Arboricultural Impact Assessment

Curl Curl North Public School

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1 Contents

2 Summary

This Arboricultural Impact Assessment (AIA) is based on two hundred and seventy five (275) trees located at the Curl Curl North Public School (subject site). The tree population of the site consists almost entirely of planted Australian natives. Some of these are native to the locality.

The proposed works include demolition of some of the existing buildings and removal the demountable classrooms to make room for construction of new multi-purpose school buildings, classrooms, sports field, sports courts and landscaped play areas.

The Retention Values of the subject trees were rated as outlined in the following Table. Refer to the Tree Location Plan (Section 3.4) and the Tree Protection Plan (Attachment C) for tree locations.

Table A: Retention Values of the Subject Trees.

	High Retention Value (Tree Number)	**Medium Retention Value (Tree Number)**	**Low Retention Value (Tree Number)**
To be Retained	1, 2, 64, 65, 66, 68, 69, 58, 61, 70, 82, 86, 87, 88, 103, 104, 106, 107, 109, 114, 116, 120, 122, 126, 127, 156-161, 172, 173, 182, 185, 195, 204, 206, 209, 211, 214, 218, 219, 226, 227, 229, 230, 231, 233, 234, 235, 237-242	3-18, 23, 24, 27, 28, 29, 40, 41, 46-50, 52, 53, 55, 56, 61, 63, 63-67, 71-75, 72, 77, 79, 80, 81, 84, 85, 89, 80, 91, 95-100, 102, 105, 108, 111, 112, 113, 115, 117, 118, 119, 121, 123, 124, 125, 128, 129, 130, 155, 162-170, 174, 181, 186-189, 191-194, 196-203, 208, 210, 212, 213, 217, 221, 222, 223, 228, 236, 243-254, 256-276	22, 42, 57, 76, 78, 83, 101, 110, 207, 216, 220, 224, 232, 255
To be Removed	51, 132, 154	30, 31, 32, 35-39, 43, 44, 45, 54, 59, 92-94, 133-153, 144-147, 151, 152, 175, 176, 179, 180, 181, 181A, 184	19, 20, 21, 25, 26, 33, 34, 60, 131, 171, 177, 178, 183, 190, 205

Sixty one (61) trees are proposed to be removed to facilitate this project. These are made up of three (3) High Retention Value trees, forty three (43) Medium Retention Value trees, and fifteen (15) Low Retention Value trees. There were no practical or reasonable design options that could have been used to allow retention of these trees. Considering size of the entire tree population and the scale and importance of the project, this level of tree removal is considered to be acceptable.

There are works proposed within the Tree Protection Zones (TPZ) of all of the retained trees within the site. Recommendations have been made regarding tree protection measures and tree sensitive construction methods to limit the impact on retained trees.

3 Introduction

3.1 Background

This Arboricultural Impact Assessment (AIA) was prepared for TKD Architects on behalf of the Department of Education in relation to the existing trees and proposed new building and landscape construction at Curl Curl North Public School (subject site).

The purpose of this AIA is to assess the likely impacts of the proposed works on the existing site trees and make recommendations regarding construction methods and tree protection measures to limit adverse impacts on trees recommended for retention.

A Preliminary Tree Assessment Report was prepared for this project in April 2017. The purpose of this was to provide the design team with information about the tree population to facilitate a responsive and tree sensitive design.

This AIA has been prepared in accordance with the Australian Standard 4970-2009, *Protection of trees on development sites.*

3.2 Subject Site/Subject Trees

The subject site is currently used as the Curl Curl North Public School. The entire school grounds have been assessed as the subject site for this project.

The tree population within the school consists almost entirely of planted Australian natives. Some of these are native to the locality.

None of the trees within the school form part of an endangered ecological community, or are protected under the Commonwealth Environmental and Biodiversity Conservation Act 1999 or NSW Threatened Species Conservation Act 1995.

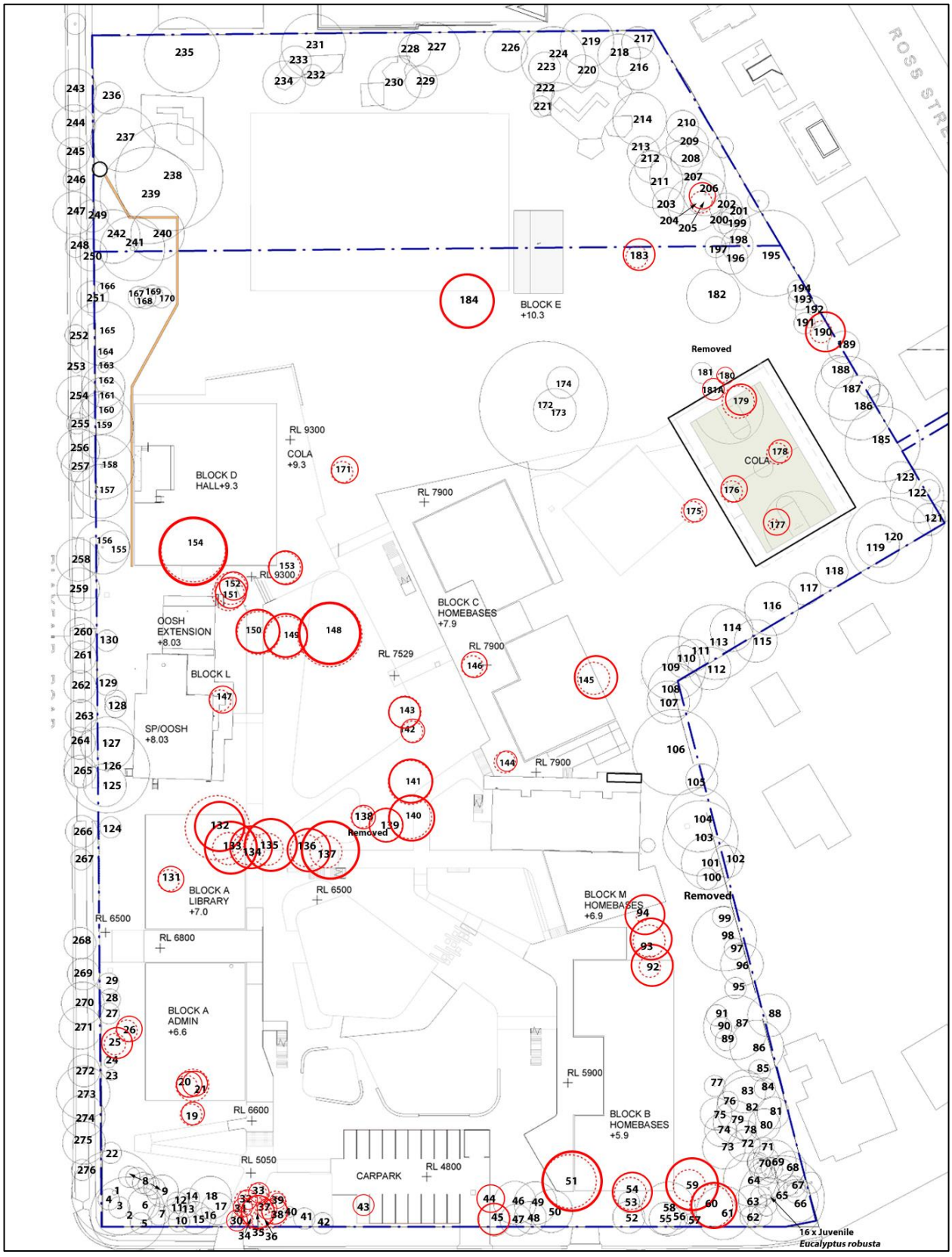
Sixty (60) of the site trees were assessed as having a High Retention Value. One hundred and eighty seven (187) of the site trees were assessed as having a Medium Retention Value. Twenty nine (29) of the site trees were assessed as having a Low Retention Value.

Refer to the Tree Location Plan (following page) for tree locations and numbers. A detailed description of the subject trees is included in the Tree Assessment Table (Attachment A).

3.3 Proposed Works

It is proposed to demolish some of the existing buildings and remove the demountable classrooms to make room for construction of new multi-purpose school buildings, classrooms, sports field, sports courts and landscaped play areas. Stormwater drainage works, services installation and contaminated soil remediation works are also proposed.

3.4 **Tree Location Plan**



4 Methodology

4.1 Site Inspection

Site inspection and tree assessment was undertaken by Alexis Anderson on the 18th of April, 2017. The trees were assessed from ground level using a Tree Assessment Table, which is included as Attachment A. The definitions and explanations of terms used are outlined in the Tree Table Definitions page which is included at Attachment B.

The tree assessment was undertaken for the purpose of pre-development planning. Detailed tree risk assessment was not requested or included in the scope of works. Any recommendations from previous Tree Risk Assessment reports should be implemented independently of this report.

4.2 Plans and Diagrams

The Architectural Plans for the DA phase of the project (Revision P3) prepared by TKD Architects were reviewed as part of the assessment. The Landscape Schematic Design prepared by Context was also reviewed.

The Remedial Action Plan prepared by EIS (dates April 2018) was reviewed.

The Stormwater Management Plans prepared by Woolacotts (SW1 and SW2) were reviewed.

No Engineering Detail were available for review at the time of assessment.

All tree protection diagrams were hand drawn by Bluegum Tree Care and Consultancy.

4.3 Tree Protection Zones

Tree assessments in accordance with the Australian Standard 4970-2009, *Protection of trees on development sites*, require calculation of a Tree Protection Zone (TPZ) and Structural Root Zone (SRZ). The following is a brief explanation of these terms:

Tree Protection Zone -TPZ: This is the area that should be isolated from construction disturbance so that the tree remains viable. Some disturbance within the TPZ may be possible following arboricultural assessment.

