Development Impact Assessment

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Strathfield Golf Club
1/25/16

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1 Introduction

Lee Hancock Consulting Arborist was commissioned to prepare a Development Impact Assessment report for the proposed development located at 84 Centenary Drive, Strathfield otherwise known as Lots 300, 301 and 302 of Existing Lots 1 & 2 in DP854298 and Lot 1 in DP130917.

This amended Development Impact Assessment supersedes the earlier August 2015 version as it relates to revised set of Architectural and Landscape Drawings submitted to council on Wednesday, 12 January 2016.

Our assessment takes into consideration the necessary school stormwater upgrades detailed below and is viewed in the context of the landscape design proposed for the development. The objective of the proposed development is to improve the urban forest values of the site ensuring the new tree plantings will provide sustainability into the foreseeable future. Our understanding is that Arcadia has taken key steps to ensure replaced trees compensate for loss of amenity that every tree removed has created.

In addition, trees to be removed are assessed with regard to impacts on adjacent trees that are being retained and includes recommendations to minimise any adverse impacts that demolition, construction activities may have on the trees to be retained.

The complexity of the site, warrants that each ‘Lot’ be separate and numbered in such a way the reader is able to understand the location of each tree.

The Visual Tree Assessment Method was used.

2 Aim

The aim of this report is to detail the condition of the trees on site in the context of the development proposal and associated works as listed below, recommending trees to be removed and retained. Any adverse impacts that demolition, construction activities may have on the trees to be retained will be minimised.

2.1.1 The author is aware of and will comply with the determining authorities Strathfield Local Environment Plan 2012, Strathfield Consolidated Development Control Plan (DCP) 2005- Part O - Tree Management Development Control Plan.

2.1.2 The initial point of reference in assessing the impacts of the proposed development is AS4970 (2009) ‘Protection of trees on development sites’. Each tree has been provided with an identification number for reference purposes denoted on the Tree Location Plan.

2.1.3 5.3 All trees from each LOT 300, Lot 301 and Lot 302 have been tagged with a numbered disc. As the site is an odd shape, the numbered tags may assist in locating trees to be impacted upon or removed.

2.1.4 The subject trees were inspected by Lee Hancock Consulting Arborist 13.1.2016. On the day of inspection no aerial inspection or diagnostic assessment was undertaken.
3 The Proposal

The amended DA seeks approval for:

- Site preparation works, including demolition of existing buildings and structures and tree removal/pruning as necessary;
- Staged construction and occupation of:
  - 23 x two storey 3 Bed townhomes;
  - 27 x three storey 3 Bed townhomes;
  - two x nine storey residential apartment buildings consisting of 178 dwellings with 1 x studio, 28 x 1 Bed, 140 x 2 Bed, 9 x 3 Bed apartments;
- A maximum FSR of 1.2:1 consistent with the provisions of the Strathfield Local Environmental Plan 2012 (LEP 2012);
- Excavation and provision of a common two level (2) basement car park below the residential apartment buildings, providing 321 spaces;
- Provision of at grade car parking spaces to serve the townhomes, including visitor spaces;
- Retention of existing vehicle access from Centenary Drive;
- Construction of private road infrastructure providing access to the basement car park serving the residential apartment buildings and individual townhomes;
- Associated landscaping and open space; and
- Extension and augmentation of physical infrastructure / utility es as required.
4 Site Analysis

The site is bound by Centenary Drive to the west, South Strathfield High School to the south, residential houses located on Hedges Avenue Fairway to the east and Strathfield Golf Course to the north. Roughly 250 metres further north east from the proposed development is the Cooks River which runs east toward Botany Bay.

**Figure 1.** Site plan
5 Proposed Stormwater Installation on Boundaries of Strathfield Golf Course and South Strathfield High School

As part of the proposed residential development, Metro Property has agreed with South Strathfield High School to deliver a package of drainage works on the common boundary between the development Site and school land at Metro’s cost, Figure 2 shows the location of the development site.

Currently, the existing topography has a depression through the middle of the site which provides an informal/illegal point of discharge for the overland flow path runoff conveyed from the school across the golf land and through to Cooks River.

An existing stormwater drainage easement is located along the south eastern corner of the golf course and connects to the school’s property to the Cooks River, however due to the site topography and the pipe size, Cardno has advised that it is extremely unlikely that any stormwater is captured safely. In significant rain events, all rain water sheets across the golf course land due to the lack of any appropriate drainage infrastructure on the school property.

Therefore, a series of stormwater network of pit and pipes is proposed along the common boundary, with potential regrading necessary to provide the topography required to capture the School’s stormwater runoff safely before entering the development site and impacting on the proposed residential community.

The captured stormwater runoff from the School property is then collected safely at the existing stormwater drainage easement providing the school its legal point of discharge.

In consultation with the School, the Department has provided its landowners consent to support the submission of this development application, including the planning approvals required to remove the trees necessary to deliver the stormwater infrastructure works. The school has provided its preference to assess the trees along the common boundary in the context of current and future maintenance and safety for the onsite students.

Figure 2. Location of site in context of key stormwater infrastructure works
6 Methodologies

6.1 Visual Tree Assessment (VTA)

A technique developed by (Mattheck & Breloer) was carried out on all trees from the ground. The technique involves, identification of the Genus and Species of trees on the site. The Diameter at Breast Height (DBH) 1.4m above ground level determined from the circumference of the trunk divided by \( \pi \). Tree height (m) Diameter at Ground Level (DAGL), Canopy spread (m) in four cardinal points (north, south, east, west) Structural integrity, Amenity value, Indigenous/Endemic value, Health and vigor of trees.

6.2 Useful Life Expectancy (ULE)

An assessment procedure has been developed by (Barrell, J.D.) 1993 ‘by which trees on a site are accurately recorded and designated according to their suitability for retention in the short, medium or long term’. This methodology is a measure of the “sustainability” of the remaining contribution in years that the tree can provide in the context of the site.

6.3 Landscape Significance

The significance of trees in the landscape is assessed in determining their retention values in 3 categories. Heritage Value reflects Historical significance, Ecological Value maintains biodiversity values and Amenity value contributes to the character of the landscape.

6.4 Tree Retention Values

A rating was given to each tree on site; the information gathered was then processed by evaluating the health and vigour, the remaining useful life expectancy (ULE), plus their significance in the landscape. A retention value for each tree was then evaluated ranging from High, Moderate, Low and Very Low.

6.5 Determining Structural Root Zones

As defined in AS 4970 Section 1.4.5 the SRZ is ‘the area around the base of a tree required for the tree’s stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright.’ The SRZ area has been calculated as specified in Section 3.3.5 of AS 4970.

6.6 Structural Root Zone (SRZ)

SRZ is the measurement of the area around the base of the tree. Measurements are taken at the centre of the trunk; a radial measurement is calculated in meters. This process determines the trees structural stability. The formula is SRZ radius = \((D \times 50) \times 0.64\) D = trunk diameter, in metres.
6.7 Tree Protection Zone (TPZ)

This area is specified above and below the ground at a given distance from the trunk to protect tree roots and canopy to protect the viability and stability of a tree retained on site where there is a potential for the tree to be damaged by development.

6.7.1 Determining Tree Protection Zones

As defined in AS 4970 Section 1.4.7 the TPZ is ‘a specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree’s roots and crown (canopy) to provide for the viability and stability of a tree to be retained where it is potentially damaged by development’. The TPZ is the root zone/canopy area required for vigour and long term viability. The TPZ area has been calculated as specified in Section 3.2 of AS 4970.

6.7.2 Variations to the TPZ – Minor

If there are no other options a minor encroachment (<10%) into the TPZ area may be acceptable provided the incursion does not impact the SRZ. Examples of how minor encroachments can be configured. Refer to Section 3.3.2 of AS 4970 for additional details relating to minor encroachments.

