# CONTENTS

1. Summary ................................................................................. 3
2. Introduction .............................................................................. 4
3. Report Objectives, Resource Documents and Vegetation Controls ........................................... 4
   3.1. Report Objectives .............................................................. 4
   3.2. Documents/Resources viewed in preparation of this report ..................................................... 5
   3.3. Vegetation Controls .............................................................. 5
4. Site Analysis ............................................................................. 6
   4.1. Site Location, Area and Topography ....................................................................................... 6
   4.2. Existing Site Features .............................................................................................................. 6
   4.3. Tree Location ........................................................................ 6
   4.4. Origin and Landscape Significance ......................................................................................... 7
5. Arboricultural and Protection Value Assessment ..................................................................... 7
   5.1. Arboricultural Value Assessment .......................................................................................... 7
   5.2. Protection Value Assessment ............................................................................................... 7
6. Development Impact Assessment and Impact Mitigation Recommendations ................................. 9
   6.1. Development Impact Assessment ......................................................................................... 9
   6.2. Impact Mitigation Recommendations .................................................................................. 10
7. Tree Data and Plans .................................................................... 12
   7.1. Tree Data .............................................................................. 12
   7.2. Tree Location and Development Impact Plans ..................................................................... 14
   7.3. Photographic References .................................................................................................... 16
8. Appendices ................................................................................ 19
   8.1. Survey Methodology and Descriptors .................................................................................. 19
   8.2. Bibliography and Cited References ...................................................................................... 25
   8.3. Tree Protection Guidelines .................................................................................................. 26
   8.4. Company Profile and Qualifications ..................................................................................... 28
   8.5. Terms and Conditions ......................................................................................................... 29

## List of Tables

| TABLE 1: High and Moderate Protection Value Trees - Tree Protection Distances | 8 |
| TABLE 2: Encroachment Summary | 10 |

## List of Figures

| FIGURE 1: Aerial Photograph and Property Outline (Nearmap™ - Dated: 22/03/2018) | 6 |
| FIGURE 2: Example of TPZ 10% Encroachment | 8 |
| FIGURE 3: Encroachment into TPZ of Trees 2, 8 - 11 | 9 |
| FIGURE 4: Encroachment into TPZ of Trees in front setback | 9 |

## Arbor Survey Reference

<table>
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<th>ITEM</th>
<th>DETAIL</th>
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<tbody>
<tr>
<td>Arbor Survey Reference</td>
<td>R4113 133 Oak Street BEAUMARIS</td>
</tr>
<tr>
<td>Client Reference</td>
<td>024</td>
</tr>
<tr>
<td>Prepared by</td>
<td>Mark Reynolds</td>
</tr>
<tr>
<td>Reviewed by</td>
<td>Claudine Reynolds</td>
</tr>
<tr>
<td>Approved By</td>
<td>Mark Reynolds</td>
</tr>
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<td>Status</td>
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<td>1</td>
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<td>Revision Date</td>
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<td>Issue format</td>
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28 AUG 2018

Planning Department
1. Summary

The Development Impact Assessment has been undertaken to determine the impact to trees or vegetation on or adjoining 133 Oak Street, Beaumaris. The report provides an overview of the site characteristics and relevant regulatory controls, the arboricultural condition of the trees and determines the Protection Value of the trees and vegetation on the project site and adjoining lands where the tree protection zones may be impacted. The primary purpose of this assessment is to identify the impact from development and to outline impact mitigation and tree protection measures for trees of high or moderate protection value. The survey has identified a total of 34 trees or groups of trees within and surrounding the project site. The following is a summary of the protection value of the trees.

High Protection Value Trees

- 11 trees (Trees 8-11, 14, 15, 21, 23, 27, 33 and 33) are of high protection value. These trees have been given this rating as they are on adjoining land (Private property of Council owned land) and should be protected where possible.

Moderate Protection Value Trees

- 4 trees (Trees 2, 24, 28 and 31) are of moderate protection value. These trees have been given this rating as they are of fair arboricultural condition overall and of moderate to high landscape significance. These trees may have characteristics that can be improved with modern arboricultural practices. Where possible, these trees should be considered for protection within the project site.

Trees of No Protection Value

- 19 trees or groups of trees are of no protection value (Refer to the tree data in Appendix 7.1 for the list of trees). These trees are given a rating of 'None'. Trees of no protection value may be of poor arboricultural condition overall, low landscape significance, unsuitable within the project site as they are in an inappropriate location for long term growth or landscape functionality or causing damage to surrounding infrastructure.

The proposed development plans were viewed in the preparation of this report. Based on the proposed design and the guidelines of the Australian Standard AS4970 - 2009 - Protection of Trees on Development Sites:

Trees that cannot be protected

- 19 trees or groups of trees cannot be protected as they are located within building / driveway envelopes or they are within close proximity to buildings and works and will incur a high level of encroachment into the Tree Protection Zone (TPZ) and the Structural Root Zone (SRZ).
  - Tree 23 is of high protection value as it located on the neighbouring property however is shown on the plan as being within the Title Boundary of the project site.
  - The remaining 18 trees are located within the subject site and are not worthy of protection.

Trees that will incur Major Encroachment (greater than 10%) into the Tree Protection Zone

- 9 trees will incur 'Major Encroachment' into the tree protection zones
  - Trees 9, 11, 27 and 33 are of high protection value and the potential impact to this tree trees may be mitigated through the recommendations as outlined in Section 6.2.
  - Trees 2, 24, 28 and 31 are of moderate protection value and the potential impact to this tree trees may be mitigated through the recommendations as outlined in Section 6.2.
  - Tree 20 is of no protection value and should not be retained or protected as part of any future development.

Trees that will incur no or Minor encroachment (10% or less) into their Tree Protection Zone

- 6 trees will incur no or 'Minor Encroachment' into the tree protection zones
  - Trees 8, 10, 14, 15, 21 and 34 are of high protection value and the potential impact to these trees may be mitigated through the recommendations as outlined in Section 6.2.

The plans in Section 7.2 provide a visual representation of the protection values of the trees and indicates the Tree Protection Zone (TPZ), Structural Root Zone (SRZ) and encroachment into the TPZ areas of trees of high or moderate protection value.
2. INTRODUCTION

Arbor Survey Pty Ltd has been engaged by Dimitar & Suzana Apostolov c/- Tristan Burfield to conduct a Development Impact Assessment for the trees on and adjoining 133 Oak Street, Beaumaris. This assessment is an analysis of 34 trees or groups of trees that are located within the project site and on adjacent land where the tree protection zones (TPZ) may extend into the project site and may be affected by any proposed development or construction. Site analysis and field data collection was undertaken on 23 May 2018.

This report provides an assessment of the condition of the trees, expressed as the Arboricultural Value and a determination of the Protection Value. The Protection Value of the trees takes into account the arboricultural condition, landscape and environmental significance, ownership and relevant legislative controls including local municipal laws and vegetation, environmental/landscape significance, cultural or heritage overlays or any other relevant considerations (i.e. exemptions) of the relevant Planning Scheme.

The assessment of the trees in terms of their overall condition has been made in accordance with the Survey Methodology and Descriptors in Appendix 8.1. These must be referenced when reading this report.

Impact mitigation and tree protection measures are recommended to reduce the impact on high and moderate protection value trees were possible. These measures are based on the guidelines of the Australian Standard AS4970 - 2009 - Protection of Trees on Development Sites.

3. REPORT OBJECTIVES, RESOURCE DOCUMENTS AND VEGETATION CONTROLS

3.1. REPORT OBJECTIVES

The Development Impact Assessment has been prepared in accordance with relevant industry standards. The report objectives are:

- To assess tree condition based on the Visual Tree Assessment Methodology (VTA) and landscape significance of the trees or groups of trees on the project site and adjacent land where the tree protection zones (TPZ) may extend into the project site and may be affected by any proposed development or construction (Arboricultural Value)
- To identify any relevant Local Laws or Planning controls or exemptions that may be applicable to the site
- To assess the impact to all trees from the proposed development or construction (based upon the Australian Standard AS 4970 - 2009 - Protection of Trees on Development Sites)
- To provide impact mitigation and tree protection measures for trees of moderate or high protection value.

The recommendations given are based on the condition of the trees or groups of trees and their suitability for retention and or protection in relation to their current and future growing environment. Recommendations are not driven by the proposed development of the land and impact mitigation measures are provided where possible regarding trees that are of moderate or high protection value.

Trees that are considered to be worthy of protection are afforded general guidelines for tree protection measures. These guidelines do not constitute a Tree Management or Protection Plan (as per the Australian Standard AS 4970 - 2009 - Protection of Trees on Development Sites).
3.2. DOCUMENTS/ RESOURCES VIEWED IN PREPARATION OF THIS REPORT

The following documents and resources were viewed or relied upon in preparation of this report:

Plans
- Existing Conditions: Plan of Survey from Peter Richards Surveying (Ref No.: 15898, Plan: 1 of 1, Version: 1, Dated: 04/04/2018)
- Proposed Development Plans: Tristan Burfield (Job No.: 024, Drawings: A.000-A.703, Revision: N/A, Dated: August 2018).
  (Note: All plans assessed from others and used as a basis for this assessment are assumed to be true and correct)

Planning Controls
  (http://services.land.vic.gov.au/maps/pmo.jsp)

Responsible Authority
- Bayside Planning Scheme
- Consolidated Local Law No. 2 'Neighbourhood Amenity' – April 2012

Other
- Aerial Photograph of the site (Nearmap™ – Dated: 22/03/2018).