Structural Root Zone -SRZ: This is the area or undisturbed soil and roots required to maintain tree stability. Excavation within the SRZ can lead to whole tree failure.

Refer to the Tree Assessment Table (Attachment A) for the Tree Protection Zones of the assessed trees.

4.4 Retention Values

Retention values are derived from a combination of Estimated Life Expectancy rating and Landscape and Environmental Significance ratings.

- **HIGH Retention Value**: These trees are worthy of retention and design consideration should be made where possible to allow their retention.
- **MEDIUM Retention Value**: These trees are worthy of retention and minor design consideration should be made to retain these trees wherever possible (e.g. placement of ancillary structures, garden retaining walls, driveway levels).

- **LOW Retention Value**: These trees should not be considered to be a constraint to design layout. Some of these trees should be removed irrespective of any proposed development.

The method of determining and defining retention values used in this report has been derived from the ©Retention Index developed by Tree Wise Men® Australia Pty Ltd.

4.5 Consideration for Tree Retention and Removal

Where demolition of existing structures, excavation or fill is proposed within the Tree Protection Zone (TPZ), arboricultural assessment and sensitive construction methods will be required.

Tree removal recommendations have been based on tree Retention Values and construction offsets. Trees may generally be recommended for removal in the following circumstances:

- Trees located within construction footprints.
- Trees with construction proposed within SRZ where root loss cannot be avoided through sensitive design.
- Trees with a TPZ loss of more than 25%, may be recommended for removal providing tree sensitive design cannot be implemented to avoid significant root and canopy loss.
- Trees with low Retention Values may be recommended for removal irrespective of proposed development.

5 Potential Impacts of Proposed Works

5.1 Trees to be removed

Tree Number	Retention Value	Reason for Removal
19, 20, 21, 131, 171, 177, 178, 183	Low	Within a proposed construction zone or building footprint.
43, 44, 45, 92, 93, 94, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 175, 176, 179, 180, 181A	Medium	
132, 154	High	
30, 31, 32, 35, 36, 37, 38, 39	Medium	Within the proposed school entrance path.
33, 34	Low	
51	High	Building construction proposed within the Structural Root Zone and canopy spread. Major root and canopy loss is expected.
54, 59	Medium	
184	Medium	Raised level sports court proposed within the TPZ. Battering or retaining wall construction is likely within the Structural Root Zone.
60	Low	Poor health and Short Remaining Life Expectancy.
25, 26, 190, 205	Low	Poor structural condition. Potentially unstable. Recommended for removal irrespective of the proposed works.

5.2 Potential Impacts of Proposal on Retained Trees

Tree Number	Retention Value	Works proposed within the Tree Protection Zone (TPZ)
17	Medium	Student entry path proposed within the TPZ. Less than 10% of the TPZ area will be affected. Some loss of shallow roots is possible.
53, 155	Medium	Proposed construction activity within the TPZ. Less than 10% of the TPZ area will be affected.
58	High	
98	Medium	Low spreading canopy. Minor canopy pruning will be required to accommodate the new building.
125, 128, 129, 130	Medium	Pathway construction is proposed within the TPZ. Some root loss/damage is possible as part of sub-base preparation and formwork.
126, 127	High	
167, 168, 169, 170	Medium	Removal of the demountable building from beneath the canopy spread. There is a potential for branch or trunk injury.
172	High	Removal of demountable buildings from beneath the canopy spread is proposed. Injury of large limbs is possible. Canopy pruning is not an acceptable option for this tree. Landscaping (bush play area) is proposed within the TPZ. Existing ground levels must be retained within a 15m radius.
182	High	Demolition of the existing buildings and chicken coop is proposed within the TPZ.
239, 240, 242	High	Electrical services trenching is proposed within the TPZ. The route of the layout has been aligned to clear the Structural Root Zones. Trenching is to be undertaken using hand tools and major root damage is not expected.
23, 24, 27-29, 50, 62, 63, 273, 274	Medium	Stormwater pits and pipes are proposed within the TPZ. There are pipes/pits proposed within the Structural Root Zones (SRZ) of Trees 61, 62 and 274. There is a potential for major root loss/damage and possible tree destablisation as part of any trenching works within the SRZ's. Re-alignments and tree sensitive installation methods are recommended. Refer to Section 6.3 of this report.
58, 61, 65, 66	High	
All Retained Trees		Soil remediation works are proposed within the TPZ/SRZ of all trees. This will involve either soil capping or raking using hand tools. The methodology should be developed in co-ordination with the Project Arborist to ensure tree roots are not damaged. Refer to the recommendations (Section 6.3).

Stormwater Overland Flow: The overland flow swale is positioned clear of the Tree Protection Zones of retained trees. No impact is expected as a result of this. The parts of the overland flow path that intersect Tree Protection Zones are to be at existing levels with no earthworks or ground shaping required and no impact expected.

Incidental Impacts: There is the potential for incidental/accidental damage to the trunk, canopy and shallow roots of all retained trees throughout the construction process. Trees are commonly impacted on construction sites in the following ways.

- Stripping of topsoil and removal of organic material form the soil surface.
- Compaction of the topsoil and damage to surface roots through use of heavy machinery and frequent foot traffic.
- Soil contamination through washing out barrows and disposal or spillage of chemical materials.
- Root loss due to unforeseen excavation for plumbing upgrades and landscape construction.
- Bark/trunk and branch injuries from accidental contact with machinery.

These impacts can be easily avoided through communication with building contractors and basic tree protection measures.

6 Recommendations

6.1 Design Consideration

Landscape Design: The final landscape design (construction issue) should be undertaken in co-ordination with the Project Arborist to ensure the extent of impacts is tolerable. Existing ground levels must be maintained within the Tree Protection Zones of retained trees. New paving and new impervious surfaces should be limited within the Tree Protection Zones of retained trees. Mulched garden beds are preferable to lawn, pavement or soft-fall surfaces.

6.2 Site Establishment –Prior to Demolition

Appointment of a Project Arborist: An Arborist with an AQF Level 5 qualification in Arboriculture and experience in tree protection within construction sites should be engaged prior to the commencement of work on the site. The Project Arborist should be present at the following times:

- At a start-up meeting with site foreman to discuss tree protection requirements, access routes, methods of removing demountables near trees and any canopy pruning necessary for scaffolding, piling rigs or crane lift/swing.
- Following installation of tree protection fencing, ground protection and trunk battening.
- During any excavation required within the TPZ of retained trees.
- At any time tree protection fencing is required to be altered.
- At project completion to verify tree protection and retention.

Site Access Routes: All routes to the construction areas that will be taken by machinery and vehicles should be established in consultation with the Project Arborist. Ground protection and trunk battening may be required where access routes pass within Tree Protection Zones.

Removal of Demountable Classrooms Near Trees 167, 168, 169, 170, 172: There are existing demountable classrooms within the canopy dripline of these trees. Protection of the canopies of these trees should be considered as part the demountable removal methodology. The Project Arborist should be consulted to provide guidance. Particular care must be given the High Retention Value-Tree 172 (Moreton Bay Fig). Damage or pruning of the limbs of this tree would not be considered an acceptable option.

Tree Canopy Pruning: Canopy pruning will be required for Tree 98 to accommodate the proposed new building line and to allow for any necessary scaffolding. Any other canopy pruning required should be determined as part of the start-up meeting between the Site Foreman and Project Arborist. Canopy pruning must be undertaken under the guidance of the Project Arborist. Canopy pruning is to be undertaken in accordance with AS4373-2007, *Pruning of Amenity Trees,* Section 7.2.4 (Selective Pruning). The pruning works must be carried out by a tree surgeon with a minimum AQF Level 2 qualification.

Tree Removal: Fifty nine (59) trees are required to be removed as part of this proposal. Tree removal contractors should be briefed on the need to protect retained trees during tree removal operations. Tree removal works should be undertaken in accordance with the WorkCover Code of Practice for Amenity Tree Industry, 1998.

Tree Protection Fencing: Tree Protection Fencing should be installed prior to any machinery or materials being bought on site and remain in position throughout the entire project. Tree Protection Fencing should be erected around the Tree Protection Zones as defined in the Tree Protection Plan (Attachment C). It should be noted that fencing will also be required for the trees located on the street verge. Tree Protection Fencing should consist of 1.8 metre high chainlink panels on moveable concrete pads. Tree Protection Fencing should be clamped at each panel junction.

Tree Protection Fencing may be removed at the final Landscaping stage of the project to allow installation of turf. Temporary access within the fenced areas will allowed during soil remediation works. Tree Protection Fencing should not be moved at any time without consultation with the Project Arborist. An example of adequate tree protection fencing is detailed below.