AS 4970 states that the area lost to the encroachment must be compensated for elsewhere and must be contiguous with the TPZ.

6.7.3 Variation to the TPZ – Major

Should major encroachments (> 10%) of the TPZ be proposed it must be demonstrated by The Project Arborist that the tree will remain viable into the long term. Demonstration of viability may include non-destructive methods of root investigation and should be made in consideration of the following factors as listed in Section 3.3.4 of AS 4970.

Figure 3. Tree Retention Values – Assessment Methodology
**Figure 4. Retention Value Methodology**

<table>
<thead>
<tr>
<th>RETENTION VALUE</th>
<th>RECOMMENDED ACTION</th>
</tr>
</thead>
</table>
| **“High”**       | 1. These trees considered worthy of preservation; as such careful consideration should be given to their retention as a priority.  
2. Proposed site design and placement of buildings and infrastructure should consider lessening any mitigating issues in relation to trees.  
3. In addition the extent of the canopy (canopy drip-line) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable. |
| **“Moderate”**   | 1. The retention of these trees is desirable.  
2. These trees should be retained as part of any potential development if possible however they trees are considered less critical for retention.  
3. If these trees must be removed, replacement planting should be considered in accordance with Council’s Tree Replacement Policy to compensate for loss of amenity. |
| **“Low”**        | 4. These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their ULE.  
5. These trees should not be considered as a constraint to the potential development of the site. |
| **“Very Low”**   | 1. These trees are considered potentially hazardous or very poor specimens, or may be environmental or noxious weeds.  
2. The removal of these trees is therefore recommended regardless of the implications of any proposed development. |
7 Lot 300 – Stage 1 Townhomes

Figure 5. Aerial view of Lot 300.

This section of the report will address existing trees present on site within the Stage 1 (Lot 300) works being <5m from the northern lot boundary but excluding trees within the school site to the south (refer to section 9 of this report). This lot is located on the southern boundary of the golf club site running parallel with South Strathfield High School.

The Practice Fairway along the southern boundary and eastern boundary (Hedges Avenue) supports 15 (fifteen) trees. The trees are numbered from S1 – S15

Trees numbered N1- N29 are along northern boundary of Fairway.

7.1 Southern Boundary Strathfield High School Trees S1 - S15

**Tree S1.** Ficus rubiginosa (Port Jackson Fig)

Located adjacent to concrete storage bins and practice bunker. Mature specimen, short useful life expectancy, low amenity value, poor health and vigour, low retention value.

**Tree S2.** Ficus rubiginosa (Port Jackson Fig)

Located adjacent Tree 1. Mature specimen, poor structure, low amenity value low retention value. estimated short useful life span.

**Tree S3.** Ficus rubiginosa (Port Jackson Fig)

Located adjacent Tree 2. Mature specimen, estimated short useful life span, low amenity value, poor structure, low retention value.

**Tree S4.** Lophostemon confertus (Brush Box)

Located facing north to practice green, mature specimen, poor form and vigour, codominant stem possible inclusion. Tree is rated as low amenity value, low landscape significance short useful life expectancy.
Tree S5. *Eucalyptus nicholii* (Sydney Peppermint)
Exempt Species under 5m.

Tree S6. *Eucalyptus nicholii* (Sydney Peppermint)
Exempt Species under 5m.

Tree S7. Tree is senescent. Remove

Tree S8. Exempt Species under 5m.

Tree S9. *Eucalyptus punctata* (Grey gum)
Tree has large cavity on lower trunk facing north, south side of tree on boundary of high school large bracket fungus in cavity bracket fungus identified as *Phellinus* species. *This species of bracket fungus is a soft-textured white-rot usually occurs in the main stem, and can lead to fracture if it becomes extensive.* (et al) Lonsdale D.

A mallet was used to sound out the hollowness in the area of the bracket fungus, there is a degree of hollowness in the tree. Further investigation would be needed to determine the amount of decay in tree, if the tree was worthy of retention, as tree is in poor health with a short useful life expectancy, it is not recommended. Removal is recommended.

Tree S10. *Eucalyptus nicholii* (Sydney Peppermint)
Displaying poor form and vigour low amenity value low landscape significance. Rated as having a low retention value.

Tree S11. Tree is in late stages of useful life expectancy. Recommend removal.

Tree S12. Located corner of high school tennis courts and Hedges Avenue. Semi mature tree identified as Eucalyptus Hybrid, good structural integrity, good health and vigour. Unfortunately after discussion with Engineer to retain this tree. As it will be severely impacted upon by proposed stormwater culvert and sewerage installation for the proposed development.

Tree S13 *Syagrus romanzoffianum* (Cocos Palm) Noxious Weed Removal is recommended.

Tree S14. *Syagrus romanzoffianum* (Cocos Palm) Noxious Weed Removal is recommended.

Tree S15. *Syagrus romanzoffianum* (Cocos Palm) Noxious Weed Removal is recommended.
Tree S1 *Ficus rubiginosa* (Port Jackson Fig)

Tree S2 *Ficus rubiginosa* (Port Jackson Fig)

Tree S3 *Ficus rubiginosa* (Port Jackson Fig)
Tree S4. Lophostemon confertus (Brush Box)

Tree S5. Eucalyptus nicholli (Sydney Peppermint)

Tree S6. Eucalyptus nicholli (Sydney Peppermint)

Tree S7. Dead. Tree 8. Eucalyptus nicholli (Sydney Peppermint) under 5m exempt from Council TPO.

Tree S9. Eucalyptus punctata (Grey gum)  
Tree S9. Phellinus spp. Bracket fungus
**Tree S10. & Tree S11** *Eucalyptus nicholli* (Sydney Peppermint)

**Tree S12.** *Eucalyptus* Hybrid

**Tree S13, S14 & S15** *Syagrus romanzoffianum*  
(Cocos Palm)
### Table A. Tree Health and Retention Value Lot 300 Trees S1-S15