3.3. VEGETATION CONTROLS

The project site is located within Neighbourhood Residential Zone – Schedule 3 (NRZ3) of the Bayside Planning Scheme. The property is subject to the following overlays:
- Design and Development Overlay (DDO3)
- Vegetation Protection Overlay (VPO3)

The objectives and decision criteria of the Vegetation Protection Overlay has been taken into account in this Development Impact Assessment. Based on the permit requirements of the relevant overlays a permit is required to remove trees numbered 1, 16, 18, 19, 22, 24 and 30-32 within the project site.

There is also the Consolidated Local Law No. 2 'Neighbourhood Amenity' which states that a permit is required for the removal or pruning or any tree with a single or combined trunk circumference greater than 155 cm measured at 1m above ground level. Based on the assessment of trees within the subject site, trees 1, 2, 16, 19, 22, 24, 28, 30 and 31 may require a permit.
4. Site Analysis

4.1. Site Location, Area and Topography

The project site is located on the western side of Oak Street, Beaumaris. The site is approximately 688m² in size and has a change in grade of approximately 1.4m across the site. The aerial photograph in Figure 1 shows the project site and the approximate outline of the property boundaries.

![Aerial photograph and property outline](nearmap(TM) - Dated: 22/03/2018)

4.2. Existing Site Features

The project site contains a single storey dwelling with detached shed/carport and above ground pool in the rear open space. There is an existing brick driveway on the southern boundary (at the base of tree 28) that may have limited root growth through the site. The trees assessed are located predominately in the rear open space and along the boundary lines of the property.

It should be noted the existing fence on the northern and southern boundaries is located approximately 30-40cm to the south of the Title Boundaries. The ownership of the trees assessed has been based upon the existing fence line.

4.3. Tree Location

From the 34 trees or groups of trees assessed:
- 23 trees or groups of trees are located within the project site boundaries
- 8 trees are located on the neighbouring properties to the north of the project site (135 Oak Street)
- 2 trees are located on the neighbouring properties to the south of the project site (131 Oak Street)
- 1 tree is located on the Council owned road reserves.
4.4. ORIGIN AND LANDSCAPE SIGNIFICANCE

From the assessment of the 34 trees or groups of trees assessed, 2 trees are indigenous to the local area, 14 trees are Australian Native specimens (not Indigenous to local area) and 18 trees are Exotic specimens.

From the trees or groups of trees assessed:
- 3 trees (Trees 2, 27 and 28) are of high landscape significance and are dominant on the site and to the streetscape/local area
- 6 trees (Trees 8, 11, 15, 19, 24 and 31) are of moderate landscape significance. These trees may provide screening or other landscape attributes that are of value.

The remaining trees are generally considered to be of low landscape significance in terms of their mass and contribution to the canopy coverage to the immediate local area. Some of these trees may be in good condition in terms of their arboricultural characteristics, however, the landscape or amenity value they provide could easily be replaced with new planting.

5. ARBORICULTURAL AND PROTECTION VALUE ASSESSMENT

5.1. ARBORICULTURAL VALUE ASSESSMENT

Arboricultural value is rated according to the overall health, structure, life expectancy and significance within the landscape. The Arboricultural Value only relates to the physical condition of the tree or trees and does not take into account the vegetation/environmental status/controls, the suitability of the tree in the landscape or the ownership of the tree (Refer to Appendix 8.1 for further information on the descriptors used).

The assessment of the 34 trees on and adjoining the project site revealed that:
- No (0) trees are of high arboricultural value.
- 8 trees (Trees 2, 8, 11, 15, 24, 27, 28 and 31) are of medium arboricultural value. These trees are given this rating as they are in fair-good condition overall and provide a moderate to high level of landscape significance.
- 26 trees or groups of trees are of low arboricultural value. These trees are given this rating due to their fair-poor overall condition in terms of health/structure and or their low landscape significance.

The complete tree data is found in Section 7.1. The Arboricultural Value only provides a rating of the arboricultural condition of the trees. Most trees that are considered to be of moderate to high Arboricultural Value are also considered to be of moderate to high Protection Value, unless the trees are inappropriate for long term growth or landscape functionality or causing damage to surrounding infrastructure. Additionally, some trees may be of no Protection Value if there are relevant planning exemptions (i.e. Clause 52.4B). Similarly, some trees may be of low Arboricultural Value, however they are given a high Protection Value as they are located on adjoining private property or Council owned land.

5.2. PROTECTION VALUE ASSESSMENT

The protection value of the trees has been determined by taking into consideration the arboricultural value, landscape significance, habitat value, ownership and relevant legislative controls (including local municipal laws, vegetation protection and environmental/landscape significance overlays and cultural/heritage overlays) or any other relevant considerations (i.e. exemptions) of the relevant Planning Scheme. Only trees of high and moderate protection value should be considered for protection (Refer to Appendix 8.1 for further information).
Table 1 documents the trees that are worthy of protection and provides the trunk and basal diameters (DBH and Basal Dia.), Structural Root Zone (SRZ) and Tree Protection Zone (TPZ) (Note: SRZ and TPZ are a radial measurement from the centre of the trunk). The TPZ10% shows the minimum encroachment distance from the tree on one side of the tree only without any further requirement for exploratory trenching. Figure 2 provides an example of the 10% encroachment on one side of the tree only (Extract from the Australian Standard AS 4970 - 2009 - Protection of Trees on Development Sites).

This table should be viewed in conjunction with the Tree Location (Existing Conditions) and Development Impact (Proposed Development) Plans located in Section 7.2. Trees that have been determined to have a high and moderate protection value are shown and have the Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) drawn.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical Name</th>
<th>Ownership</th>
<th>Protection Value</th>
<th>DBH (cm)</th>
<th>Basal Dia (cm)</th>
<th>SRZ (m)</th>
<th>TPZ (m)</th>
<th>TPZArea (m²)</th>
<th>TPZ10% (m)</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>Liquidambar styraciflua</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>61</td>
<td>80</td>
<td>3.0</td>
<td>7.3</td>
<td>167</td>
<td>5.0</td>
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<tr>
<td>8</td>
<td>Jacaranda mimosifolia</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 40</td>
<td>Approx. 50</td>
<td>2.5</td>
<td>4.8</td>
<td>72</td>
<td>3.3</td>
</tr>
<tr>
<td>9</td>
<td>Citrus limon</td>
<td>Neighbours</td>
<td>High</td>
<td>Multi-Stemmed</td>
<td>Approx. 20</td>
<td>1.7</td>
<td>2.4</td>
<td>18</td>
<td>1.7</td>
</tr>
<tr>
<td>10</td>
<td>Hymenocporium flavum</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 13</td>
<td>Approx. 18</td>
<td>1.6</td>
<td>2.0</td>
<td>13</td>
<td>1.5</td>
</tr>
<tr>
<td>11</td>
<td>Toona ciliata</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 30</td>
<td>Approx. 40</td>
<td>2.3</td>
<td>3.6</td>
<td>41</td>
<td>2.5</td>
</tr>
<tr>
<td>14</td>
<td>Lophostemon confertus</td>
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<td>High</td>
<td>Approx. 18</td>
<td>Approx. 20</td>
<td>1.7</td>
<td>2.2</td>
<td>15</td>
<td>1.5</td>
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<tr>
<td>15</td>
<td>Syagrus romanzoffiana</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 25</td>
<td>Approx. 30</td>
<td>1.5</td>
<td>4.0</td>
<td>50</td>
<td>2.8</td>
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<tr>
<td>21</td>
<td>Pittosporum undulatum</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 30</td>
<td>Approx. 35</td>
<td>2.1</td>
<td>3.6</td>
<td>41</td>
<td>2.5</td>
</tr>
<tr>
<td>23</td>
<td>Callistemon citrinus</td>
<td>Neighbours</td>
<td>High</td>
<td>Approx. 15</td>
<td>Approx. 20</td>
<td>1.7</td>
<td>2.0</td>
<td>13</td>
<td>1.5</td>
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<tr>
<td>24</td>
<td>Agonis flexuosa</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>Multi-Stemmed</td>
<td>Approx. 120</td>
<td>3.6</td>
<td>14.4</td>
<td>651</td>
<td>9.9</td>
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<td>High</td>
<td>Approx. 45</td>
<td>Approx. 50</td>
<td>2.5</td>
<td>5.4</td>
<td>92</td>
<td>3.7</td>
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<td>Subject Site</td>
<td>Moderate</td>
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<td>Approx. 65</td>
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<td>7.1</td>
<td>158</td>
<td>4.9</td>
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<td>Subject Site</td>
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<td>Approx. 90</td>
<td>Approx. 100</td>
<td>3.3</td>
<td>10.8</td>
<td>366</td>
<td>7.4</td>
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<tr>
<td>33</td>
<td>Arbustus unedo</td>
<td>Neighbours</td>
<td>High</td>
<td>Multi-Stemmed</td>
<td>Approx. 45</td>
<td>2.4</td>
<td>5.4</td>
<td>92</td>
<td>3.7</td>
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<tr>
<td>34</td>
<td>Melaleuca ericifolia</td>
<td>Council</td>
<td>High</td>
<td>9.5/12 (15.3)</td>
<td>25</td>
<td>1.8</td>
<td>2.0</td>
<td>13</td>
<td>1.5</td>
</tr>
</tbody>
</table>

