

Appendix J

Arboricultural Assessment

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Preliminary Arboricultural Assessment Report

Prepared for
Penrith City Council

Site
Proposed Residential Sub-divisions
Erskine Park and St Clair Reserves

Date
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TABLE OF CONTENTS

	Page
1. Introduction	1
2. Methodology	1
3. Observations	2
4. Discussion	2
5. Overview of Trees within Reserves	3
6. Conclusions	7
Bibliography	9
Appendix A - Tree Data Notes	10
Appendix B - Inventory Notes	37
Appendix C - STARS (IACA 2010)©	39
Appendix D - SULE	41
Appendix E - Photographs	42
Appendix F - Approximate Tree Locations	46

1 Introduction

- 1.1 This Preliminary Arboricultural Report was prepared for Penrith City Council in relation to full or part disposal of several small reserves proposed for residential sub-division. The report is an assessment of nine public reserves within the suburbs of St Clair and Erskine Park.
- 1.2 The aim of the Preliminary Arboricultural Report is to provide an overview of the trees, suitable tree retention values and Tree Protection Zones to guide rezoning and reclassification of certain land within Erskine Park.
- 1.3 In preparation of the report the author is aware of and has taken into consideration the objectives of Penrith City Council's Tree Management Controls, Australian Standard 4970-2009 and The Threatened Species Conservation Act 1995 and Threatened Species under The Environment and Biodiversity Protection Act 1999.

2 Methodology

- 2.1 The trees were visually inspected from ground level to determine the crown condition, class, structural defects, decay, signs of stress, epicormic growth and dieback (refer Appendix A & B)
- 2.2 Landscape significance was determined utilizing the Significance of a Tree Assessment Rating System (STARS). STARS rating establishes the contribution a tree has to the overall landscape, amenity qualities or importance due to species, size, historical/cultural planting, ecological value or significance to the site (refer Appendix C).
- 2.3 A Safe Useful Life Expectancy (SULE) was determined. SULE rating provides an estimate of a tree's expected remaining life span and takes into account the age, life span of the species and considers the current condition, vigour and stability (refer Appendix D).
- 2.4 No root exploration, internal probing or aerial inspection was performed.
- 2.5 Tree height and degree of leaning trees were measured with a Nikon Forestry Pro with tree height rounded to the nearest metre. Canopy spread and age were estimated and Diameter at Breast Height (DBH) and Diameter Above Root Buttress (DRB) was measured.
- 2.6 The comments and recommendations in this report are based on findings of four site inspections undertaken between 28 October – 10 November 2015.
- 2.7 The photographs included in this report were taken at the time of the inspection.

- 2.8 A list of literature used in the preparation of this report is provided in the bibliography section.
- 2.9 As no survey plan could be obtained, each tree was allocated a general location within the aerial imagery sourced by Google Earth (refer Appendix F).

3 Observations

3.1 The Reserves

3.1.1 The Reserves nominated for assessment include;

- Spoonbill Reserve, 1A Spoonbill Street, Erskine Park
- Regulus Reserve, 73 Swallow Drive, Erskine Park
- Dilga Reserve, 9A Dilga Street, Erskine Park
- Pacific & Phoenix Reserve, 27 Phoenix Crs, Erskine Park
- Capella Reserve, 8A Capella Street, Erskine Park
- Chameleon Reserve, 25 Chameleon Drive, Erskine Park
- Spica Reserve, 85 Chameleon Drive, Erskine Park
- Ashwick Reserve, 11 Ashwick Circuit, St Clair
- Fuller Reserve, 6 Fuller Place, S Clair

3.2 The Trees

3.2.1 One hundred and forty three (143) individual trees and nine (9) closely aligned groups of trees were assessed in preparing the report. Details of the trees, including their dimensions, condition, SULE, landscape significance (STARS), Retention Value, Tree Protection Zones and Structural Root Zones. In addition the brief asked to highlight those trees which may contain suitable cavities/hollows for use by wildlife (Refer Appendix A)

3.3 Continuing Assessment

3.3.1 The tree assessment and recommendations are based upon the condition of the trees at the time of inspection. As trees mature, age and decline additional assessments may be necessary in the future.

4 Discussion

4.1 Tree Protection, Heritage and Ecological Significance

- 4.1.1 A Tree Preservation Order (TPO) for Penrith Council is in force and made under Section 5.9 of Councils LEP 2010. The TPO protects all trees over 3 metres in height, with some exemptions applying to invasive weed species.
- 4.1.2 The reserves do not fall within one of Council's Heritage Conservation Areas.
- 4.1.3 Applying the above all trees assessed are protected under Penrith City Council's Tree Management Controls.

- 4.1.4 A search of the BioNet Atlas of NSW Wildlife Database in November 2015 indicates the reserves fall within or adjoin sections of land mapped as Cumberland Plain Woodland or Shale Gravel Transition Forest. The area is shown within The Native Vegetation of the Cumberland Plain by NSW National Parks and Wildlife Service 1:25,000 Series Map 11 of 16 dated October 2002 (refer www.environment.nsw.gov.au/surveys/GetHoldOfMapsDataAndReports).
- 4.1.5 Cumberland Plain Woodland is listed as a Critically Endangered Ecological Community under the Threatened Species Conservation Act and Environment Protection and Biodiversity Conservation Act. While Shale Gravel Transition Forest is listed as an Endangered Ecological Community under The Threatened Species Conservation Act and as Critically Endangered under Environmental Protection and Biodiversity Conservation Act.

4.2 General

- 4.2.1 As defined by Australian Standard 4970-2009 Protection of Trees on Development sites, the purpose of a Preliminary Arboricultural Report is to evaluate those trees suitable for retention value, provide a preliminary arboricultural report and determine for each tree a Tree Protection Zone (TPZ) to guide future development.
- 4.2.2 The Tree Survey Notes (Appendix A) lists the retention value for each tree assessed. The retention value is based on a trees SULE coupled with the allocated Landscape Significance (STARS) with consideration given to their health, structural condition and ecological significance. The Retention Value does not take into account any proposed designs. All trees were allocated one of the following Retention Values;
- Priority for Retention
 - Consider for Retention
 - Consider for Removal
 - Priority for Removal
- 4.2.3 For each tree a TPZ and Structural Root Zone (SRZ) was determined in accordance Section 3.2 of AS4970 (refer Appendix A).

5 Overview

- 5.1 As can be expected with a large population of mature and aging trees, the visual tree assessment identified several specimens exhibiting diminished health and/or structural defects of differing degrees. Poor landscape maintenance practices including mechanical damage to many of the trees' lower trunks and the predation of pest and disease have reduced the condition and/or vigour and subsequently the retention value of many trees.

5.2 Spoonbill Reserve 1A Spoonbill Street, Erskine Park

5.2.1 A total of eleven trees within the reserve were visually assessed. Eight trees were identified as *Eucalyptus tereticornis*. The species are recognized as dominant canopy trees of the Critically Endangered Cumberland Plain Woodland. Of the eight trees, seven are afforded a Priority for Retention Value.

5.2.2 Trees 1, 3 & 5 contain small hollows or cavities that may be suitable for wildlife. During the assessment a pair of Rainbow Lorikeet (*Trichoglossus haematodus*) were seen to frequent one of the hollows, further investigation in the form of an aerial inspection is recommended.

5.2.3 Three trees identified as Trees 9 - 10 are young to semi mature planted exotic or native (not locally occurring) specimens, their removal should not be considered a restraint to future development.