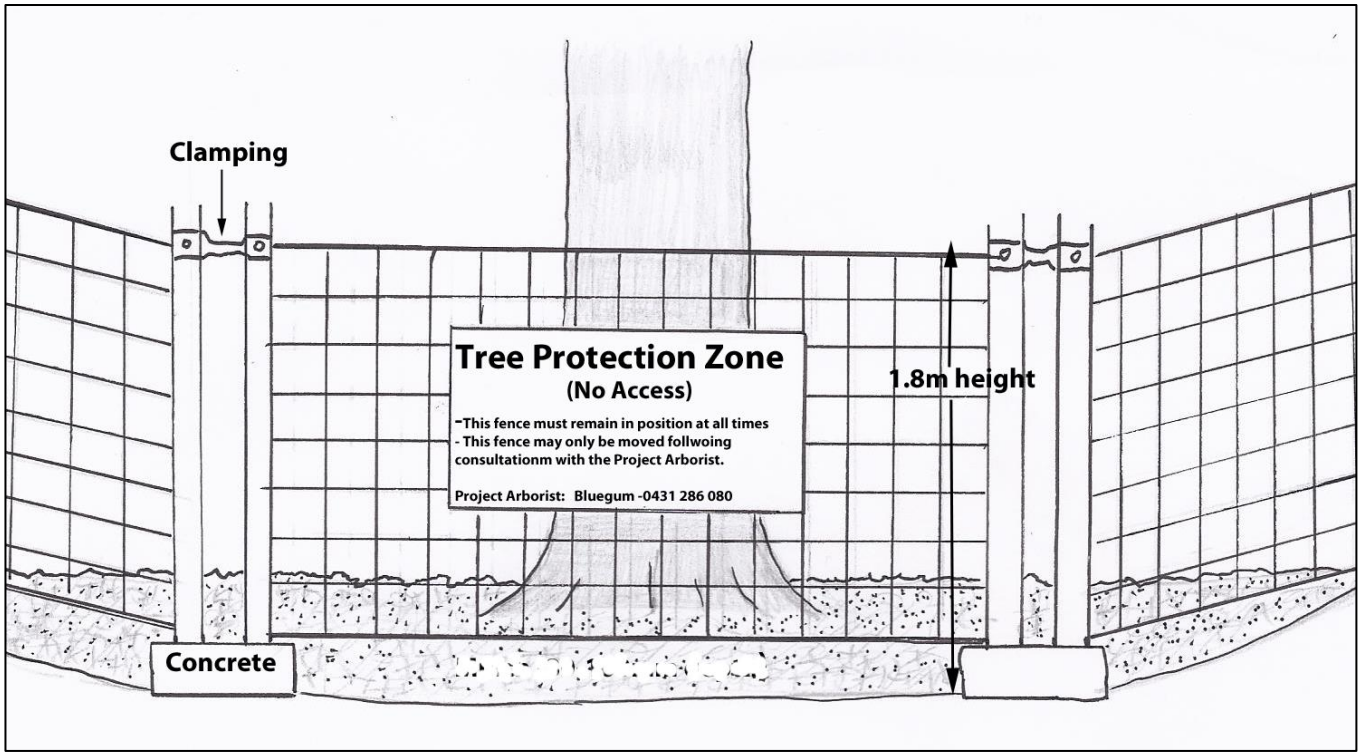


Figure A: Example of adequate tree protection fencing

As it is often not feasible to fence off the entire Tree Protection Zone, ground protection and trunk battening as specified in Figure B should be used in areas where fencing is not possible.

Ground Protection/Trunk Battening: Where Tree Protection Fencing is not possible or is overly restrictive to construction access ways, ground protection and trunk protection (battening) should be installed in its place. Ground protection is aimed at preventing damage to surface roots, disruption of the natural soil profile, soil compaction and soil contamination.
Trunk battening is aimed at preventing accidental bark wounds as often occurs on construction sites where heavy machinery is used.
Refer to Figure B (following page) for detail of adequate ground and trunk protection.

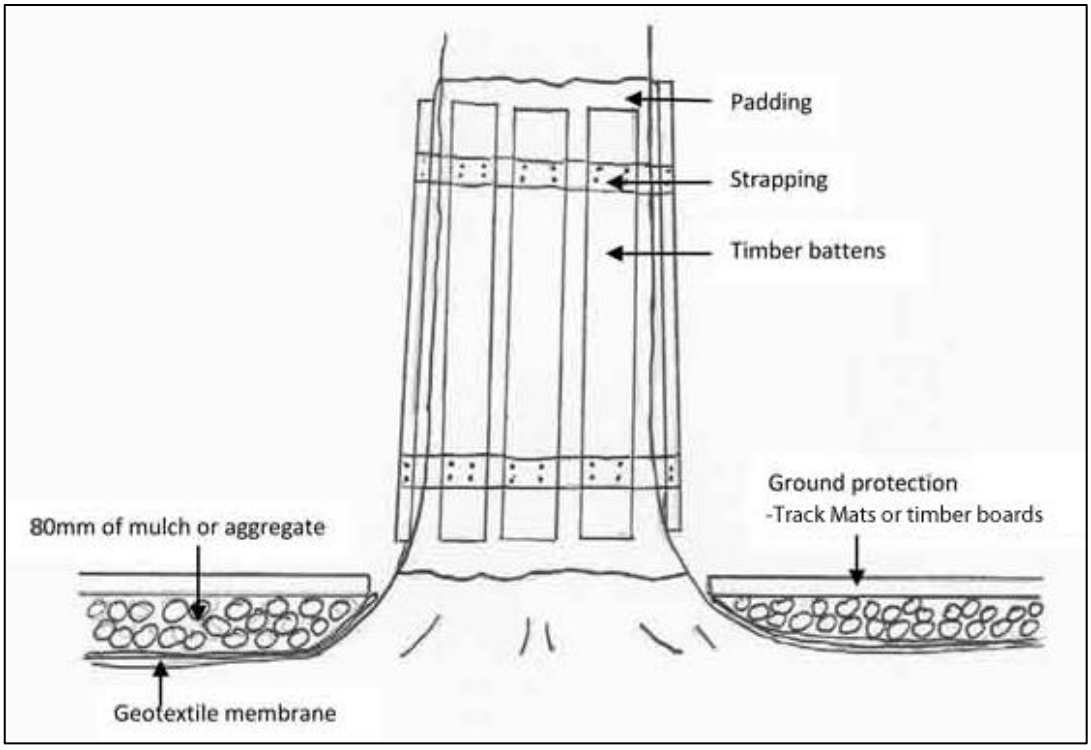


Figure B: Specification of appropriate trunk and ground protection.

6.3 During Construction

Tree Protection Zones: Refer to the Tree Assessment Table (Attachment A) for the spread of TPZ's of trees nominated for retention. The following should be prohibited within the Tree Protection Zones:

- Stripping of topsoil or organic surface material.
- Storage of material, vehicles and machinery.
- Disposal of solid, liquid or chemical waste.
- Any excavation, fill or other construction activity other than that discussed in this report.

Stormwater Pipes and Pit Installation: The stormwater pipe and pit alignment passes within the Tree Protection Zone (TPZ) of Trees 23, 24, 27, 28, 29, 50, 58, 61, 62, 63, 65, 66, 124 and 274. This will pass within the Structural Root Zones of Trees 61, 62 and 274 with the potential to cause major root loss and potentially destabilise these trees. The stormwater routes should be re-aligned to avoid the Structural Root Zones of these trees if possible. Alternative roots should be determined following an on-site meeting between the Project Arborist, Site Manager and Installation Contractor. Where re-alignment is not feasible, trenchless horizontal boring will be required.
All trenching required within the TPZ's (clear of the Structural Root Zones) must be undertaken using hand tools or using a vacuum probe under supervision of the Project Arborist. All tree roots encountered with a diameter greater than 20mm shall be wrapped in a protective layer of geo-textile. Conduit shall be threaded beneath the protected roots with care before backfilling.

Electrical Services Trenching: Trenching for the installation of electrical services is proposed within the TPZ's of Trees 239, 240 and 242. The trench is to be 400mm wide x 600mm deep. All excavation within the TPZ's of these trees is to be undertaken using hand tools or using a vacuum probe under supervision of the Project Arborist. All tree roots encountered with a diameter greater than 20mm shall be wrapped in a protective layer of geo-textile. Conduit shall be threaded beneath the protected roots with care before backfilling.

Contaminated Soil Remediation: The following comments are in reference to Section 6.5 of the Remedial Action Plan (EIS -April 2018).
The option of capping the area beneath the tree canopy should be discussed with the Project Arborist and with consideration of the following factors:

- Particle size of the fill material
- Presence of fines within the fill material.
- Need for compaction of the fill material

A coarse-grained material with no fines will allow for water infiltration, gaseous exchange and will minimise the potential for compaction. The Project Arborist should test the porosity and compactability of the capping material prior to making a determination. If the proposed fill material is not found to be suitable, raking and hand removal of contaminants will be required.
If soil capping within the Tree Protection Zones is deemed to be inappropriate by the Project Arborist, all raking must be undertaken using hand tools with care not to damage shallow tree roots. The methodology should be developed and refined in co-ordination with the Project Arborist to ensure tree roots are not damaged. The Project Arborist will be required to supervise raking works within the Tree Protection Zones.

Pathway Construction (Trees 17, 125, 126, 127, 128, 129, 130): Pathway levels should be designed with sufficient elevation to ensure that the full cross-section of pavement and sub-base material can be installed above existing levels. This is to ensure that excavation and root loss does not occur as part of sub-base preparation.

Landscape Construction: Existing ground levels should be retained wherever possible within the Tree Protection Zones of retained trees. Introduced topsoil for turf areas within the Tree Protection Zones must be coarse, free draining material and remain uncompacted. The Project Arborist will need to be consulted on any areas where ground level changes are proposed within a Tree Protection Zone.

7 Statement of Impartiality

- This report prepared by Bluegum Tree Care & Consultancy (BTCC) reflects the impartial and expert opinion of Alexis Anderson.
- BTCC is acting independently of and not as the advocate for the Department of Education.
- BTCC does not undertake tree pruning and removal works and will not have any involvement with pruning or removing trees which are the subject of this report.

