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## Arboricultural Impact Assessment

Prepared for: Adene Joslin

Site Address: 78 Karingal Crescent, Frenches Forest  
NSW 2086

Lot 80 DP 36616

Project: Proposed new dwelling

Date: 27/07/2021

Prepared by Damian Green  
Diploma of Arboriculture, Ryde TAFE 2015

☎ +61450575677

✉ [greend Damian@gmail.com](mailto:greend Damian@gmail.com)



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## Summary

This report was commissioned by Adene Joslin, Damian Green attended an onsite inspection on Saturday 17<sup>th</sup> July 2021. Eleven (11) native and exotic tree species were assessed in preparing this report, these trees were located in the property frontage of 78 Karingal Crescent and the adjoining boundaries of 76 & 80 Karingal Crescent and 18 Hilmer Street.

A development consisting of the demolition the existing dwelling and the construction of a new two floor dwelling has been proposed

T1,3 & 4 are protected by Northern Beaches Council Tree Preservation, T2,5,6 & 7 are listed as exempt tree species, due to their location on adjacent Lots T5,6 & 7 are considered High retention trees.

T1 & 4 were calculated to have Medium tree retention value, T2 & 3 had Low tree retention.

All trees assessed had major impact from the demolition and/or construction process.

T1,2,3 & 4 fell within the construction footprint of the proposed dwelling, driveway and/or area required for storage, waste and scaffold construction removal of these trees is recommended.

T5 (group of 5 trees) was identified as having major TPZ encroachment and minor impact from the proposed dwelling construction.

T6 had major TPZ incursion and structural roots are required to be removed for soil level changes for retaining wall construction. It is advised to consult the property owners of 80 Karingal Crescent about the potential removal of this tree. Failing this, non-invasive root exploration methods such as air-spade or hydro-vacuum shall be required. If major conflicting roots are located and cannot be removed due to tree stability, alterations to existing plans may be required.

T7 had major TPZ encroachment but impact is considered minor.

T5 & 7 are in positions that can accommodate future growth and appear suitable for long term retention.

A tree protection plan (including T6 if removal is not achievable) has been implemented to protect trees during the construction process.

# 1 Introduction

This report was commissioned by Adene Joslin, Damian Green attended an onsite inspection on Saturday 17<sup>th</sup> July 2021. Eleven (11) native and exotic tree species were assessed in preparing this report, these trees were located in the property frontage of 78 Karingal Crescent and the adjoining boundaries of 76 & 80 Karingal Crescent and 18 Hilmer Street.

A development consisting of the demolition the existing dwelling and the construction of a new two floor dwelling has been proposed, the proposed dwelling is to be positioned in a similar location to the existing dwelling.

The aim of this assessment is to identify the subject trees, comment on the current health & condition of the trees, to discuss proposed development and potential impacts and to provide recommendations taking into consideration *Australian Standard 4970-2009 (Protection of trees on development sites)* and Northern Beaches Council tree preservation requirements.

## 2 Location of Site & Trees

**2.1** Property location: 78 Karingal Crescent, Frenches Forest NSW 2086. See Figure 1

Trees were in were located in the property frontage of 78 Karingal Crescent and the adjoining boundaries of 76 & 80 Karingal Crescent and 18 Hilmer Street. See Figure 2