* Note: DBH (cm) is the diameter at breast height (1.4m from natural ground level), Basal Dia (cm) is the diameter of the trunk above the root flare, SRZ (m) is the structural root zone in metres in a radius from the centre of the trunk, TPZ (m) is the tree protection zone in metres in a radius from the centre of the trunk. TPZ10%(m) identifies the 10% encroachment radial distance from the centre of the trunk on one side of the tree only (Minor Encroachment). These measurements and distances are calculated based on the Australian Standard AS 4970 - 2009 - Protection of Trees on Development Sites.

| Document Ref: R4113 133 Oak Street BEAUMARIS | Uncontrolled when printed | Prepared: 24/08/2018 |
6. **Development Impact Assessment and Impact Mitigation Recommendations**

It is proposed that two double storey, side-by-side dwellings are to be constructed on the project site. The proposal will utilise the existing crossover and driveway location on the southern boundary with the addition of a crossover and driveway on the northern boundary. The key features of the proposal are that the dwellings and driveways are to be constructed above grade so as to facilitate the retention of trees. All driveways and paving are proposed to be permeable. Arbor Survey has been working with the architects in order to minimise impact to the significant trees within the subject site and on neighbouring properties.

It should be noted that all encroachments have been based on the proposed development plans provided which have been drawn to the Title Boundary and not existing fence line. Encroachment may subject to change depending on the siting of the dwellings in relation to boundaries.

6.1. **Development Impact Assessment**

Based on the proposed design and the guidelines of AS4970 - 2009 - Protection of Trees on Development Sites:

*Trees that cannot be protected*

- 19 trees or groups of trees cannot be protected as they are located within building / driveway envelopes or they are within close proximity to buildings and works and will incur a high level of encroachment into the Tree Protection Zone (TPZ) and the Structural Root Zone (SRZ).
  - Tree 23 is of high protection value as it located on the neighbouring property however is shown on the plan as being within the Title Boundary of the project site. This tree is senescent and permission from the neighbour should be sought for it removal (subject to Council approval under the VPO3).
  - The remaining 18 trees are located within the subject site and are not worthy of protection.

*Trees that will incur Major Encroachment (greater than 10%) into the Tree Protection Zone*

- 9 trees will incur ‘Major Encroachment’ into the tree protection zones
  - Trees 9, 11, 27 and 33 are of high protection value and will incur encroachments of approximately 20%, 38%, 15% and 35% respectively (Figures 3 and 4). Although the impact to these trees is significant, the encroachment includes paving and driveways which are proposed to be constructed above grade and be of a permeable material. Arbor Survey has been involved during the design phase of the project to guide actions that may be available to limit any excavation through the tree protection zones of these trees. Additionally, permeable driveways will be provided above the current grade ensuring site permeability.

![Figure 3: Encroachment into TPZ of Trees 2, 8 - 11](image1)

![Figure 4: Encroachment into TPZ of Trees in front setback](image2)
- Trees 2, 24, 28 and 31 are of moderate protection value and will also incur encroachments of up to approximately 50% however this includes paving and driveways that are proposed to be above grade and permeable (Figures 3 and 4). It should be noted that there is existing infrastructure within the tree protection zone of trees 24 and 28 and that the proposed driveway is to follow the existing alignment.
- Tree 20 is of no protection value and should not be retained or protected as part of any future development.

**Trees that will incur no or Minor encroachment (10% or less) into their Tree Protection Zone**

- 6 trees will incur no or 'Minor Encroachment' into the tree protection zones
- Trees 8, 10, 14, 15, 21 and 34 are of high protection value

Table 2 provides a summary of TPZ percentage encroachment and the elements that will encroach to within the TPZ zones. Only trees that are of moderate or high protection value are listed below.

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical Name</th>
<th>Protection Value</th>
<th>Encroachment (Total)</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Liquidambar styraciflua</td>
<td>Moderate</td>
<td>Approx. 50%</td>
<td>Landscaping &amp; Dwelling Footprint</td>
</tr>
<tr>
<td>8</td>
<td>Jacaranda mimosifolia</td>
<td>High</td>
<td>Approx. 7%</td>
<td>Landscaping</td>
</tr>
<tr>
<td>9</td>
<td>Citrus limon</td>
<td>High</td>
<td>Approx. 20%</td>
<td>Landscaping</td>
</tr>
<tr>
<td>10</td>
<td>Hymenosporum flavum</td>
<td>High</td>
<td>5%</td>
<td>Landscaping</td>
</tr>
<tr>
<td>11</td>
<td>Toona ciliata</td>
<td>High</td>
<td>38%</td>
<td>Landscaping &amp; Dwelling Footprint</td>
</tr>
<tr>
<td>14</td>
<td>Lophostemon confertus</td>
<td>High</td>
<td>10%</td>
<td>Landscaping</td>
</tr>
<tr>
<td>15</td>
<td>Syagrus romanoffiana</td>
<td>High</td>
<td>0%</td>
<td>None</td>
</tr>
<tr>
<td>21</td>
<td>Pittosporum undulatum</td>
<td>High</td>
<td>0%</td>
<td>None</td>
</tr>
<tr>
<td>23</td>
<td>Callistemon citrinus</td>
<td>High</td>
<td>100%</td>
<td>Dwelling (North) garage</td>
</tr>
<tr>
<td>24</td>
<td>Agonis flexuosa</td>
<td>Moderate</td>
<td>Approx. 50%</td>
<td>Dwelling Footprint and Driveways</td>
</tr>
<tr>
<td>27</td>
<td>Liquidambar styraciflua</td>
<td>High</td>
<td>15%</td>
<td>Driveway (South)</td>
</tr>
<tr>
<td>28</td>
<td>Liquidambar styraciflua</td>
<td>Moderate</td>
<td>Approx. 25%</td>
<td>Driveway (South)</td>
</tr>
<tr>
<td>31</td>
<td>Agonis flexuosa</td>
<td>Moderate</td>
<td>Approx. 50%</td>
<td>Dwelling Footprint and Driveways</td>
</tr>
<tr>
<td>33</td>
<td>Arbutus unedo</td>
<td>High</td>
<td>35%</td>
<td>Driveway (North)</td>
</tr>
<tr>
<td>34</td>
<td>Melaleuca ericifolia</td>
<td>High</td>
<td>0%</td>
<td>None</td>
</tr>
</tbody>
</table>

### 6.2. IMPACT MITIGATION RECOMMENDATIONS

Trees that have been determined to have no protection value should not be considered for long term retention and or protection as part of any future development on the project site. Trees of no protection value are not provided impact mitigation recommendations in this Development Impact Assessment.

Tree protection and impact mitigation measures are listed below in order to reduce the potential of indirect impacts (soil compaction, physical tree/root damage etc). For further information on general guidelines for tree protection see Appendix 8.3.

**Trees recommended for protection**

- It is recommended that all trees of high and moderate protection value are retained and protected as part of the development with the exception of tree 23 which is senescent.
- All trees of no protection value should not be retained.

**Further investigation required**

- No further investigation is required. All Major encroachment potential impacts can be mitigated through the consideration of the requirements of Clause 3.3.4 of the Australian Standard AS4970 - 2009 - Protection of Trees on Development Sites and by construction methods.
Potential Design alterations
- No design alterations are recommended. Arbor Survey has been involved during the design phase and has provided recommendations for the siting of the dwelling and the construction of the permeable driveways and infrastructure above grade.

Specific construction recommendations
- Vegetation removal (trees of no protection value) should be performed manually (no heavy machinery). The stumps should be ground out under supervision of a qualified arborist
- It is recommended that the dwellings are constructed at / above grade on piers with an edge beam above the current grade within the Tree Protection Zones.
- All driveways are to be constructed above grade and of a permeable material
- All paving and infrastructure in the open space areas is to be constructed above grade where possible.

Specialised Tree Protection Measures
- Ground protection measures will be required within the tree protection zones of trees 24, 27, 28, 31 and 33 prior to demolition. Pruning will also be required for construction access. All pruning must be performed by a suitably qualified arborist.

Standard Tree Protection Measures
- Standard Tree protection fencing must be established around trees in the rear of the property prior to any works on site. These measures must remain in place for the duration of works and can only be removed in consultation with the Project Arborist or local Responsible Authority.