8 Limitations

- The findings of this report are based upon and limited to visual examination of trees from ground level without any climbing, internal testing or exploratory excavation.
- The tree assessment was undertaken for the purpose of pre-development planning. Detailed tree risk assessment was not requested or included in the scope of works.
- This report reflects the health and structure of trees at the time of inspection. Bluegum cannot guarantee that a tree will be healthy and safe under all circumstances or for a specified period of time. There is no guarantee that problems or defects with assessed trees, will not arise in the future. Liability will not be accepted for damage to person or property as a result of failure of assessed trees.

Tree No.	Common Name/ Genus Species	DBH (mm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vigour	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Remaining Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Suitable for Retention Within a School	Comments	Likely Construction Impacts	Proposed Action.
1	Grey Gum, *Eucalyptus punctata*	890	13	8	M	F	G	10.6	3.2	Medium (10-30 yrs)	2	High	Yes	Recovering from borer damage at the base.	None.	Retain
2	Grey Gum, *Eucalyptus punctata*	800	17	7	M	F	G	9.6	3.0	Medium (10-30 yrs)	2	High	Yes	Recovering from borer damage at the base.	None.	Retain
3	Swamp She Oak, *Casuarina glauca*	220	10	2	EM	G	G	2.6	1.8	Long (30+ yrs)	3	Medium	Yes		None.	Retain
4	Bangalay, *Eucalyptus botryoides*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
5	Grey Gum, *Eucalyptus punctata*	200	8	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
6	Grey Gum, *Eucalyptus punctata*	250	8	3	EM	G	G	3.0	1.8	Long (30+ yrs)	3	Medium	Yes		None.	Retain
7	Grey Gum, *Eucalyptus punctata*	180	8	2	EM	G	G	2.2	1.6	Long (30+ yrs)	3	Medium	Yes		None.	Retain
8	Swamp Mahogany, *Eucalyptus robusta* (Row of 5)	100	7	2	IM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
9	Swamp Mahogany, *Eucalyptus robusta*	200	9	3	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
10	Forest Red Gum, *Eucalyptus teriticornis*	180	6	2	EM	F	P	2.2	1.6	Medim (10-30 yrs)	3	Medium	Yes	Lopped for powerline clearance.	None.	Retain
11	Grey Gum, *Eucalyptus punctata*	200	8	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
12	Swamp Mahogany, *Eucalyptus robusta*	200	8	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
13	Grey Gum, *Eucalyptus punctata*	100	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
14	Grey Gum, *Eucalyptus punctata*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
15	Coast Banksia, *Banksia integrifolia*	280	7	3	M	G	G	3.4	1.9	Long (30+ yrs)	3	Medium	Yes		None.	Retain
16	Grey Gum, *Eucalyptus punctata*	200	8	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
17	Grey Gum, *Eucalyptus punctata*	300	9	3	EM	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Student entry path within the TPZ.	Retain
18	Grey Gum, *Eucalyptus punctata*	300	9	4	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain

Tree No.	Common Name/ Genus Species	DBH (mm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vigour	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Remaining Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Suitable for Retention Within a School	Comments	Likely Construction Impacts	Proposed Action.
19	Hakea, *Hakea sp.*	100	5	2	M	G	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes		Within proposed construction zone.	Remove
20	Grevillea, *Grevillea sp.*	100	5	2	M	G	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes		Within proposed construction zone.	Remove
21	Grevillea, *Grevillea sp.*	120	5	3	M	G	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes		Within proposed construction zone.	Remove
22	Grey Gum, *Eucalyptus punctata*	80	5	2	IM	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Supressed.	None.	Retain
23	Old Man Banksia, *Banksia serrata*	80	5	1	IM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ	Retain
24	Old Man Banksia, *Banksia serrata*	80	5	1	IM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ	Retain
25	Grey Gum, *Eucalyptus punctata*	100	7	–	–	–	–	–	–	–	5	Low	No	Dead tree.	None.	Remove
26	Grevillea, *Grevillea sp.*	100	6	2	M	G	P	2.0	1.5	Medium (10-30 yrs)	4	Low	No	Lean and skew over the demountable.	None.	Remove
27	Swamp She Oak, *Casuarina glauca*	100	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ	Retain
28	Swamp She Oak, *Casuarina glauca*	90	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ	Retain
29	Swamp She Oak, *Casuarina glauca*	90	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ	Retain
30	Spotted Gum, *Corymbia maculata*	90	7	1	EM	G	P	2.0	1.5	Long (30+ yrs)	3	Medium	Yes	Lopped for powerline clearance.	Within the proposed school entrance path.	Remove
31	Swamp Mahogany, *Eucalyptus robusta*	90	6	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
32	Swamp Mahogany, *Eucalyptus robusta*	120	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
33	Swamp Mahogany, *Eucalyptus robusta*	100	6	2	EM	P	G	2.0	1.5	Short (0-10 yrs)	4	Low	Yes	Defoliated by insects. Almost dead.	Within the proposed school entrance path.	Remove
34	Swamp Mahogany, *Eucalyptus robusta*	90	3	1	EM	G	P	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Lopped for powerline clearance.	Within the proposed school entrance path.	Remove
35	Old Man Banksia, *Banksia serrata*	250	6	3	EM	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
36	Swamp Mahogany, *Eucalyptus robusta*	100	6	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
37	Spotted Gum, *Corymbia maculata*	90	7	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove

Tree No.	Common Name/ Genus Species	DBH (mm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vigour	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Remaining Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Suitable for Retention Within a School	Comments	Likely Construction Impacts	Proposed Action.
38	Old Man Banksia, *Banksia serrata*	250	5	3	EM	G	G	2.0	1.9	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
39	Swamp Mahogany, *Eucalyptus robusta*	90	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed school entrance path.	Remove
40	Spotted Gum, *Corymbia maculata*	90	7	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes			Retain
41	Swamp She Oak, *Casuarina glauca*	120	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes			Retain
42	Sydney Blue Gum, *Eucalyptus saligna*	90	5	2	EM	G	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Lopped for powerline clearance.		Retain
43	Swamp She Oak, *Casuarina glauca*	90	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed area of works for carpark construction.	Remove
44	Crimson Bottlebrush, *Callistemon citrinus*	120, 120	5	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed area of works for carpark construction.	Remove
45	Broad-leaved Paperbark, *Melaleuca quinquenervia*	350	6	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		Within the proposed area of works for carpark construction.	Remove
46	Broad-leaved Paperbark, *Melaleuca quinquenervia*	350	7	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain
47	Broad-leaved Paperbark, *Melaleuca quinquenervia*	300	6	3	M	G	G	3.6	2.0	Long (30+ yrs)	3	Medium	Yes		None.	Retain
48	Broad-leaved Paperbark, *Melaleuca quinquenervia*	200	4	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
49	Broad-leaved Paperbark, *Melaleuca quinquenervia*	350	8	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain
50	Broad-leaved Paperbark, *Melaleuca quinquenervia*	350	8	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ.	Retain
51	Swamp Mahogany, *Eucalyptus robusta*	510	13	5	M	G	G	6.1	2.5	Long (30+ yrs)	2	High	Yes		Proposed new building within the Structural Root Zone and canopy spread.	Remove
52	Sydney Red Gum, *Angophora costata*	150	8	3	EM	G	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes		Nil.	Retain
53	Grey Gum, *Eucalyptus punctata*	100	8	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Proposed construction activity within the TPZ. Less than 10% of the TPZ area will be affected.	Retain
54	Grey Gum, *Eucalyptus punctata*	300	8	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Proposed new building within the Structural Root Zone and canopy spread.	Remove
55	Scribbly Gum, *Eucalyptus haemastoma*	200	7	3	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
56	Scribbly Gum, *Eucalyptus haemastoma*	170	5	2	EM	G	F	2.0	1.6	Medium (10-30 yrs)	3	Medium	Yes	Lopped for powerline clearance.	None.	Retain

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57	Scribbly Gum, *Eucalyptus haemastoma*	150	3	1	EM	F	P	2.0	1.5	Short (0-10 yrs)	4	Low	Yes	Lopped for powerline clearance.	None.	Retain.
58	Swamp Mahogany, *Eucalyptus robusta*	300	12	5	M	G	G	3.6	2.1	Long (30+ yrs)	2	High	Yes		Proposed construction activity within the TPZ. Less than 10% of the TPZ area will be affected. Stormwater works proposed within the TPZ.	Retain.
59	Coast Banksia, *Banksia integrifolia*	450	7	3	M	G	P	5.4	2.4	Medium (10-30 yrs)	3	Medium	Yes	Previous failure of the central stem.	Proposed new building within the Structural Root Zone and canopy spread.	Remove
60	Swamp Mahogany, *Eucalyptus robusta*	250, 150	7	4	M	P	F	3.8	2.1	Short (0-10 yrs)	4	Low	Yes	Poor health.	None.	Remove
61	Forest Red Gum, *Eucalyptus teriticornis*	450	12	5	M	F	G	5.4	2.4	Long (30+ yrs)	2	High	Yes		Stormwater works proposed within the TPZ/SRZ.	Retain
62	Scribbly Gum, *Eucalyptus haemastoma*	100	3	2	EM	G	F	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes	Lopped for powerline clearance.	Stormwater works proposed within the TPZ/SRZ.	Retain
63	Coast Banksia, *Banksia integrifolia*	170	6	3	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Stormwater works proposed within the TPZ.	Retain
64	Forest Red Gum, *Eucalyptus teriticornis*	420	12	5	M	G	G	5.0	2.3	Long (30+ yrs)	2	High	Yes	Lean and skew to the west.	None.	Retain
65	Forest Red Gum, *Eucalyptus teriticornis*	720	13	8	M	G	G	8.6	2.9	Long (30+ yrs)	2	High	Yes		Stormwater works proposed within the TPZ.	Retain
66	Swamp Mahogany, *Eucalyptus robusta*	330	13	4	M	G	G	4.0	2.1	Long (30+ yrs)	2	High	Yes		Stormwater works proposed within the TPZ.	Retain
67	Swamp Mahogany, *Eucalyptus robusta*	300	14	2	M	F	F	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Excessively pruned.	None.	Retain
68	Swamp Mahogany, *Eucalyptus robusta*	320	14	3	M	G	G	3.8	2.1	Long (30+ yrs)	2	High	Yes		None.	Retain
69	Swamp Mahogany, *Eucalyptus robusta*	400	15	4	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
70	Swamp Mahogany, *Eucalyptus robusta*	350	15	3	M	G	G	4.2	2.2	Long (30+ yrs)	2	High	Yes		None.	Retain
71	Swamp Mahogany, *Eucalyptus robusta*	150	8	2	EM	F	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes	Supressed.	None.	Retain
72	Swamp Mahogany, *Eucalyptus robusta*	250	10	3	EM	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes		None.	Retain
73	Scribbly Gum, *Eucalyptus haemastoma*	200, 150	7	4	M	G	G	3.4	2.0	Long (30+ yrs)	3	Medium	Yes	Lean and canopy skew to the west.	None.	Retain
74	Scribbly Gum, *Eucalyptus haemastoma*	150	6	3	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes	Lean and canopy skew to the west.	None.	Retain
75	Scribbly Gum, *Eucalyptus haemastoma*	300	5	3	M	G	F	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Lean and canopy skew to the west.	None.	Retain