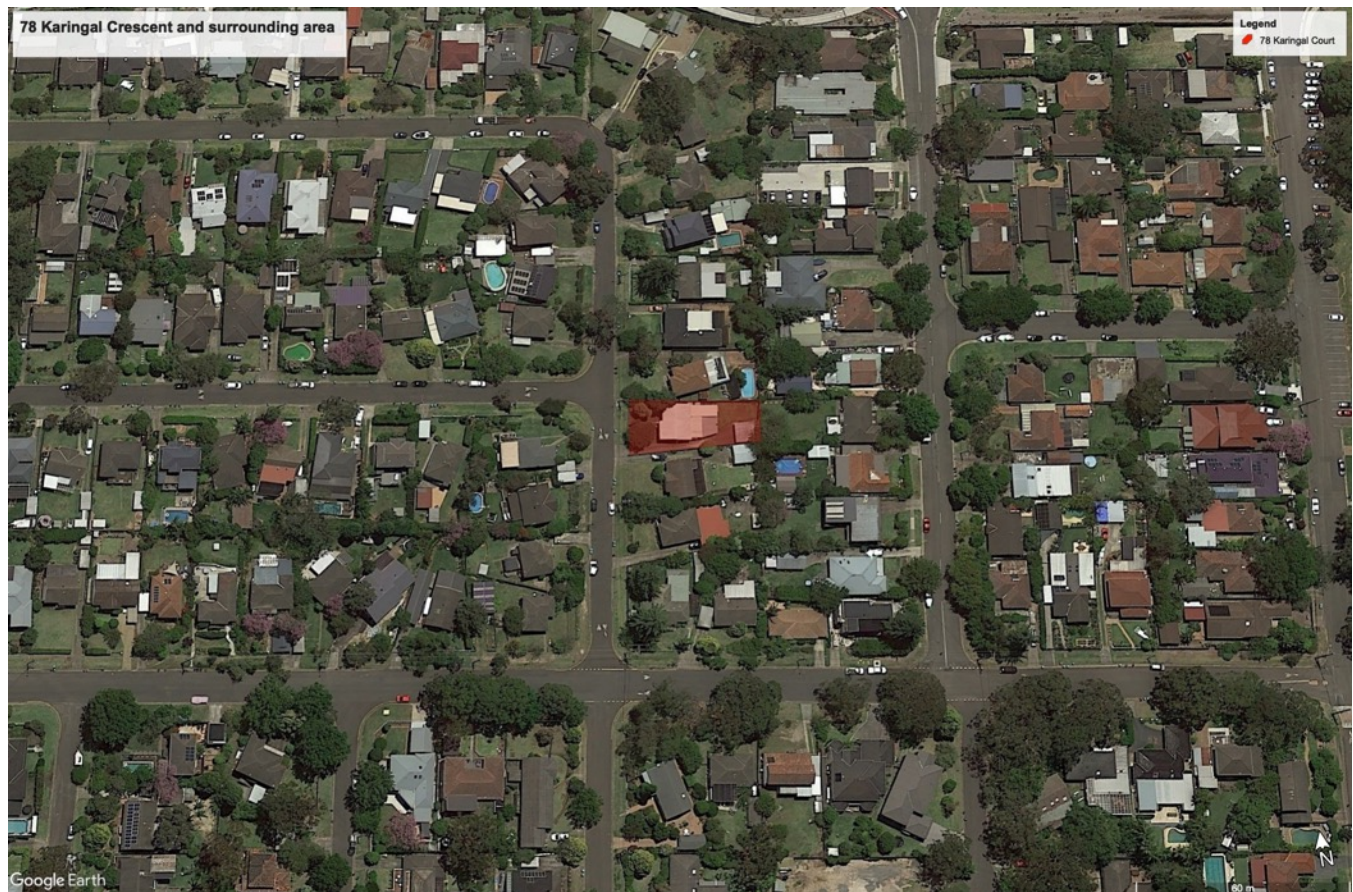


Figure 1 Property location and surrounding area.





Figure 2 78 Karingal Crescent and tree locations.

### 3 Method

- 3.1 A site inspection was undertaken by Damian Green on Saturday 17<sup>th</sup> July 2021, comments and recommendations in this report are based on findings from the site inspections.
- 3.2 The subject trees were assessed by the process of a stage one visual tree assessment (VTA) as formulated by Mattheck & Broloer (1994) and practices consistent with modern arboriculture. The trees were inspected from ground level without the use of any invasive or diagnostic tools or testing. No aerial inspections or root mapping were undertaken.
- 3.3 Tools used to take photographs & data.
  - iPhone X
  - Data collected using Trimble TerraFlex software
- 3.4 Tree height, Diameter at Breast Height (DBH), Diameter at Base (DAB) and canopy dimensions were estimated.
- 3.5 Tree Protection Zones (TPZ) were calculated using Proof safe TPZ Encroachment Calculator.

## 4 Provided Documents

- TREE REMOVAL PLAN
- SITE PLAN & SITE ANALYSIS PLAN
- CONSTRUCTION MANAGEMENT & EROSION & SEDIMENT CONTROL PLAN
- SHADOW DIAGRAM
- INTERNAL PLANS
- ELEVATION PLANS
- SECTION PLAN
- NEIGHBOURS NOTIFICATION PLAN
- Northern Beaches Council: Landscape referral response

## 5 Observations

- 5.1** Eleven (11) native and exotic tree species were assessed in preparing this report. Details of the trees, their dimensions, description, condition, Safe Useful Life Expectancy (SULE) and landscape significance (STARS) are attached in **Appendix A: Tree assessment schedule A & B**

