



# Arboricultural Impact Assessment

35 Wesley Street, Elanora Heights  
Proposed Residential Development  
Prepared for Josh and Deborah Shein

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by

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## Executive Summary

This Arboricultural Impact Assessment (AIA) report has been prepared for Josh and Deborah Shein, to assist in the assessment of a Development Application to be submitted to Northern Beaches (formerly Pittwater) Council in relation to residential landscape works at 35 Wesley Street, Elanora Heights.

The proposed development consists of construction of a driveway, crossover and layback and hard and soft landscape works including terraced garden beds with retaining walls as shown on the plans by Lone Pine Landscapes.

This report assesses four (4) trees within the property. Details of the species, dimensions, health, and condition of the assessed tree are contained in the **Tree Survey Information Table** (page 4).

In the context of the proposed development, two (2) trees will have encroachments within the Tree Protection Zones (TPZ) and will need tree sensitive design and construction measures to minimise the impacts, as shown on the **Tree Protection Plan** (page 5) and specified in the **Recommendations** (page 7).

The following are the outcomes of the arboricultural impact assessment regarding the trees in the context of the currently proposed works.

- Retain **Trees 1, 2, 3 & 4** by utilising tree sensitive design and construction methods, and tree protection measures.
- Install the driveway and crossover above existing grades, which may result in non-compliant driveway gradients, to avoid damage to tree roots.
- Install new trees from minimum 50L containers, within the property to increase tree canopy, as shown on the Landscape Plans.

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# 1. Introduction

## 1.1 Summary

This Arboricultural Impact Assessment (AIA) report has been prepared for Josh and Deborah Shein, to assist in the assessment of a Development Application to be submitted to Northern Beaches (formerly Pittwater) Council in relation to residential development works at 35 Wesley Street, Elanora Heights. The report is prepared in accordance with Australian Standard *AS4970-2009 – Protection of trees on development sites*.

## 1.2 Purpose

The purpose of this report is to assess the potential impacts of the proposed works on the trees on the site, and detail tree protection measures required for retained trees including tree sensitive design and construction measures.

## 1.3 The Site

The site is a residential block located on the northern side of Wesley Street, and is surrounded by low density residential properties. The property contains a newly constructed single residence with attached garage and landscaped areas containing a mixture of planted exotic and native trees and shrubs.

## 1.4 The Trees

This report assesses four (4) trees within the property. Details of the species, dimensions, health, and condition of the assessed trees are contained in the **Tree Survey Information Table** (page 4).

## 1.5 The Proposed Development

The proposed development consists of construction of a driveway, crossover and layback and hard and soft landscape works including terraced garden beds with retaining walls as shown on the plans by Lone Pine Landscapes.

# 2. Background

## 2.1 Tree Management Controls

*Pittwater Development Control Plan as amended 2018 Section B4.22* applies to any trees over five metres in height, pruning of more than 10 percent of a tree canopy and any vegetation in "bushland". Exempt species, including fruit trees and weed species, and any dead or dying trees or branches that council is satisfied is not required as habitat for native fauna, and activities are listed in the DCP. Trees assessed in this report are subject to the DCP.