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76	Swamp Mahogany, *Eucalyptus robusta*	100	7	2	EM	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Supressed.	None.	Retain
77	Broad-leaved Paperbark, *Melaleuca quinquenervia*	100, 100	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
78	Swamp Mahogany, *Eucalyptus robusta*	150	7	2	EM	P	P	2.0	1.5	Short (0-10 yrs)	4	Low	Yes	Poor health.	None.	Retain
79	Swamp Mahogany, *Eucalyptus robusta*	280, 260	10	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain
80	Swamp Mahogany, *Eucalyptus robusta*	300	10	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
81	Swamp Mahogany, *Eucalyptus robusta*	280	9	3	M	G	G	3.4	2.0	Long (30+ yrs)	3	Medium	Yes		None.	Retain
82	Forest Red Gum, *Eucalyptus teriticornis*	400	10	6	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
83	Forest Red Gum, *Eucalyptus teriticornis*	180	6	4	M	F	F	2.2	1.7	Medium (10-30 yrs)	4	Low	Yes	Supressed.	None.	Retain
84	Broad-leaved Paperbark, *Melaleuca quinquenervia*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
85	Broad-leaved Paperbark, *Melaleuca quinquenervia*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
86	Forest Red Gum, *Eucalyptus teriticornis*	680	13	5	M	G	G	8.2	2.8	Long (30+ yrs)	2	High	Yes		None.	Retain
87	Forest Red Gum, *Eucalyptus teriticornis*	530	9	6	M	G	G	6.4	2.6	Long (30+ yrs)	2	High	Yes		None.	Retain
88	English Oak, *Quercus robur*	300	8	4	M	G	G	3.6	2.1	Long (30+ yrs)	2	High	Yes		None.	Retain
89	Sydney Red Gum, *Angophora costata*	120	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
90	Sydney Red Gum, *Angophora costata*	120	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
91	Sydney Red Gum, *Angophora costata*	120	6	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes	Not plotted on the survey or plans.	None.	Retain
92	Spotted Gum, *Corymbia maculata*	200	11	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		Within the proposed building footprint.	Remove
93	Sydney Blue Gum, *Eucalyptus saligna*	300	10	3	EM	F	F	3.6	2.1	Medium (10-30 yrs)	3	Medium	Yes		Structural Root Zone and canopy spread within the proposed construction zone.	Remove
94	Eucalypt, *Eucalyptus sp.*	90	7	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Structural Root Zone and canopy spread within the proposed construction zone.	Remove

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95	Broad-leaved Paperbark, *Melaleuca quinquenervia*	200	6	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
96	Forest Red Gum, *Eucalyptus teriticornis*	300	9	4	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
97	Coast Banksia, *Banksia integrifolia*	90	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
98	Swamp She Oak, *Casuarina glauca*	430	4	6	M	G	G	5.2	2.3	Long (30+ yrs)	3	Medium	Yes		Minor canopy pruning may be required for building clearance during construction.	Retain
99	Coast Banksia, *Banksia integrifolia*	120	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
100	Broad-leaved Paperbark, *Melaleuca quinquenervia*	120	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
101	Bangalay, *Eucalyptus botryoides*	100, 100	7	5	EM	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Supressed.	None.	Retain
102	Mulberry, *Morus nigra*	300	6	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
103	Bangalay, *Eucalyptus botryoides*	560	11	7	M	G	G	6.7	2.6	Long (30+ yrs)	2	High	Yes	Existing stormwater pipe within the SRZ.	None.	Retain
104	Red Ironbark, *Eucalyptus sideroxylon*	540	10	6	M	G	G	6.5	2.6	Long (30+ yrs)	2	High	Yes	Existing stormwater pipe and pit within the SRZ.	None.	Retain
105	Umbrella Tree, *Schefflera actinophylla*	200	7	3	M	G	G	2.4	1.8	Long (30+ yrs)	3	Medium	Yes	Located on the adjoining property.	None.	Retain
106	Forest Red Gum, *Eucalyptus teriticornis*	730	16	8	M	G	G	8.8	2.9	Long (30+ yrs)	1	High	Yes		None.	Retain
107	Swamp She Oak, *Casuarina glauca*	500	16	4	M	G	G	6.0	2.5	Long (30+ yrs)	2	High	Yes		None.	Retain
108	Mulberry, *Morus nigra*	450	8	5	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes		None.	Retain
109	Swamp She Oak, *Casuarina glauca*	500	15	6	M	G	G	6.0	2.5	Long (30+ yrs)	2	High	Yes		None.	Retain
110	River She Oak, *Casuarina cunninghamiana*	150	7	3	M	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Supressed.	None.	Retain
111	River She Oak, *Casuarina cunninghamiana*	250	12	3	M	F	F	3.0	1.9	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
112	Mulberry, *Morus nigra*	300	7	4	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
113	Bangalay, *Eucalyptus botryoides*	350	8	7	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain

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114	River She Oak, *Casuarina cunninghamiana*	440	12	4	M	G	G	5.3	2.4	Long (30+ yrs)	2	High	Yes		None.	Retain
115	Mulberry, *Morus nigra*	300	7	4	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
116	WA Weeping Myrtle, *Agonis flexuosa*	800	8	5	M	G	G	9.6	3.0	Long (30+ yrs)	2	High	Yes		None.	Retain
117	Weeping Bottlebrush, *Callistemon viminalis*	120, 120	6	3	M	G	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
118	Illawarra Flame Tree, *Brachychiton acerifolius*	300	7	3	M	G	G	3.6	2.0	Long (30+ yrs)	3	Medium	Yes		None.	Retain
119	Coast Banksia, *Banksia integrifolia*	450	6	4	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes		None.	Retain
120	Swamp Magogany, *Eucalyptus robusta*	740	15	8	M	G	G	8.9	2.9	Long (30+ yrs)	1	High	Yes		None.	Retain
121	Prickly-leaved Paperbark, *Melaleuca stypheloides*	200	6	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
122	Swamp Magogany, *Eucalyptus robusta*	300	8	5	M	G	G	3.6	2.1	Long (30+ yrs)	2	High	Yes		None.	Retain
123	Prickly-leaved Paperbark, *Melaleuca stypheloides*	190	5	3	M	G	G	2.3	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
124	Coast Banksia, *Banksia integrifolia*	150	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Secondary entry path to keep same alignment as the existing path. No impact.	Retain
125	Swamp She Oak, *Casuarina glauca*	400	10	4	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes		Proposed pathway constuction within the TPZ.	Retain
126	Forest Red Gum, *Eucalyptus teriticornis*	700	16	8	M	G	G	8.4	2.9	Long (30+ yrs)	2	High	Yes		Proposed pathway constuction within the TPZ.	Retain
127	Forest Red Gum, *Eucalyptus teriticornis*	400, 350	8	5	M	G	G	6.6	2.5	Long (30+ yrs)	2	High	Yes		Proposed pathway constuction within the TPZ.	Retain
128	Coast Banksia, *Banksia integrifolia*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Proposed pathway constuction within the TPZ.	Retain
129	Coast Banksia, *Banksia integrifolia*	150	7	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Proposed pathway constuction within the TPZ.	Retain
130	Cooks Pine, *Araucaria columnaris*	300	8	2	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Proposed pathway constuction within the TPZ.	Retain
131	Sally Wattle, *Acacia floribunda*	100	5	2	M	G	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes		Within the proposed construction area.	Remove
132	Scribbly Gum, *Eucalyptus haemastoma*	450	7	6	M	G	G	5.4	2.4	Long (30+ yrs)	2	High	Yes		Within the proposed construction area.	Remove