5.3 Regulus Reserve 73 Swallow Drive Erskine Park

5.3.1 A total of thirteen individual trees and three copses of planted trees were evaluated within the site.

5.3.2 Four specimens numbered Trees 1, 3, 8 & 12 are dead and hold advanced brittle large diameter deadwood throughout their canopies. Two trees numbered Trees 9 & 13 are in irreversible decline. Six trees identified as Trees, 5, 6, 7 & 10 are over mature and subsequently assessed with a short useful life expectancy.

5.3.3 Trees 2, 4, 5, 6, 7, 9, 10, 11 & 13 were identified as *Eucalyptus moluccana* and *Eucalyptus tereticornis*, the trees form part of dominant species belonging to the Critically Endangered Cumberland Plain Woodland Vegetation Group. Of these, three identified as Trees 2, 4 & 11 are assessed as a Priority for Retention.

5.3.4 Trees 1 & 13 contain hollows which may provide suitable habitat for native wildlife.

5.2.5 Park benches are situated beneath two dead trees (Trees 1 & 3). To reduce risk, it is recommended either whole tree removal or dismantling of the two benches be instigated as a matter of priority.

5.2.6 Four groups of young to semi mature planted local and non-locally occurring specimens numbered Trees 14 – 17 trees should not be seen as a constraint to future development.

5.4 Dilga Reserve 9A Dilga Street, Erskine Park

- 5.4.1 Twenty one individual trees and one close group comprising of seven remnant specimens were assessed within Dilga Reserve. All trees with the exception of Tree 17 were identified as *Eucalyptus moluccana* and *Eucalyptus tereticornis*, both are dominant tree species of the Critically Endangered Cumberland Plain Woodland.
- 5.4.2 Comparisons between recent aerial imagery and the site assessment indicates several trees have been removed in the past year or two. Considering the declining nature of the tree canopy within Dilga Reserve, it is assumed the recent removals were due to tree demise.
- 5.4.3 Eleven specimens were allocated a short useful life expectancy, while one specimen identified within the group of trees labelled as Tree 22 (f) is dead.
- 5.4.4 Ten Trees within Dilga Reserve were assessed as a Priority for Retention.

5.5 Part Pacific & Phoenix Reserve 27 Phoenix Crescent, Erskine Park

- 5.5.1 Sixteen trees were assessed within the north eastern corner of the reserve. Six trees were identified as *Eucalyptus moluccana* or *Eucalyptus tereticornis* and are listed as Trees 1, 2, 3, 6, 12 & 13. The species is associated with the Cumberland Plain Woodland and subsequently assessed as a Priority for Retention.
- 5.5.2 Tree 6 - *Eucalyptus tereticornis* contains two cavities which may provide suitable habitat for native wildlife. The specimen has been previously lopped and retained to preserve existing habitat.
- 5.5.3 Non-locally occurring *Corymbia citriodora* and *Eucalyptus bicostata* form the remaining tree cover within the section proposed for dispersal.

5.6 Capella Street Reserve 11A Canopus Place, Erskine Park

- 5.6.1 Twenty individual trees within the north eastern section of the park bounded by Canopus Place and Capella Street were evaluated.
- 5.6.2 The vegetation in this section of the reserve is comprised predominantly of *Corymbia maculata* and *Eucalyptus bicostata*. Although *Corymbia maculata* is associated with the Cumberland Plain Woodland, the relatively small dimensions and close grouping indicates these are more recent plantings.
- 5.6.3 Poor park maintenance practices has caused several trees to succumb to heavy borer infestations and consequently a reduction in overall tree condition, vigour and retention value.
- 5.6.4 One isolated and remnant *Eucalyptus moluccana* associated with the Cumberland Plain Woodland is afforded a priority for retention, the specimen is located closest to the Capella Street frontage.

5.7 Spica Reserve 85 Swallow Drive, Erskine Park

5.7.1 Nineteen trees were evaluated towards the eastern boundary, this section of the reserve is bounded by residential dwellings to the north, south and east.

5.7.2 With the exception of Trees 1 & 2, the remaining trees appear to be more recent plantings. Several trees contain wounds attributed to vandalism, while mechanical damage (whipper snipper and lawn mower) has led to excessive borer infestation and partial ringbarking to six trees.

5.7.3 Two specimens identified as *Eucalyptus moluccana* numbered Trees 1 & 2 appear to be remnant of the Critically Endangered Cumberland Plain Woodland Vegetation Group. The two trees are over mature, exhibit poor vigour and allocated a short useful life expectancy.

5.8 Chameleon Reserve 25 Chameleon Drive, Erskine Park

5.8.1 Eleven trees within the north eastern section of the reserve were identified.

5.8.2 A copse of young to semi mature planted trees located along the northern section of the reserve adjoining the area proposed for dispersal were included within the assessment. Dependent upon future development setbacks, this group may be affected by future development and therefore the larger trees along the periphery were included as part of the assessment.

5.8.3 Although outside the area set aside for dispersal Tree 3 appears to be a remnant specimen of the Cumberland Plain Woodland. The tree is evaluated as a Priority for Retention with TPZ's allocated to guide the development layout.

5.9 Ashwick Reserve 11 Ashwick Circuit, St Clair

5.9.1 No trees fall within the area identified for dispersal, however three significant specimens close to the eastern boundary on private property may be impacted by future development. As site access was restricted, the TPZ's are estimated. The development layout including underground utilities or grade changes should take into consideration the trees on adjoining property.

5.10 Fuller Reserve 6 Fuller Place, St Clair

5.10.1 Twenty two individual and 3 close groupings of *Melaleuca decora* fall within Fuller Reserve. The reserve is contained within an area identified as Shale Gravel Transition Forest as mapped within The Native Vegetation of the Cumberland Plain by the National Parks and Wildlife. The vegetation group is listed endangered within the Threatened Species Conservation Act 1995. (refer www.environment.nsw.gov.au/surveys/GetHoldOfMapsDataAndReports).

5.10.2 All trees with the exception of Tree 19 were allocated with a Priority for Retention.

6 Conclusions/Recommendations

- 6.1 One hundred and forty three (143) individual and nine (9) groups of trees were evaluated.
- 6.2 As is expected with a large population of mature trees the assessment identified many exhibiting severely reduced condition/vigour and substantial structural defects. As several trees associated with the Cumberland Plain Woodland are dead or over mature and are approaching the end of their useful life expectancy, removal will be necessary. To minimise the impacts and the amenity afforded to the local area a proactive policy of replacement plantings should be instigated.
- 6.3 All trees assessed are protected under the provisions of Section 5.9 of Penrith City Council's LEP 2010. In addition Spoonbill, Regulus, Dilga, Pacific & Phoenix, Capella and Chameleon Reserves contain tree species associated with the Critically Endangered Ecological Community Cumberland Plain Woodland. While tree species associated with endangered ecological community Shale Gravel Transition Forest were identified within Fuller Reserve.
- 6.4 For each tree retained, the TPZ's should be assigned to ensure the trees and their growing environment are protected throughout the process. When detailed plans are finalised for each area of development an Arboricultural Impact Assessment and Tree Protection Plan shall be prepared to examine the potential impact of the proposal upon the retained trees.

Any questions relating to this arborist report should be directed to Glenyss Laws.

Yours Sincerely



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Since 1996

Assumptions

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However Redgum Horticultural and Glenyss Laws – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others.

Unless stated otherwise:

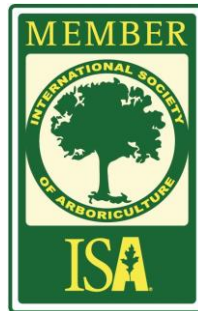
- Information contained in this report covers only the tree that was examined and reflects the condition of the tree at the time of inspection: and
- The inspection was limited to visual examination of the subject tree without dissection, excavation, probing or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject tree may not arise in the future.