General Tree Protection Requirements
- Soil levels within the TPZs (where outside building/driveway or works footprints) should remain at existing grade and permeable
- Any excavation (demolition and construction) within the TPZs should be supervised by a qualified arborist. Any roots uncovered must be cleanly pruned with sharp/sterile hand tools
- All tree protection measures must remain in place for the duration of works and can only be removed in consultation with the Project Arborist or local Responsible Authority
- Any new boundary fencing within the TPZ should be of light weight construction with no continuous footings and manually excavated stump holes (by hand or post hole auger only)
- Any required pruning must be in accordance with Australian Standard AS4373-2007 Pruning of Amenity Trees and carried out by a minimum AQF Level 3 Arborist.

Tree Management During Construction
It is recommended that a Tree Protection Plan (TPP) is created as a condition of permit that will specify the exact requirements for tree protection of all high and moderate protection value trees to be protected.

As part of the TPP, it is recommended that there is a certification framework that details the actions required at all stages of development, the timing of supervision and the Certification methods to be undertaken by the Project Arborist.
# 7. Tree Data and Plans

## 7.1. Tree Data

<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical Name</th>
<th>Common Name</th>
<th>Origin</th>
<th>DBH (cm)</th>
<th>Basal Dia (cm)</th>
<th>Height (m)</th>
<th>Spread (m)</th>
<th>Health</th>
<th>Structure</th>
<th>Age Class</th>
<th>Arboecultural Value</th>
<th>Ownership</th>
<th>Protection Value</th>
<th>SRZ (m)</th>
<th>TPZ (m)</th>
<th>Encroach (%)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Leptospermum laevigatum</td>
<td>Coastal Tea Tree</td>
<td>Indigenous</td>
<td>Multi-Stemmed</td>
<td>Approx. 40</td>
<td>4</td>
<td>6.5</td>
<td>Poor</td>
<td>Poor</td>
<td>Senescent</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>2.3</td>
<td>4.8</td>
<td>100</td>
<td>Prostrate growth, almost dead</td>
</tr>
<tr>
<td>2</td>
<td>Liquidambar styraciflua</td>
<td>Liquidambar</td>
<td>Exotic</td>
<td>61</td>
<td>80</td>
<td>14</td>
<td>12</td>
<td>Fair</td>
<td>Good</td>
<td>Fair-Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>3.0</td>
<td>7.3</td>
<td>50</td>
</tr>
<tr>
<td>3</td>
<td>Camellia japonica</td>
<td>Japanese Camellia</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>10</td>
<td>2.5</td>
<td>2.5</td>
<td>Good</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>4</td>
<td>Citrus x sinensis</td>
<td>Orange</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>22.5</td>
<td>4</td>
<td>3.5</td>
<td>Good</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.8</td>
<td>2.7</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>5</td>
<td>Cotoneaster sp.</td>
<td>Cotoneaster</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 25</td>
<td>2.5</td>
<td>2</td>
<td>Poor</td>
<td>Poor</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.8</td>
<td>3.0</td>
<td>100</td>
<td>Weed species, poor condition, low landscape value</td>
</tr>
<tr>
<td>6</td>
<td>Camellia japonica</td>
<td>Japanese Camellia</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>&lt;10</td>
<td>2</td>
<td>3</td>
<td>Good</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>7</td>
<td>Camellia japonica</td>
<td>Japanese Camellia</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>&lt;10</td>
<td>2</td>
<td>2</td>
<td>Fair</td>
<td>Fair-Poor</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>8</td>
<td>Jacaranda mimosifolia</td>
<td>Jacaranda</td>
<td>Exotic</td>
<td>Approx. 40</td>
<td>Approx. 50</td>
<td>8</td>
<td>9</td>
<td>Fair</td>
<td>Good</td>
<td>Fair</td>
<td>Mature</td>
<td>Medium</td>
<td>Neighbours</td>
<td>High</td>
<td>2.5</td>
<td>4.8</td>
<td>Approx. 0.5m from boundary</td>
</tr>
<tr>
<td>9</td>
<td>Citrus limon</td>
<td>Lemon</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 20</td>
<td>3.5</td>
<td>3.5</td>
<td>Poor</td>
<td>Fair</td>
<td>Mature</td>
<td>Low</td>
<td>Neighbours</td>
<td>High</td>
<td>1.7</td>
<td>2.4</td>
<td>Approx. 0.5m from boundary</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Hymanosporum flavum</td>
<td>Native Frangipani</td>
<td>Native</td>
<td>Approx. 13</td>
<td>Approx. 18</td>
<td>7.5</td>
<td>3</td>
<td>Fair-Poor</td>
<td>Fair-Poor</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Neighbours</td>
<td>High</td>
<td>1.6</td>
<td>2.0</td>
<td>5%</td>
<td>1m from boundary</td>
</tr>
<tr>
<td>11</td>
<td>Toona ciliata</td>
<td>Western Red Cedar</td>
<td>Native</td>
<td>Approx. 30</td>
<td>Approx. 40</td>
<td>9</td>
<td>6.5</td>
<td>Fair-Poor</td>
<td>Fair-Poor</td>
<td>Semi-Mature</td>
<td>Medium</td>
<td>Neighbours</td>
<td>High</td>
<td>2.3</td>
<td>3.6</td>
<td>38%</td>
<td>Some dieback in crown, 0.3m from boundary</td>
</tr>
<tr>
<td>12</td>
<td>Camellia japonica</td>
<td>Japanese Camellia</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>15</td>
<td>2.5</td>
<td>3.5</td>
<td>Fair</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>13</td>
<td>Camellia japonica</td>
<td>Japanese Camellia</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>10</td>
<td>2.5</td>
<td>2.5</td>
<td>Fair-Poor</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>14</td>
<td>Lophostemon confertus</td>
<td>Queensland Brush Box</td>
<td>Native</td>
<td>Approx. 18</td>
<td>Approx. 20</td>
<td>6</td>
<td>5</td>
<td>Fair</td>
<td>Fair</td>
<td>Young</td>
<td>Low</td>
<td>Neighbours</td>
<td>High</td>
<td>1.7</td>
<td>2.2</td>
<td>10%</td>
<td>0.7m from boundary</td>
</tr>
<tr>
<td>15</td>
<td>Syagrus romanzoffiana</td>
<td>Queen Palm</td>
<td>Exotic</td>
<td>Approx. 25</td>
<td>Approx. 30</td>
<td>10</td>
<td>6</td>
<td>Good</td>
<td>Good</td>
<td>Mature</td>
<td>Medium</td>
<td>Neighbours</td>
<td>High</td>
<td>1.5</td>
<td>4.0</td>
<td>0%</td>
<td>Approx. 0.5m from boundary</td>
</tr>
<tr>
<td>16</td>
<td>Agonis flexuosa</td>
<td>Willow Myrtle</td>
<td>Native</td>
<td>63.5</td>
<td>72</td>
<td>8</td>
<td>7</td>
<td>Fair</td>
<td>Good</td>
<td>Poor</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>2.9</td>
<td>7.6</td>
<td>100</td>
</tr>
<tr>
<td>17</td>
<td>Cotoneaster glaucophyllus</td>
<td>Cotoneaster</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 15</td>
<td>2.5</td>
<td>2</td>
<td>Poor</td>
<td>Poor</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Weed species</td>
</tr>
<tr>
<td>18</td>
<td>Dicksonia antarctica</td>
<td>Soft Tree Fern</td>
<td>Native</td>
<td>25</td>
<td>25</td>
<td>2.5</td>
<td>0.5</td>
<td>Poor</td>
<td>Fair</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>19</td>
<td>Syzygium smithii</td>
<td>Common Lilly Pilly</td>
<td>Native</td>
<td>28/32 (42.5)</td>
<td>50</td>
<td>10</td>
<td>8.5</td>
<td>Fair</td>
<td>Poor</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>2.5</td>
<td>5.1</td>
<td>100</td>
<td>Poor structure, poor unions, lopped</td>
</tr>
<tr>
<td>Tree No.</td>
<td>Botanical Name</td>
<td>Common Name</td>
<td>Origin</td>
<td>DBH (cm)</td>
<td>Basal Dia (cm)</td>
<td>Height (m)</td>
<td>Spread (m)</td>
<td>Health</td>
<td>Structure</td>
<td>Age Class</td>
<td>Arboreal Value</td>
<td>Ownership</td>
<td>Protection Value</td>
<td>SRZ (m)</td>
<td>TPZ (m)</td>
<td>Encroach (%)</td>
<td>Notes</td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
<td>-------------</td>
<td>--------</td>
<td>----------</td>
<td>---------------</td>
<td>------------</td>
<td>------------</td>
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<td>-----------</td>
<td>-----------</td>
<td>----------------</td>
<td>-----------</td>
<td>----------------</td>
<td>---------</td>
<td>---------</td>
<td>--------------</td>
<td>-------</td>
</tr>
<tr>
<td>20</td>
<td>Ligustrum ovalifolium</td>
<td>Oval-leaved Privet</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 30</td>
<td>4</td>
<td>4</td>
<td>Poor</td>
<td>Poor</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>2.0</td>
<td>3.6</td>
<td>33%</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>21</td>
<td>Pittosporum undulatum</td>
<td>Sweet Pittosporum</td>
<td>Native</td>
<td>Multi-Stemmed</td>
<td>Approx. 35</td>
<td>6</td>
<td>8</td>
<td>Fair</td>
<td>Fair</td>
<td>Mature</td>
<td>Low</td>
<td>Neighbours</td>
<td>High</td>
<td>2.1</td>
<td>3.6</td>
<td>0%</td>
<td>Weed species, 4m from boundary</td>
</tr>
<tr>
<td>22</td>
<td>Lophocasmon confertus</td>
<td>Queensland Brush Box</td>
<td>Native</td>
<td>Multi-Stemmed</td>
<td>Approx. 5</td>
<td>5</td>
<td>4</td>
<td>Poor</td>
<td>Poor</td>
<td>Senescent</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100%</td>
<td>Central leader dead, regrowth from stump</td>
</tr>
<tr>
<td>23</td>
<td>Callistemon citrinus</td>
<td>Crimson Bottlebrush</td>
<td>Native</td>
<td>Multi-Stemmed</td>
<td>Approx. 8</td>
<td>13</td>
<td>13</td>
<td>Fair</td>
<td>Poor-Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>3.6</td>
<td>14.4</td>
<td>50%</td>
<td>On boundary</td>
</tr>
<tr>
<td>24</td>
<td>Agonis flexuosa</td>
<td>Willow Myrtle</td>
<td>Native</td>
<td>Multi-Stemmed</td>
<td>Approx. 120</td>
<td>18</td>
<td>13</td>
<td>Fair</td>
<td>Good</td>
<td>Fair-Poor</td>
<td>Medium</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>3.6</td>
<td>14.4</td>
<td>100%</td>
<td>Typical form and structure</td>
</tr>
<tr>
<td>25</td>
<td>Rhododendron sp.</td>
<td>Rhododendron</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 15</td>
<td>18</td>
<td>2</td>
<td>Fair</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100%</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>26</td>
<td>Callistemon 'Kings Park Special'</td>
<td>Kings Park Bottlebrush</td>
<td>Native</td>
<td>&lt;10</td>
<td>&lt;10</td>
<td>3</td>
<td>2</td>
<td>Poor</td>
<td>Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Neighbours</td>
<td>High</td>
<td>2.5</td>
<td>5.4</td>
<td>15%</td>
<td>Approx. 2.5m from trunk centre to boundary</td>
</tr>
<tr>
<td>27</td>
<td>Liquidambar styaciflua</td>
<td>Liquidambar</td>
<td>Exotic</td>
<td>Approx. 45</td>
<td>Approx. 50</td>
<td>13</td>
<td>8</td>
<td>Fair</td>
<td>Fair-Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Neighbours</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100%</td>
<td>Typical form and structure</td>
</tr>
<tr>
<td>28</td>
<td>Liquidambar styaciflua</td>
<td>Liquidambar</td>
<td>Exotic</td>
<td>Approx. 59</td>
<td>Approx. 65</td>
<td>12</td>
<td>13</td>
<td>Fair</td>
<td>Fair-Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>2.8</td>
<td>7.1</td>
<td>25%</td>
<td>Some decay and limb failure</td>
</tr>
<tr>
<td>29</td>
<td>Rhododendron sp.</td>
<td>Rhododendron</td>
<td>Exotic</td>
<td>Multi-Stemmed</td>
<td>Approx. 20</td>
<td>2</td>
<td>5</td>
<td>Fair</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>1.7</td>
<td>2.4</td>
<td>100%</td>
<td>Low landscape value</td>
</tr>
<tr>
<td>30</td>
<td>Syzygium smithii</td>
<td>Common Lilly Pilly</td>
<td>Native</td>
<td>Multi-Stemmed</td>
<td>Approx. 100</td>
<td>8.5</td>
<td>11</td>
<td>Fair</td>
<td>Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Subject Site</td>
<td>None</td>
<td>1.5</td>
<td>2.0</td>
<td>100%</td>
<td>Regrowth from stump, lopped</td>
</tr>
<tr>
<td>31</td>
<td>Agonis flexuosa</td>
<td>Willow Myrtle</td>
<td>Native</td>
<td>Approx. 90</td>
<td>Approx. 100</td>
<td>8.5</td>
<td>11</td>
<td>Fair</td>
<td>Poor</td>
<td>Mature</td>
<td>Medium</td>
<td>Subject Site</td>
<td>Moderate</td>
<td>3.3</td>
<td>10.8</td>
<td>50%</td>
<td>Typical form and structure</td>
</tr>
<tr>
<td>32</td>
<td>Grevillea robusta</td>
<td>Silky Oak</td>
<td>Native</td>
<td>22.5</td>
<td>22</td>
<td>4.5</td>
<td>3</td>
<td>Fair</td>
<td>Poor</td>
<td>Mature</td>
<td>Low</td>
<td>Subject Site</td>
<td>None</td>
<td>2.1</td>
<td>2.8</td>
<td>100%</td>
<td>Lopped</td>
</tr>
<tr>
<td>33</td>
<td>Arbutus unedo</td>
<td>Strawberry Tree</td>
<td>Native</td>
<td>Approx. 45</td>
<td>Approx. 5</td>
<td>4</td>
<td>5.5</td>
<td>Poor</td>
<td>Poor</td>
<td>Semi-Mature</td>
<td>Low</td>
<td>Neighbours</td>
<td>High</td>
<td>2.4</td>
<td>5.4</td>
<td>35%</td>
<td>Lopped</td>
</tr>
<tr>
<td>34</td>
<td>Melaleuca ericifolia</td>
<td>Swamp Paperbark</td>
<td>Indigenous</td>
<td>Approx. 30</td>
<td>Approx. 15</td>
<td>9.5/12</td>
<td>35</td>
<td>3</td>
<td>Fair-Poor</td>
<td>Young</td>
<td>Low</td>
<td>Council</td>
<td>High</td>
<td>1.8</td>
<td>2.0</td>
<td>0%</td>
<td></td>
</tr>
</tbody>
</table>