## 6 Discussion

### 6.1 Trees

- 6.1.1** At the time of inspection T1,3,4,5,6 & 7 were noted have good health, condition and structure with <10% deadwood throughout canopies. T2 was noted to have fair health and condition with poor structure and 10-20% deadwood.
- 6.1.2** T1,2,3 & 4 were located in the front garden of 78 Karingal Crescent, T5 was located in the front garden of 76 Karingal Crescent and T6 was located on the adjoining side boundary of front garden of 80 Karingal Crescent and T7 was located in the rear Garden of 18 Hilmer Street.
- 6.1.3** Northern Beaches Council States, 'Trees over 5m in height that are not listed as an exempt tree species are protected by Northern Beaches Council tree preservation'.
- 6.1.4** Following these criteria T1,3 & 4 are protected by Northern Beaches Council tree preservation.
- 6.1.5** T2,5,6 & 7 are listed as exempt tree species and are not protected.
- 6.1.6** Trees on neighbouring properties should always be considered a high retention asset.
- 6.1.7** The NSW Biodiversity Values Map identifies land with high biodiversity value that is particularly sensitive to impacts from development and clearing. The above property is not listed as an area of biodiversity when using this tool.
- 6.1.8** No trees identified are members of local endangered ecological communities.
- 6.1.9** No trees assessed were identified as remnant.
- 6.1.10** No fauna was observed within all trees assessed.

### 6.2 Proposed building

- 6.2.1** The application proposes the demolition of the existing dwelling, driveway and carport and development of a new two floor dwelling located in a similar position to the current dwelling and a relocated driveway.
- 6.2.2** The development includes alterations to existing soil levels and small retaining walls near boundaries of 76 & 80 Karingal Crescent.

#### 6.4 Australian Standard 4970-2009 (Protection of trees on development sites)

6.4.1 The standard was established to provide appropriate guidelines to ensure the long-term viability and stability of trees to be retained on development sites.

#### 6.5 Tree Protection Zone (TPZ)

6.5.1 The tree protection zone (TPZ) is the principal means of protecting trees on development sites. The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains un-damaged during development and remains viable. (Minor encroachment = less than 10%, major encroachment = 10-35%)

#### 6.6 Structural Root Zone (SRZ)

6.6.1 The SRZ is the area required for tree stability. A larger area is required to maintain a viable tree. The SRZ only needs to be calculated when major encroachment into a TPZ is proposed (Any works within the SRZ is considered major encroachment).

- Refer to **Appendix A: Tree assessment schedule A & B** & **Appendix D: TPZ Encroachment** for TPZ values and incursions.

#### 6.7 Restrictions within the TPZ

6.7.1 All excavation works within the TPZ shall be carried out under the supervision of the project arborist. Sensitive areas

in close proximity to trees, or where works will encroach upon the SRZ will require non-destructive methods such as hydro-vacuum excavation or manual excavation. The project arborist will specify any sensitive areas during demolition or construction.

6.7.2 If the project arborist identifies conflicting roots that require pruning, they must be pruned with a sharp implement such as secateurs, pruners, handsaws, or chainsaw back to undamaged tissue. The final cut must be a clean cut. All exploratory excavation and root pruning within the TPZ must be performed by, or under the supervision of the project arborist.

#### 6.8 Encroachment within the TPZ

6.8.1 The **Tree Protection Zone** is a radial area extending outwards from the centre of the trunk. Calculation for the TPZ =  $12 \times \text{DBH}$ . The TPZ as defined by *Australian Standards, AS4970-2009 (Protection of trees on development sites)* is the optimal combination of crown to root area that requires protection during the construction process so that the tree may remain viable into the future.

6.8.2 Considering the hardiness/resilience of the select species and the existing good health of the trees, a major encroachment of up to 35% within the TPZ is achievable without significant, long term Impacts to the subject trees. Encroachment of up to 35% within the standard TPZ is permissible, providing the project arborist demonstrates that the tree(s) remain viable.

#### 6.9 Tree Retention Value and Tree Significance

6.9.1 It is possible to determine a tree's significance and retention value based upon several factors including size, condition and maturity coupled with methodologies STARS and SULE. **Appendix B & C.**

6.9.2 T1 & 4 had a calculated Medium Tree Significance and Medium SULE and are considered Medium Retention trees.

- These trees may be retained and protected. These are considered less critical; however, their retention should remain priority with the removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.

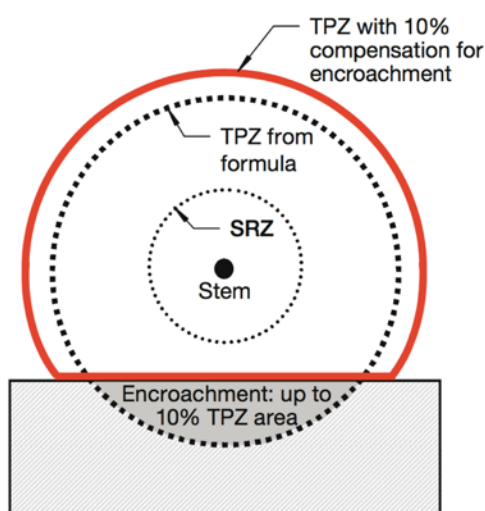


Figure 3 Illustration of TPZ encroachment and area of compensation.

