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# ARBORIST'S REPORT



PROPERTY:	3 Murray Rose Avenue, Sydney Olympic Park
NUMBER OF SUBJECT TREES:	50
DATE OF REPORT:	11/7/2012
REQUESTED BY:	Lend Lease Project Management and Construction
CONTACT:	Grant Eckett

## CONTENTS

CONTENTS .....	2
DISCLAIMER .....	3
INTRODUCTION .....	3
LOCATION and SITE DETAILS.....	4
SUMMARY OF ACTION PROPOSED FOR THE SUBJECT TREES .....	5
TREE ASSESSMENT .....	6 - 23
TREE PROTECTION ZONES (TPZ) and STRUCTURAL ROOT ZONES (SRZ) .....	24
HEDGES.....	25
CONCLUSION .....	25
RECOMMENDATIONS.....	25
PHOTOGRAPHS .....	26 - 39
APPENDICES.....	39

## DISCLAIMER

The recommendations given in this report assumes that reasonable maintenance will be provided by a qualified Arboriculturist working to Australian Standard 4373 (2007), *Pruning Amenity Trees* and AS 4970 (2009) *Protection of Trees on Construction Sites*.

Incorrect tree work practices can significantly accelerate tree decline and increase hazard potential.

No liability is accepted for any effects if the recommendations in this report were not followed.

The information in this report does not take into account the effects of unforeseen circumstances or severe weather events on the subject trees.

## INTRODUCTION

### **Project Brief**

Assess the condition of the subject trees, consider a proposed development and supply a written report.

### **Methodology**

A visual inspection was made of the subject trees from ground level on 28<sup>th</sup> of June 2012. No internal testing e.g. Resistograph or drilling, or excavation was carried out. The trees were assessed, and recommendations given, from observations made during the inspection.

### **Glossary of Terminology**

Refer to page 41 for full explanations.

## LOCATION and SITE DETAILS



An aerial photograph used as a site plan, showing the position of the subject trees.

### **Site Description**

The site is a large commercial block, slightly sloping up to the north. The trees along the northern boundary are all native species, and the remainder contain native and exotic species.

A proposed development of a large commercial building will affect the trees.

The square section marked “A” contains non subject trees which are less than 5 metres high and were planted in April 2012 as part of temporary landscape works. These trees require removal for this development.

## SUMMARY OF ACTION PROPOSED FOR THE SUBJECT TREES

The trees are proposed for removal to allow the proposed development to proceed, based on their condition, their availability for replacement as part of the landscape plan and the inability to adequately protect them according to *AS 4970* (2009) if best use of the property is to be achieved.

The term removal does not necessarily mean destruction [of the tree]. Any proposal for relocation of any of the trees, especially the large figs, will need to be considered by qualified specialist contractors, and is not the subject of this report. The economic viability of large tree transplant must be considered in detail as it may not be profitable compared to more carefully cultivated advanced specimens which may have a much longer ULE (Useful Life Expectancy).

The success rate of large tree transplanting is another consideration as well.

## TREE ASSESSMENT

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 1</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 70mm diameter is present. The central leader is dead from 4 metres high to the top.	The tree has a poor structure having 3 dominant stems from 400mm high. Two large epicormic shoots measuring 6 metres long x 150mm diameter are present from 400mm high.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	1560mm (at 200mm high)			
	<u>DBH</u>	496mm (at 200mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	10m X 7m			
<b>Tree 2</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having lost the central leader (broken off) at 6 metres high, which has been replaced by a large epicormic shoot 4 metres long x 80mm in diameter.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	920mm			
	<u>DBH</u>	290mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	10m X 6m			
<b>Tree 3</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having 5 dominant stems from ground level. A moderate amount of small epicormic growth is present around the lower canopy.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	470mm (largest stem)			
	<u>DBH</u>	149mm (largest stem)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9.5 metres			
	<u>Canopy Spread:</u>	10m X 8m			



## TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 4</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in poor health, having a leaf density of 40% coverage in the main [upper] canopy and 60% in the lower canopy. Slight deadwood to 60mm diameter is present, as well as a deadwood stub 500mm long x 120mm diameter.	The tree has a poor structure having 6 dominant stems from 250mm high, with 1 stem dead and broken off at 1 metre high. A moderate amount of small epicormic growth is present around the lower canopy (60% leaf density).	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	780mm (at 1100mm high)			
	<u>DBH</u>	248mm (at 1100mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	10m X 8m			
<b>Tree 5</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 60mm diameter is present.	The tree has a fair structure having 2 large epicormic shoots measuring, 5 metres long x 100mm diameter, at the base.	The tree has been given a ULE of 3B due to the age and fair structure.
	<u>CBH</u>	1230mm			
	<u>DBH</u>	391mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	12 metres			
	<u>Canopy Spread:</u>	11m X 9m			
<b>Tree 6</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a fair structure having co - dominant stems from 2.5 metres high.	The tree has been given a ULE of 3B due to fair condition.
	<u>CBH</u>	870mm			
	<u>DBH</u>	277mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	8m X 16m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 7</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present, as well as a deadwood stub measuring 100mm long x 80mm diameter at 2.5 metres high.	The tree has a poor structure having moderate trunk bow at 2.5 metres high. A moderate amount of small epicormic growth measuring 6 metres long x 80mm diameter is present.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	1060mm			
	<u>DBH</u>	337mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	9m X 8m			
<b>Tree 8</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having 3 dominant stems from 1.8 metres high. The south west stem is broken off at 3 metres high, and a large epicormic shoot measuring 9m long x 120mm diameter has grown from the broken end. Some smaller epicormic growth to 6 metres long x 80mm diameter is also present	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	990mm			
	<u>DBH</u>	314mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	12 metres			
	<u>Canopy Spread:</u>	10m X 4m			
<b>Tree 9</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 50% coverage. Slight deadwood to 60mm diameter is present, as well as a deadwood stub, measuring 400mm long x 80mm in diameter, at 3.5 metres high.	The tree has a poor structure having co - dominant stems from 3.5 metres high. The previously mentioned deadwood stub is one of the co - dominant stems.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	1150mm			
	<u>DBH</u>	366mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	9m X 7m			



# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 10</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree has died, and swelling of the trunk is present at 1.4 metres high. This indicates fungal activity may be present in the stem.	The structural strength of the tree is suspect due to the dead stems.	The tree has been given a ULE of 4A due to its condition.
	<u>CBH</u>	940mm (at 1 metre high)			
	<u>DBH</u>	299mm (at 1 metre high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	5m X 5m			
<b>Tree 11</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in poor health, having a leaf density of 60% coverage from epicormic growth. Moderate deadwood to 100mm diameter is present. A dead branch measuring approximately 3 metres long x 100mm diameter is present at 3 metres high. An occlusion measuring 400mm long is present at 2 metres high. Some swelling is present around this area.	The tree has a poor structure having 3 dominant stems from 1.7 metres high. A moderate amount of epicormic growth measuring 5 metres long x 70mm diameter is present.	The tree has been given a ULE of 3B due to the poor condition.
	<u>CBH</u>	1110mm (largest stem)			
	<u>DBH</u>	353mm (largest stem)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	11m X 8m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 12</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a fair structure having co - dominant stems from 3.5 metres high. Included bark is present at the stem union.	The tree has been given a ULE of 3B due to the fair structure.
	<u>CBH</u>	1170mm			
	<u>DBH</u>	372mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	11m X 9m			
<b>Tree 13</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having co - dominant stems from 2 metres high. The west stem has broken off at 3 metres high, and a scaffold branch has broken off at 2.3 metres high. Some small epicormic growth measuring 3 metres long x 60mm diameter is present.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	560mm			
	<u>DBH</u>	178mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9 metres			
	<u>Canopy Spread:</u>	5m X 4m			
<b>Tree 14</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 70mm diameter is present.	The tree has a poor structure having the main leader broken off at 4 metres high, with a deadwood stub 500mm long x 80mm diameter remaining. A moderate amount of epicormic growth to 7 metres long x 100mm diameter is present.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	1380mm			
	<u>DBH</u>	439mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	10m X 9m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 15</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a fair structure having some small epicormic growth to 2 metres long x 50mm diameter, and a natural lean of 5° to the west [away from Tree 16.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	940mm			
	<u>DBH</u>	299mm			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9 metres			
	<u>Canopy Spread:</u>	9m X 6m			
<b>Tree 16</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 60mm diameter is present. A deadwood stub measuring 300mm long x 80mm diameter is present at 3 metres high.	The tree has a fair structure having scaffold branches from 1100mm high. A moderate amount of epicormic growth measuring 5 metres long x 70mm diameter is present.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	1370mm (at 900mm high)			
	<u>DBH</u>	436mm (at 900mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	12 metres			
	<u>Canopy Spread:</u>	13m X 10m			
<b>Tree 17</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a fair structure having co - dominant stems from 4 metres high.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	800mm			
	<u>DBH</u>	254mm			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	7m X 4m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 18</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 50% coverage. Slight deadwood to 50mm diameter is present. Slight tip dieback is present on the north side of the canopy.	The tree has a fair structure having 3 dominant stems from 4 metres high.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	680mm			
	<u>DBH</u>	216mm			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	5m X 4m			
<b>Tree 19</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Moderate deadwood to 80mm diameter is present.	The tree has a fair structure having scaffold branches from 1.2 metres high. Some epicormic growth to 2 metres long x 60mm diameter is present.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	1070mm (at 900 mm high)			
	<u>DBH</u>	340mm (at 900 mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9 metres			
	<u>Canopy Spread:</u>	10m X 8m			
<b>Tree 20</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a good structure.	The tree has been given a ULE of 3B due to the fair health.
	<u>CBH</u>	1080mm			
	<u>DBH</u>	343mm			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	12 metres			
	<u>Canopy Spread:</u>	9m X 6m			

## TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 21</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure. The main leader has broken off, and the canopy has 3 dominant stems from 1 metre high, which is all epicormic growth to 8 metres long x 150mm diameter.	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	900mm (at 500mm high)			
	<u>DBH</u>	286mm (at 500mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9 metres			
	<u>Canopy Spread:</u>	8m X 5m			
<b>Tree 22</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having co - dominant stems from 1.2 metres high. A moderate amount of epicormic growth measuring 6 metres long x 80mm diameter is present.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	810mm (at 900mm high)			
	<u>DBH</u>	286mm (at 900mm high)			
<b>Common Name</b> Swamp Mahogany	<u>Height:</u>	9 metres			
	<u>Canopy Spread:</u>	9m X 6m			
<b>Tree 23</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having co - dominant stems from 200mm high with included bark at the stem union. The largest stem is further co - dominant from 1.5 metres high, while the remaining stem is further co - dominant from 1 metre high.	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	980mm (largest stem)			
	<u>DBH</u>	312mm (largest stem)			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	7.5m X 6m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 24</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 50% coverage. Slight deadwood to 50mm diameter is present.	The tree has a fair structure having co - dominant stems from 4.5 metres high.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	790mm			
	<u>DBH</u>	251mm			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	8. m X 5m			
<b>Tree 25</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 50% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having 3 dominant stems from 200mm high with included bark to 1.3 metres high. The south stem is a large epicormic shoot 8 metres long x 200mm diameter. Some branch rubbing is present.	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	840mm (largest stem)			
	<u>DBH</u>	267mm (largest stem)			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	10m X 7m			
<b>Tree 26</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having co - dominant stems from ground level. The largest stem is further co - dominant from 2.3 metres high. The smallest stem is a large epicormic shoot 6 metres long x 100mm diameter.	The tree has been given a ULE of 4C due to the poor structure.
	<u>CBH</u>	660mm (largest stem)			
	<u>DBH</u>	210mm (largest stem)			
<b>Common Name</b> Yellow Bloodwood	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	5m X 5m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 27</b> <b>Botanical Name</b> <i>Ulmus parvifolia</i>	<u>Age:</u>	Early Mature	The tree is in good health. Slight deadwood to 50mm diameter is present as well a deadwood stub 250mm long x 50mm diameter.	The tree has a poor structure having 4 dominant stems from 300mm high.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	930mm (at 100mm high)			
	<u>DBH</u>	296mm (at 100mm high)			
<b>Common Name</b> Chinese Elm	<u>Height:</u>	6 metres			
	<u>Canopy Spread:</u>	7m X 8m			
<b>Tree 28</b> <b>Botanical Name</b> <i>Ulmus parvifolia</i>	<u>Age:</u>	Semi Mature	The tree is in good health.	The tree has a fair structure having co - dominant stems from 900mm high.	The tree has been given a ULE of 3B due to the co - dominant stems.
	<u>CBH</u>	700mm (at 600mm high)			
	<u>DBH</u>	222mm (at 600mm high)			
<b>Common Name</b> Chinese Elm	<u>Height:</u>	6 metres			
	<u>Canopy Spread:</u>	5m X 6m			
<b>Tree 29</b> <b>Botanical Name</b> <i>Ulmus parvifolia</i>	<u>Age:</u>	Early Mature	The tree is in fair health. Slight stem borer activity is present around some branch unions. No live borer specimens were observed.	The tree has a fair structure having co - dominant stems from 800mm high.	The tree has been given a ULE of 3B due to the co - dominant stems.
	<u>CBH</u>	730mm (at 500mm high)			
	<u>DBH</u>	232mm (at 500mm high)			
<b>Common Name</b> Chinese Elm	<u>Height:</u>	6 metres			
	<u>Canopy Spread:</u>	5m X 5m			



# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 30</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage. Slight deadwood to 50mm diameter is present.	The tree has a poor structure having co - dominant stems from 1.6 metres high.	The tree has been given a ULE of 3B due to the co - dominant stems.
	<u>CBH</u>	1080mm			
	<u>DBH</u>	343mm			
	<u>Height:</u>	12 metres			
<b>Common Name</b> Yellow Bloodwood	<u>Canopy Spread:</u>	8m X 7m			
<b>Tree 31</b> <b>Botanical Name</b> <i>Eucalyptus robusta</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 60% coverage.	The tree has a poor structure; the main leader has broken off at 5 metres high, and a large epicormic shoot measuring 6 metres long x 70mm diameter is present at the broken end.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	1340mm			
	<u>DBH</u>	426mm			
	<u>Height:</u>	11 metres			
<b>Common Name</b> Swamp Mahogany	<u>Canopy Spread:</u>	10m X 11m			
<b>Tree 32</b> <b>Botanical Name</b> <i>Eucalyptus globulus</i>	<u>Age:</u>	Mature	The tree is in poor health, having a leaf density of 40% coverage. Severe deadwood to 250mm diameter is present. Some decay is present in the east scaffold. Severe bark dieback is present around 50% of the trunk. Some trunk swelling is present at 1.1 metres. Some past borer activity present. No live specimens observed.	The tree has a poor structure, the main leader having broken off. A moderate amount of epicormic growth measuring 5 metres long x 80mm diameter is present. Some trunk twist is present, and a specimen of <i>Ficus</i> sp. measuring 3 metres long x 80mm diameter is present is growing from a crack in the trunk	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	2030mm (at 700mm high)			
	<u>DBH</u>	646mm (at 700mm high)			
	<u>Height:</u>	10 metres			
<b>Common Name</b> Tasmanian Blue Gum	<u>Canopy Spread:</u>	12m X 9m			

## TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 33</b> <b>Botanical Name</b> <i>Corymbia eximia</i>	<u>Age:</u>	Mature	The tree is in good health.	The tree has a fair structure having 3 dominant stems from 3 metres high. Slight trunk twist is present, as well as a natural lean of 10° to the north east.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	1540mm			
	<u>DBH</u>	490mm			
	<u>Height:</u>	12 metres			
<b>Common Name</b> Yellow Bloodwood	<u>Canopy Spread:</u>	10m X 9m	The tree is in good health, having a leaf density of 80% coverage.	The tree has a fair structure having scaffold branches from 1.3 metres high. A branch has broken off from a scaffold at 1.7 metres high, and some small epicormic shoots measuring 1 metre long x 50mm diameter are present. Some included bark is present between the scaffolds at 1.5 metres high.	The tree has been given a ULE of 3B due to the structural defects.
<b>Tree 34</b> <b>Botanical Name</b> <i>Ficus obliqua</i>	<u>Age:</u>	Mature			
	<u>CBH</u>	2350mm (at 1 metre high)			
	<u>DBH</u>	748mm (at 1 metre high)			
	<u>Height:</u>	10 metres			
<b>Common Name</b> Small Leaved Fig	<u>Canopy Spread:</u>	10m X 15m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 35</b> <b>Botanical Name</b> <i>Ficus obliqua</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 80% coverage. Slight deadwood to 60mm diameter is present.  A partial occlusion measuring 1.4 metres long x 50mm wide is present on a buttress root north side.	The tree has a fair structure having co - dominant stems from 2 metres high. Scaffold branches are present from 1 metre high. Some epicormic growth measuring 4 metres long x 70mm diameter are present around old pruning cuts.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	2650mm (at 900mm high)			
	<u>DBH</u>	843mm (at 900mm hi)			
<b>Common Name</b>  Small Leaved Fig	<u>Height:</u>	11 metres			
	<u>Canopy Spread:</u>	13m X 14m			
<b>Tree 36</b> <b>Botanical Name</b> <i>Magnolia grandiflora</i>	<u>Age:</u>	Early Mature	The tree is in good health, having a leaf density of 90% coverage. Slight deadwood twigs are present.	The tree has a good structure.	The tree has been given a ULE of 2B due to the good condition.
	<u>CBH</u>	750mm			
	<u>DBH</u>	238mm			
<b>Common Name</b>  Evergreen Magnolia	<u>Height:</u>	8.5 metres			
	<u>Canopy Spread:</u>	7m X 7m			
<b>Tree 37</b> <b>Botanical Name</b> <i>Magnolia grandiflora</i>	<u>Age:</u>	Early Mature	The tree is in good health, having a leaf density of 90% coverage. Slight deadwood twigs are present.	The tree has a good structure, however, also has a natural lean of 5° to the east.	The tree has been given a ULE of 2B due to the good condition.
	<u>CBH</u>	830mm			
	<u>DBH</u>	264mm			
<b>Common Name</b>  Evergreen Magnolia	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	8m X 7m			

## TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 38</b> <b>Botanical Name</b> <i>Magnolia grandiflora</i>	<u>Age:</u>	Early Mature	The tree is in good health, having a leaf density of 90% coverage. Slight deadwood twigs are present.	The tree has a fair structure having co - dominant stems from 1.3 metres high, and a natural lean of 15° to the east.	The tree has been given a ULE of 2B due to the good condition.
	<u>CBH</u>	850mm (at 1 metre high)			
	<u>DBH</u>	270mm (at 1 metre high)			
<b>Common Name</b> Evergreen Magnolia	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	7m X 7m			
<b>Tree 39</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Early Mature	The tree is in good health, however, slight swelling is present around some old pruning cuts at 1 metre high.	The tree has a fair structure having 3 dominant stems from 3.5 metres high. Some epicormic growth measuring 4 metres long x 60mm diameter is present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	930mm (at 900mm high)			
	<u>DBH</u>	296mm (at 900mm high)			
<b>Common Name</b> Chinese Tallow	<u>Height:</u>	10 metres			
	<u>Canopy Spread:</u>	8m X 10m			
<b>Tree 40</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having some tip dieback.	The tree has a fair structure having Scaffold branches from 800mm high. A broken branch (hanger) measuring 1.5 metres long x 20mm diameter is present in the canopy on the west side.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	820mm (at 700mm high)			
	<u>DBH</u>	261mm (at 700mm high)			
<b>Common Name</b> Chinese Tallow	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	8m X 13m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 41</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Early Mature	The tree is in fair health, having some tip dieback.	The tree has a fair structure having Scaffold branches from 1 metre high, and some epicormic growth to 4 metres long x 60mm diameter.	The tree has been given a ULE of 3B due to the fair condition.
	<u>CBH</u>	890mm (at 900mm high)			
	<u>DBH</u>	283mm (at 900mm high)			
<b>Common Name</b>	<u>Height:</u>	10 metres			
Chinese Tallow	<u>Canopy Spread:</u>	10m X 11m			
<b>Tree 42</b> <b>Botanical Name</b> <i>Magnolia grandiflora</i>	<u>Age:</u>	Semi Mature	The tree is in good health, having a leaf density of 90% coverage. Slight deadwood twigs are present.	The tree has a good structure. Planted in a raised bed 500mm high.	The tree has been given a ULE of 2B due to the good condition.
	<u>CBH</u>	480mm			
	<u>DBH</u>	152mm			
<b>Common Name</b>	<u>Height:</u>	6 metres			
Evergreen Magnolia	<u>Canopy Spread:</u>	7m X 6m			
<b>Tree 43</b> <b>Botanical Name</b> <i>Magnolia grandiflora</i>	<u>Age:</u>	Semi Mature	The tree is in good health, having a leaf density of 90% coverage. Slight deadwood twigs are present.	The tree has a good structure. Planted in a raised bed 400mm high.	The tree has been given a ULE of 2B due to the good condition.
	<u>CBH</u>	400mm			
	<u>DBH</u>	127mm			
<b>Common Name</b>	<u>Height:</u>	6 metres			
Evergreen Magnolia	<u>Canopy Spread:</u>	5m X 4m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 44</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature	The tree is in good health.	The tree has a fair structure having co - dominant stems from 1.8 metres high. Some small epicormic shoots measuring to 1 metre long x 20mm diameter are present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	840mm			
	<u>DBH</u>	267mm			
	<u>Height:</u>	8 metres			
<b>Common Name</b> Chinese Tallow	<u>Canopy Spread:</u>	9m X 9m			
<b>Tree 45</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having slight tip dieback.	The tree has a fair structure having co - dominant stems from 800mm high. Some small epicormic shoots measuring to 1 metre long x 20mm diameter are present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	690mm			
	<u>DBH</u>	219mm			
	<u>Height:</u>	8 metres			
<b>Common Name</b> Chinese Tallow	<u>Canopy Spread:</u>	6m X 10m			
<b>Tree 46</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having both co - dominant stems break off. This may indicate some internal decay.	The tree has a poor structure having co - dominant stems from 1.1 metres high. The previously mentioned stems have been broken off at 2 metres and 2.5 metres high respectively.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	920mm (at 900 mm high)			
	<u>DBH</u>	292mm (at 900 mm high)			
	<u>Height:</u>	9 metres			
<b>Common Name</b> Chinese Tallow	<u>Canopy Spread:</u>	7m X 10m			

# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 47</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having slight tip dieback.	The tree has a fair structure having co - dominant stems from 1 metre high. Some small epicormic shoots measuring to 800mm long x 10mm diameter are present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	860mm (at 800 mm high)			
	<u>DBH</u>	273mm (at 800 mm high)			
<b>Common Name</b> Chinese Tallow	<u>Height:</u>	9 metres	The tree is in fair health, having slight tip dieback.	The tree has a fair structure having co - dominant stems from 1 metre high. Some small epicormic shoots measuring to 1 metre long x 20mm diameter are present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>Canopy Spread:</u>	8m X 10m			
<b>Tree 48</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature			
	<u>CBH</u>	770mm (at 900 mm high)	The tree is in fair health, having slight tip dieback.	The tree has a fair structure having co - dominant stems from 1 metre high. Some small epicormic shoots measuring to 1 metre long x 20mm diameter are present.	The tree has been given a ULE of 3B due to the structural defects.
	<u>DBH</u>	245mm (at 900 mm high)			
<b>Common Name</b> Chinese Tallow	<u>Height:</u>	8 metres			
	<u>Canopy Spread:</u>	7m X 9m			
<b>Tree 49</b> <b>Botanical Name</b> <i>Sapium sebiferum</i>	<u>Age:</u>	Semi Mature	The tree is in fair health, having slight tip dieback.	The tree has a fair structure having co - dominant stems from 1 metre high. Some small epicormic shoots measuring to 1 metre long x 10mm diameter are present. Some branch rubbing is occurring at 3 metres high [on the east side].	The tree has been given a ULE of 3B due to the structural defects.
	<u>CBH</u>	590mm (at 900 mm high)			
	<u>DBH</u>	187mm (at 900 mm high)			
<b>Common Name</b> Chinese Tallow	<u>Height:</u>	7 metres			
	<u>Canopy Spread:</u>	7m X 8m			



# TREE ASSESSMENT CONTINUED

Tree Identification	Description		Health	Structure	U.L.E. (Useful Life Expectancy)
<b>Tree 50</b> <b>Botanical Name</b> <i>Ficus rubiginosa</i>	<u>Age:</u>	Mature	The tree is in fair health, having a leaf density of 80 - 90% coverage. Slight deadwood to 60mm diameter is present. Some deadwood stubs to 300mm long x 70mm diameter are present.	The tree has a poor structure having 3 dominant stems from 900mm high. An old fence post is embedded in the trunk on the north east side. Some poor pruning has been carried out at 2 metres high, and the branch ends are moderately decayed. Some small epicormic shoots measuring to 2 metre long x 50mm diameter are present. Some included bark is present around the stem union. Some bark damage has occurred to some of the surface roots.	The tree has been given a ULE of 3B due to the poor structure.
	<u>CBH</u>	2500mm (at 800 mm high)			
	<u>DBH</u>	796mm (at 800 mm high)			
<b>Common Name</b> Port Jackson Fig	<u>Height:</u>	8.5 metres			
	<u>Canopy Spread:</u>	12 X 13m			

### TREE PROTECTION ZONES (TPZ) and STRUCTURAL ROOT ZONES (SRZ)

The TPZ is the area around each tree in which machinery or stored goods must not be placed. Some encroachment such as boring or excavation with hand tools is permitted.

The SRZ is the area around each tree which must not be encroached upon, except with some horizontal boring. This is the area of root zone which anchors the tree into the soil.

To conform to AS4970 (2009), the following TPZs and SRZs (as a radius in metres from the trunk) would be required for each tree:

No.	TPZ	SRZ
1	6	2.5
2	3.5	2
3	1.8	1.5
4	3	1.8
5	4.7	2.2
6	3.3	1.9
7	4	2.1
8	3.8	2
9	4.4	2.2
10	3.6	2
11	4.2	2.1
12	2.8	2.2
13	2.1	1.6
14	5.3	2.3
15	3.6	2
16	5.2	2.3
17	3	1.9
18	2.6	1.7
19	4.1	2.1
20	4.1	2.1

No.	TPZ	SRZ
21	3.4	2
22	3.1	1.9
23	3.7	2
24	3	1.9
25	3.2	1.9
26	2.5	1.7
27	3.5	2
28	2.7	1.8
29	2.8	1.8
30	4.1	2.1
31	5.1	2.3
32	7.7	2.8
33	5.9	2.5
34	9	2.9
35	10.1	3.1
36	2.8	1.8
37	3.2	1.9
38	3.2	1.9
39	3.5	2
40	3.1	1.9

No.	TPZ	SRZ
41	3.4	1.9
42	1.8	1.5
43	1.5	1.4
44	3.2	1.9
45	2.6	1.8
46	3.5	2
47	3.3	1.9
48	2.9	1.8
49	2.2	1.6
50	9.5	3

## HEDGES

A hedge of *Syzygium* sp. (Lilly Pilly) is present between Trees 30 & 32. It is 3.5 metres high and approximately 16 metres long, in generally good condition, but suitable to remove due to its generally fast growing species (if being replaced).

A smaller hedge of *Acacia* sp. is present beneath Trees 36 – 38. This hedge is in poor condition and suitable for removal.