*Note: DBH (cm) is the diameter at breast height (1.4m from natural ground level), Basal Dia (cm) is the diameter of the trunk above the root flare, SRZ (m) is the structural root zone in metres in a radius from the centre of the trunk, TPZ (m) is the tree protection zone in metres in a radius from the centre of the trunk. The Encroach (%) is the level of encroachment into the tree protection zone of the tree from the excavation/construction works. These measurements and distances are calculated from the Australian Standard AS4970 - 2009 - Protection of Trees on Development sites.
7.2. TREE LOCATION AND DEVELOPMENT IMPACT PLANS

Drawing Notes: Tree numbers represented in black. Only Tree Protection Zone for High and Moderate protection values are shown where required. This plan does not represent a tree management and protective plan. All tree protection zones and structural root zones are shown to approximate scale and areas are dimensioned. The area of excavation is not shown where known (e.g. if tree report is a development impact assessment). All tree protection measurements are based upon the Australian Standard AS2044:2008 - Protection of Trees on Development Sites.

This plan has been based upon the supplied site conditions / features and survey and any proposed development plan that has been provided by the client. Only tree numbers, tree locations, tree protection values and tree protection areas have been drawn by Arbor Survey Pty Ltd.

Project Address:
133 Oak Street, Beaumaris

Reference: R4113
Uncontrolled when printed

Reference Plan: Plot of Survey
Supplied by: Peter Richards Surveying
Ref No: 109181
Version: 2
Date: 04/04/2018

Drawn By: CFR
Checked By: MVR

Scale: 1:200

Arbor Survey

| Document Ref: R4113 133 Oak Street BEAUMARIS | Uncontrolled when printed | Prepared: 24/06/2018 |
7.3. Photographic References

Tree 1

Tree 2

Tree 3

Tree 4

Tree 5

Trees 6 and 7

Tree 8

Tree 9

Tree 10
8. APPENDICES

8.1. SURVEY METHODOLOGY AND DESCRIPTORS

Site observations and tree data was recorded on site at the date noted within Section 2 (Introduction). This report is based upon the condition of the trees and the site conditions noted on the inspection date[s] only. The characteristics of each tree or group of trees of similar characteristics have been undertaken in accordance with the Visual Tree Assessment (VTA) methodology (Mattheck & Breloer, 1998).

The data is included in this report in a detailed table, located in Section 7.1. Tree Location (existing conditions) and Development Impact (proposed development) Plans are provided in Section 7.2 where relevant. These maps/plans have been drawn to scale for representation purposes, however they are not to paper scale at A4 size within this report. Site photographs (if relevant) are provided in Section 7.3.