- 6.9.3** T5,6 & 7 had Medium-Low Tree Significance and Medium, Short, or Young/Small SULE although these trees are considered to have Low tree retention value they are located on adjacent properties and should be considered as high retention value trees and should be retained and protected.
- 6.9.4** T2 & 3 had Medium-Low Tree Significance and Short SULE and are considered to have Low tree retention value.
- These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.

## 7 Impact Assessment

- 7.1** The application proposes the demolition of the existing dwelling, driveway and carport and development of a new dwelling located in a similar position to the current dwelling and a relocated driveway. The development includes alterations to existing soil levels and small retaining walls near boundaries of 76 & 80 Karingal Crescent.
- 7.1.1** Root zones, trunks and canopy structures of all trees assessed have been identified as areas of potential impact.
- 7.2** T1 falls within the construction footprint of the proposed driveway and has a 100% TPZ encroachment. No other viable options are available for development reconfiguration, removal is required.
- 7.3** T2 & 3 also have 100% TPZ incursion caused by areas required for construction material storage and waste, due to lack of useable space for storage this area is required for this purpose. T2 & 3 have low retention value and should be removed.
- 7.4** T4 has 100% TPZ incursion, this is caused by both the construction footprint and area required to erect scaffolding on the outside of the construction footprint. The current design cannot be set back further to accommodate the TPZ of T4 due to the tapering of the Lot, removal is required.
- 7.5** T5 a group of 5 *Ligustrum* species located in the front garden of 76 Karingal Crescent have major TPZ encroachment of 16% from the construction footprint and area required to erect scaffolding on the outside of the construction footprint. Impact is considered minor with no foreseeable long-term health or stability issues. It should be noted that this group of trees are environmental weeds.
- 7.6** T6 was located on the side boundary of 80 Karingal Crescent and has major TPZ and SRZ root encroachment of 44 & 24%, the encroachment is caused by the demolition process, the construction footprint, and soil level changes required to accommodate the ground floor level and retaining wall. *Ficus benjamina* is a very hardy tree species capable of withstanding heavy canopy pruning and/or root pruning and is listed as an exempt tree species, that said, the proposed development will have major impacts to long term health and tree stability. Consideration should be made for the removal of T6 if removal is not achievable, non-invasive root exploration methods such as air-spade or hydro-vacuum shall be required. If major conflicting roots are located and cannot be removed due to tree stability, alterations to existing plans may be required.
- 7.7** T7 was located on the rear boundary of 18 Hilmer Street and has major TPZ and SRZ root encroachment of 44 & 24%, the encroachment is caused by the demolition of the carport garden shed and driveway removal. No excavation within the TPZ is required and soil levels remain at a similar level with only minor adjustment for levelling of the rear garden when landscaping takes place. Impact to long term tree health is considered low and no tree stability issues were identified.

See **Appendix D: TPZ Encroachment**



## 8 Conclusions

- 8.1 A total of eleven (11) native and exotic tree species were assessed in preparing this report, these trees were located at 78 Karingal Crescent and the adjoining boundaries of 76 & 80 Karingal Crescent and 18 Hilmer Street. At the time of inspection T1,3,4,5,6 & 7 were noted have good health and condition with good structure. T2 was noted to have fair health and condition with poor structure.
- 8.2 T1,3 & 4 are protected by Northern Beaches Council Tree Preservation, T2,5,6 & 7 are listed as exempt tree species.
- 8.3 No trees were assessed as remnant.
- 8.4 No trees were noted to have hollows and no fauna was observed.
- 8.5 T1 & 4 were identified to have Medium tree retention value, T2 & 3 had Low tree retention and T5,6 & 7 also had Low tree retention but due to their location on adjacent Lots they are considered High retention trees.
- 8.6 T1,2,3 & 4 fell within the construction footprint of the proposed dwelling, driveway and/or area required for storage, waste and scaffold construction removal is required.
- 8.7 T5 was identified as having major TPZ encroachment and minor impact from the proposed dwelling construction.
- 8.8 T6 had major TPZ incursion and structural roots are required to be removed for soil level changes to take place for retaining wall construction. It is advised to consult the property owners of 80 Karingal Crescent about the potential removal of this tree. Failing this non-invasive root exploration methods such as air-spade or hydro-vacuum shall be required. If major conflicting roots are located and cannot be removed due to tree stability, alterations to existing plans may be required.
- 8.9 T7 had major TPZ encroachment but impact is considered minor.
- 8.10 Due to the proximity to construction footprint or areas required for storage or structures T1,2,3,4 & 6 do not appear suitable for retention.
- 8.11 T5 & 7 are in positions that can accommodate future growth and appear suitable for long term retention.