<table>
<thead>
<tr>
<th>Tree</th>
<th>Genus &amp; Species</th>
<th>Height</th>
<th>Crown Spread</th>
<th>Maturity</th>
<th>Health and Vigour</th>
<th>Landscape Significance Rating</th>
<th>Useful Life Expectancy</th>
<th>Retention Value</th>
<th>Location</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Ficus rubiginosa (Port Jackson Fig)</td>
<td>10m</td>
<td>15m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Medium</td>
<td>Low</td>
<td>Practice Bunker</td>
<td>Remove</td>
</tr>
<tr>
<td>S2</td>
<td>Ficus rubiginosa (Port Jackson Fig)</td>
<td>10m</td>
<td>10m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Medium</td>
<td>Low</td>
<td>Practice Bunker</td>
<td>Remove</td>
</tr>
<tr>
<td>S3</td>
<td>Ficus rubiginosa (Port Jackson Fig)</td>
<td>10m</td>
<td>12m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Medium</td>
<td>Low</td>
<td>Practice Bunker</td>
<td>Remove</td>
</tr>
<tr>
<td>S4</td>
<td>Lophostemon confertus (Port Jackson Fig)</td>
<td>8m</td>
<td>10m2</td>
<td>Semi Mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Medium</td>
<td>Low</td>
<td>Practice Bunker</td>
<td>Remove</td>
</tr>
<tr>
<td>S5</td>
<td>Exempt species</td>
<td>Under 5m</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Practice Bunker</td>
<td>Remove</td>
</tr>
<tr>
<td>S6</td>
<td>Eucalyptus nicholii (Sydney Peppermint)</td>
<td>Under 5m</td>
<td></td>
<td></td>
<td></td>
<td>Under 5m</td>
<td>Under 5m</td>
<td>Very Low Remove</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S7</td>
<td>Dead stag</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Very Low</td>
<td></td>
<td>Remove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S8</td>
<td>Exempt species</td>
<td>Under 5m</td>
<td></td>
<td></td>
<td></td>
<td>Very Low</td>
<td></td>
<td>Remove</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S9</td>
<td>Eucalyptus punctata (Grey gum)</td>
<td>12m</td>
<td>6m2</td>
<td>Mature</td>
<td>Poor</td>
<td>Very Low</td>
<td>Short</td>
<td>Very Low Remove</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S10</td>
<td>Eucalyptus nicholii (Peppermint)</td>
<td>7m</td>
<td>5m2</td>
<td>Mature</td>
<td>Poor</td>
<td>Very Low</td>
<td>Short</td>
<td>Very Low Remove</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S11</td>
<td>Eucalyptus nicholii (Peppermint)</td>
<td>5m</td>
<td>2m</td>
<td>Semi Mature</td>
<td>Poor</td>
<td>Very Low</td>
<td>Short</td>
<td>Very Low Remove</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S12</td>
<td>Eucalyptus Hybrid</td>
<td>22m</td>
<td>20m2</td>
<td>Semi Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Border of High School</td>
<td>Remove</td>
</tr>
<tr>
<td>S13</td>
<td>Syagrus romanzoffianum (Cocos Palm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weed</td>
<td>End of practice bunker East aspect</td>
<td>Remove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S14</td>
<td>Syagrus romanzoffianum (Cocos Palm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weed</td>
<td>End of practice bunker East aspect</td>
<td>Remove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S15</td>
<td>Syagrus romanzoffianum (Cocos Palm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weed</td>
<td>End of practice bunker East aspect</td>
<td>Remove</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.2 Northern Boundary of Fairway Trees Numbered N1 - N29

**Tree N1. Liquidambar styraciflua** (Liquidamber)

Young tree located on Hedges Avenue boundary residential building No. 42 Hedges Avenue.

Tree displays good health and vigour, Moderate amenity value, moderate landscape significance, moderate retention value. Retain

**Tree N2. Eucalyptus robusta** (Swamp Mahogany)

Semi mature tree Good form and vigour, prune southern side of tree 2m to branch collar to allow for proposed construction.

**Tree N3. Eucalyptus nicholii** (Sydney Peppermint)

Poor health and vigour short useful life expectancy of 5 – 15Years, remove.

**Tree N4. Eucalyptus nicholii** (Sydney Peppermint)

Poor health and vigour short useful life expectancy of 5 – 15Years, remove.

**Tree N5. Pinus taeda** (Loblolly Pine)

Poor structural integrity, 50% deadwood in canopy poor pruning techniques not to AS 4373 Standard.

**Tree N6. Pinus taeda** (Loblolly Pine)

Poor structural integrity 40% deadwood not worthy of retention.

**Tree N7. Syncarpia glomulifera** (Turpentine) 5m retain

Young tree good health and vigour long useful life expectancy retain and protect.

**Tree N8. Syncarpia glomulifera** (Turpentine) 5m retain

Young tree good health and vigour long useful life expectancy retain and protect.

**Tree N9. Lophostemon confertus** (Brush Box)

Semi mature tree 30% deadwood predominantly north aspect retain and protect

**Tree N10. Eucalyptus robusta** (Swamp Mahogany)

Poor form and vigour tree is partially senescent with one large branch alive. Recommend removal.

**Tree N11. Pinus taeda** (Loblolly Pine)

Good form and vigour worthy of retention.

**Tree N12. Lophostemon confertus** (Brush Box)

Good form and vigour long useful life retain and protect

**Tree N13. Lophostemon confertus** (Brush Box)

Good form and vigour retain and protect.

**Tree N14. Eucalyptus robusta** (Swamp Mahogany)

Poor form and vigour recommend removal.
Tree N15. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N16. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N17. *Melaleuca quinquenervia* (Paperbark)
Tree located on boundary of Lot 302 no development applies to this tree.

Tree N18. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N19. *Melaleuca quinquenervia* (Paperbark) co-dominant stems
Tree located on boundary of Lot 302 no development applies to this tree.

Tree N20. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N21. *Melaleuca quinquenervia* (Paperbark)
Tree located on boundary of Lot 302 no development applies to this tree.

Tree N22. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N23. *Melaleuca quinquenervia* (Paperbark)
Tree located on boundary of Lot 302 no development applies to this tree.

Tree N24. *Lophostemon confertus* (Brush Box)
Good form and vigour retain and protect.

Tree N25. *Pinus taeda* (Loblolly Pine)
Good form and vigour retain and protect.

Tree N26. *Melaleuca quinquenervia* (Paperbark) co-dominant stems
Tree located on boundary of Lot 302 no development applies to this tree.

Tree N27. *Pinus taeda* (Loblolly Pine)
Good form and vigour retain and protect.

Tree N28. *Pinus taeda* (Loblolly Pine)
Good form and vigour retain and protect.
Tree N2 Eucalyptus robusta  Tree N3 & N4 Eucalyptus nichollii  Tree N5& N6 Pinus taeda

Tree N7 & N8 Syncarpia glomulifera
Tree N25 *Pinus taeda* (Loblolly Pine)

Tree N26, N27 and N28 *Pinus taeda* (Loblolly Pine)

Tree N29 *Pinus taeda* (Loblolly Pine)
Table B. Tree Health and Retention Value Lot 300 Trees N1- N29

<table>
<thead>
<tr>
<th>Tree</th>
<th>Genus &amp; Species</th>
<th>Height</th>
<th>Crown Spread</th>
<th>Maturity</th>
<th>Health and Vigour</th>
<th>Landscape Significance Rating</th>
<th>Useful Life Expectancy</th>
<th>Retention Value</th>
<th>Location</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>Liquidambar styraciflua (Liquidamber)</td>
<td>5m</td>
<td>5m</td>
<td>Young</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Moderate</td>
<td>Adjacent rear of 42 Hedges Ave</td>
<td>Retain</td>
</tr>
<tr>
<td>N2</td>
<td>Eucalyptus robusta (Swamp Mahogany)</td>
<td>8m</td>
<td>20m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Facing north First Fairway</td>
<td>Retain</td>
</tr>
<tr>
<td>N3</td>
<td>Eucalyptus nichollii (Sydney Peppermint)</td>
<td>5m</td>
<td>3m</td>
<td>Semi mature</td>
<td>Poor</td>
<td>Low</td>
<td>Short</td>
<td>Very Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N4</td>
<td>Eucalyptus nichollii (Sydney Peppermint)</td>
<td>5m</td>
<td>3m</td>
<td>Semi mature</td>
<td>Poor</td>
<td>Low</td>
<td>Short</td>
<td>Very Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N5</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>9m</td>
<td>10</td>
<td>Semi mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Short 5-15 years</td>
<td>Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N6</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>9m</td>
<td>9m</td>
<td>Semi mature</td>
<td>Fair</td>
<td>Moderate</td>
<td>Short 5-15 years</td>
<td>Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N7</td>
<td>Syncarpia glomulifera (Turpentine)</td>
<td>6m</td>
<td>8m</td>
<td>Young</td>
<td>Good</td>
<td>High</td>
<td>Long</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect</td>
</tr>
<tr>
<td>N8</td>
<td>Syncarpia glomulifera (Turpentine)</td>
<td>6m</td>
<td>8m</td>
<td>6m</td>
<td>Good</td>
<td>High</td>
<td>Long</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N9</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>8m</td>
<td>10m</td>
<td>Young</td>
<td>Good</td>
<td>High</td>
<td>Long</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N10</td>
<td>Eucalyptus robusta (Swamp Mahogany)</td>
<td>9m</td>
<td>4m</td>
<td>Mature</td>
<td>Poor</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N11</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>14m</td>
<td>20m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N12</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>12m</td>
<td>15m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N13</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>12m</td>
<td>18m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N14</td>
<td>Eucalyptus robusta (Swamp Mahogany)</td>
<td>13m</td>
<td>7m</td>
<td>Mature</td>
<td>Poor</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Facing north to First Fairway</td>
<td>Remove</td>
</tr>
<tr>
<td>N15</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>13m</td>
<td>10</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N16</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>12m</td>
<td>12m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to First Fairway</td>
<td>Retain and protect.</td>
</tr>
<tr>
<td>N17</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tree located on boundary of Lot 302 no development impact to this tree.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Species/Description</td>
<td>Diameters</td>
<td>Height</td>
<td>Growth</td>
<td>Health</td>
<td>Condition</td>
<td>Density</td>
<td>Facing</td>
<td>RetentionNotes</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------</td>
<td>-----------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-----------</td>
<td>---------</td>
<td>------------------</td>
<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td>N18</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>10m 10m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N19</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tree located on boundary of Lot 302 no development impact to this tree.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N20</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>10m 12m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N21</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tree located on boundary of Lot 302 no development impact to this tree.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N22</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>12m 12m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N23</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tree located on boundary of Lot 302 no development impact to this tree.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N24</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>15m 18m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N25</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>20m 15m</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N26</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Tree located on boundary of Lot 302 no development impact to this tree.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N27</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>20m 10</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing north to  First Fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
<tr>
<td>N28</td>
<td>Pinus taeda (Loblolly Pine)</td>
<td>22m 12</td>
<td>Mature</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>High</td>
<td>Facing northwest to first fairway</td>
<td>Retain and protect.</td>
<td></td>
</tr>
</tbody>
</table>
8 Lot 301 – Stage 2 Residential Apartment Buildings