## CONCLUSION

Trees 1 – 26 are generally poor specimens, and the TPZ table shows the difficulty in creating suitable protection zones whilst achieving best use of the property and being economically viable.

Trees 27 – 29 are also fair – poor specimens and removable on the same grounds as Trees 1 – 26.

Trees 30 – 33 are of a similar condition to the previously mentioned trees, with Tree 32 being an exceptionally poor specimen.

Trees 34 & 35 are in generally good health, but do have some structural defects. As they cannot be adequately protected [during and after construction as required by AS 4970 (2009)], their removal (destruction or relocation) should be based on economic viability.

The same considerations must be made for Trees 36 – 38 and 42 & 43. All generally good specimens, but their retention is not viable considering the scope of the development. These trees are all in close proximity to the building proposed for demolition

Trees 39 – 40 and 44 – 49 are generally fair – poor specimens and are a common [exotic] species frequently used in Urban Horticulture. Their protection is considered not viable due to their condition.

Tree 50 is in generally good health, but has some structural defects common in old Figs (as in Trees 34 & 35). The presence of the fence post (the trunk is growing around it) and the poor pruning suggest this tree has also not been treated correctly in the past.

Given the short ULE of the majority of the trees, the economic viability of their retention and protection, whilst achieving best use of the property (physically and economically) is against them.

Overall, the trees cannot be adequately protected if best use of the property is to be achieved.

There are no rare or endangered species amongst the trees.

## RECOMMENDATIONS

Based on the observations made during the inspection and discussion with the contact person, it is recommended that the trees be removed to allow the development to proceed.

A suitable landscape plan is part of the proposed development.

## PHOTOGRAPHS



Tree 1 (left) & Tree 2 (right).



The base of Tree 1.



The base of Tree 3.



# PHOTOGRAPHS CONTINUED



Tree 4, thin upper canopy & lower epicormics.



Trees 5 & 6.



The base of Tree 5 (centre).



The stem union of Tree 6.



## PHOTOGRAPHS CONTINUED



Trees 7, 8 & 9 (left to right).



Trees 10 & 11 (left to right).



Trees 12, 13 & 14 (left to right).



Trees 15, 16 (left to right).



# PHOTOGRAPHS CONTINUED



Trees 17 & 18 (centre).



Trees 19 & 20 (left to right).



Trees 21, 22, & 23 (outlined).



Trees 24, 25, & 26 (outlined).



# PHOTOGRAPHS CONTINUED



The base of Tree 25.



The base of Tree 26.



Tree 27.



Tree 28 (centre).



**PHOTOGRAPHS CONTINUED**

Tree 29.



Tree 30 (outlined right) & Tree 31 (outlined left).

## PHOTOGRAPHS CONTINUED



Tree 32 (outlined).



Deadwood in Tree 32.



Tree 33. The 3 stem union is circled.



**PHOTOGRAPHS CONTINUED**

Tree 34.



Area of broken branch on scaffold Tree 34.



## PHOTOGRAPHS CONTINUED



Tree 35.



Tree 35 stem union.



Partial occlusion in buttress of Tree 35.



# PHOTOGRAPHS CONTINUED



Tree 36.



Tree 37.



Tree 38.



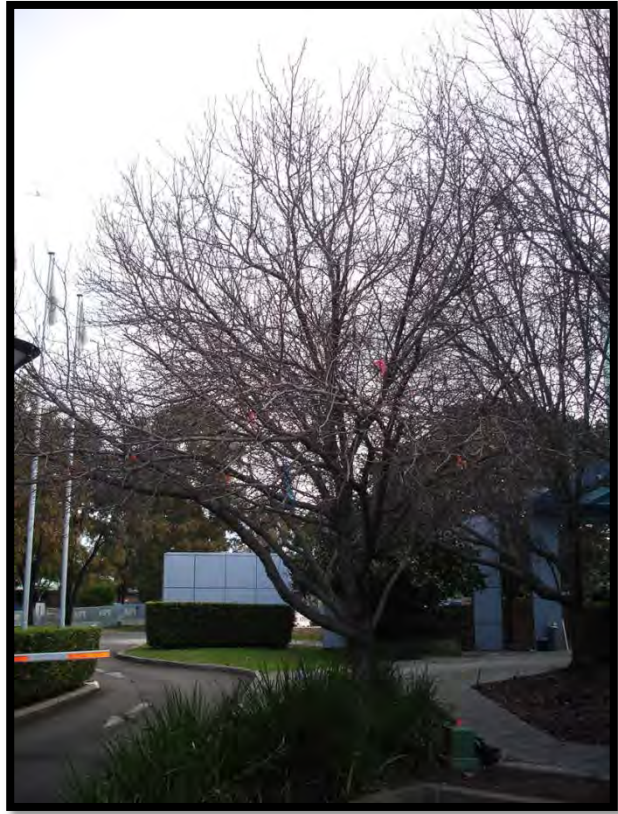
Trunk lean & stem union of Tree 38.