## 9 Recommendations

- 9.1 Trees to be retained: T5,6 & 7
  - 9.1.1 T6 Does not appear suitable for retention and requires property owner permission to be removed, for the purpose of Tree Protection if the tree cannot be removed it has been included as a tree to be retained.
    - Refer to Section 10 Tree Protection & Appendix E: Trees to be retained
- 9.2 Trees to be removed: T1,2,3 & 4

Council a consultation and permission are required prior to the removal of T1 & 4.

Pruning and removal works are to be undertaken by suitably qualified tree workers (minimum AQF Level 3 or equivalent), in accordance with the *NSW WorkCover Code of Practice for the Amenity Tree industry and AS4373-2007 Pruning of Amenity Trees*.

## 10 Tree Protection

### 10.1 Agreement

**10.1.1** Contractors and site workers shall be informed of Tree Protection and management specifications of the trees being retained.

**10.1.2** The Site Foreman is responsible for all tree protection procedures on site as per this document and whenever the arborist is not on site.

### 10.2 Pre-determined Arborist Supervision- Witness Points

**10.2.1** The following pre-determined Site Arborist stages are witness points and will require the attendance of the site arborist who will document the works and provide their signature stating an inspection has taken place and all works are completed in accordance to this report and AS4970-2009 Protection of Trees on Development Sites.

Table 1 Witness points

Witness Point	Action	Check Box
Tree pruning and removal	The removal of T1,2,3,4 & 6 (if possible) is required prior to construction process.	Inspected, documented & certified by Site Arborist. <b>YES/NO</b>
TPZ fencing and signage	The Site Arborist shall inspect the tree protection fencing and signage prior to the demolition process.	Inspected, documented & certified by Site Arborist. <b>YES/NO</b>
Ground protection	The Site Arborist shall inspect the ground protection once existing driveway has been removed.	Inspected, documented & certified by Site Arborist. <b>YES/NO</b>
Work within the TPZ	The Site Arborist is to monitor any works within the TPZ of T5,6 & 7 during construction processes.	Inspected, documented & certified by Site Arborist. <b>YES/NO</b>
Practical completion	The Site Arborist is to inspect and assess the condition of T5,6 & 7 and provide certification of the above-mentioned Supervision stages.	Inspected, documented & certified by Site Arborist. <b>YES/NO</b>

### 10.3 Tree removal

#### 10.3.1 Remove

- Removal of T1,2,3,4 & 6 is required prior to demolition. Council permission is required prior to the removal of T1 & 4, property owners of 80 Karingal Crescent are required to be consulted and permission granted prior to the removal of T6.
- All pruning and removal works are to be undertaken by suitably qualified tree workers (minimum AQF Level 3 or equivalent), in accordance with the *NSW Work Cover Code of Practice for the Amenity Tree industry* and *AS4373-2007 Pruning of Amenity Trees*.

### 10.4 TPZ fencing and signage

**10.4.1** 1.8m Chain-link fencing is required in the highlighted area adjacent to T5,6 (if unable to remove) & T7

**10.4.2** Signage is required in each TPZ fencing area and shall be plastic, no smaller than A4 paper size, shall state 'No Access – Tree Protection Zone' and include the contact details of the Site Foreman.

## **10.5 Ground Protection**

Ground protection is required within the TPZ of T6 (if unable to remove) after concrete has been lifted from existing driveway, driveway concrete should be left within the TPZ of T6 for as long as possible to provide solid ground protection. Temporary ground protection should consist of plastic bog mats and should only be moved under supervision or permission of the project arborist.

## **10.6 Works within the Tree Protection Zone**

**10.6.1** All earth work within the TPZ of T5, 6 & 7 requires arborist supervision, if or when a root has been exposed, it will be of the Site Arborists discretion whether pruning shall take place. Pruning of roots shall be done with a sharp implement such as a chainsaw or handsaw, in the case of T6 if removal is un-obtainable non-invasive root exploration methods such as air spade or hydro-vacuum shall be required.

- If conflicting roots area found that are not able to be removed design modification may be necessary.

### **10.6.2 Restricted Activities**

The Tree Protection Zone shall exclude the following works unless under the supervision of the Site Arborist.

- machine excavation including trenching;
- excavation for silt fencing;
- storage;
- preparation of chemicals, including preparation of cement products;
- parking of vehicles and plant;
- refuelling;
- dumping of waste;
- wash down and cleaning of equipment;
- placement of fill;
- lighting of fires;
- soil level changes;
- temporary or permanent installation of utilities and signs, and
- physical damage to the tree.

## **10.7 Tree damage**

Any damage to a protected tree shall be reported to the site arborist immediately.

## **10.8 Post Construction**

The Site Arborist shall make a final inspection to assess tree health and condition.

Refer to **Appendix F: Tree Protection Plan**

## 12 Limitations on the use of this assessment

This assessment has been prepared by Damian Green, under instruction of Adene Joslin.