Lot 301 comprises Strathfield Golf Clubhouse, patrons car parking, two sheds used by greenkeepers and part practice putting green. Lot 301 supports 22 trees the majority being native species and encapsulates up <5m from the lot boundary to the north but excludes trees to the south within the school (refer to section 9 below).

Figure 6. Aerial view of Lot 301
Tree 1. *Lophostemon confertus* (Brush Box)

Located entrance off Centenary Drive southern boundary. Mature tree in good health and vigour minor deadwood. Rated as Moderate retention value, moderate landscape significance, moderate useful life expectancy, it is not feasible to retain this tree as it is in the footprint of proposed substation.

Tree 2. *Pinus taeda* (Loblolly Pine)

Located adjacent to concrete ramp of metal shed southern boundary, young tree major tear out lower branch, good health and vigour. Rated as moderate landscape significance, moderate amenity value, low retention value, it is not feasible to retain tree as it is in footprint of proposed carriage way.

Tree 3. *Callitris preseii* (Murray Pine)

Located at car park entrance to Practice bunker. Tree is semi mature with major branch tear - out overhanging car parking spaces. Tree has been rated as low amenity value, low landscape significance, low retention value. Tree is in footprint of proposed carriageway.

Tree 4. *Melaleuca linariifolia* (Flaxleaf Paperbark)

Facing east towards practice bunker of Lot 300, mature specimen of shrub like appearance, poor health and vigour, low amenity value, low landscape significance, low retention value. Tree is in footprint of proposed carriageway.

Tree 5. *Auracaria heterophylla* (Norfolk Island Pine)

Young tree located on curve of concrete kerb of car park. Displaying good health and vigour moderate retention value, moderate landscape significance, low retention value. It is not considered feasible to retain tree throughout demolition and construction of the proposed development.

Tree 6, 7, 8, 9, 10 and 11 *Melaleuca quinquenervia* (Paperbark)

Located facing north to First Fairway, trees all displaying poor health and vigour, poor structural integrity, trees are not worthy of retention.

Tree 12. *Angophora costata* (Sydney Red Gum)

Young tree located facing north to First Fairway, suppressed growth from surrounding trees, poor structural integrity, low amenity value, low landscape significance not worthy of retention.

Tree 13. Exempt under 5m.

Tree 14. *Pinus taeda* (Loblolly Pine)

Adjacent to Tree 13 lower canopy with major deadwood, suppressed by surrounding trees, poor structural integrity, low amenity value, low landscape significance not worthy of retention.

Tree 15. *Melaleuca quinquenervia* (Paperbark)

Mature tree poor form and vigour, low landscape significance, low amenity value, rated as low retention value.

Tree 16. *Acer negundo* (Box Elder)

Shrub like form, possibly grown from bird droppings, tree has the potential to become a weed. Rated as low retention.
**Tree 17.** *Eucalyptus camaludensis* (River Red Gum)

Young tree, in good health and vigour, not feasible to retain tree for future development.

**Tree 18 & 19** *Melaleuca quinquenervia* (Paperbark)

Young trees poor structural form, rated as low amenity value, low landscape significance, rated as low retention value.

**Tree 20.** *Acmena smithii* (Lilly pilly)

Young tree with shrub like form, below 5m exempt from Tre Protection Order.

**Tree 21.** *Melaleuca quinquenervia* (Paperbark)

Mature tree located at steps to clubhouse, poor pruning practices have compromised the structural integrity of the tree. Low amenity value, low landscape significance rated as low retention value.

**Tree 22.** *Sapium sabiferum* (Chinese Tallow Wood)

This tree is located some metres away in garden bed adjacent to practice putting green. Mature tree in good form and vigour, high landscape significance, high amenity value, rated as high retention value.

Refer: Section 9 Tree Protection Specifications.

**Tree 1.** *Lophostemon confertus* (Brush Box)
Tree 2. *Pinus taeda* (Loblolly Pine)

Tree 3. *Callitris preisii* (Murray Pine)
Tree 4. *Melaleuca linariifolia* (Flaxleaf Paperbark)

Tree 5. *Auracaria heterophylla* (Norfolk Island Pine)
Tree 6,7,8,9,10 and 11 *Melaleuca quinquenervia* (Paperbark)

Tree 12. *Angophora costata* (Sydney Red Gum) & Tree 13 *Acer negundo* (Box Elder)
Tree 14. *Pinus taeda* (Loblolly Pine)

Tree 15 *Melaleuca quinquenervia* (Paperbark) right of frame. Tree 16 *Melaleuca* spp. left in frame is Tree 17. *Eucalyptus camaldensis* (River Red Gum)
Trees 18, 19, 20 and 21 *Melaleuca quinquenervia* (Paperbark)

Tree 22. *Sapium sabiferum* (Chinese Tallow Wood)
### Table C. Tree Health and Retention Value Lot 301