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133	WA Weeping Myrtle, *Agonis flexuosa*	400	7	3	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction area.	Remove
134	WA Weeping Myrtle, *Agonis flexuosa*	400	7	3	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction area.	Remove
135	WA Weeping Myrtle, *Agonis flexuosa*	400	7	3	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction area.	Remove
136	WA Weeping Myrtle, *Agonis flexuosa*	350	6	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction area.	Remove
137	WA Weeping Myrtle, *Agonis flexuosa*	350	6	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction area.	Remove
138	Coast Banksia, *Banksia integrifolia*	200	6	2	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
139	Scribbly Gum, *Eucalyptus haemastoma*	300	7	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
140	WA Weeping Myrtle, *Agonis flexuosa*	450	7	4	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
141	WA Weeping Myrtle, *Agonis flexuosa*	400	7	4	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
142	Tuckeroo, *Cupaniopsis anacardiodes*	150	5	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
143	Tuckeroo, *Cupaniopsis anacardiodes*	260	6	3	M	G	G	3.1	1.9	Long (30+ yrs)	3	Medium	Yes		Within proposed swale construction zone.	Remove
144	WA Flowering Gum, *Corymbia ficifolia*	150	3	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove.
145	Old Man Banksia, *Banksia serrata*	200	5	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove.
146	White Honeymyrtle, *Melaleuca decora*	180	4	2	M	G	G	2.2	1.6	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove.
147	Old Man Banksia, *Banksia serrata*	300	7	2	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove.
148	Tuckeroo, *Cupaniopsis anacardiodes*	450	7	6	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes		Within area of proposed landscape earthworks/grading.	Remove.
149	Lilly Pilly, *Acmena smithii*	300	6	4	M	G	F	3.6	2.1	Medium (10-30 yrs)	3	Medium	Yes		Within area of proposed landscape earthworks/grading.	Remove.
150	Lilly Pilly, *Acmena smithii*	300	6	4	M	G	F	3.6	2.1	Medium (10-30 yrs)	3	Medium	Yes		Within area of proposed landscape earthworks/grading.	Remove.
151	Broad-leaved Paperbark, *Melaleuca quinquenervia*	300	5	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove.

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152	Frangipani, *Plumeria acutifolia*	250	5	3	M	G	G	3.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove
153	Tuckeroo, *Cupaniopsis anacardiodes*	200	5	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		Within proposed construction zone.	Remove
154	Swamp Magogany, *Eucalyptus robusta*	720	15	6	M	G	G	8.6	2.9	Long (30+ yrs)	2	High	Yes		Within proposed construction zone.	Remove
155	Swamp Magogany, *Eucalyptus robusta*	270	7	3	EM	F	F	3.2	1.9	Medium (10-30 yrs)	3	Medium	Yes		Construction activity is proposed within the TPZ. Less than 10% of the TPZ area will be affected.	Retain
156	Spotted Gum, *Corymbia maculata*	370	8	5	M	G	G	4.4	2.2	Long (30+ yrs)	2	High	Yes		None.	Retain
157	Lemon-scented Gum, *Corymbia citriodora*	400	8	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
158	Tallowwood, *Eucalyptus microcorys*	480	13	6	M	G	G	5.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
159	Tallowwood, *Eucalyptus microcorys*	480	13	6	M	G	G	5.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
160	Sydney Red Gum, *Angophora costata*	350	12	4	M	G	G	4.2	2.2	Long (30+ yrs)	2	High	Yes		None.	Retain
161	Tallowwood, *Eucalyptus microcorys*	420	11	4	M	G	G	5.0	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
162	Coast Banksia, *Banksia integrifolia*	350	9	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain
163	Swamp She Oak, *Casuarina glauca*	100	9	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
164	Swamp She Oak, *Casuarina glauca*	120	9	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
165	Sydney Red Gum, *Angophora costata*	400	10	6	M	F	G	4.8	2.3	Long (30+ yrs)	2	Medium	Yes		None.	Retain
166	Kurrajong, *Brachychiton populneus*	100	4	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
167	Blackbutt, *Eucalyptus pilularis.*	200	10	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Growing within 0.5m of the demountable.	Removal of the demountables from within the dripline.	Retain
168	Blackbutt, *Eucalyptus pilularis.*	200	10	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Growing within 0.5m of the demountable.	Removal of the demountables from within the dripline.	Retain
169	Blackbutt, *Eucalyptus pilularis.*	200	10	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Growing within 0.5m of the demountable.	Removal of the demountables from within the dripline.	Retain
170	Blackbutt, *Eucalyptus pilularis.*	200	10	2	EM	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Growing within 0.5m of the demountable.	Removal of the demountables from within the dripline.	Retain

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171	Grevillea, *Grevillea sp.*	100	4	2	M	G	G	2.0	1.5	Long (30+ yrs)	4	Low	Yes		Within area of proposed earthworks/grading.	Remove
172	Moreton Bay Fig, *Ficus macrophylla*	1400	19	12	M	G	G	15.0	3.9	Long (30+ yrs)	1	High	Yes	Excellent specimen. Canopy overhangs the demountable.	Removal of the demountables from within the dripline. Potential for canopy injury. Landscape construction within the TPZ.	Retain.
173	Norfolk Island Pine, *Araucaria heterophylla*	490	19	4	M	G	G	5.9	2.5	Long (30+ yrs)	2	High	Yes		None.	Retain.
174	WA Weeping Myrtle, *Agonis flexuosa*	420	5	3	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes		None.	Retain.
175	Crimson Bottlebrush, *Callistemon citrinus*	250	5	2	M	G	G	3.0	1.8	Medium (10-30 yrs)	3	Medium	Yes		Within the proposed construction zone.	Remove
176	Lilly Pilly, *Acmena smithii*	300	5	2	M	G	G	3.6	2.0	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction zone.	Remove
177	Lilly Pilly, *Acmena smithii*	150	5	1	M	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Growing between 2 demountables.	Within the proposed construction zone.	Remove
178	Tuckeroo, *Cupaniopsis anacardiodes*	90	4	2	EM	G	G	2.0	1.5	Long (30+ yrs)	4	Low	Yes		Within the proposed construction zone.	Remove
179	Coast Banksia, *Banksia integrifolia*	200	7	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction zone.	Remove
180	Broad-leaved Paperbark, *Melaleuca quinquenervia*	120	5	1	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction zone.	Remove
181	Tuckeroo, *Cupaniopsis anacardiodes*	100	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
181A	Tuckeroo, *Cupaniopsis anacardiodes*	100	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		Within the proposed construction zone.	Remove
182	Scribbly Gum, *Eucalyptus haemastoma*	400	10	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		Demolition of the existing buildings and chicken coop is proposed within the TPZ.	Retain
183	Golden Wattle, *Acacia longifolia*	150	4	2	M	F	F	2.0	1.5	Short (0-10 yrs)	3	Low	Yes		Within area of landscape/grading works.	Remove
184	Mulberry, *Morus nigra*	300	6	5	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		Raised level sports court proposed within the TPZ. Battering or retaining wall construction is likely within the Structural Root Zone.	Remove
185	Swamp Magogany, *Eucalyptus robusta*	360, 360, 360	12	7	M	G	G	7.5	2.7	Long (30+ yrs)	2	High	Yes		None.	Retain
186	Red Ironbark, *Eucalyptus sideroxylon*	410	10	6	M	F	F	4.9	2.3	Medium (10-30 yrs)	3	Medium	Yes	Fungal fruiting body. Further assesment of this tree is required.	None.	Retain
187	Swamp Magogany, *Eucalyptus robusta*	300	7	4	M	F	G	3.6	2.1	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain

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188	Weeping Bottlebrush, *Callistemon viminalis*	120, 120	7	3	M	G	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
189	Loquot, *Eriobotryia japonica*	200	6	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
190	Swamp She Oak, *Casuarina glauca*	200	9	2	M	G	P	2.4	1.7	Short (0-10 yrs)	3	Low	No	Partial root plate failure has occurred. Unstable.	None.	Remove
191	Coast Banksia, *Banksia integrifolia*	250	7	2	M	G	G	3.0	1.8	Long (30+ yrs)	3	Medium	Yes		None.	Retain
192	Coast Banksia, *Banksia integrifolia*	250	7	3	M	G	G	3.0	1.8	Long (30+ yrs)	3	Medium	Yes		None.	Retain
193	Coast Banksia, *Banksia integrifolia*	200	7	2	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
194	Coast Banksia, *Banksia integrifolia*	200	7	2	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
195	Bangalay, *Eucalyptus botryoides*	600	17	8	M	G	F	7.2	2.7	Long (30+ yrs)	2	High	Yes	Excessively pruned on the E side.	None.	Retain
196	Coast Banksia, *Banksia integrifolia*	250	6	3	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes		None.	Retain
197	Weeping Bottlebrush, *Callistemon viminalis*	100	4	2	M	G	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
198	Swamp She Oak, *Casuarina glauca*	420	10	3	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes		None.	Retain
199	Swamp Magogany, *Eucalyptus robusta*	150	7	3	M	G	F	2.0	1.5	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
200	Swamp Magogany, *Eucalyptus robusta*	200	9	2	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
201	Swamp Magogany, *Eucalyptus robusta*	150	5	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
202	Blackbutt, *Eucalyptus pilularis*	300	14	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
203	Coast Banksia, *Banksia integrifolia*	250	6	3	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes		None.	Retain
204	Blackbutt, *Eucalyptus pilularis*	400	13	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
205	Eucalypt, *Eucalyptus sp.*	300	11	2	M	P	P	3.6	2.1	Short (0-10 yrs)	3	Low	No	Trunk decay and upper canopy dieback.	None.	Remove
206	Blackbutt, *Eucalyptus pilularis*	350	12	4	M	G	G	4.2	2.2	Long (30+ yrs)	2	High	Yes		None.	Retain