Whilst the author believes that all information contained in this assessment is correct at the time it is prepared, the author:

- Shall not have any liability (including any liability for negligence) for any statement, opinion, information or matter (whether expressed or implied) arising out of or contained in or derived from or from any omission from or failure to correct any information in this assessment;
- reserves the right to make amendments to this assessment should additional information become available; and
- is not under any obligation to update any of the information contained in this assessment nor are they required to notify any person should any such information cease to be correct after the date of this assessment.

Any questions or comments please contact me to discuss.

Regards,



Damian Green  
Consulting Arborist  
☎ +61450575677  
✉ [greend Damian@gmail.com](mailto:greend Damian@gmail.com)

## 13 Works Cited

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## 15 Appendix

Appendix A: Tree assessment schedule A & B

Appendix B: Safe Useful Life Expectancy description and categories

Appendix C: Significance of a Tree Assessment Rating System (STARS)

Appendix D: Tree Protection Zone Encroachment

Appendix E: Trees for Retention or Removal

Appendix F: Tree Protection Plan



## Appendix A: Tree assessment schedule A &amp; B

## Tree assessment schedule A

Tree Number	Botanical Name	Trees in Group	Height m	Spread m	Description / form	Health	Structure	Deadwood	Tree location
1	Callistemon viminalis	1	6	7	Medium Decurrent Symmetrical Mature	Good	Good	<10%	Front garden of 78 Karingal Crescent
2	pittosporum eugeniodies	1	7	3	Medium Excurrent Symmetrical Over-mature	Fair	Poor	10-20%	Front garden of 78 Karingal Crescent
3	Hibiscus sp	1	5	4	Medium Decurrent Symmetrical Mature	Good	Good	<10%	Front garden of 78 Karingal Crescent
4	Exocarpus cupressiformis	1	8	9	Medium Decurrent Symmetrical Mature	Good	Good	<10%	Front garden of 78 Karingal Crescent
5	Various Ligustrum species	5	4	3	Small Mature Weed specices	Good	Good	<10%	Front garden of 76 Karingal Crescent
6	Ficus benjamina 'verigata'	1	6	6	Medium Decurrent Symmetrical Mature	Good	Good	<10%	Side boundary of 80 Karingal Crescent
7	Erythrina x sykesii	1	12	12	Large Decurrent Symmetrical Mature  Deciduous	Good	Good	<10%	Rear Garden of 18 Hilmer Street

## Tree assessment schedule B

Tree Number	Diameter at Breast Height	Diameter at Base	Estimated TPZ (m)	Estimated SRZ (m)	Potential Impact area	TPZ & SRZ Encroachment %	SULE	Tree Significance	Retention Value	Proposal
1	400mm	450mm	4.8	2.3	Roots Trunk Canopy	100%	M(b)	Medium	Medium	Remove
2	300mm	400mm	3.6	2.2	Roots Trunk Canopy	100%	S(a)	Low	Low	Remove
3	300mm	350mm	3.6	2.1	Roots Trunk Canopy	100%	S(a)	Medium	Low	Remove
4	450mm	450mm	5.4	2.3	Roots Trunk Canopy	100%	M(b)	Medium	Medium	Remove
5	150mm	200mm	2	1.6	Roots Trunk	16%	Y/S(a)	Low	High	Retain
6	400mm	450mm	4.8	2.3	Roots Trunk	44 & 24%	S(b)	Medium	High	Retain
7	900mm	1000mm	10.8	3.3	Roots Canopy	21 & 8%	M(b)	Low	High	Retain

**Retention Value:**

- Trees highlighted in   are of high landscape and SULE and should be retained and protected.
- Trees highlighted in   are considered less critical for retention, however their retention should be a priority with removal considered only if adversely affecting the proposal.
- Trees highlighted in   are not considered important for retention, nor require special works or design modification to be implemented for their retention.
- Trees highlighted in   are considered hazardous or in irreversible decline or environmental weeds and should be removed irrespective of development.

## Appendix B: Safe Useful Life Expectancy description and categories

### Safe Useful Life Expectancy (SULE)

SULE is the length of time that the arboriculturist assesses an individual tree can be retained with an acceptable level of risk based on the information available at the time of inspection. It is a snapshot in time of the potential an individual tree has for survival in the eyes of the assessor. SULE is not static – it is closely related to tree health and the surrounding conditions. Alterations in these variables may result in changes to the SULE assessment. Consequently, the reliability all SULE assessments have will decrease as time passes from the initial assessment and the potential for changes in variables increases.

#### SULE Assessment Categories

**Long SULE:** Trees that appear to be retainable with an acceptable level of risk for more than 40 years.

- (a) Structurally sound trees located in positions that can accommodate future growth.
- (b) Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.
- (c) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long-term retention.