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Standards Australia (2007), AS4970-2009 Protection of trees on development sites.

APPENDIX A

Tree Data Notes

Spoonbill Reserve 1A Spoonbill Street, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	1100	1240	29	17	3	C	1	4H	Gr, C/D, C/-	13.2	3.7	Cavity within bifurcation of leader appears suitable for habitat at 9m from ground level. Decay in lower trunk measuring 90cm x 12cm. Decay in central leader due to 1 st order limb failure @ 7m to the south east. Requires an aerial inspection to check the extent of the cavity & habitat value. Small cavity also to the north at 9m. Holds medium volumes of deadwood < 150mm in diameter
2	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	720	920	24	16	3	C	1	4C	Gr, C/I/-	8.6	3.2	Included bark in codominant leader at 5m & in union of 2 nd order branch attachment. Significant reaction wood within the two included attachments.
3	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	800 & 950	1480	29	19	3	C	1	2A	Gr, C/D/-	15.0	4.0	Forms codominant leaders at 2m union appears sound. 7 x small sections of decay within upper trunk with good reaction wood. Most eastern of the leaders holds a section of decay and possible cavity – requires an aerial inspection to determine the extent of decay/cavity & for habitat value.

Spoonbill Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
4	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	710	950	27	17 n/s 12 e/w	3	C	1	1B	Gr, C/D, F/-	8.5	3.3	2 x 2 nd order branch failures to the north approximately 250mm in diameter. Decay in lower trunk measures 30 x 30cm with excellent wound wood development.
5	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	1240	1260	30	22	3	C	1	4H	Gr, C/-/-	14.9	3.7	Cavity in old 1 st order branch failure at 9m from ground level. Nesting Rainbow Lorikeets evident within cavity. Additional hollow approx 1m below which may form one continuous cavity. Requires an aerial inspection to assess the extent of decay.
6	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	440	480	25	7	3	Partial S	1	2A	Gr, C/-/-	5.3	2.5	On 16° lean to the north due to partial suppression, canopy biased to the north.
7	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	500	600	28	8	3	C	1	1B	Gr, B/-/-	6.0	2.7	Canopy biased to the east
8	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	480	520	28	7	3	C	1	1B	Gr, C/-/-	5.8	2.6	
9	<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Y	120	160	7	4	4	I	3	5B	Gr, B/D, C/-	1.6	1.6	

Spoonbill Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
10	<i>Jacaranda mimosifolia</i> (Jacaranda)	S	120 & 230	370	8	7	3	I	3	5B	Gr, E,C/- /-	3.1	2.2	
11	<i>Grevillea robusta</i> (Silky Oak)	Y	170	260	8	6	5	I	2	5B	Gr, C/-/-	2.0	1.9	

Trees Highlighted in Green indicate Priority for Retention
 Trees Highlighted in Blue indicate Consider for Retention
 Trees Highlighted in Pink indicate Consider for Removal
 Trees Highlighted in Orange are listed as a Priority for Removal

Regulus Reserve 73 Swallow Drive, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus species</i>	Dead	-	-	14	-	0	C	3	4A	-	-	-	Hollow of possible habitat value at approximately 5m. Dead specimen with large volumes of brittle deadwood > 200mm in diameter. Remove public seating beneath dripline of canopy as a matter of high priority.
2	<i>Eucalyptus moluccana</i> (Grey Box)	O	1230	1300	20	18	2	D	1	2D	Gr, C/-/-	14.8	3.7	
3	<i>Eucalyptus species</i>	Dead	-	-	22	-	0	C	3	4A	-	-	-	Remove - specimen with large volumes of brittle deadwood > 200mm in diameter. Otherwise remove public seating beneath dripline of canopy as a matter of high priority.
4	<i>Eucalyptus moluccana</i> (Grey Box)	O	670	830	23	14	2	C	1	4H	Gr, C/D, C/-	8.0	3.1	Decay in 2 nd order branch attachment at 12m. Cavity of possible habitat value at 3.5m. Holds high volumes of deadwood < 200mm in diameter.
5	<i>Eucalyptus tereticornis</i> (Grey Gum)	O	540	660	20	11	1	C	1	3A	Gr, C/F/-	6.5	2.8	Leader failure many years in the past. Specimen forms 6 leaders near point of previous leader failure.
6	<i>Eucalyptus tereticornis</i> (Grey Gum)	O	640	770	21	14	1	C	1	3A	Gr, C/D/-	7.7	3.0	Holds large volumes of deadwood < 150mm in diameter. 80% of canopy comprised of epicormic growth. Minor decay in basal area to south measures 20 x 25cm. Sounding with a mallet produced a good resonance.
7	<i>Eucalyptus moluccana</i> (Grey Box)	O	630	840	23	10	1	C	1	3A	Gr, C/-/-	7.6	3.1	Holds large volumes of deadwood < 200mm in diameter.

Regulus Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
8	<i>Eucalyptus species</i>	Dead	-	-	18	-	0	C	3	4A	-	-	-	Remove, dead specimen with large volumes of brittle deadwood > 200mm in diameter.
9	<i>Eucalyptus moluccana</i> (Grey Box)	O	840	970	20	14	1	C	1	4A	Gr, C/-/-	10.1	3.3	
10	<i>Eucalyptus moluccana</i> (Grey Box)	O	540	600	20	10	2	C	1	3A	Gr, C/D/-	6.5	2.7	Decay in lower trunk at 80cm measures 70 x 23cm excellent wound wood development.
11	<i>Eucalyptus moluccana</i> (Grey Box)	O	570	660	21	11	3	C	1	2D	Gr, C/-/-	6.8	2.8	
12	<i>Eucalyptus species</i>	Dead	470	530	18	-	O	C	3	4A	-	5.6	2.6	Remove, dead specimen with large volumes of brittle deadwood > 200mm in diameter.
13	<i>Eucalyptus moluccana</i> (Grey Box)	O	610	820	21	12	1	C	1	4H	Gr, C/-/-	7.3	3.1	Decay in lower trunk to north measures 80cm x 17cm. Cavity of possible habitat value at point of bifurcation of leader at 12m. Canopy holds major volumes of deadwood 50 – 300mm in diameter. Decay at point of old 1 st order branch failure to north at 3m. Decay in basal area to west measures 30cm x 35cm
14	3 x <i>Casuarina cunninghamiana</i> (River She-Oak) 1 x <i>Grevillea robusta</i> (Silky Oak)	Y	150	210	3.5 – 5.5	2 – 3	4	C	2	5B	Gr, C/-/-	1.8	1.8	Small group of 4 young planted specimens.

Regulus Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
15	2 x <i>Casuarina cunninghamiana</i> (River She-Oak) 1 x <i>Grevillea robusta</i> (Silky Oak) 1 x <i>Eucalyptus</i> <i>sp.</i> 1 x <i>Callistemon viminalis</i> (Bottle Brush)	Y	200	280	3 – 6.5	4	4	I	2	5B	Gr, C/-/-	2.4	2.0	Small group of 5 young planted specimens.
16	8 x <i>Corymbia citriodora</i> (Lemon-scented Gum) 5 x <i>Casuarina cunninghamiana</i> (River She-Oak) 2 x <i>Melaleuca species</i> (Paperbark) 1 x <i>Eucalyptus species</i>	S	300	380	5 – 16	3-10	4	C	3	2A	Gr, C/-/-	3.6	2.0	Group of 17 young to semi mature planted species.