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207	Forest Red Gum, *Eucalyptus teriticornis*	560	13	7	M	P	F	6.7	2.6	Short (0-10 yrs)	3	Low	Yes	Northern stem is dead and that stem should be removed.	None.	Retain
208	Scribbly Gum, *Eucalyptus haemastoma*	150, 120	7	3	M	G	G	2.4	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
209	Scribbly Gum, *Eucalyptus haemastoma*	450	10	4	M	G	G	5.4	2.4	Long (30+ yrs)	2	High	Yes		None.	Retain
210	Scribbly Gum, *Eucalyptus haemastoma*	300	8	3	M	G	F	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
211	Scribbly Gum, *Eucalyptus haemastoma*	400, 350	11	5	M	G	F	6.6	2.7	Long (30+ yrs)	2	High	Yes		None.	Retain
212	Scribbly Gum, *Eucalyptus haemastoma*	300	9	3	M	G	F	3.6	2.1	Long (30+ yrs)	3	Medium	Yes		None.	Retain
213	Forest Red Gum, *Eucalyptus teriticornis*	300	9	3	M	F	F	3.6	2.1	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
214	Scribbly Gum, *Eucalyptus haemastoma*	450	12	5	M	G	F	5.4	2.4	Long (30+ yrs)	2	High	Yes		None.	Retain
216	Silky Oak, *Grevillea robusta*	300	7	4	M	F	F	3.6	2.1	Short (0-10 yrs)	3	Low	Yes	Dieback of the upper canopy.	None.	Retain
217	Spotted Gum, *Corymbia maculata*	250	8	3	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes		None.	Retain
218	Ironbark, *Eucalyptis sp.*	400	11	4	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
219	Lemon-scented Gum, *Corymbia citriodora*	400	13	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
220	Grevillea, *Grevillea sp.*	100,100	4	3	M	G	G	2.0	1.5	Short (0-10 yrs)	3	Low	Yes		None.	Retain
221	Tuckeroo, *Cupaniopsis anacardiodes*	100	5	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
222	Tuckeroo, *Cupaniopsis anacardiodes*	150	6	2	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes		None.	Retain
223	Grevillea, *Grevillea sp.*	250	5	3	M	G	G	3.0	1.9	Medium (10-30 yrs)	3	Medium	Yes		None.	Retain
224	Wallangarra White Gum, *Eucalypptus scoparia*	450	10	6	M	F	F	5.4	2.4	Short (0-10 yrs)	3	Low	Yes	Low vitality.	None.	Retain
226	Coast Banksia, *Banksia integrifolia*	450	9	4	M	G	G	5.4	2.4	Long (30+ yrs)	2	High	Yes		None.	Retain
227	Bangalay, *Eucalyptus botryoides*	400, 350, 300	14	5	M	G	G	7.4	2.7	Long (30+ yrs)	2	High	Yes		None.	Retain

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228	Silky Oak, *Grevillea robusta*	350	13	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes		None.	Retain
229	Scribbly Gum, *Eucalyptus haemastoma*	300	12	3	M	G	G	3.6	2.1	Long (30+ yrs)	2	High	Yes		None.	Retain
230	Scribbly Gum, *Eucalyptus haemastoma*	300, 250	9	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
231	Bangalay, *Eucalyptus botryoides*	600	16	6	M	G	G	7.2	2.7	Long (30+ yrs)	2	High	Yes		None.	Retain
232	Sydney Red Gum, *Angophora costata*	100	7	2	EM	F	F	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Canopy tip dieback.	None.	Retain
233	Scribbly Gum, *Eucalyptus haemastoma*	330	15	3	M	G	G	4.0	2.1	Long (30+ yrs)	2	High	Yes		None.	Retain
234	Scribbly Gum, *Eucalyptus haemastoma*	300, 300	15	4	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		None.	Retain
235	Scribbly Gum, *Eucalyptus haemastoma*	620	13	7	M	G	G	7.5	2.7	Long (30+ yrs)	2	High	Yes		None.	Retain
236	Tuckeroo, *Cupaniopsis anacardiodes*	200	6	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes		None.	Retain
237	Scribbly Gum, *Eucalyptus haemastoma*	550	17	6	M	G	G	6.6	2.6	Long (30+ yrs)	2	High	Yes		None.	Retain
238	Swamp Magogany, *Eucalyptus robusta*	870	17	10	M	G	G	10.4	3.2	Long (30+ yrs)	2	High	Yes		None.	Retain
239	Swamp Magogany, *Eucalyptus robusta*	620	16	9	M	G	G	7.4	2.7	Long (30+ yrs)	2	High	Yes		Electrical services trenching is proposed within the TPZ.	Retain
240	Sydney Red Gum, *Angophora costata*	300, 300	8	5	M	G	G	4.8	2.3	Long (30+ yrs)	2	High	Yes		Electrical services trenching is proposed within the TPZ.	Retain
241	WA Weeping Myrtle, *Agonis flexuosa*	850	10	6	M	G	G	10.2	3.1	Long (30+ yrs)	2	High	Yes		None.	Retain
242	WA Weeping Myrtle, *Agonis flexuosa*	700	7	5	M	G	G	8.4	2.9	Long (30+ yrs)	2	High	Yes		Electrical services trenching is proposed within the TPZ.	Retain
243	Coast Banksia, *Banksia integrifolia*	350	8	4	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
244	Coast Banksia, *Banksia integrifolia*	450	8	4	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
245	Coast Banksia, *Banksia integrifolia*	350	7	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
246	Coast Banksia, *Banksia integrifolia*	250	8	2	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
247	Swamp She Oak, *Casuarina glauca*	400	12	4	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain

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248	Coast Banksia, *Banksia integrifolia*	250	7	2	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
249	Forest She Oak, *Allocasuarina torulosa*	200	8	3	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
250	Forest She Oak, *Allocasuarina torulosa*	300	8	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
251	Forest She Oak, *Allocasuarina torulosa*	300	8	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
252	Coast Banksia, *Banksia integrifolia*	200	7	2	M	G	G	2.4	1.7	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
253	Coast Banksia, *Banksia integrifolia*	150	7	1	M	G	G	2.0	1.5	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
254	Coast Banksia, *Banksia integrifolia*	420	13	4	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
255	Coast Banksia, *Banksia integrifolia*	100	3	2	M	F	G	2.0	1.5	Medium (10-30 yrs)	4	Low	Yes	Street tree.	None.	Retain
256	Swamp She Oak, *Casuarina glauca*	300	8	4	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
257	Swamp She Oak, *Casuarina glauca*	400	10	3	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
258	Coast Banksia, *Banksia integrifolia*	420	8	4	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
259	Coast Banksia, *Banksia integrifolia*	420	8	4	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	The existing driveway may need to be widened within the TPZ to allow for the waste truck.	Retain
260	Coast Banksia, *Banksia integrifolia*	200	7	3	M	F	F	2.4	1.8	Medium (10-30 yrs)	3	Medium	Yes	Street tree.	The existing driveway may need to be widened within the TPZ to allow for the waste truck.	Retain
261	Coast Banksia, *Banksia integrifolia*	420	8	3	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
262	Coast Banksia, *Banksia integrifolia*	420	9	3	M	G	G	5.0	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
263	Coast Banksia, *Banksia integrifolia*	300	8	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
264	Coast Banksia, *Banksia integrifolia*	400	8	3	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
265	Coast Banksia, *Banksia integrifolia*	350	8	3	M	G	G	4.2	2.2	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
266	Coast Banksia, *Banksia integrifolia*	450	8	3	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain

Tree No.	Common Name/ Genus Species	DBH (mm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vigour	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Remaining Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Suitable for Retention Within a School	Comments	Likely Construction Impacts	Proposed Action.
267	Coast Banksia, *Banksia integrifolia*	250	6	2	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
268	Coast Banksia, *Banksia integrifolia*	300	8	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
269	Coast Banksia, *Banksia integrifolia*	450	7	3	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
270	Coast Banksia, *Banksia integrifolia*	450	6	4	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
271	Coast Banksia, *Banksia integrifolia*	400	8	4	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
272	Swamp She Oak, *Casuarina glauca*	300	9	3	M	G	G	3.6	2.1	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain
273	Swamp She Oak, *Casuarina glauca*	500	13	5	M	G	G	6.0	2.5	Long (30+ yrs)	3	Medium	Yes	Street tree.	Stormwater works proposed within the TPZ.	Retain
274	Swamp She Oak, *Casuarina glauca*	450	12	4	M	G	G	5.4	2.4	Long (30+ yrs)	3	Medium	Yes	Street tree.	Stormwater works proposed within the TPZ/SRZ.	Retain
275	Swamp She Oak, *Casuarina glauca*	400	11	4	M	G	G	4.8	2.3	Long (30+ yrs)	3	Medium	Yes	Street tree.		Retain
276	Coast Banksia, *Banksia integrifolia*	250	6	2	M	G	G	3.0	1.9	Long (30+ yrs)	3	Medium	Yes	Street tree.	None.	Retain

Attachment B -TREE ASSESSMENT DEFINITIONS

Height. Tree height is estimated from ground level. This assessment is made independently of data plotted on survey plan. These measurements have not been confirmed with clinometer or other surveying instrument.

Diameter at Breast Height (DBH). Trunk diameter is measured at 1.4 metres above ground level. A diameter tape is used which calculates the diameter from a measurement of the circumfrence. DBH is primarily used for the calculation of the TPZ and SRZ.
If a tree has more than 4 trunks, the diameter of the four largest trunks is recorded. For irregular trunk formations the DBH is calculated as outlined in Appendix A of AS4970-2009 -*Protection of Trees on Development Sites*.