The survey identifies all trees or groups of trees within the project site over 2 metres in height and on adjoining lands (neighbouring properties and or Council or other regulatory body or Crown land) where their projected Tree Protection Zones (TPZs) extend to within the project site and may be affected by the proposed buildings and or works. The assessment is undertaken from a visual inspection from ground level only. No individual tree or trees were climbed and no samples of soil, plant material or pest and disease infestation (if present) were taken for analysis. Defects not apparent from this ground-based visual inspection are excluded from the discussion within this report. This report is not a risk assessment and no other assessment methodologies have been used.

This assessment is based on an improved and modified version of current industry best practice. 'Retention Value' is not used as the primary driver for any recommendations. The primary driver for the recommendations within the report is the characteristic of 'Protection Value'. Protection value is derived from a combination of the physical arboricultural characteristics and life expectancy recorded as the 'Arboricultural Value' in conjunction with the landscape significance or amenity value, ownership and relevant regulatory controls.

The following data is recorded on site:

- **Tree Identification Number (Tree No.)** – This is a sequential numeric numbering system used to identify each tree on the attached site map. These numbers may also relate to tags placed on each tree in the field if required. Any deviation of the numbering system will be specifically noted within the report.

- **Genus/Species (Botanical Name)** – Species identification is considered as common and made using species characteristics observed on site or sampled and researched off site. Specific cultivar or subspecies details are omitted unless where known. No samples have been taken to the National Herbarium of Victoria for accurate analysis and identification unless specifically noted within the report.

- **Common Name** – This is the typical common name assigned to the tree species. For many trees, there is likely to be numerous common names that could be used. The common name provided should only be seen as a secondary identification tool.

- **Origin** – This may be recorded as Native (originates from Australia, outside of the survey area), Indigenous (originates from within the survey area), Exotic (originates from outside of Australia).

- **DBH (cm)** – this is the Diameter at Breast Height (DBH) measured using a diameter tape at approximately 1.4 metres from natural ground level. Where the trunk diameter at this point may be affected by natural growth such as a major union point, the DBH will be measured just below this union point. For multiple stemmed trees, the measurements are provided for up to 4 stems (at 1.4 metres from natural ground level). These will be recorded and the combined or total diameter will be calculated in accordance with the Australian Standard AS 4970:2009 Protection of Trees on Development Sites using the formula below:

\[
\text{Total DBH} = \sqrt{(DBH_1)^2 + (DBH_2)^2 + (DBH_3)^2 + (DBH_4)^2}
\]
This is represented in the tree data as "Stem1/Stem2/Stem3/Stem4 (Calculated DBH)" – i.e. 15/28/34/19 (50.3). The calculated DBH of the stems is used to determine the Tree Protection Zone. For trees with more than 4 stems, the DBH (cm) measurement is recorded as 'Multi-stemmed' or similar. In instances where 'Multi-stemmed' is recorded, the Tree Protection Zone will be based on a basal measurement. For neighbouring property trees and where access is limited, an approximate DBH (cm) will be provided.

- **Basal Dia (cm)** – this is the diameter of the tree at the trunk base (including multiple stemmed trees) at a level above the trunk basal flare. This is used to determine the Structural Root Zone (SRZ). In some cases this will be noted as being 'Multi-stemmed' and the SRZ will be estimated using an approximate basal diameter. For neighbouring property trees and where access is limited, an approximate Basal Diameter (cm) will be provided.

- **Height (m)** – this is the approximate height of the canopy of the tree or the largest canopy height of a group of trees. This is an approximated height based on known landscape reference points. In cases of large significant trees where accurate height measurements are required (as height will directly affect the outcome or recommendations of the report), a Nikon Forestry Pro Laser Range finder will be used. Where measured heights have been used, this will be noted within the report data and detailed within the report.

- **Spread (m)** – this is the approximate canopy spread of the tree on the widest axis. This is given as a single measure and is provided as a guide to show overall canopy spread within the landscape. Where multiple canopy dimensions are required (i.e. proximity to buildings and or severely asymmetric canopy growth) as it may affect the outcome of tree protection, these will be noted within the report data and detailed in the Development Impact Assessment.

- **Health** – relates to the tree vigour and canopy density. The characteristic assigned to the tree may be represented as a combination of any of these categories (e.g. Fair to Poor or Fair-Poor). In these instances, there may be a combination of the characteristics listed below or the foliage density is at the upper or lower scale of each category. In some cases, 'Health' may be noted as being 'Very Good' which indicates an optimal condition or 'Very Poor' which indicates that the tree is of such poor health and is unlikely to recover. In some cases, the 'Health' condition will be provided as 'Dead'. In this case, there is no observable indication that the tree is alive at the time of inspection. Health is rated according to the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Foliage density / bud formation (Deciduous) is greater than 75% at optimal growth. There is less than 10% canopy dieback present and foliage has no or very minor tip dieback. Tree may also have visible extension growth if it is in active growth and is showing no signs of nutrient deficiency (i.e. chlorosis) or active pest or disease presence. The tree may also have good wound wood development.</td>
</tr>
<tr>
<td>Fair</td>
<td>Foliage density / bud formation (Deciduous) is between 50-75% at optimal growth for the species. There may be 10-30% canopy dieback present and foliage may have minor tip dieback. Tree maybe showing signs of normal growth, but it is not consistent throughout the crown. Some foliage discoloration may be present from possible nutrient deficiency or other cause (i.e. pest or disease).</td>
</tr>
<tr>
<td>Poor</td>
<td>Canopy may be asymmetrical (not typical for the species and affecting vigour) and or canopy may be suppressed. There may be greater than 30% canopy dieback present and foliage density is below 50%. Stunted growth through leaf size or petiole extension and discoloration of the leaf may be present. Tree may be producing epicormic shoots as a stress response. Nutrient deficiency, lack of resources (water, light etc) or pathogens may be the causal agent in the tree’s decline.</td>
</tr>
</tbody>
</table>

- **Structure** – relates to the physical form of the tree, including the trunk(s), main scaffold branches and roots. Structure includes the attributes that may influence the probability of trunk, limb or root plate failure. The characteristic assigned to the tree may be represented as a combination of any of these categories (e.g. Fair to Poor or Fair to Good). In these instances, there may be a combination of the characteristics listed below. In some cases, 'Structure' may be noted as being 'Very Good' which indicates an optimal condition or 'Very Poor' which indicates that the tree has major structural defects and may be of a relatively high risk of failure of the identified tree part.
Structure is rated according to the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>The form of the tree is excurrent or decurrent and typical of the species characteristics and exhibits good symmetrical form. Major limbs are well formed with acceptable branch taper and unions appear to be strong with no signs of major defects. The tree has minimal defects or decay throughout the trunk and limbs. There is no signs of root plate heave or damage to the root system (mechanical or other). The tree is unlikely to suffer major branch or trunk failure under normal environmental (weather) conditions.</td>
</tr>
<tr>
<td>Fair</td>
<td>The form of the tree is excurrent or decurrent and typical of the species characteristics and has a fairly symmetrical form. Tree may exhibit minor structural defects that may be managed through formative/remedial/restorative or structural pruning. Only minor wounds and or areas of decay are present that do not affect the overall stability or structural integrity of any major parts of the tree. Minor root damage may have occurred in the past. Defects present are likely to cause only minor branch failure under normal environmental (weather) conditions.</td>
</tr>
<tr>
<td>Poor</td>
<td>Tree has a poorly formed crown that is not symmetrical. Branch and or trunk taper may be unacceptable and scaffold limbs may be overextended. Branch unions may exhibit significant defects that cannot be managed through formative pruning. There is likely to be decay in parts of the tree that may result in branch or trunk failure. Major root damage may have occurred and there may be evidence of root plate heave. Defects that are present may result in major failure of branches or trunk under normal environmental (weather) conditions.</td>
</tr>
</tbody>
</table>

- **Age Class** - is given as a guide to the current life stage of the tree. Ultimately, the level of maturity that a tree may reach is dependent on the growing environment. The 'Mature' age class may extend for many years and is given only as an indication of the maturity of the tree based on the conditions of the local environment. Age Class is rated according to the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Planting</td>
<td>Planted within approximately 2 years</td>
</tr>
<tr>
<td>Juvenile</td>
<td>Estimated as between 2 - 10 years old</td>
</tr>
<tr>
<td>Semi-mature</td>
<td>Estimated at between 10 - 20 years old, however, this may be species dependant</td>
</tr>
<tr>
<td>Mature</td>
<td>Estimated at over 25 years old or in a life stage that is considered at the peak of growth for the species.</td>
</tr>
<tr>
<td>Senescent</td>
<td>In the declining phase of the trees lifespan</td>
</tr>
</tbody>
</table>

- **Arboricultural Value** - is rated according to the overall health, structure and estimated life expectancy of the tree (often referred to as 'Useful Life Expectancy - ULE'). Often the life expectancy or ULE of a tree may be difficult to quantify as there are too many variables and therefore it is not directly recorded as a characteristic in the report. ULE has traditionally been used to guide future replanting and tree population heuristics.