<table>
<thead>
<tr>
<th>Tree</th>
<th>Genus &amp; Species</th>
<th>Height</th>
<th>Crown Spread</th>
<th>Maturity</th>
<th>Condition</th>
<th>Health and Vigour</th>
<th>Landscape Significance Rating</th>
<th>Useful Life Expectancy</th>
<th>Retention Value</th>
<th>Location Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>6m</td>
<td>10m</td>
<td>Early mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Entrance to car park south aspect.</td>
</tr>
<tr>
<td>2</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>6m</td>
<td>7m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>South aspect boundary with high school</td>
</tr>
<tr>
<td>3</td>
<td>Callitris preissii (Murray Pine)</td>
<td>6m</td>
<td>8m</td>
<td>Young</td>
<td>Fair</td>
<td>Major branch tear out and dieback western side</td>
<td>Fair</td>
<td>Moderate</td>
<td>Short</td>
<td>Facing east towards practice bunker.</td>
</tr>
<tr>
<td>4</td>
<td><em>Melaleuca linariifolia</em> (Flaxleaf Paperbark)</td>
<td>5m</td>
<td>6m</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>Facing east towards practice bunker.</td>
</tr>
<tr>
<td>5</td>
<td><em>Auracaria heterophylla</em> (Norfolk Island Pine)</td>
<td>8m</td>
<td>8m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Short</td>
<td>Low</td>
<td>Facing North East</td>
</tr>
<tr>
<td>6</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>6m</td>
<td>3m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>7</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>6m</td>
<td>3m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>8</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>6m</td>
<td>4m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>9</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>6m</td>
<td>4m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>10</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>7m</td>
<td>7m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>11</td>
<td><em>Melaleuca quinquenervia</em> (Paperbark)</td>
<td>8m</td>
<td>9m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>12</td>
<td><em>Angophora costata</em> (Sydney Red Gum)</td>
<td>10m</td>
<td>4m2</td>
<td>Semi mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
<tr>
<td>13</td>
<td><em>Acer negundo</em> (Box Elder)</td>
<td>18m</td>
<td>10m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Short</td>
<td>Low</td>
<td>North aspect First Fairway</td>
</tr>
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<td>Diameter</td>
<td>Stage</td>
<td>Condition</td>
<td>Condition of Fairway</td>
<td>Condition of Fairway</td>
<td>Impact Assessment</td>
<td></td>
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</tr>
<tr>
<td>----</td>
<td>-------------------------------------</td>
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<td>--------------------</td>
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<td></td>
</tr>
<tr>
<td>15</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td>14m</td>
<td>10m2</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>North aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Melaleuca spp.</td>
<td>6m</td>
<td>5m2</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>North aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Eucalyptus camaldensis (River Red Gum)</td>
<td>15m</td>
<td>3m2</td>
<td>Semi Mature</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>North aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td>6m</td>
<td>3m2</td>
<td>Semi mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>North aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td>5m</td>
<td>2m2</td>
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<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>North Aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Acmena smithii (Lilly pilly)</td>
<td>4m</td>
<td>5m2</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Fair</td>
<td>North Aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Melaleuca quinquenervia (Paperbark)</td>
<td>7m</td>
<td>8m2</td>
<td>Mature</td>
<td>Poor</td>
<td>Poor</td>
<td>Poor</td>
<td>North Aspect First Fairway</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Sapium sabiferum (Chinese Tallow Wood)</td>
<td>18m</td>
<td>20m2</td>
<td>Mature</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Long</td>
<td>Moderate</td>
<td>Practice Putting Green</td>
</tr>
</tbody>
</table>

- **Development Impact Assessment – Strathfield Golf Course - 84 Centenary Drive, Strathfield**
9 South Strathfield High School

There are 35 trees on the school boundary or in close (<5m) proximity that will be impacted upon. The trees have been assessed and recommendations have been made based on the key infrastructure works outline in section 4 of this report.

The trees have been tagged and numbered for reference purposes.

**Tree 85. Casuarina glauca** (She Oak)

Young Tree screening specimen, located western side to Centenary Drive, proposed widening of Golf Club entrance will necessitate its removal.

**Tree 86. Casuarina glauca** (She Oak)

Young Tree screening specimen, located western side to Centenary Drive, proposed widening of Golf Club entrance will necessitate its removal.

**Tree 87. Lophostemon confertus** (Brush Box)

Young tree good health and vigour located in proposed area to substation. Not feasible to retain. Removal is recommended.

**Tree 88. Lophostemon confertus** (Brush Box)

Young tree located in good health and vigour located in proposed area of substation. Not feasible to retain. Removal is recommended.

**Tree 89. Sapium sebiferum** (Chinese Tallowood) entwined with Tree 90 *Cinnamomum camphora* (Camphor Laurel)

Tree 89 poor form Tree 90 weed species. Neither are worthy of retention. Removal is recommended.

**Tree 91 Cinnamomum camphora** (Camphor Laurel)

Noxious Weed species removal is recommended.

**Tree 92. Lophostemon confertus** (Brush Box)

Poor form potential to be structurally unsound. Co-dominant stems displaying included bark form weak attachments as there is little connective tissue between the branches. Failure can occur. Removal is recommended.

**Tree 93. Cinnamomum camphora** (Camphor Laurel)

Noxious Weed species removal is recommended.

**Tree 94. Stag 9(Dead Tree)** Located behind Soccer nets removal is recommended.

**Tree 95 Cinnamomum camphora** (Camphor Laurel)

Noxious Weed species removal is recommended.

**Tree 96. Eucalyptus teriticornis** (Forest Red Gum)

Semi mature tree, appears in good health and vigour, good structural branching, high amenity value, moderate retention.
**Tree 97. Phoenix canariensis** (Canary Island Date Palm)
Located at sand pit of Golf course, appears in fair health and vigour consideration should be given to retaining and transplanting.

**Tree 98. Lophostemon confertus** (Brush Box)
Poor form, suppressed growth from neighbouring trees not worthy of retention. Removal is recommended.

**Tree 99 Lophostemon confertus** (Brush Box)
Young multi stemmed tree, poor form suppressed growth from neighbouring trees not worthy of retention.

**Tree 100** has prominent lean 30% to south west consideration to be given for its removal.

**Tree 101A and 101B Lophostemon confertus** (Brush Box)
Trees not worthy of retention, growth suppressed from surrounding trees, competing for light.

**Tree 101C Eucalyptus** hybrid.
Young tree displaying good form and vigour, may have some impact with proposed stormwater culvert, moderate retention value, Consideration should be given for it to be retained and protected.

**Tree 102 Syncarpia glomulifera** (Turpentine)
Young tree not possible to retain in footprint of proposed stormwater culvert.

**Tree 103 Grevillea robusta** (Silky Oak)
Located on boundary of proposed Pit and Pipe installation not worthy of retention. Removal is recommended.

**Tree 104 Melaleuca styphelliodes** (Tea Tree)
Located on mound of sub-soil, weed infested area. Removal is recommended.

**Tree 105 Lophostemon confertus** (Brush Box)
Semi mature tree smothered by climber in footprint of proposed Pit and Pipe installation not worthy of retention.

**Tree 106 Syncarpia glomulifera** (Turpentine)
Exempt Species from Council Tree Preservation Order.

**Tree 107 Eucalyptus Spp.**
Tree has failed leaning over onto Golf Course Practice Fairway. Removal is recommended.

**Tree 108 Lophostemon confertus** (Brush Box)
Multi stemmed poor form, crossing limbs and branches fused. Not worthy of retention.

**Tree 109 Lophostemon confertus** (Brush Box)
Young tree co-dominant stems in footprint of proposed Pit and Pipe installation, removal is recommended.

**Tree 110 Grevillea robusta** (Silky Oak)
Suppressed growth by Tree 9. Lot 300 Practice Fairway. Tree 110 in footprint of proposed Pit and Pipe Installation. Removal is recommended.

**Tree 111. Lophostemon confertus** (Brush Box)

Young tree good form, good health and vigour. Not feasible to retain tree as in footprint of proposed Pit and Pipe.

**Tree 112. Corymbia maculata** (Spotted Gum)

Located on edge of tall forested area eastern aspect near water pit. Young tree with good branch structure, good health and vigour, the installation of pit and pipe will have a major impact on this tree. Removal is recommended.

**Tree 113 Corymbia maculata** (Spotted Gum)

Located on edge of tall forested area eastern aspect near water pit. Young tree with good branch structure, good health and vigour. The proposed installation of pit and pipe will have a major impact on this tree. Removal is recommended.