Regulus Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
17	<i>Corymbia citriodora</i> (Lemon-scented Gum) <i>Casuarina cunninghamiana</i> (River She-Oak) <i>Melaleuca species</i> (Paperbark) <i>Eucalyptus species</i>	S	190	220	Average 18	4	3	C	3	2A	Gr, C/-/-	2.3	1.7	Group of 16 young to semi mature planted species

Trees Highlighted in **Green** indicate Priority for Retention
 Trees Highlighted in **Blue** indicate Consider for Retention
 Trees Highlighted in **Pink** indicate Consider for Removal
 Trees Highlighted in **Orange** are listed as a Priority for Removal

Dilga Reserve 5 Dilga Crescent, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus moluccana</i> (Grey Box)	M	530	610	26	15	3	C	1	1A	K, Gr, Pa/-/Bu	6.4	2.7	
2	<i>Eucalyptus moluccana</i> (Grey Box)	M	480	520	27	10	3	C	1	2A	Gr, C/-/-	5.8	2.6	Forms codominant leaders at 1.6m union appears sound.
3	<i>Eucalyptus moluccana</i> (Grey Box)	O	340	410	27	7	2	C	1	3A	Gr, C/-/-	4.1	2.3	Holds high volumes of deadwood 50 – 100mm in diameter.
4	<i>Eucalyptus moluccana</i> (Grey Box)	O	220 & 450	690	24	9	2	C	1	3A	Gr, C/-/-	6.1	2.9	Forms 2 leaders at 60cm – union appears sound.
5	<i>Eucalyptus moluccana</i> (Grey Box)	O	290	370	18	5	1	C	1	3A	Gr, C/W/-	3.5	2.2	Canopy density < 20% and comprised entirely of epicormic growth.
6	<i>Eucalyptus moluccana</i> (Grey Box)	O	300	380	19	2	1	C	1	3A	Gr, C/-/-	3.6	2.3	Canopy density < 20% and comprised entirely of epicormic growth. Holds high volumes of deadwood 50 – 100mm in diameter.
7	<i>Eucalyptus moluccana</i> (Grey Box)	M	450	530	21	12	3	D	1	2A	Gr, C/-/-	5.4	2.6	
8	<i>Eucalyptus moluccana</i> (Grey Box)	M	370	490	21	12	3	C	1	2A	Gr, C/W/-	4.4	2.5	Wound in lower trunk to west measures 70cm x 6cm wound wood development is excellent.
9	<i>Eucalyptus moluccana</i> (Grey Box)	O	340	440	24	7	2	C	1	3A	Gr, C/B, W/-	4.1	2.4	Wound in lower trunk measures 40cm x 1m.
10	<i>Eucalyptus moluccana</i> (Grey Box)	O	340	450	22	3	1	C	3	4A	Gr, C/W/-	4.1	2.4	Wound in lower trunk to west measures 60cm x 3cm with excellent development of wound wood. High volumes of deadwood < 150mm in diameter.

Dilga Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
11	<i>Eucalyptus moluccana</i> (Grey Box)	M	570	680	25	15	3	C	1	1A	Gr, C/-/-	6.8	2.9	
12	<i>Eucalyptus moluccana</i> (Grey Box)	O	430	510	22	9	2	C	1	3A	Gr, C/-/-	5.2	2.5	Canopy holds high volumes of deadwood < 100mm in diameter.
13	<i>Eucalyptus moluccana</i> (Grey Box)	O	420	500	22	11	2	C	1	2C	Gr, C/W/-	5.0	2.5	Small wound in base to south 3cm x 6cm with good wound wood development.
14	<i>Eucalyptus moluccana</i> (Grey Box)	O	330	400	19	6	2	C	1	2C	Gr, C/W/-	4.0	2.3	Wound in basal area 25cm x 10cm with average wound wood development.
15	<i>Eucalyptus moluccana</i> (Grey Box)	O	240 & 330	520	15	9	2	C	1	2C	Gr, C/-/-	4.9	2.6	
16	<i>Eucalyptus moluccana</i> (Grey Box)	O	200	260	15	2	1	C	3	4A	Gr, C/W/-	2.4	1.9	Wound to north in lower trunk 35cm x 5cm – average wound wood development. Complete dieback of leader. Canopy comprised entirely of epicormic growth.
17	<i>Melia azedarach</i> (White Cedar)	S	200	Est 240	7	7	4	I	2	5B	Gr, C/-/-	2.4	1.9	
18	<i>Eucalyptus species</i> (Ironbark)	M	410	460	15	9	3	C	1	1A	Gr, C/-/-	4.9	2.4	Forms co-dominant leaders at 2m, union appears sound.

Dilga Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
19	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	430	520	22	12	2	C	1	4C	Gr, C/D/-	5.2	2.6	3 x wood decaying fungus identified as <i>Phellinus</i> sp. within basal region.
20	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	350	440	18	9	2	C	1	2C	Gr, C/-/-	4.2	2.4	Holds medium volumes of deadwood < 100mm in diameter.
21	<i>Eucalyptus tereticornis</i> (Grey Gum)	O	390	540	17	10	2	C	1	3A	Gr, C/W/-	4.7	2.6	Small wound in basal region 20cm x 7 cm with excellent wound wood development.
22	7 x <i>Eucalyptus moluccana</i> (Grey Box)	O	Aver 320	Aver 440	16 - 19	0 - 8	0 - 2	C	1	3A	Gr, C/-/-	3.8	2.4	Group of 7 specimens Tree 22 (f) dead. Remove Tree 22 (f)

Trees Highlighted in Green indicate Priority for Retention

Trees Highlighted in Blue indicate Consider for Retention

Trees Highlighted in Pink indicate Consider for Removal

Trees Highlighted in Orange are listed as a Priority for Removal

Pacific and Phoenix Reserve, 27A Phoenix Crescent, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	370	470	20	7	3	C	1	2A	Gr, C/-/-	4.4	2.5	Forms two leaders at 8m, union appears sound.
2	<i>Eucalyptus fibrosa</i>	M	440	540	24	9	4	C	1	1A	Gr, C/-/-	5.3	2.6	Forms codominant leaders at 4m union is sound.
3	<i>Eucalyptus moluccana</i> (Grey Box)	M	440, 400 & 400	860	25	12	4	C	1	1A	Gr, C/-/-	8.6	3.2	Forms three leaders at 1m unions appear sound.
4	<i>Corymbia maculata</i> (Spotted Gum)	O	140	210	12	3	3	S	2	3A	Gr, C/B/-	1.8	1.8	Poor vigour, heavily infested with borer in basal area to south. Planted specimen.
5	<i>Corymbia citriodora</i> (Lemon-scented Gum)	O	120 & 200	320	10	7	3	S	2	3A	Gr, C/B,W/-	2.9	2.1	Excessive borer in lower trunk with associated damage measuring 27cm x 50cm. Forms two leaders at 1.3m with borer damage within branch union. Exhibits poor vigour.
6	<i>Eucalyptus tereticornis</i> (Grey Gum)	O	710	890	13	2	0	D	1	4H	Gr, C/C/-	8.5	3.2	Specimen has been previously lopped and retained as a habitat tree. 2 x cavities/hollows suitable for birdlife evident at 12m.
7	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	M	320	410	10	6	3	C	2	3A	Gr, C/B/-/-	3.8	2.3	Canopy biased to the north heavy infestation of borer throughout the lower trunk. Forms three leaders at 2.5m. Planted specimen