The 'Arboricultural Value' takes into account the overall condition and life expectancy of the tree however it does not take into account the landscape or environmental status or suitability of the tree in the landscape. This rating is not a 'Retention Value' or 'Protection Value', it is only a rating of the overall condition of the physical characteristics of the tree and its expected longevity (based on growing conditions). For example, a tree of a semi mature or younger age class may be given a medium or high arboricultural value based on its condition, however it may be given no protection value based on its current size and low landscape significance and or amenity value. The arboricultural value is rated based on the following categories:
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>A tree of low arboricultural value may be considered to be in poor condition overall with a low life expectancy (less than 10 years). The tree may be showing signs of poor health and or structure. The tree may either have a poor health rating and it is unlikely to recover or a poor structure that cannot be remedied though normal arboricultural pruning practices.</td>
</tr>
<tr>
<td>Medium</td>
<td>A tree of medium arboricultural value may be considered to be in fair condition overall. This tree may be considered as an average tree that provides average benefits to the site and local area with an estimated longevity of between 10 – 20 years. The tree may have evidence of fair to poor health that may be improved through cultural practices. The tree may have some structural defects that can be remedied through normal arboricultural pruning practices.</td>
</tr>
<tr>
<td>High</td>
<td>A tree of high arboricultural value may be considered to be of good overall health and structure. The tree is considered to have a life expectancy of greater than 20 years. Under normal maintenance practices this tree is expected to perform well in the landscape in the long term.</td>
</tr>
</tbody>
</table>

- **Ownership** – the ownership is noted as this may affect the 'Protection Value' of a tree or group of trees. Generally, trees and or vegetation that are located on adjoining lands that are not of the ownership of the project site may be subject to permission for removal and or works within the tree protection zone. Traditionally, this may be referred to as ‘Third Party Ownership’. Adjoining lands may be owned by private property owners and this is noted as being in the category ‘Neighbours’. Trees located on road reserves, nature strips or adjoining parklands/ open spaces are often owned or managed by the local Responsible Authority and are given the ownership category of 'Council'. Where known, ownership may be noted as being 'Crown' or another regulatory body (e.g. Melb Water). In some cases, the ownership will be noted as ‘Other’ and this will be explained in the 'Site Analysis' section of the report.

- **Protection Value**: is determined based on a combination of the Arboricultural Value, the ownership/ location of the tree, the landscape/ ecological and or cultural / heritage significance of the tree. The Protection Value also takes into account the suitability of the tree in the current and future landscape and the species status (i.e. identified weed species). The tree may also be protected under any relevant Planning or Local Law regulations which is also taken into account under Protection Value. Protection Value is rated according to the following categories:

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>A tree or group of trees of 'No' protection value may be considered to be in poor condition overall and is assigned a low arboricultural value and is within the project site. The tree may be of medium or high arboricultural value, however, if it is a known weed species, is doing considerable infrastructure damage or is not suitable to the site (based on its physical characteristics) it is considered to be of no protection value. The tree may be a juvenile to young specimen that can easily be replaced with new tree planting that will provide a greater amenity in the next 5 – 10 years. This tree may have a low landscape significance in terms of its height and mass within the landscape (i.e. generally less than 8 metres in height and spread) Trees that are located on adjoining land may be given a rating of 'None' if they are found to be dead or extremely hazardous and do not have any regulatory protection and or habitat value. In such instances this will be defined within the report. The tree(s) may or may not be subject to any local Planning or other regulatory control (i.e. Local Law).</td>
</tr>
<tr>
<td>Moderate</td>
<td>A tree or group of trees of 'Moderate' protection value may be considered to be in fair to good condition overall and is located within the project site. The tree may be of medium or high arboricultural value, however, it may or may not be suitable to the site in the long term (based on its physical characteristics) for greater than 20 years. The tree may provide a moderate level of landscape significance or amenity and be of moderate individual significance. The tree may be in a semi mature to early mature life stage.</td>
</tr>
</tbody>
</table>
Ideally any future development should consider a moderate protection value to be retained and incorporated into the design. However, if the retention and or adequate protection of this tree cannot be achieved with a reasonable design footprint then consideration should be given to the removal of the tree and replacement with a new tree suitable to the landscape and available space.

Only trees within the project site may be given a rating of 'Moderate'. Trees that are located on adjoining land are not given a rating of 'Moderate'.

The tree(s) may or may not be subject to any local Planning or other regulatory control (i.e. Local Law).

| High | A tree or group of trees of 'High' protection value may be considered to be in good condition overall and is suitably located within the project site (i.e. within the front setback). The tree (if within the project site) will be of high arboricultural value and should have a life expectancy of greater than 20 years if protected and managed. The tree may provide a moderate to high level of landscape significance or amenity and be of moderate to high individual significance. The tree will be in a mature life stage but not beginning senescence.

Ideally any future development should consider a high protection value to be retained and incorporated into the design when the tree is located on the site. The design should have regard to the adequate protection of this tree throughout any development on the project site. This tree may have a high landscape significance in terms of its height and mass within the landscape (i.e. generally greater than 12 metres in height and spread).

Trees located on adjoining lands, not of the ownership of the project site, are given a high protection value, regardless of their overall condition (Arboricultural Value), the environmental / landscape significance and or cultural / heritage significance (i.e. historic or remnant old veteran trees) unless they are Dead and do not have any regulatory protection and or habitat value. High protection value may also be assigned to known weed species, however this will be noted within the report.

The tree(s) may or may not be subject to any local Planning or other regulatory control (i.e. Local Law).

- **SRZ (m)** - The Structural Root Zone (SRZ) (referenced from *Australian Standard AS4970-2009 - Protection of Trees on Development Sites*) is the calculated distance based on Basal Dia (cm). The SRZ identifies the minimum radius at which the root plate should not be disturbed. This measure only relates to the trees' stability and does not take into account the implications of a decline in health. The measurement is given in metres in a radius from the centre of the tree trunk.

- **TPZ (m)** - The Tree Protection Zone (TPZ) (referenced from *Australian Standard AS4970-2009 - Protection of Trees on Development Sites*) is the calculated distance based on the DBH of the tree. The TPZ addresses the physiological implications by retaining an ideal area around the tree to survive in the landscape on a long-term basis. The measurement is given in metres in a radius from the centre of the trunk.

- **TPZArea (m²)** - is the tree protection zone in square metres (m²) around the trunk

- **TPZ10% (m)** - identifies the 10% encroachment radial distance into the tree protection zone on one side of the tree only (Minor Encroachment).

- **Encroach (%)** - is the level of encroachment into the TPZ of the tree from the excavation/ buildings and works.

- **Notes/ Comments** - The general notes/ comments provide additional support where required for the tree data collected in the field.
8.1.1. Glossary of Commonly Used Terms

Amenity
Although difficult to quantify, the term as used in this report relates to the contribution given to the landscape or streetscape in terms of visual aesthetics. It may also relate to the contribution in terms of shade or protection from the elements.

Bifurcation
A stem or branch forked or divided into two or more parts or branches. Used to describe a union point. A bifurcation may have different characteristics dependant on the load distribution on the union and the size of the branches or stems that arise from the union point.

Branch Bark Ridge
Swelling of bark tissue on the upper side of the branch junction or union. Considered the normal pattern of development in contrast to included bark (from Matheny & Clark, 1994).

Branch collar
Trunk tissue that forms around the base of a branch between the main stem and the branch. As the branch decreases in vigour or begins to die, the branch collar becomes more pronounced (AS4373).

Chlorotic
Discolouration of the leaves, yellow in colour resulting from a lack of chlorophyll

Codominant
Generally relates to trunks/ stems (although it may relate to scaffold branches within the crown) of two or more and of equal or similar size and relative importance (Matheny & Clark, 1994).

Compartmentalisation
Physiological process which creates the chemical and mechanical boundaries that act to limit the spread of disease and decay organisms (Matheny & Clark, 1994).

Decay
Degeneration and de-lignification of plant tissue, including wood, by pathogens or micro-organisms (AS4373).

Epicormic Shoots
Shoots which arise from adventitious or latent buds (usually dormant). They are generally produced in response to environmental stress.

Included Bark
The pattern of development at a branch union where bark is turned inward rather than outward or pushed out. Relates to the branch bark ridge and bifurcations. (Matheny & Clark, 1994)

Live Crown Ratio (LCR)
Relative proportion of healthy crown in proportion to overall tree height. Often not used in isolation due to the different natural forms of many species and growing conditions. Generally, a LCR of less than 30% may result in a poor structural rating, however, when this is used and noted within this report, it is based on potential changes to the environment where this condition may have an affect on long term protection value.

Lateral
A branch arising from another branch or stem (AS4373)
Lopping
Cutting back a limb or stem at any point with no regard to natural target pruning. Random cutting of branches or stems between branch unions or at internodes on young trees. Not considered an acceptable practice as part of the Australian Standard AS4373-2007 - Pruning of Amenity Trees.

Senescence or Senescent
The organic process of age and the deterioration of tissue within the tree.

Wound wood/ Reaction Wood
Lignified, partially differentiated tissue which develops from the callus associated with wound or pruning cuts.

