap between the timbers).

The timbers must be secured using galvanised hoop strap (aluminium strapping). The timbers shall be wrapped around the trunk but not fixed to the tree, as this will cause injury/damage to the tree.



Tree protection fencing



Trunk protection fencing

E4 Ground protection

Tree roots are essential for the uptake/absorption of water, oxygen and mineral ions (solutes). It is essential to prevent the disturbance of the soil beneath the dripline and within the TPZ of trees that are to be retained. Soil compaction within the TPZ will adversely affect the ability of roots to function correctly.

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Maintain a thick layer of mulch around all retained trees to a depth of 100 mm using coarse pine bark or wood chip material that complies with AS 4454. Where the existing landscape within the TPZ is to remain unaltered (e.g. garden beds or turf) mulch may not be required.

For heavy vehicle access within TPZ, ground protection may include a permeable membrane such as geotextile fabric beneath a layer of crushed rock or rumble boards.

If the grade is to be raised within the TPZ, the material should be coarser or more porous than the underlying material.

E5 Root protection and investigation

If incursions/excavation within the TPZ are unavoidable, root investigation may be needed to determine the extent and location of roots within the area of construction activity. The location and distribution of roots are found through non-destructive excavation (NDE) methods such as hydro-vacuum excavation (sucker truck), air spade and manual excavation. Root investigation does not guarantee the retention of the tree.

If the project arborist identifies conflicting roots that requiring pruning, they must be pruned with a sharp implement such as; secateurs, pruners, handsaws or a chainsaw back to undamaged tissue. The final cut must be a clean cut.

E6 Underground services

All underground services should be routed outside of the TPZ. If underground services need to be installed within the TPZ, they should be installed using horizontal directional drilling (HDD), non-destructive excavation (NDE) methods such as hydro-vacuum, Air Spade or manually excavated trenches. The horizontal drilling/boring must be at minimum depth of 600 mm below grade. Trenching for services is to be regarded as “excavation”. The project arborist should assess the likely impacts of boring and bore pits on retained trees.

Appendix F Masterplan (i2C 2020)

Appendix G Site photos

Figure 8: Tree 2

Figure 9: Tree 5

Figure 10: Tree 6, major dieback

Figure 11: Tree 8, major mistletoe

Figure 12: Tree 9, minor trunk damage

Figure 13: Tree 11, minor trunk damage

Figure 14: Tree 10, major trunk dieback

Figure 15: Tree 13, poor health

Figure 16: Tree 14

Figure 17: Tree 17, minor trunk damage

Figure 18: Tree 18, poor stem union

Figure 19: Tree 19, good health and structure

Figure 20: Tree 21

Figure 21: Tree 22, multiple trunk

Figure 22: Tree 24, multiple trunks

Figure 23: Tree 25, major mistletoe and multiple trunks

Figure 24: Tree 28, *Melaleuca decora*

Figure 25: Tree 26, Privet

Figure 26: Tree 29

Figure 27: Tree 34

Figure 28: Tree 30

Figure 29: Tree 34, good form

Figure 30: Tree 35, dying

Figure 31: Tree 40, major basal cavity

Figure 32: Tree 44

Figure 33: Tree 58 and 57

Figure 34: Tree 60

Figure 35: Tree 66 and 63

Figure 36: Tree 67 and 69

Figure 37: Tree 70 to 76

Figure 38: Tree 77

Figure 39: Tree 78 to 82

Figure 40: Tree 85

Figure 41: Tree 87

Figure 42: Tree 91

Figure 43: Tree 106

Figure 44: Tree 107

Figure 45: Tree 108

Figure 46: Tree 108, wire on trunk

Figure 47: Tree 113

Figure 48: Trees 115, 116 and 117

Figure 49: Tree 119, large failure

Figure 50: Tree 122

Figure 51: Tree 138

Figure 52: Tree 148

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