Pacific and Phoenix Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
8	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	S	140 & 210	300	6	6	3	Partial S	2	2B	Gr, C/B,W/-	3.1	2.0	Canopy biased to the north. Trunk on a 17° lean to the north. Wound in lower trunk 35cm x 12. Specimen forms two leaders at 1.1m. Planted specimen
9	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	290	390	18	10	4	C	2	2A	Gr, C/B/-	3.5	2.3	Planted specimen
10	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	330	470	17	12	4	Partial S	2	2D	Gr, C/-/-	3.6	2.5	Borer damage in lowest northern 1 st order branch attachment. Feasible to prune defective branch. Planted specimen
11	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	M	140	210	6	2	3	S	3	3A	B/B,W/-	1.8	1.8	Borer damage and associated wounding to west measures 40 x 10cm. Planted specimen
12	<i>Eucalyptus moluccana</i> (Grey Box)	M	430 & 520	1000	24	16	4	C	1	2D	B/W/-	8.2	3.4	Forms codominant leaders near ground level. Borer infestation and associated wounding to the south in lower trunk 1m x 15cm with poor wound wood development
13	<i>Eucalyptus moluccana</i> (Grey Box)	M	430	540	18	8	4	C	1	1B	B/-/-	5.2	2.6	

Pacific and Phoenix Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
14	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	360	380	13	8	4	Partial S	2	2A	Gr, C/-/-	4.3	2.3	Planted specimen
15	<i>Eucalyptus sp.</i> Likely <i>Eucalyptus deanei</i> (Brown Gum)	S	230	330	7	9	4	S	2	2A	Gr, C/B, W/-	2.8	2.1	Canopy biased to south east due to suppression. Recent failure of lowest 1 st order western branch 120mm in diameter.
16	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	O	190	290	8	4	2	Partial S	3	4A	Gr, C/B, W/-	2.3	2.0	Borer damage and associated wound in lower trunk to the north. Planted specimen.

Trees Highlighted in Green indicate Priority for Retention
 Trees Highlighted in Blue indicate Consider for Retention
 Trees Highlighted in Pink indicate Consider for Removal
 Trees Highlighted in Orange are listed as a Priority for Removal

Capella Street, Reserve – 8A Kawana Place, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Corymbia maculata</i> (Spotted Gum)	M	430	520	20	10	4	C	1	1A	Gr, C/-/-	5.2	2.6	
2	<i>Eucalyptus species</i>	Dead	130	260	6	0	0	-	3	4A	Gr, C/-/-	1.9	1.9	
3	<i>Corymbia maculata</i> (Spotted Gum)	M	320	410	17	7	4	C	1	1A	Gr, C/B/-	3.8	2.3	
4	<i>Corymbia maculata</i> (Spotted Gum)	M	180	230	16	4	4	C	2	2A	Gr, C/-/-	2.2	1.8	
5	<i>Eucalyptus species</i> (Likely <i>E. deanei</i>)	M	290	330	14	8	3	C	2	2A	Gr, C/B, W/-	3.5	2.1	Moderate borer infestation in lower trunk and basal region. Canopy holds low volumes of deadwood < 80mm in diameter. Wound in eastern lower trunk measuring 20cm x 40cm. Planted specimen.
6	<i>Corymbia maculata</i> (Spotted Gum)	M	120	180	8	2	3	S	3	3A	Gr, C/B, W/-	1.7	1.7	Holds medium infestation of borer in lower trunk & basal area encompassing 50% of trunk circumference.
7	<i>Eucalyptus species</i> (Likely <i>E. deanei</i>)	O	120	200	8	2	2	S	3	4A	B/B/-	1.7	1.7	Holds moderate volumes of borer in lower trunk & basal area encompassing 50% of trunk circumference.

Capella Street, Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
8	<i>Eucalyptus species</i> (Likely <i>E. deanei</i>)	M	280 & 270	570	17	9	3	C	2	3A	Gr, C/B, W/-	4.7	2.7	Forms two leaders at 80cm. Heavy borer infestation in lower trunk to the west with associated wounding measuring 75cm x 70cm.
9	<i>Eucalyptus species</i>	Dead	280	310	11	6	0	-	3	4A	Gr, C/-/-	3.4	2.1	
10	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	M	330	420	13	7	4	C	2	1B	Gr, C/-/-	4.0	2.3	
11	<i>Eucalyptus bicostata</i> (Southern Blue Gum)	M	400	460	12	6 e/w 10 n/s	4	Partial S	2	1B	Gr, C/-/-	4.8	2.4	Canopy biased to the east.
12	<i>Eucalyptus sideroxylon</i> (Red Ironbark)	M	270	330	13	7	3	C	2	1B	Gr, C/-/-	3.2	2.1	Forms two leaders at 2m union appears sound.
13	<i>Corymbia maculata</i> (Spotted Gum)	M	110	210	7	3	3	Partial S	2	2A	Gr, C/-/-	1.8	1.8	Moderate infestation of borer and associated wound in basal area 30cm x 20cm.
14	<i>Corymbia maculata</i> (Spotted Gum)	M	190	300	10	5	4	C	2	2A	Gr, C/B, W/-	2.3	2.0	Wound in basal region due to mechanical damage (whipper snipper/mower)
15	<i>Corymbia maculata</i> (Spotted Gum)	M	280	390	18	7	3	C	2	3A	Gr, C/B, W/-	3.4	2.3	Heavy infestation of borer and associated wounding measuring 1.1m x 50cm. Poor response growth/wound wood development.

Capella Street, Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
16	<i>Corymbia maculata</i> (Spotted Gum)	M	150	220	8	4	4	S	2	2A	Gr, C/B/-	1.8	1.8	
17	<i>Corymbia maculata</i> (Spotted Gum)	M	290	370	16	6	4	C	1	1A	Gr, C/B/-	3.5	2.2	
18	<i>Corymbia maculata</i> (Spotted Gum)	O	120	160	9	2	1	S	3	4A	Gr, C/B/-	1.6	1.6	
19	<i>Corymbia maculata</i> (Spotted Gum)	M	360	470	19	8	4	C	1	1A	E, Gr, C/- /-	4.3	2.5	
20	<i>Eucalyptus moluccana</i> (Grey Box)	M	540	820	17	9	4	D	1	1A	Gr, C/-/-	6.5	3.1	Moderate infestation of psyllids. Birds nest in western canopy at 7m.

Trees Highlighted in **Green** indicate Priority for Retention

Trees Highlighted in **Blue** indicate Consider for Retention

Trees Highlighted in **Pink** indicate Consider for Removal

Trees Highlighted in **Orange** are listed as a Priority for Removal

Spica Reserve 85 Swallow Drive, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus moluccana</i> (Grey Box)	O	680	820	25	17 e/w 10 n/s	2	C	1	3A	Gr, C/W/-	8.2	3.1	Canopy comprised of 80% epicormic growth. Holds high volumes of deadwood < 200mm in diameter. Wound in lower trunk to west at 3m approx 1.5 x 3cm with excellent wound wood development.
2	<i>Eucalyptus moluccana</i> (Grey Box)	O	480	640	22	13 e/w 9 n/s	2	C	1	3A	Gr, C/-/-	5.8	2.8	Canopy comprised of 80% epicormic growth. Holds high volumes of deadwood < 200mm in diameter.
3	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	250 & 330	590	18	14	3	D	3	4C	Gr, C/F, I, B, W/-	5.0	2.7	Inferior 1 st order branch failure at 6m, < 100mm in diameter. Forms codominant leaders at 1.2m, included bark within union compounded by borer damage. Borer damage in basal region measures 40cm x 50cm.
4	<i>Callistemon viminalis</i> (Bottle Brush)	M	Multi 60 – 80mm	260	4	3	3	C	3	5B	Gr, C/-/-	1.9	1.9	
5	<i>Eucalyptus punctata</i>	S	200	300	13	6	3	C	2	1A		2.4	2.0	Wound in lower trunk at 1m measures 10cm x 10cm due to vandalism.
6	<i>Eucalyptus punctata</i>	S	260	300	14	6	3	C	2	1A	Gr, C/W/-	3.1	2.0	Originally formed 2 leaders at 70cm northern leader removed. Wound in basal region to north 4cm x 15cm with average wound wood development.
7	<i>Eucalyptus tereticornis</i> (Grey Gum)	S	250	360	11	5	3	C	1	1A	Gr, C/W/-	3.0	2.2	Epicormic growth exhibiting juvenile foliage.
8	<i>Callistemon viminalis</i> (Bottle Brush)	M	40, 50 & 80	200	4	2	3	C	3	5B	Gr, C/-/-	1.7	1.7	