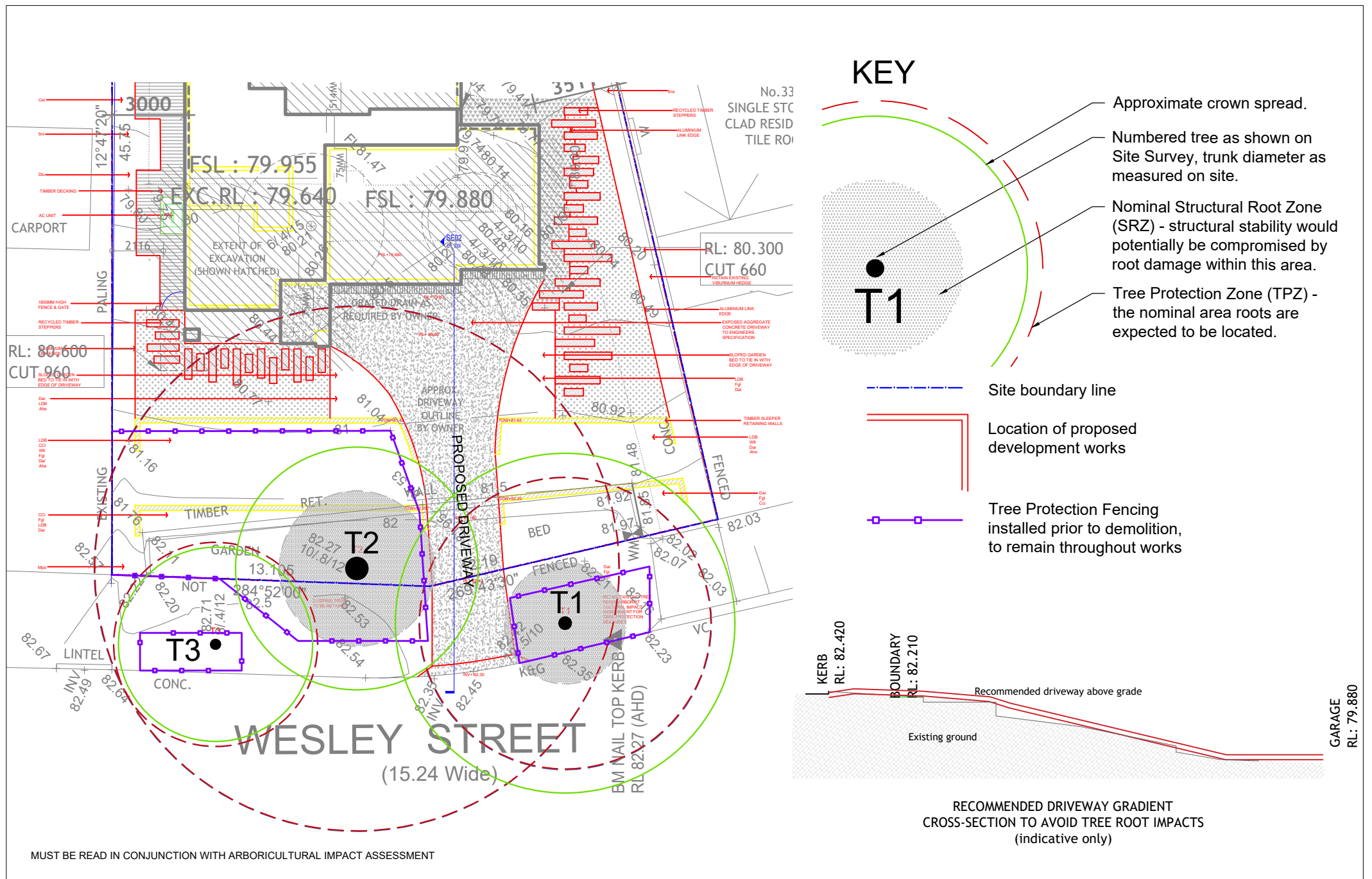
## 2.2 Reference Documents

The following documents were referred to in the preparation of this report:

- Survey Plan: *Landscape Concept Plan*, Lone Pine Landscapes, Project No. LPL\_1113, Drawing Nos. LPL\_0001 - LPL\_0004, Rev. C, 14.05.19.
- Ground Floor Plan, Allcastle Homes, Job No. 5473, Sheet No. 2, 28.03.18.
- Landscape Plan Set, Lone Pine Landscapes, Project No. LPL\_1113, Drawing Nos. LPL\_0002 & LPL\_0004, Rev. D, 04.07.19.
- Australian Standard *AS4373-2007 Pruning of amenity trees*.
- Australian Standard *AS4970-2009 Protection of trees on development sites*.
- *Pittwater Development Control Plan 2018 Section B4.22 Preservation of Trees and Bushland Vegetation*.
- Pittwater Local Environmental Plan 2014.
- *State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017*.