**Medium SULE:** Trees that appear to be retainable with an acceptable level of risk for 15 to 40 years.

- (a) Trees that may only live between 15 and 40 more years.
- (b) Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 40 years but would be removed during normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that can be made more suitable for retention in the medium term by remedial work.

**Short SULE:** Trees that appear to be retainable with an acceptable level of risk for 5 to 15 years.

- (a) Trees that may only live between 5 and 15 more years.
- (b) Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.
- (c) Trees that may live for more than 15 years but would be removed during normal management for safety or nuisance reasons.
- (d) Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term.

**Remove:** Trees with a high level of risk that would need removing within the next 5 years.

- (a) Dead trees.
- (b) Dying or suppressed and declining trees through disease or inhospitable conditions.
- (c) Dangerous trees through instability or recent loss of adjacent trees.
- (d) Dangerous trees through structural defects including cavities, decay, included bark, wounds or poor form.
- (e) Damaged trees that are considered unsafe to retain.
- (f) Trees that will become dangerous after removal of other trees for the reasons given in (a) to (e).

#### Young or Small Trees:

- (a) Trees which are less than 5 meters (m) in height.
- (b) Trees which are over 5m in height but less than 25 years old.

## Appendix C: Significance of a Tree Assessment Rating System (STARS)

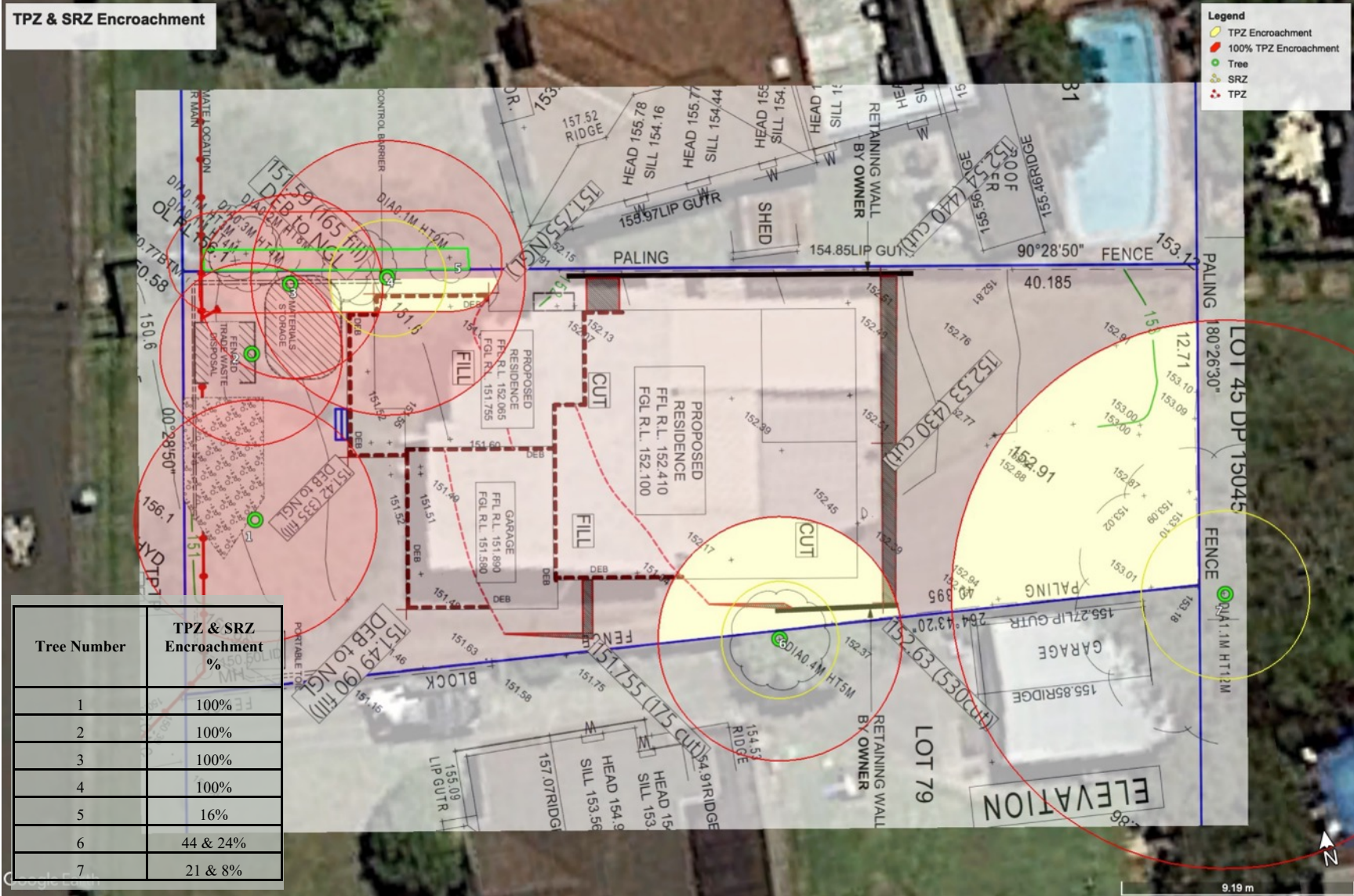
<b>Tree Significance - Assessment Criteria - STARS®</b>		
<b>Low</b>	<b>Medium</b>	<b>High</b>
<p>The tree is in fair-poor condition and good or low vigour.</p> <p>The tree has form atypical of the species</p> <p>The tree is not visible or is partly visible from the surrounding properties or obstructed by other vegetation or buildings</p> <p>The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area</p> <p>The tree is a young specimen which may or may not have reached dimensions to be protected by local Tree Preservation Orders or similar protection mechanisms and can easily be replaced with a suitable specimen</p> <p>The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ – tree is inappropriate to the site conditions</p> <p>The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms</p> <p>The tree has a wound or defect that has the potential to become structurally unsound.</p> <p>The tree is an environmental pest species due to its invasiveness or poisonous/allergenic properties.</p> <p>The tree is a declared noxious weed by legislation</p>	<p>The tree is in fair to good condition</p> <p>The tree has form typical or atypical of the species</p> <p>The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area</p> <p>The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street</p> <p>The tree provides a fair contribution to the visual character and amenity of the local area</p> <p>The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ</p>	<p>The tree is in good condition and good vigour</p> <p>The tree has a form typical for the species</p> <p>The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age.</p> <p>The tree is listed as a heritage item, threatened species or part of an endangered ecological community or listed on council's significant tree register</p> <p>The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity.</p> <p>The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values.</p> <p>The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ – tree is appropriate to the site conditions.</p>