**Tree 114. Eucalyptus hybrid**

Young tree with good branch structure, good health and vigour. The proposed installation of pit and pipe will have a major impact on this tree. Removal is recommended.

**Tree 115. Casuarina glauca**

Young tree displaying phototropic growth towards west. Good health and vigour retention is recommended.

**Tree 116 Corymbia maculata** (Spotted Gum)

Semi mature good form and vigour. In footprint of proposed Pit and Pipe. Removal is recommended.

**Tree 117. Eucalyptus microcorys**

Mature tree, poor form and vigour short useful life expectancy, in footprint of proposed pit and Pipe. Removal is recommended.

**Tree 118 Eucalyptus punctata** (Grey Gum)

Mature tree with large cavity at base, 40% deadwood, estimated short useful life expectancy in footprint of Pit and Pipe installation. Removal is recommended.
Table D. Tree Health and Retention Value South Strathfield High School

<table>
<thead>
<tr>
<th>Tree</th>
<th>Genus &amp; Species</th>
<th>Height</th>
<th>Crown Spread</th>
<th>Maturity</th>
<th>Condition</th>
<th>Health and Vigour</th>
<th>Landscape Significance Rating</th>
<th>Useful Life Expectancy</th>
<th>Retention Value</th>
<th>Location</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>Allocasuarina glauca (She Oak)</td>
<td>7m</td>
<td>4m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Footprint of proposed widening of entrance to Golf Club</td>
<td>Remove</td>
</tr>
<tr>
<td>86</td>
<td>Allocasuarina glauca (She Oak)</td>
<td>7m</td>
<td>4m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>low</td>
<td>Footprint of proposed widening of entrance to Golf Club</td>
<td>Remove</td>
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<tr>
<td>87</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>6m</td>
<td>5m</td>
<td>Semi mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Footprint of proposed widening of entrance to Golf Club</td>
<td>Remove</td>
</tr>
<tr>
<td>88</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>7m</td>
<td>4m</td>
<td>Semi mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Footprint of proposed widening of entrance to Golf Club</td>
<td>Remove</td>
</tr>
<tr>
<td>89</td>
<td>Sapium sebiferum (Chinese Tallowwood)</td>
<td>6m</td>
<td>3m</td>
<td>Semi mature</td>
<td>Poor</td>
<td>Poor</td>
<td>Low</td>
<td>Moderate</td>
<td>Low</td>
<td>Boundary of proposed stormwater culvert.</td>
<td>Remove</td>
</tr>
<tr>
<td>90</td>
<td>Cinnamomum camphora (Camphor Laurel)</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>Noxious Weed Removal is recommended</td>
<td>Remove</td>
</tr>
<tr>
<td>91</td>
<td>Cinnamomum camphora (Camphor Laurel)</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
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<tr>
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<td>Lophostemon confertus (Brush Box)</td>
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<td>3m</td>
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<td>Fair</td>
<td>Fair</td>
<td>Moderate</td>
<td>Short</td>
<td>low</td>
<td>Co-dominant stems structurally unsound.</td>
<td>Remove</td>
</tr>
<tr>
<td>93</td>
<td>Cinnamomum camphora (Camphor Laurel)</td>
<td>---</td>
<td>---</td>
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<td>---</td>
<td>---</td>
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<td>Noxious Weed Removal is recommended</td>
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<tr>
<td>94</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>6m</td>
<td>3m</td>
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<td>Fair</td>
<td>Fair</td>
<td>Moderate</td>
<td>Long</td>
<td>Low</td>
<td>Boundary of proposed Pit and Pipe installation</td>
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<tr>
<td>95</td>
<td>Cinnamomum camphora (Camphor Laurel)</td>
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<td>---</td>
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<td>---</td>
<td>Noxious Weed Removal is recommended</td>
<td>Remove</td>
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<td></td>
<td>Dead tree (Stag)</td>
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<td>---</td>
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<td>Located behind Soccer Nets. Removal is recommended</td>
<td>Remove</td>
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<tr>
<td>96</td>
<td>Eucalyptus tereticornis (Forest Red Gum)</td>
<td>18m</td>
<td>15m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Good</td>
<td>Long</td>
<td>High</td>
<td>Located embankment of School playing field</td>
<td>Retain and protect</td>
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<tr>
<td>97</td>
<td>Washingtonia filifera</td>
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<td>2m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Moderate</td>
<td>Long</td>
<td>Moderate</td>
<td>Boundary of proposed Pit and Pipe installation</td>
<td>Remove</td>
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<tr>
<td>98</td>
<td>Lophostemon confertus (Brush Box)</td>
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<td>4</td>
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<td>Fair</td>
<td>Fair</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
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<td>No.</td>
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<td>Diameter</td>
<td>Age</td>
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<td>Location</td>
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<td>Boundary of proposed Pit and Pipe installation</td>
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<tr>
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<td>Young</td>
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<td>Fair</td>
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<tr>
<td>101b</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>6m</td>
<td>3m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe installation</td>
<td>Remove</td>
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</tr>
<tr>
<td>101c</td>
<td>Eucalyptus Hybrid</td>
<td>18m</td>
<td>14m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Located Boundary Retain Retain Late</td>
<td>Remove</td>
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<tr>
<td>102</td>
<td>Syncarpia glomulifera (Turpentine)</td>
<td>6m</td>
<td>3m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe installation</td>
<td>Remove</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>Grevillea robusta (Silky Oak)</td>
<td>5m</td>
<td>5m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
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</tr>
<tr>
<td>104</td>
<td>Melaleuca stypheliodes (Tea Tree)</td>
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<td>5m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located on mound of sub soil Unsuitable growing conditions</td>
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<tr>
<td>105</td>
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<td>3m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
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<tr>
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<td>Syncarpia glomulifera (Turpentine)</td>
<td>5m</td>
<td>3m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
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</tr>
<tr>
<td>107</td>
<td>Eucalyptus spp.</td>
<td>--------</td>
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<td>-------</td>
<td>-------</td>
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<td>Failed remove Remove</td>
<td>Remove</td>
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<tr>
<td>108</td>
<td>Lophostemon confertus (Brush Box)</td>
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<td>3m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
<td></td>
</tr>
<tr>
<td>109</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>6m</td>
<td>4m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
<td></td>
</tr>
<tr>
<td>110</td>
<td>Grevillea robusta (Silky Oak)</td>
<td>6m</td>
<td>2m</td>
<td>Young</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
<td></td>
</tr>
<tr>
<td>111</td>
<td>Lophostemon confertus (Brush Box)</td>
<td>7m</td>
<td>5m</td>
<td>Young</td>
<td>Good</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
<td></td>
</tr>
<tr>
<td>112</td>
<td>Corymbia maculate (Spotted Gum)</td>
<td>17m</td>
<td>7m</td>
<td>Semi mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
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<tr>
<td>113</td>
<td>Corymbia maculate (Spotted Gum)</td>
<td>17m</td>
<td>6m</td>
<td>Semi mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
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<tr>
<td>No.</td>
<td>species</td>
<td>height (m)</td>
<td>distance (m)</td>
<td>maturity</td>
<td>health</td>
<td>growth</td>
<td>location</td>
<td>action</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>114</td>
<td>Casuarina glauca (She Oak)</td>
<td>15</td>
<td>4</td>
<td>Semi mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Located Forest area South East corner Located Boundary of proposed Pit and Pipe Installation</td>
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<tr>
<td>115</td>
<td><em>Eucalyptus punctata</em> (Grey Gum)</td>
<td>17</td>
<td>7</td>
<td>Mature</td>
<td>Good</td>
<td>Good</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Moderate</td>
<td>Located Forest area South east corner Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
</tr>
<tr>
<td>116</td>
<td>Corymbia maculate (Spotted Gum)</td>
<td>17</td>
<td>7</td>
<td>Mature</td>
<td>Good</td>
<td>Good</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Located Forest area South east corner Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
</tr>
<tr>
<td>117</td>
<td><em>Eucalyptus microcorys</em> (Tallowood)</td>
<td>13</td>
<td>5</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Located Forest area South east corner Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
</tr>
<tr>
<td>118</td>
<td><em>Eucalyptus punctate</em> (Grey Gum)</td>
<td>17</td>
<td>5</td>
<td>Mature</td>
<td>Fair</td>
<td>Fair</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Located Forest area South east corner Located Boundary of proposed Pit and Pipe Installation</td>
<td>Remove</td>
</tr>
</tbody>
</table>
10 Recommendations

10.1 Lot 300 Trees S1-S15

The proposed development of will necessitate the removal of 15 trees on the southern boundary. They have been rated as low landscape significance, amenity value, short useful life expectancy and are not worthy of retention. It is recommended that to compensate for loss of amenity every tree removed shall be replaced with 1 suitable species.