Tree No.	Botanical & Common Name	Height	Spread	DBH (mm)	DRB (mm)	Age	Health	Condition	ULE	Significance	Amenity Value	Ecological Value	SRZ	TPZ	Site Notes	Development Encroachment	Development Impact
1	<i>Eucalyptus scoparia</i> Wallangarra White Gum	15	14	500	500	M	Av	Av	M	M-H	H	M	2.5	6.0	Large 200Ø branch pruned road side @1.2m. Insect damage, wounds on trunk. Mechanical wound on branch N side. Epicormics. Small amount of tip dieback.	19%	Major encroachment in TPZ & SRZ from proposed driveway crossover. Minimise width of driveway and install above existing grades.
2	<i>Lophostemon confertus</i> Brush Box	14	10	900	900	M	G	G	M-L	H	H	M	3.2	10.8	Broad dense crown. Small deadwood. Ivy on trunk. Possibly wire around stem? with live wood growing over.	34%	Major encroachment in TPZ & SRZ from proposed driveway crossover. Minimise width of driveway and install above existing grades.
3	<i>Eucalyptus haemastoma</i> Scribbly Gum	14	8	350	400	M	G-Av	G	L	M-H	M-H	M	2.3	4.2	Skew away from T2. Small to moderate deadwood. Possum scratches on trunk.	0%	No impact.
4	<i>Araucaria heterophylla</i> Norfolk Island Pine	20	14	500	600	M	G	G	L	H	H	M	2.7	6.0	Neighbouring property - approximately 4m from fence.	0%	No impact.

Key: Height (in metres) ; Spread (crown spread in metres) ; DBH (Diameter at Breast Height / 1.4m) in millimetres ; DRB (Diameter above Root Buttress) in millimetres ; Age (Semi-mature, Mature, Overmature, or Senescent) ; Health (Good, Average or Poor) ; Condition (Good, Average or Poor) ; Useful Life Expectancy (ULE) (Short, Medium or Long) ; Significance (High, Medium or Low) ; Amenity Value (High, Medium or Low) ; Ecological Value (High, Medium or Low) ; SRZ (Structural Root Zone) in metres ; TPZ (Tree Protection Zone) in metres



REV	DESCRIPTION	DRAWN	DATE	SYDNEY				35 WESLEY STREET, ELANORA HEIGHTS				TREE PROTECTION PLAN			
A	PRELIMINARY SITE ANALYSIS - TREE IMPACT PLAN - FOR COORDINATION	JB	20-06-19	Email: jacki@newleaftrees.com.au Web: www.newleaftrees.com.au				PROJECT: PROPOSED LANDSCAPE DEVELOPMENT				SCALE: 1:200 @ A4			
B	ARBORICULTURAL IMPACT ASSESSMENT - TREE PROTECTION PLAN - FOR REPORT	JB	16-07-19	JACKI BROWN, B.A., Dip. Hort. (Arb) Accredited Member of the Institute of Australian Consulting Arboriculturists Member of the International Society of Arboriculture				CLIENT: JOSH & DEBORAH SHEIN				DATE: 16-07-19			

## 5. Tree Assessment Methodology

### 5.1 Limitations and Assumptions

The recommendations in this report rely on the provided information, including architectural plans and documents, limited to those listed in **2.2 Reference Documents**.

Care has been taken to obtain all information from reliable sources; however the author makes no representations, guarantees or warranties as to the accuracy of information provided by others. Similarly, no warranties are made as to the accuracy or completeness of any reproduction of this report. This report is only valid in its entirety and for the purpose for which it was prepared.

Conditions on the site may change after the tree assessment. Liability will not be accepted for damage or injury as a result of unforeseeable events or natural processes.

This report does not constitute or include a tree risk assessment. Where defects are noted, these are recommended for further investigation where warranted. Other tree defects may be present which have not been noted.

### 5.2 Tree Assessment

Visual tree assessment was carried out by Jacki Brown, Arboricultural Consultant in June 2019. The tree inspection was limited to a visual assessment from ground level, without excavation, coring, drilling, climbing or other testing. Trunk diameters were measured using a standard tape measure, crown spreads were paced out on site, and tree heights were estimated by eye.

The Arboricultural Impact Assessment utilises the Australian Standard *AS4970-2009 Protection of trees on development sites*.

### 5.3 Tree Survey Data

Refer to the [Tree Survey Information Table](#) (page 4).

**Useful Life Expectancy (ULE)** ratings are given for each tree, of either Long (40+ years), Medium (15-40 years), Short (5-15 years) or Remove (less than 5 years). The ratings are estimates based on the assessed health, condition and structure of each tree at the time of assessment, in its specific location. The ratings are not static, and may be revised during future assessments if conditions change.

**Significance** ratings are given for each tree, based on their Amenity Value, Ecological Value, size and location. While High significance trees provide substantial values to their surroundings, Low and Medium significance trees also contribute to the Urban Forest and in many cases may grow to become High significance trees, given the opportunity.

An **Ecological Value** rating of High, Medium or Low has been assigned to each tree, based on the species and potential habitat values, however this should not be taken as ecological advice.