Canopy Spread Radius. Average canopy spread radius is estimated from the centre of trunk to the outer edge of canopy. Refer to Comments column for detail of heavily skewed canopy spread.

Age Class - This is an estimation of the tree's current age class based on size, growth habit, local environmental conditions and comparison with surrounding trees.

- **Immature (IM)**: This is a juvenile specimen that is likely to have germinated within the previous 5 years.
- **Semi- Mature (SM)**: This is a tree that is established within its growing environment, though has not reached an age of reproductive maturity or the natural growth habit of a mature individual.
- **Mature (M)**: This is a tree has reached both reproductive maturity and a physical form and shape typical for the species. Trees can have a Mature Age Class for the majority of their life span.
- **Late-Mature (LM)**: There trees show early signs of senescence with symptoms such as reduced canopy density and an accumulation of dead branches.
- **Over-mature (OM)**: These trees show symptoms of irreversible decline such as canopy dieback with dead branches concentrated in the upper canopy.

Health/Vitality - Good (G), Fair (F) or Poor (P). This is primarily based on the extent of vigorous new foliage growth at branch tips and the colour, size and density of foliage generally. The percentage of live branches to dead branches is considered. The location of any dead branches is also considered. The presence of any pest or disease is considered as part of this assessment. Health can vary with climatic conditions.

Structural Condition - **Good (G), Fair (F) or Poor (P).** This is an assessment of tree structure and stability. Root anchorage, trunk lean, structural defects, canopy skew and any hazardous features are considered. Dead branches can be considered as part of Structural Condition if they are of a size and location that could cause injury or property damage.

Tree Protection Zone (TPZ). This is a radial distance of (12X) the DBH measured from centre of trunk. TPZ is rounded to the nearest 0.1 metre. A TPZ should not be less than 2m or greater than 15m. The TPZ for palms and other monocots should not be less than 1m outside of the crown projection. Existing constraints to root spread can vary the TPZ. For a tree to remain viable, construction activity should be excluded or undertaken with care within the TPZ. Disturbance within up to 10% of the TPZ area is considered to be a minor encroachment. Disturbance to more than 10% of the TPZ area is considered a major encroachment. Major encroachment into the TPZ is possible depending on the type of disturbance, and species tolerance to disturbance. Exploratory excavation may be required to quantify the presence of roots at the alignment of proposed ground disturbance.
This is based upon the Australian Standard AS 4970, 2009, *Protection of trees on development sites* and the Matheney & Clarke "*Guidelines for adequate tree preservation zones for healthy, structurally stable trees*".

Structural Root Zone (SRZ). This is a radial distance based on the following formula- **SRZ =(D x 50) $^{0.42}$ x 0.64** (for trees less than 150mm Diameter, a minimum SRZ of 1.5 metres). SRZ measurements are rounded to the nearest 0.1m. .
The Structural Root Zone is the area of soil and roots required to maintain tree stability. Excavation within the SRZ can result in whole tree failure. Fully elevated construction is possible within SRZ with specific rootzone assessment. Existing constraints to root spread can vary the SRZ. This method of determining SRZ is outlined at Section **3.3.5** of Australian Standard AS 4970, 2009, *Protection of trees on development sites.*

Estimated Remaining Life Expectancy: This gives a length of time that the Arborist believes a particular tree can be retained from the time of assessment with an acceptable level of risk based on the information available at the time of the inspection. This system of rating does not take into consideration the likely impacts of any proposed development. Ratings are **Long** (retainable for 30 years or more with an acceptable level of risk), **Medium** (retainable for 5-30 years), **Short** (retainable for 0-5 years) and **Removal** (tree requiring removal due to risk/hazard or absolute unsuitability).

Landscape & Environmental Significance*. This is an assessment of the impact of the tree on the surrounding landscape amenity and natural environment. Rarity, habitat value, physical prominence, historical and cultural significance of the tree are considered in this rating system. The Landscape & Environmental Value ratings used in this report are:

1. Very High Value: This is an outstanding specimen that holds irreplaceable environmental, landscape or cultural value.

2. High Value: An excellent specimen that holds environmental, landscape or cultural value that is present in other site trees or that could be replaced.

3. Moderate Value: Can be a good to fair specimen with environmental, landscape or cultural value that is common within other trees in the locality.

4. Low Value: Removal would not result in any loss of site amenity or environmental value. Can include undesirable or weed species or trees growing in unsuitable locations.

5. Very Low Value: Dead or hazardous with no other environmental or cultural value. Could also include weed species. These trees should be removed or pruned in a way to make safe irrespective of any development.

***Note**: The concept of using a five (5) point scale to assess tree significance was derived from the Tree Wise Men® Australia Pty Ltd ©Significance Rating Scale.

Retention Value*. Retention values are derived from a combination of Estimated Life Expectancy rating and Landscape and Environmental Significance ratings.

<table>
<tr><td rowspan="6">Landscape & Environmental Significance</td><td></td><td colspan="4">Estimated Life Expectancy</td></tr>
<tr><td></td><td colspan="2">Long</td><td>Medium</td><td>Short</td><td>Removal</td></tr>
<tr><td>Very High (1)</td><td colspan="2" rowspan="2">HIGH</td><td rowspan="2">MEDIUM</td><td rowspan="2"></td></tr>
<tr><td>High (2)</td></tr>
<tr><td>Medium (3)</td><td colspan="2">MEDIUM</td><td colspan="2" rowspan="3">LOW</td></tr>
<tr><td>Low (4)</td><td colspan="3" rowspan="2"></td></tr>
<tr><td>Very Low (5)</td></tr>
</table>

HIGH Retention Value: These trees are worthy of retention and major design consideration should be made where feasible to allow this.

MEDIUM Retention Value: These trees are worthy of retention and minor design consideration should be made to retain these trees wherever possible (e.g. placement of ancillary structures, garden retaining walls, driveway levels).

LOW Retention Value: These trees should not be considered to be a constraint to design layout. Some of these trees should be removed irrespective of any proposed development.

***Note:** The method of determining and defining retention values used in this report has been derived from the ©Retention Index developed by Tree Wise Men® Australia Pty Ltd.

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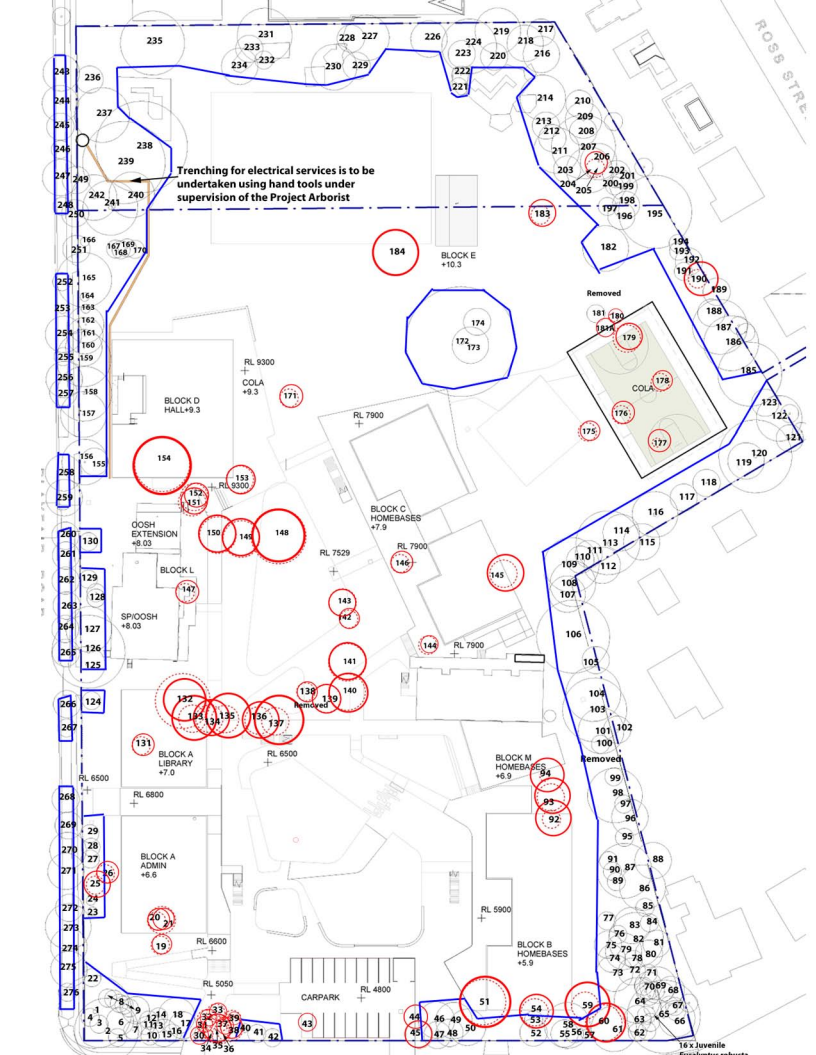

Tree Protection Plan

Curl Curl North Public School

Bluegum Tree Care and Consultancy

LEGEND

Tree Proposed to be Removed		Recommended Location of Tree Protection Fencing	

-This plan was prepared with the Site Plan, TDK Architects, as a base.
-This plan is to be read in conjunction with the Arboricultural Impact Assessment (AIA) report prepared for this site, April 2018.
-Tree protection fencing is indicative only. Final positions should be determined with co-ordination between the Site Foreman and Project Arborist to allow adequate site access during construction. Access within the fenced areas will be permitted during soil remediation works.