Spica Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
9	<i>Eucalyptus species</i>	O	180	260	10	4	1	C	3	4A	Gr, C/-/-	2.2	1.9	Limited canopy density with epicormic growth exhibiting juvenile foliage.
10	<i>Casuarina cunninghamiana</i> (River She-Oak)	S	130	170	6	2	4	S	3	4C	Gr, C/-/-	1.6	1.6	Heavily suppressed
11	<i>Casuarina cunninghamiana</i> (River She-Oak)	S	140	300	10	3	4	I	2	1A	Gr, C/-/-	2.0	2.0	
12	<i>Eucalyptus tereticornis</i> (Grey Gum)	O	230	290	7	6 e/w 5 n/s	1	S	1	4A	Gr, C/B,W/-	2.8	2.0	Canopy biased to west. Wound in basal area 25cm x 10cm with average reaction wood. Wound due to vandalism to east 10cm x 10cm at 1.0m.
13	<i>Eucalyptus punctata</i>	M	150	230	13	4	4	C	2	2A	B/-/-	1.8	1.8	
14	<i>Eucalyptus species</i>	M	440	520	18	14	3	C	1	1A	Gr, C/-/-	5.3	2.6	
15	<i>Eucalyptus tereticornis</i> (Grey Gum)	M	280	380	12	10	3	S	2	2A	Gr, C/-/-	3.4	2.3	Wound in basal area due to mechanical damage) 35cm x 12cm and associated borer damage.
16	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	380	500	18	14	4	C	1	2A	Gr, C/B,W/-	4.6	2.5	Wound in basal area to due to mechanical damage.

Spica Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
17	<i>Corymbia citriodora</i> (Lemon-scented Gum)	M	120, 150 & 180	340	17	7	4	C	3	4A	Gr, C/W/-	3.2	2.2	Wound in basal area to due to mechanical damage (whipper snipper) effectively ringbarking 50% of circumference.
18	<i>Callistemon viminalis</i> Bottle Brush	M	60, 80 & 120	190	4	3	4	C	2	5B	Gr, C/W/-	1.9	1.7	Wound in southern leader due to vandalism.
19	<i>Corymbia citriodora</i> (Lemon-scented Gum)	O	120, 110 & 200	Est 500	13	8	3	D	2	3D	Ga, Gr, M/B, W, D/-	3.1	2.5	Forms 3 x leaders near ground level with complete dieback of smallest leader. Heavily infested with borer. Decay encompasses approximately 50% of trunk circumference.

Trees Highlighted in Green indicate Priority for Retention

Trees Highlighted in Blue indicate Consider for Retention

Trees Highlighted in Pink indicate Consider for Removal

Trees Highlighted in Orange are listed as a Priority for Removal

Chameleon Reserve, 25 Chameleon Drive, Erskine Park

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Eucalyptus species</i>	S	110 & 130	290	6	5	4	D	2	5B	Gr, C/-/C	2.2	2.0	Planted specimen. Forms codominant leaders at 70cm union appears sound. Small wound 10cm x 2cm in basal region to south currently does not affect structural integrity. Wound attributed to mechanical damage (lawn mower/ whipper snipper).
2	<i>Eucalyptus species</i>	S	80, 130, 110 & 110	380	6	5	4	D	2	5B	Gr, C/E,D/C	2.6	2.3	Planted specimen. Decay in northern leader 50cm x 2cm with good wound wood development. Specimen forms 3 leaders at ground level unions appear sound.
3	<i>Eucalyptus moluccana</i> (Grey Box)	M	340 & 200	300 & 360	12	8	3	D	1	1B	Gr, C, K, Pa/-/-	4.8	2.8	Forms 2 leaders at ground level - union sound. Likely to be a remnant specimen.
4	<i>Melaleuca decora</i>	S	210	240	7.5	3	4	C	2	4C	Gr, C, M/I/-	2.5	1.9	Inclusion in codominant leaders at 1.4m from ground level.
5	<i>Eucalyptus tereticornis</i> (Grey Gum)	S	140, 170 & 170	430	11	9	4	C	2	1A	Gr, C, M/-/-	3.4	2.4	Forms 3 x leaders at ground level – unions appear sound. Planted specimen.
6	<i>Eucalyptus tereticornis</i> (Grey Gum)	S	170	250	13	5	3	C	2	2A	M/B/-	2.0	1.9	Planted specimen.
7	<i>Eucalyptus species</i>	S	260	360	14	5	3	C	2	1A	Gr, M/-/-	3.1	2.2	Planted specimen
8	<i>Eucalyptus racemosa</i> subsp. <i>racemosa</i> (Snappy Gum)	S	180 & 50	240	8	4 n/s 7 e/w	4	C	2	2A	Gr, M/-/-	2.3	1.9	On 44° lean to south west.

Chameleon Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (M)	Crown Width (M)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
9	<i>Eucalyptus tereticornis</i> (Grey Gum)	S	160	190	9	4	3	C	2	2A	Gr, C/O/-	1.9	1.7	Moderate Psyllid infestation
10	<i>Eucalyptus tereticornis</i> (Grey Gum)	S	120, 110, 120 & 120	260	9.5	4	4	C	2	2B	Gr, C/I,O/-	2.9	1.9	Included bark within 1 st order inferior branch attachment measuring 110mm diameter at 1.5m. Can be pruned. Moderate Psyllid infestation
11	<i>Eucalyptus moluccana</i> (Grey Box)	S	90, 120, 140 & 150	330	12	6	4	C	2	2B	B, Gr/I/-	3.1	2.1	Included bark in leaders at 1.m and in 3rd order branch attachment to north at 4m and in leader union to the south at 1.3m.
12	<i>Eucalyptus moluccana</i> (Grey Box)	S	240	280	11	5	3	C	2	1A	B, E, Gr/- /	2.9	2.0	Forms codominant leaders at 1.7m – union appears sound.
13	<i>Eucalyptus microcorys</i> (Tallowwood)	S	420	510	13	9	4	D	1	1A	K, Gr, Pa, E/-/-	5.0	2.5	Street tree.