## 6. Observations and Discussion

### 6.1 Trees with Major Encroachment from the Proposed Development

#### High Significance Tree Proposed to be Retained

One (1) large sized *Lophostemon confertus* (Brush Box) tree (**Tree 2**) is located near the front boundary within the property, and has the proposed driveway and crossover within its TPZ. This tree is in good health and condition, with a Medium to Long Useful Life Expectancy, and should be retained. The proposed works will be a major (34%) encroachment within the TPZ. Due to the slope of the land down to the garage, the driveway gradients (if compliant with engineering requirements) would involve excavation within the TPZ including at the edge of the Structural Root Zone (SRZ). The area within the TPZ approximately 2-3m from the house footprint has been excavated as part of the development of the house construction, which is estimated to have been a 4% encroachment into the TPZ.

#### Medium to High Significance Tree Proposed to be Retained

One (1) large sized *Eucalyptus scoparia* (Wallangarra White Gum) tree (**Tree 1**) is located in the Council nature strip in front of the property, and has the proposed driveway and crossover within its TPZ. This tree is in average health and condition, with a Medium Useful Life Expectancy, and should be retained. The proposed works will be a major (19%) encroachment within the TPZ. Due to the slope of the land down to the garage, the driveway gradients (if compliant with engineering requirements) would involve excavation within the TPZ including at the edge of the Structural Root Zone (SRZ).

#### Conclusion

It is recommended that the gradient of the driveway be adjusted so that the driveway and crossover are installed above existing soil levels in the TPZ of **Trees 1 and 2** to avoid disturbance and damage to the underlying tree roots. It is expected that tree roots will be found at shallow soil depths due to the shallow rock observed on site. If the driveway gradients cannot be adjusted to avoid excavation, then root investigation should be carried out prior to bulk excavation for the driveway and crossover, to determine the location of any roots of 50mm diameter or greater, and allow for localised raising or ramping of the driveway over tree roots. The root investigation should be done by hand tools and with Project Arborist involvement, to ensure that root damage doesn't result from the digging.

### 6.2 Trees with no Encroachments from the Proposed Development

Two (2) large trees (**Trees 3 & 4**) are located in positions that will not be impacted by the proposed landscape works. Tree 3 is located at the western end of the nature strip. Provided than minimal disturbance within the boundary garden bed occurs, the impact to this tree will be minimal. Tree 4 is located in the western neighbouring property, and its TPZ area is outside the subject property, so the proposed works will not impact this tree.



## 7. Recommendations

### 7.1 Tree Sensitive Design and Construction Measures

- Install the driveway and crossover above existing soil levels (including subbase layers) where it passes through the TPZ of **Trees 1 & 2** to minimise soil disturbance and root damage.
- Root investigation if the driveway gradient cannot be adjusted to avoid excavation - utilise non-destructive root mapping, with Project Arborist on site, to determine the size, location, orientation and depth of roots, to allow for further assessment of the extent of root damage which would result from the works, and measures to minimise the damage, such as locally ramping or raising the driveway over roots of 50mm diameter or greater.
- Minimise excavation for landscape works including retaining walls and planting. Carry out any excavation in TPZ areas with tree sensitive methods, and avoid damage or pruning of roots of 50mm diameter or greater. Retain smaller roots wherever possible. Relocate planting locations in cases where tree roots are located within the planting hole.
- Shrubs and trees planted within TPZ areas should be maximum 200mm container sizes, groundcovers should be maximum 150mm container sizes.

### 7.2 Tree Protection

- Install tree protection fencing around **Trees 1, 2 & 3** as shown on the Tree Protection Plan. Ground protection will be required where any area of the TPZ cannot be fenced.
- Engage a Project Arborist to advise on the root mapping assessment, tree protection measures, and any other tree requirements during the project.

### 7.3 Replacement Tree Planting

- Install new tree planting from minimum 50L containers, in suitably prepared and improved site soil within the property to increase tree canopy on site, as shown on the landscape plans. Trees should be high quality nursery grown plant stock and planted by persons with horticultural qualifications. The trees should be maintained to maturity.
- Avoid storage and dumping of materials, and machine and construction access to landscape soil areas to be planted, except where ground protection is installed.

The recommendations of this report do not constitute consent to carry out works. Approval is required in the form of Development Consent to prune or remove trees, as well as the consent of the tree owner where trees are on neighbouring properties.

Further information and clarification can be obtained from the author.



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