Tree Significance					
Safe Useful Life Expectancy		High	Medium	Low	
	Long >40 years				
	Medium 15-40 years				
	Short <1-15 years				
	Dead				

Legend for Matrix Assessment	
	<b>Priority for retention (High):</b> These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 Protection of trees on development sites. Tree sensitive construction measures must be implemented if works are to proceed within the Tree Protection Zone.
	<b>Consider for retention (Medium):</b> These trees may be retained and protected. These are considered less critical; however, their retention should remain priority with the removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	<b>Consider for removal (Low):</b> These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	<b>Consider for removal (Low):</b> These trees are considered hazardous, or in irreversible decline, or weeds and should be removed irrespective of development.



Appendix D: TPZ Encroachment











## Tree Protection

### Tree removal

Removal of T1,2,3,4 & 6 is required prior to demolition. Council permission is required prior to the removal of T1 & 4, property owners of 80 Karingal Crescent are required to be consulted and permission granted prior to the removal of T6.

All pruning and removal works are to be undertaken by suitably qualified tree workers (minimum AQF Level 3 or equivalent), in accordance with the *NSW Work Cover Code of Practice for the Amenity Tree industry* and *AS4373-2007 Pruning of Amenity Trees*.

### TPZ fencing and signage

1.8m Chain-link fencing is required in the highlighted area adjacent to T5,6 (if unable to remove) & T7

Signage is required in each TPZ fencing area and shall be plastic, no smaller than A4 paper size, shall state 'No Access – Tree Protection Zone' and include the contact details of the Site Foreman.

### Ground Protection

Ground protection is required within the TPZ of T6 (if unable to remove) after concrete has been lifted from existing driveway, driveway concrete should be left within the TPZ of T6 for as long as possible to provide solid ground protection. Temporary ground protection should consist of plastic bog mats and should only be moved under supervision or permission of the project arborist.

### Works within the Tree Protection Zone

All earth work within the TPZ of T5, 6 & 7 requires arborist supervision, if or when a root has been exposed, it will be of the Site Arborists discretion whether pruning shall take place. Pruning of roots shall be done with a sharp implement such as a chainsaw or handsaw, in the case of T6 if removal is unobtainable non-invasive root exploration methods such as air spade or hydro-vacuum shall be required.

If conflicting roots area found that are not able to be removed design modification may be necessary.

### Restricted Activities

The Tree Protection Zone shall exclude the following works unless under the supervision of the Site Arborist.

machine excavation including trenching;

excavation for silt fencing;

storage;

preparation of chemicals, including preparation of cement products;

parking of vehicles and plant;

refuelling;

dumping of waste;

wash down and cleaning of equipment;

placement of fill;

lighting of fires;

soil level changes;

temporary or permanent installation of utilities and signs, and

physical damage to the tree.

### Tree damage

Any damage to a protected tree shall be reported to the site arborist immediately.

### Post Construction

The Site Arborist shall make a final inspection to assess tree health and condition.