Trees Highlighted in **Green** indicate Priority for Retention

Trees Highlighted in **Blue** indicate Consider for Retention

Trees Highlighted in **Pink** indicate Consider for Removal

Trees Highlighted in **Orange** are listed as a Priority for Removal

Ashwick Reserve – 11 Ashwick Circuit, St Clair

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Melaleuca decora</i> (Ridge Myrtle)	M	Est 900	Est 1100	13	8	4	D	1	1A	Gr,-/-	10.8	3.5	Tree in close proximity of boundary, limited VTA.
2	<i>Melaleuca decora</i> (Ridge Myrtle)	M	Est 400	Est 450	10	4	4	C	1	1A	Gr,-/-	4.8	2.4	Small group of 4 – 6 on adjoining property.
3	<i>Eucalyptus fibrosa</i> (Blue-leaved Ironbark)	M	Est 700 & 700	Est 1200	23	16	4	D	1	1B	Gr,-/-	11.9	3.6	Tree in close proximity of adjoining boundary. Limited VTA

Trees Highlighted in **Green** indicate Priority for Retention
 Trees Highlighted in **Blue** indicate Consider for Retention
 Trees Highlighted in **Pink** indicate Consider for Removal
 Trees Highlighted in **Orange** are listed as a Priority for Removal

Fuller Reserve – 6 Fuller Place, St Clair

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Melaleuca decora</i> (Ridge Myrtle)	M	220	340	7	5	4	Partial S	1	1A	Gr/W/-	2.6	2.2	Mechanical (whipper snipper) damage to basal area.
2	<i>Melaleuca decora</i> (Ridge Myrtle)	M	410 & 260	810	11	10	4	C	1	1A	Gr/-/-	5.9	3.1	Forms two leaders at ground level union appears sound.
3	<i>Melaleuca decora</i> (Ridge Myrtle)	M	240, 240, 230 & 320	770	9	9	3	C	1	1A	Gr/-/-	6.4	3.0	Forms four leaders at 70cm.
4	<i>Melaleuca decora</i> (Ridge Myrtle)	M	220 & 280	470	8	6	4	C	1	1A	Gr/-/-	4.3	2.5	Forms codominant leaders near ground level union is sound.
5	<i>Eucalyptus longifolia</i> (Woolybutt)	M	520	650	24	9	3	D	1	4H	Gr/B, W, F/-	6.2	2.8	Forms codominant leaders at 6m, wound and included bark within leader union to the south west. Probable cavity with habitat value as viewed from the north in leader union. Requires an aerial inspection.
6	<i>Eucalyptus longifolia</i> (Woolybutt)	M	660	690	20	14	3	C	1	1B	Gr, W/-	7.9	2.9	Holds high volumes of deadwood between 50 – 350mm in diameter. Possible cavity of habitat value at 15m from ground level as viewed from the west.

Fuller Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
7	<i>Melaleuca decora</i> (Ridge Myrtle)	M	290	370	7	6	3	Partial S	1	1A	Gr,-/-	3.5	2.2	
8	<i>Eucalyptus longifolia</i> (Woollybutt)	M	450	490	18	12	3	C	1	1B	Gr,-/-	5.4	2.5	Forms codominant leaders at 5m – union appears sound.
9	<i>Eucalyptus fibrosa</i> (Blue-leaved Ironbark)	M	490	560	18	14	3	C	1	1B	Gr/F/-	4.8	2.6	Probable leader failure (many years ago) at 8m.
10	<i>Eucalyptus longifolia</i> (Woollybutt)	M	410	450	20	8	3	C	1	1B	Gr,-/-	4.9	2.4	
11	<i>Melaleuca decora</i> (Ridge Myrtle)	M	280	330	6	5	3	S	1	2A	Gr,-/-	3.4	2.1	
12	<i>Melaleuca species</i>	M	40, 50, 50, 60 & 60	Est 1800	5	4	3	C	2	2A	Gr,/L/-	4.3	4.3	Forms numerous leaders at ground level. Specimen was previously cut to ground level and has since regenerated.
13	<i>Eucalyptus eugenioides</i> (Thin-leaved Stringybark)	M	200 & 100	390	9	6	3	C	1	1A	Gr,/F/-	2.8	2.3	Specimen appears to have been suppressed by trees which are now removed. Forms two leaders near ground level.
14	<i>Melaleuca decora</i> (Ridge Myrtle)	M	180, 340 & 180	700	9	6	4	C	1	1A	Gr,-/-	4.9	2.9	Forms three leaders near ground level.

Fuller Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
15	<i>Eucalyptus species</i>	M	410	560	18	12	3	D	1	1B	Gr,/--	4.9	2.6	
16	<i>Eucalyptus crebra</i> (Narrow-leaved Ironbark)	M	330 & 440	540	12	10	3	C	1		Gr,/--	6.6	2.6	Wound to south 1.3 x 12cm, tapping with a mallet produced a dull resonance – wound wood development is good. Requires a resistograph test to determine extent of decay & management strategy. Dieback of 1 st order branches to the south < 150mm in diameter.
17	<i>Melaleuca decora</i> (Ridge Myrtle)	M	170, 120 x 3, 150 180 190 x 3	1300	10	9	4	C	1	1B	Gr,/--	4.6	3.7	Forms ten leaders at or near ground level.
18	<i>Eucalyptus fibrosa</i> (Blue-leaved Ironbark)	M	580	860	26	14	4	D	1	1B	Gr,/D/-	7.0	3.2	Removal of established epicormic growth near ground level. Minor decay at point of pruning with good reaction wood.
19	<i>Eucalyptus longifolia</i> (Woollybutt)	M	540	600	20	9	2	C	1	3A	Gr,/--	6.5	2.7	2 lowest x 1 st order branch failures to the west. Holds major deadwood between 50 – 200mm in diameter.
20 x 8	<i>Melaleuca decora</i> (Ridge Myrtle)	M	270 & 230	430	8 - 11	2 – 6	4	C	1	1B	Gr,/--	4.3	2.4	Group of 8 specimens. Largest DBH and DRB recorded.
21	<i>Eucalyptus species</i>	M	630	750	22	15	4	C	1	1B	Gr,/W/-	7.6	3.0	Wound with good wound wood development to the west extends from ground level to 2m x 35cm.

Fuller Reserve

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
22 x 6	<i>Melaleuca decora</i> (Ridge Myrtle)	M	240 & 220	530	6 – 8	4 – 5	4	C	1	1A	Gr,-/-	4.0	2.6	
23	<i>Eucalyptus eugenioides</i> (Thin-leaved Ironbark)	O	500	540	19	10	2	C	1	3A	Gr,Ex/C,Fx2/U	6.0	2.6	Dieback of upper canopy and leader. Failure of 2 x lowest western 1 st order branches approx 200mm in diameter. Sewer mains within 8m. Holds high volumes of deadwood 50 - 250mm in diameter. Small cavity to west at 2.5m in 1 st order branch may be beneficial/provide habitat.
24	<i>Eucalyptus eugenioides</i> (Thin-leaved Ironbark)	O	440	530	19	7	1	C	1	4A	Gr,-/U	5.3	2.6	Dieback of upper canopy, holds high volumes of deadwood 50 – 300mm in diameter. Sewer mains within 4m.
25 x 3	<i>Melaleuca decora</i> (Ridge Myrtle)	M	400	490	6 - 13	4 - 6	4	C	1	1A	Gr,-/U	4.8	2.5	Sewer mains within 3m.