10.2 Lot 300 Trees N1-N29

The proposed development of will necessitate the removal of 6 trees rated as having short useful life expectancy. It is recommended that to compensate for loss of amenity every tree removed shall be replaced with 1 suitable species.

10.3 Lot 301

The proposed development will necessitate the removal of 21 trees. They have been rated as low landscape significance, amenity value and are not worthy of retention. It is recommended that to compensate for loss of amenity every tree removed shall be replaced with 1 suitable species.

10.4 South Strathfield High

The proposed installation of the pit and pipe will necessitate the removal of 33 trees that are rated as having an estimated useful life expectancy of 5-15 years, low amenity value, or that they are not considered worthy of retention. A number of trees have raised the issue of not being structurally sound or safe for the students of the school. The author (Lee Hancock) is aware that the safety of the students is priority for the DET and School Principal on site.

The trees to be retained are Tree 96 & 101c

The trees recommended for removal are subject to approval by the Landowners.

6.6 The objective of the proposed development plan, is to improve the urban forest values of the site ensuring the new tree plantings will provide sustainability into the foreseeable future. It is recommended that to compensate for loss of amenity. Every tree removed shall be replaced with 1 suitable species.

- The tree should have a minimum 10m height at maturity to compensate for the loss of existing trees.
- The planting size shall be 75 litres and compliant with Natspec guidelines.
- Planted by a qualified horticulturalist or arborist AQF Certificate 3.
- The replacement plantings must be planted in such a manner as to promote good health during the establishment period, and must be maintained, as far as practicable to ensure tree growth into maturity.
11 Conclusion

In concluding the Development Impact Assessment has collected all relevant data in assessing the condition of the trees. An assessment of their health and vigour, estimated life expectancy and their significance in the landscape and amenity value have been recorded.

12 References

AS4373- 2007 Pruning of Amenity Trees

AS4970 ‘Protection of trees on development sites’. (2009)

Lonsdale, D. Principles of Tree Hazard Assessment and Management Published by (The Stationary Office) London.


Morton, A. Earthscape Horticultural Services -Tree Retention Values

www.nearmap.com.au

www.strathfield.nsw.gov.au
13 Appendix A: Tree Location Plan
PLAN OVERVIEW

This diagram accompanies the Arborist report developed by Lee Hancock Consulting Arborist relating to the Development Impact Assessment report for the proposed development of sections of 64 Centenary Drive, being Strathfield Golf Course, Lot 1 DP 130917, Lot 2 DP 654298, Zoned R2 - Low Density Residential and RE Private Recreation.

The purpose of this report is to detail the condition of the trees on site. Trees to be removed and identifies impacts on trees to be retained and includes recommendations to minimise any adverse impacts that demolition, construction activities may have on the subject trees.

The author is aware of and will comply with the determining authorities Strathfield Local Environment Plan 2012, Strathfield Consolidated Development Control Plan (DCP) 2005, Strathfield Council Part C - Tree Management Development Control Plan.

KEY:

- | Tree: Retain.
- | Tree: Remove.

Approximate only. Check all dimensioned controls.

Lee Hancock consulting arborist

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0409 582 871
Arboriculture A3700-Cert III Landscape Construction / Cert IV Parks and Gardens / ABN 76 013 033 093

TITLE: ARBORIST REPORT

PROJECT ADDRESS:
South Strathfield Golf Course, 64 Centenary Road, Homebush

CLIENT:
Mark Gitts, Senior Development Manager / Metro Property Development

DRAWN BY:
D.HAMILTON

DRAW NO.
1/1

SCALE: AS INDICATED
DATE: 21/01/16
14 Appendix B: Tree Protection Specification
Tree Protection Specifications

STRATHFIELD GOLF CLUB
LEE HANCOCK CONSULTING ARBORIST
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1. Specifications for Tree Protection

1.1 Existing Trees to be retained.
Before the commencement of works, a Tree Protection Zones must be established around all trees to be retained not less than the distance indicated in the Tree Protection Plan schedule.

The tree protection measures included in this plan, are to be implemented prior to, during and after the construction phase, including landscape construction of the project to ensure the long term survival of the tree. The project arborist will monitor the impacts of demolition, bulk earth works, installation of temporary infrastructure including bunding, sediment control works and drainage works.

The intention is to ensure that construction related issues and conflicts (with tree retention) are resolved prior to the commencement of this project.

The aim is to ensure that specifications site specific and that the whole Tree Management Plan can be required to be implemented as part of the conditions of consent.

1.1.1 Appointment of a Project Arborist

An Arborist with an AQF Level 5 Diploma in Arboriculture with experience in tree protection on construction sites should be engaged prior to the commencement of work on the site.

1.2 Certification Reporting

Following each stage, Site establishment, Construction Stage and Landscape Construction. The Project Arborist shall prepare a statement of compliance certifying whether or not the works have been completed in compliance with this plan and the conditions of development consent relating to Tree Protection. Site monitoring will occur on a fortnightly basis during Pre-construction.

Site monitoring will then continue on a monthly basis and at each Hold Point If conditions have been breached, remedial action shall be recommended to minimise any further mitigations on the trees health.

If conditions have been breached, remedial action shall be recommended to minimise any further adverse effect on the trees health.
## 2. Tree Protection Fence

Listed below trees to be retained and protected throughout all stages of the construction.