8.2. Bibliography and Cited References

Coder, K.D., 1996, Construction Damage Assessments: Trees and Sites, The University of Georgia, SC, USA.


Hellwell, D.R., 1985, Trees on Development Sites, Arboricultural Association, Romsey, England


8.3. TREE PROTECTION GUIDELINES

8.3.1. BACKGROUND

Arbor Survey Pty Ltd assesses individual tree protection requirements based upon the *Australian Standard AS4970-2009 - Protection of Trees on Development Sites*. Tree protection requirements are calculated based upon trunk diameter of the tree at breast height. These calculations produce what is referred to in this report as the Tree Protection Zone (TPZ) and is provided as a measurement in metres in a radius from the centre of the trunk.

The TPZ is the zone in which protective measures should be applied in order to protect the tree(s) whilst maintaining the current levels of health and vigour.

Determination of the structural root zone or the zone of rapid taper is provided as the Structural Root Zone (SRZ). The structural root zone calculations (may also be referred to as the Root Plate Radius (RPR)) of the tree, based upon the *Australian Standard AS4970-2009*. The SRZ determines the minimum distance around the tree in which the structural stability of the tree should be able to be maintained.

It is important to note that the SRZ only determines the root plate area or the zone of rapid taper. Excavation within this area will not only cause a decline in tree vigour but may also cause catastrophic tree failure (Coder, 1996).

Often it is difficult to protect the entire TPZ due to site constraints. In such events it is imperative that condition and species tolerance to disturbance are evaluated in conjunction with the site characteristics. Hellwell (1985) and Harris (1999) identified that a healthy tree may tolerate removal of up to one-third of its roots and possibly up to 50% in some cases, although stability may be compromised at this level.

In situations where the TPZ of a tree to be retained will be in close proximity to a proposed development or where there will be encroachment into the TPZ of a tree, a specific tree management plan should be developed. This plan provides prescriptive measures to protect trees on development sites.

8.3.2. GENERAL TREE PROTECTION REQUIREMENTS

The following requirements are only provided only for basic guidance, these guidelines do not constitute a specific tree management and protection plan.

- A tree protective fence should be installed at the recommended distance allocated for each tree to be retained. The fence should be located at the TPZ distance provided where possible.

- The protection fence should be rigid (chain link or similar) and should not be less than 1.8 metres in height. Fencing should be firmly attached to a removable concrete or similar base. Alternatively, star pickets (1.5 metre spacing) and para-webbing may be used to define the tree protection area. Fencing should be in accordance with the *Australian Standard for Temporary Fencing AS4687*.

- In cases where the TPZ cannot be entirely fenced, it is recommended that ground protection is used. Specific ground protection requirements will form part of a tree protection plan that should be developed for all trees to be retained.

- No soil levels must be altered within the fenced TPZ area, no heavy machinery should be allowed to pass within this area and no spoil, chemicals, building materials or refuse should be stored within this area. Nothing whatsoever should be attached to the tree (excluding tape to identify a tree to be protected).

- The area within the tree protection fence should be covered with a layer of organic mulch (mixed particle sized woodchips) to a depth of 100mm prior to the commencement of the project. Mulch material should comply with *Australian Standard AS4454*. 
• The tree protective fencing should be installed prior to any works (including demolition) commencing on site and should remain in place until all site development work is completed. The protective fencing should be located at the prescribed TPZ distance where possible and clearly signed **TREE PROTECTION ZONE**. The sign should be similar to the attached image (as recommended by the Australian Standard AS4970-2009) and should be of a size no smaller than 400mm x 300mm:

• An area should be designated on site, outside of any tree protection zone, where all building materials, chemicals etc. can be stored throughout the proposed development.

• Open trenching for underground services located within the recommended tree protection zone (TPZ) must be avoided. Should there be no alternative for service location; the services must be bored underneath the TPZ or a non-destructive root investigation (NDR) should be undertaken. No trenching with machinery should be used to install services within the protected area.

• Soil moisture during construction should be maintained at not less than 50% of field capacity (usually 10 litres of water per 10mm of each tree DBH per week). Irrigation may be applied by hand, automatic or manual irrigation system, or by fine spray from water tanker located outside the fenced area. Water is to be applied at a volume and frequency required so as to maintain turgor and leaf retention and encourage healthy root development. The Project Arborist should discuss variations to the amount of water to be supplied with the site or Project Manager.

• Remedial pruning works recommended to be undertaken on the project trees must be carried out to Australian Standard AS4373-2007 – Pruning of Amenity Trees, by a qualified Arborist (Minimum AQF Level 3). If pruning works are to be undertaken, then these works should be carried out prior to any construction works beginning on site.

• Documentation should be provided to the site manager by the Project Arborist for each inspection during the development process which details the consultant Arborist name, date and time of inspection, the stage of development, and provides comments of what actions are required.
8.4. COMPANY PROFILE AND QUALIFICATIONS

8.4.1. COMPANY PROFILE

Arbor Survey Pty Ltd is an Arboricultural Consulting company based in Victoria, Australia. The principal consultants, Mark Reynolds and Blake Clancy have been involved within the Arboricultural Industry for a combined period of over 25 years, working for both private sector clients and within the public sector at numerous Victorian Local Government Authorities.

Our consultants have vast experience in providing Arboricultural referral within local councils in relation to planning applications and Strategic Planning advice relating to planning scheme amendments. We have extensive experience in quantified tree risk assessment (QTRA and TRAQ), health and structural condition assessments, tree valuations, development impact assessments and tree management and protection plans. We also have provided Expert Evidence statements and represented numerous private and public sector clients at the Victorian Civil and Administrative Tribunal (VCAT) and Magistrates Court.

Arbor Survey Pty Ltd is dedicated to best practice within the industry and are committed to ongoing professional development.

Professional Memberships
- Member of the International Society of Arboriculture (ISA)
- Member of Arboriculture Australia
- Member of the Victorian Tree Industry Association (VTIO)
- Member of the Victorian Environment and Planning Law Association (VEPLA)

8.4.2. MARK REYNOLDS

Qualifications
- Bachelor of Applied Science (Horticulture) - University of Melbourne (Burnley Campus)
- Registered Quantified Tree Risk Assessment (QTRA)
- ISA TRAQ Register User

Experience
- Senior Arborist – Boroondara Council
- Open Space Coordinator – Cardinia Shire Council
- Senior Arborist – City of Kingston
- Private arboricultural and vegetation consulting under Tri-dimensional Consulting
- Trescape Consulting Pty Ltd – Arboricultural Consultant
- Bayside City Council – Vegetation Planner/Senior Investigations Arborist

8.4.3. BLAKE CLANCY

Qualifications
- Bachelor of Applied Science (Horticulture) - University of Melbourne (Burnley Campus)
- Advanced Diploma of Horticulture (Arboriculture) – University of Melbourne (Burnley Campus)
- Registered Quantified Tree Risk Assessment (QTRA)
- ISA TRAQ Register User

Experience
- Senior Consulting Arborist – Homewood Consulting Pty Ltd
- Consulting Arborist – Greenwood Consulting Pty Ltd

8.4.4. CLAUDINE REYNOLDS

Qualifications
- Graduate Certificate in Arboriculture - University of Melbourne (Burnley Campus)
- Diploma of Horticulture – Holmestown Institute (Waverley Campus)
- Bachelor of Science / Commerce – Monash University (Clayton Campus)
- Registered Quantified Tree Risk Assessment (QTRA)
8.5. TERMS AND CONDITIONS

1. Arbor Survey Pty Ltd contracts with you on the basis that you promise that all legal information which you provide, including land title and ownership of other property, are correct. The author is not responsible for verifying or ascertaining any of these issues.

2. Arbor Survey Pty Ltd contracts with you on the basis that your promise that all affected property complies with all applicable statutes and legislation.

3. Arbor Survey Pty Ltd has taken reasonable care to obtain necessary information from reliable sources and to verify data. However the author neither guarantees nor is responsible for the accuracy of information provided by others.

4. If, after delivery of this report, you later require a representative to attend court to give evidence or to assist in the preparation for a hearing because of this report, you must pay an additional fee at the current rate for expert evidence.

5. Alteration of this report invalidates the entire report.

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7. The contents of this report represent the professional opinion of the consultant. The consultancy fee for the preparation of this report is in no way contingent upon the consultant reporting a particular conclusion of fact, nor upon the occurrence of a subsequent event.

8. Sketches, diagrams, graphs and photographs in this report are intended as visual aids, are not to scale unless stated to be so, and must not be construed as engineering or architectural reports or as surveys.

9. Unless expressly stated otherwise:

   (a) The information in this report covers only those items which were examined and reflects the condition of those items at the time of the inspection only.

   (b) The inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee, expressed or implied, that even if they were not present during our inspection, problems or defects in plants or property examined may not arise in the future.

10. This agreement supersedes all prior discussions and representations between Arbor Survey Pty Ltd and the client on the subject, and is the entire agreement and understanding between the two parties.