## PHOTOGRAPHS CONTINUED



Tree 39 (centre).



Tree 40.



Tree 41.



Tree 42.



## PHOTOGRAPHS CONTINUED



Tree 43.



Tree 44.



Tree 45.



Tree 46.



## PHOTOGRAPHS CONTINUED



Tree 47.



Tree 48.



Tree 49.



Tree 50.



## PHOTOGRAPHS CONTINUED



Trunk growing around post on Tree 50.



Opposite view of the base of Tree 50.

This report has been prepared by Stephen Williams

*Stephen Williams*

### Acknowledgements

Aerial Photograph courtesy of nearmap.com

## APPENDICES

U.L.E. ....	1.1
Glossary of Terminology .....	1.2
Qualifications .....	1.3

## ULE

ULE is an acronym for Useful Life Expectancy. There are a number of ULE categories that indicate the safe useful life anticipated for each tree. Factors such as the location, age, condition and health of the tree are significant to determining this rating. Other **influences such as the tree's effect on better specimens and the economics of managing the tree** successfully in its location are also relevant to ULE (Barrell 1993, 1995).

### ULE Categories and Subgroups

1 = Long ULE of > 40 years

A Structurally sound in suitable location	B Suitable to retain with some remedial care	C Significant status – requires Special care to preserve
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2 = Medium ULE of 15 – 40 years

A Lifespan limit	B Eventual removal for safety or nuisance	C Remove for adjacent trees or replanting	D Requires extensive remedial care
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3 = Short ULE of 5 – 15 years

A Lifespan limit	B Eventual removal for safety or nuisance	C Remove for adjacent trees or replanting	D Requires extensive remedial care
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4 = Remove tree within 5 years

A Dead, dying or diseased	B Unstable or exposed by new clearing	C Structurally defective	D Damaged and unsafe	E Remove for adjacent trees or replanting	F Damaging existing structures	G Clearing will affect stability
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5 = Trees suitable to transplant

A Less than 5m high	B Young trees over 5m high	C Height/width contained by pruning
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The ULE rating given to any tree in this report assumes that reasonable maintenance will be provided by a qualified Arboriculturist using correct and acknowledged techniques. Retained trees are to be protected from root damage. Incorrect tree work practices can significantly accelerate tree decline and increase hazard potential.

## Appendix 1.1

## Glossary of Terminology

DBH:	Trunk diameter at 1.4 metres high or as otherwise stated
Epicormic:	Leaf shoots which arise from under the bark, and are not attached to the heartwood. These can detach, especially as they become larger, and have a high risk factor
Frass	Sawdust and webbing combined to cover holes of certain types of wood borer
Kino:	A type of resin exudated by Eucalypts and Angophoras as a defence mechanism against pathogen attack
Mistletoe:	A family ( <i><b>Loranthaceae</b></i> in the southern hemisphere) of several genera [in the Sydney region] of parasitic plants, often hastening the decline of trees in poor health; many species are host specific.
Structure:	The shape of the tree, ranging from very good, with a single straight trunk, to very poor, with misshapen multiple trunks. Trees with multiple trunks etc. can have a higher risk factor, as splitting and trunk collapse may occur.
ULE:	An acronym for Useful Life Expectancy. A system for rating the possible longevity of a tree, designed by English Arborist Jeremy Barrell (see appendix 1.1).
Included Bark:	Bark that occurs in a crotch between branch and trunk or between co-dominant stems.
Included bark usually:	<ul style="list-style-type: none"> <li>• prevents the trunk from growing around a branch.</li> <li>• occurs on defective V-shaped crotches in which the bark grows inward and on itself, causing a physical weakness where the co-dominant leaders meet.</li> </ul>

## Appendix 1.2

<b>Contact Details</b>	<b>Qualifications</b>
<b>P.O. Box 3193</b> <b>Glendale NSW 2285</b> <b>Ph 0409 559 147</b> <b>Email: <u><a href="mailto:jwi52886@bigpond.net.au">jwi52886@bigpond.net</a></u> au</b>	<b>Bachelor of Arts Degree (Botany)</b>  <b>Horticulture Certificate (1989)</b> <b>with Arboriculture component</b> <b>included.</b>  <b>Horticulture Certificate (2000</b> <b>Northern Melbourne Institute of</b> <b>Technology)</b>  <b>Diploma of Horticulture (2007</b> <b>Kurri Kurri Tafe) Arboriculture.</b> <b>5510397</b>  <b>AQF Level 5</b>

## Appendix 1.3