### Table A. Area Measurements Installation of TPZs.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical/Common Name</th>
<th>DBH</th>
<th>DAGL</th>
<th>SRZ</th>
<th>TPZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lot 300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1-N29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree N1.</td>
<td><em>Liquidambar styraciflua</em> (Liquidambar)</td>
<td>550</td>
<td>680</td>
<td>2.8mr</td>
<td>6.6mr</td>
</tr>
<tr>
<td>N2</td>
<td>Eucalyptus robusta (Swamp Mahogany)</td>
<td>620</td>
<td>760</td>
<td>2.9mr</td>
<td>7.44mr</td>
</tr>
<tr>
<td>N5</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>630</td>
<td>650</td>
<td>2.8mr</td>
<td>7.5mr</td>
</tr>
<tr>
<td>N6</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>510</td>
<td>590</td>
<td>2.7mr</td>
<td>6.12mr</td>
</tr>
<tr>
<td>N7</td>
<td><em>Syncarpia glomulifera</em> (Turpentine)</td>
<td>520</td>
<td>560</td>
<td>2.6mr</td>
<td>6.24mr</td>
</tr>
<tr>
<td>N8</td>
<td><em>Syncarpia glomulifera</em> (Turpentine)</td>
<td>510</td>
<td>550</td>
<td>2.6mr</td>
<td>6.12mr</td>
</tr>
<tr>
<td>N9</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>515</td>
<td>570</td>
<td>2.6mr</td>
<td>6.18mr</td>
</tr>
<tr>
<td>N11</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>550</td>
<td>680</td>
<td>2.8mr</td>
<td>6.6mr</td>
</tr>
<tr>
<td>N12</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>520</td>
<td>530</td>
<td>2.5mr</td>
<td>6.24mr</td>
</tr>
<tr>
<td>N13</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>770</td>
<td>820</td>
<td>3.0mr</td>
<td>9.24mr</td>
</tr>
<tr>
<td>N14</td>
<td>Eucalyptus robusta (Swamp Mahogany)</td>
<td>820</td>
<td>920</td>
<td>3.2mr</td>
<td>9.84mr</td>
</tr>
<tr>
<td>N15</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>410</td>
<td>430</td>
<td>2.3mr</td>
<td>4.92mr</td>
</tr>
<tr>
<td>N16</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>770</td>
<td>820</td>
<td>3.0mr</td>
<td>9.24mr</td>
</tr>
<tr>
<td>N18</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>330</td>
<td>420</td>
<td>2.3mr</td>
<td>3.96mr</td>
</tr>
<tr>
<td>N20</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>630</td>
<td>640</td>
<td>2.7mr</td>
<td>7.56mr</td>
</tr>
<tr>
<td>N22</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>490</td>
<td>520</td>
<td>2.5mr</td>
<td>5.88mr</td>
</tr>
<tr>
<td>N24</td>
<td><em>Lophostemon confertus</em> (Brushbox)</td>
<td>670</td>
<td>700</td>
<td>2.8mr</td>
<td>8.04mr</td>
</tr>
<tr>
<td>N25</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>530</td>
<td>640</td>
<td>2.7mr</td>
<td>6.36mr</td>
</tr>
<tr>
<td>N27</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>540</td>
<td>670</td>
<td>2.8mr</td>
<td>6.48mr</td>
</tr>
<tr>
<td>N28</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>570</td>
<td>680</td>
<td>2.8mr</td>
<td>6.84mr</td>
</tr>
<tr>
<td>N29</td>
<td><em>Pinus taeda</em> (Loblolly Pine)</td>
<td>500</td>
<td>620</td>
<td>2.7mr</td>
<td>6.0mr</td>
</tr>
<tr>
<td>Lot 301</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td><em>Sapium sebiferum</em> (Chinese Tallowwood)</td>
<td>580</td>
<td>700</td>
<td>2.8mr</td>
<td>6.9mr</td>
</tr>
<tr>
<td>Tree</td>
<td><em>Strathfield school Boundary Pit and Pipe</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>96</td>
<td><em>Eucalyptus teriticornis</em> (Forest Red Gum)</td>
<td>630</td>
<td>660</td>
<td>2.8</td>
<td>7.5</td>
</tr>
<tr>
<td>101C</td>
<td><em>Corymbia maculate</em> (Spotted Gum)</td>
<td>500</td>
<td>620</td>
<td>2.7</td>
<td>6.0</td>
</tr>
</tbody>
</table>
2.1 Tree Protection Fencing

To be installed on either side of Lot 300 Trees 1-27 in a continuous parallel line to Tree 2 end TPZ

Figure 1. Indicative Continuous Tree Protection Fence along first fairway.

Figure 2. Indicative Tree Protection Fencing

2.1.1 Other Tree Protection Fencing
The trees retained southern boundary of South Strathfield High school shall be protected by the existing Hurricane fence.
Development Impact Assessment – Strathfield Golf Club – Tree Protection Specifications

Figure 3. Indicative Tree Protection Fence with scaffolding

Indicative Tree Protection Fencing including scaffolding for Tree 22. Lot 301 Stage 2. Proposed development.

Figure 4. Indicative trunk and branch protection
2.2 Trunk protection for Tree 1 -8 and 9, 10 and 11 Lot 302 installed prior to commencement of any work and maintained intact for the duration of construction.

Tree trunks and or major branches located within 500mm of any hoarding or scaffolding structure, must be protected by wrapped hessian or similar material to limit damage.

2.3 Trunk Protection by way of Timber planks (50mmx 100mm or similar) shall be placed around tree trunks. The timber planks shall be spaced at 100mm intervals, and must be fixed against the trunk secured together with 2mm galvanised wire. These shall be strapped around the trunk (not fixed in anyway) to avoid mechanical injury or damage. Trunk protection should be installed prior to any site works and maintained in good condition for the duration of the construction period. The hessian and timber planks must not be fixed to the tree in any instance or in any fashion.

2.4 Sediment Control Fence
May be incorporated onto Tree protection Fence.

2.5 Signage
To be displayed around the edge of all TPZ fenced off areas and visible within the development site. Tree Protection Signs supplied by Project Arborist.

3. Tree Removal
Approved tree removal and pruning should be carried out prior to the commencement of the proposed construction works. Where trees to be removed are in close proximity to trees to be retained, consideration should be given to cutting the stump close to ground level and retaining root crown intact.

Tree removal work shall be carried out by an experienced AQF Level 111 Arborist in accordance with the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998).

3.1. Pruning
The required pruning to accommodate machinery is to be specified by the Site Arborist using marked up digital photos. All specified pruning shall be undertaken by a qualified arborist AQF Level 3 in accordance with AS 4373-2007 Pruning of Amenity Trees and the NSW WorkCover Code of Practice for the Amenity Tree Industry (1998).

4. Ground Protection
If temporary access for machinery is unavoidable within the TPZ ground protection measures will be required. The purpose of ground protection is to avoid root damage and soil compaction. Should be protected with mulch and geo textile fabric blanket or crushed rock below rumble boards to provide access of equipment.

Hold Point Project Arborist to oversee Tree Protection installation and compliancy.

4.1 Mulch
To be applied in TPZ minimum 75 -100mm using material that complies with Australian Standard® 4454-2003 Composts, Soil Conditioners and Mulches. This is to be applied trees to minimise compaction and root damage throughout all stages of the development
5. Tree Protection Construction Phase

5.1 Temporary scaffolding
Temporary scaffolding shall be erected where required without pruning or removal of branches to accommodate the scaffold where possible. Where foliage or branches project through the scaffold and create a safety hazard, such foliage and branches shall be temporarily excluded from the inner part of the scaffold by affixing shade cloth screen on outside of the scaffold, or alternatively temporarily tying back branches where required.

5.2 Excavation on Lots 300, 301, 302 and Pit and Pipe Installation
Excavations required for carriageway, infrastructure, foundations and pavement sub-grade within the Tree Protection Zone of any tree to be retained. Shall be undertaken by hand or using an Air-spade® device to locate and expose roots. All care shall be undertaken to preserve roots intact and undamaged.

5.3 If roots (≥50 mm) are encountered during demolition works, these roots must be retained in an undamaged condition and advice sought from the Project Arborist. Exposed roots shall be protected from direct sunlight, drying out and extremes of temperature by covering with a 10mm thick jute geotextile fabric. (Kept damp at all times).

5.4 Roots to be pruned shall be cleanly severed with sharp pruning implements to ensure a smooth wound face, free from tears. Other than for approved works only, no over excavation, benching or battering should be permitted when excavating adjacent to or within TPZ areas.

6. Landscape Construction
The landscape plan to be checked for compliance with the tree protection plan. Project Arborist to approve the staged removal of protection measures required to allow for landscape works. This includes the installation of paving, irrigation, installing and planting.

7. Post Construction Phase

Hold Point: Project Arborist inspection of Post Construction Phase.
On completion of construction and landscaping works. Project Arborist to assess tree condition and provide certification of tree protection. Following final inspection Project Arborist should certify that the completed works have been carried out in compliance with the approved plans and specifications for tree protection.