Trees Highlighted in Green indicate Priority for Retention

Trees Highlighted in Blue indicate Consider for Retention

Trees Highlighted in Pink indicate Consider for Removal

Trees Highlighted in Orange are listed as a Priority for Removal

Ashwick Reserve – 11 Ashwick Circuit, St Clair

Tree No	Tree Species	Age Class	DBH (mm)	DRB (mm)	Tree Height (m)	Crown Width (m)	Crown Condition	Crown Class	STARS	SULE	Root Zone/ Defects/ Services	TPZ Radius (m)	SRZ Radius (m)	Comments
1	<i>Melaleuca decora</i> (Ridge Myrtle)	M	Est 900	Est 1100	13	8	4	D	1	1A	Gr,-/-	10.8	3.5	Tree in close proximity of boundary, limited VTA.
2	<i>Melaleuca decora</i> (Ridge Myrtle)	M	Est 400	Est 450	10	4	4	C	1	1A	Gr,-/-	4.8	2.4	Small group of 4 – 6 on adjoining property.
3	<i>Eucalyptus fibrosa</i> (Blue-leaved Ironbark)	M	Est 700 & 700	Est 1200	23	16	4	D	1	1B	Gr,-/-	11.9	3.6	Tree in close proximity of adjoining boundary. Limited VTA

Trees Highlighted in **Green** indicate Priority for Retention
 Trees Highlighted in **Blue** indicate Consider for Retention
 Trees Highlighted in **Pink** indicate Consider for Removal
 Trees Highlighted in **Orange** are listed as a Priority for Removal

APPENDIX B

Notes on tree inventory schedule

Tree No:	Relates to number on site diagram		
Species:	Coded to tree species schedule		
Age Class:	Y	Young- recently planted	
	S	Semi mature- <20% of life expectancy	
	M	Mature- 20-80% of life expectancy	
	O	Over mature- >80% of life expectancy	
Height:	In metres		
Crown Diameter:	In metres		
Crown Class:	D	Dominant	Crown extends above general canopy; not restricted by other trees.
	C	Co-dominant	Crown forms the bulk of the general Canopy but crowded by other trees.
	I	Intermediate	Crown extends into dominant/ codominant canopy but quite crowded on all sides.
	S	Suppressed	Crown development restricted from Overgrowing trees.
Crown Condition:	Overall vigour and vitality		
	0	Dead	
	1	Severe decline (<20% canopy density; major dead wood)	
	2	Declining (20-60% canopy density; twig and branch dieback)	
	3	Average/ low vigour (60-90% canopy density; twig dieback)	
	4	Good (90-100% canopy density; little or no dieback or other problems)	
	5	Excellent (100% canopy density; no deadwood or other problems)	
Root Zone:	B	Bare earth and compacted	
	C	Compaction	
	D	Damaged/wounded roots	
	E	Exposed roots	
	Ga	Tree in garden bed	
	Gi	Girdled roots	
	Gr	Grass	
	K	Kerb close to tree	
	L+	Raised soil level	
	L-	Lowered soil level	
	M	Mulched	
	Pa	Paving/concrete/bitumen	
	Pr	Roots pruned	
	O	Other	

Defects:	B	Borers
	C	Cavity
	D	Decay
	F	Previous failures
	I	Inclusions
	L	Lopped
	M	Mistletoe/parasites
	S	Splits/Cracks
	T	Termites
	O	Other
	W	Wound

Services adjacent structures:	Bs	Bus stop
	Bu	Building within 5 metres
	C	Car park
	Hvo	High voltage open wire construction
	Hvb	High voltage bundled (ABC)
	Lvo	Low voltage open wire construction
	Lvb	Low voltage bundled (ABC)
	Na	No services above
	Nb	No services below
	Si	Signage
	Sl	Street light
	T	Transmission lines
	U	Underground services
	O	Other

STARS: Significance of a Tree Assessment Rating System (copyright Institute of Australian Consulting Arborists 2010)

SULE: Safe Useful Life Expectancy after Barrell 2001

APPENDIX C

IACA Significance of a Tree, Assessment Rating System (STARS)© (IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001.

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the *Tree Significance - Assessment Criteria* and *Tree Retention Value - Priority Matrix*, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of *High*, *Medium* and *Low* significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria



1. High Significance in landscape

- 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 Councils 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.

2. Medium Significance in landscape

- The tree is in fair-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*.

3. Low Significance in landscape

- 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 surrounding properties as 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 dimension 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 potential to become structurally unsound.

Environmental Pest / Noxious Weed Species

- 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 to have a minimum of three (3) criteria in a category to be classified in that group.

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

Table 1.0 Tree Retention Value - Priority Matrix.

		Significance				
		1. High	2. Medium	3. Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest / Noxious Weed Species	Hazardous / Irreversible Decline
Estimated Life Expectancy	1. Long >40 years					
	2. Medium 15-40 Years					
	3. Short <1-15 Years					
	Dead					

<u>Legend for Matrix Assessment</u>		
	Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 <i>Protection of trees on development sites</i> . Tree sensitive construction measures must be implemented e.g. pier and beam etc if works are to proceed within the Tree Protection Zone.	
	Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.	
	Consider for Removal (Low) - 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.	

USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

IACA, 2010, *IACA Significance of a Tree, Assessment Rating System (STARS)*, Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au

REFERENCES

Australia ICOMOS Inc. 1999, *The Burra Charter – The Australian ICOMOS Charter for Places of Cultural Significance*, International Council of Monuments and Sites, www.icomos.org/australia

Draper BD and Richards PA 2009, *Dictionary for Managing Trees in Urban Environments*, Institute of Australian Consulting Arboriculturists (IACA), CSIRO Publishing, Collingwood, Victoria, Australia.

Footprint Green Pty Ltd 2001, *Footprint Green Tree Significance & Retention Value Matrix*, Avalon, NSW Australia, www.footprintgreen.com.au

**APPENDIX D
SULE RATING**

1.Long SULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	2.Medium SULE: Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk.	3.Short SULE: Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk.	4.Remove: Trees that should be removed within the next 5 years.	5.Small, young or regularly pruned: Trees that can be reliably moved or replaced.
(A) Structurally sound trees located in positions that can accommodate future growth	(A) Trees that may only live between 15 and 40 more years.	(A) Trees that may only live between 5 and 15 more years.	(A) Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	(A) Small trees less than 5 Metres in height.
(B) Trees that could be made suitable for retention in the long term by remedial tree care.	(B) Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.	(B) Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.	(B) Dangerous trees because of instability or recent loss of adjacent trees.	(B) Young trees less than 15 years old but over 5 metres in height.
(C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	(C) Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	(C) Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	(C) Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.	(C) Formal hedges and trees intended for regular pruning to artificially control growth.
	(D) Trees that could be made suitable for retention in the medium term by remedial tree care.	(D) Trees that require substantial remedial tree care and are only suitable for retention in the short term.	(D) Damaged trees that are clearly not safe to retain.	
			(E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	
			(F) Trees that are damaging or may cause damage to existing structures within 5 years.	
			(G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F).	
			(H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.	

**APPENDIX E
PHOTOGRAPHS
Spoonbill Reserve**



Figure 1. Spoonbill Reserve



Figure 2. Cavity within Tree 1 of habitat value



**Figure 3. Rainbow lorikeets frequenting cavity
Tree 5 Spoonbill Reserve**

Regulus Reserve



Figure 4. Trees 1 & 3 dead specimens Regulus Reserve



Figure 5. Cavity suitable for habitat Tree 4 Regulus Reserve

Capella Street Reserve



Figure 6. Group planting of *Corymbia maculata* within Capella St, Reserve



Figure 7. Typical borer damage associated with poor maintenance practices on several trees Capella St, Reserve

Chameleon Reserve



Figure 8. Copse of young to semi mature specimens including Trees 5 - 9 Chameleon Reserve



Figure 9. Tree 3 Chameleon Reserve

Ashwick Reserve



Figure 10. Specimens on adjoining property eastern boundary.



Figure 11. Tree on adjoining property, eastern boundary to be afforded adequate TPZ's

Fuller Reserve



Figure 12. Trees 1 - 3 Fuller Reserve



Figure 13. Trees 1 - 3 Fuller Reserve



Figure 14. Inclusion within leader union and cavity of probable habitat value Tree 5 Fuller Reserve.

APPENDIX F Approximate Tree Locations



Figure 15. Spoonbill Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 16. Regulus Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 17. Dilga Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 18. Part Pacific and Phoenix Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 19. Capella Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 19. Chameleon Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 21. Ashwick Reserve (Source Google Aerial Imagery dated 1/1/2014)



Figure 20. Fuller Reserve (Source Google Aerial Imagery dated 1/1/2014)