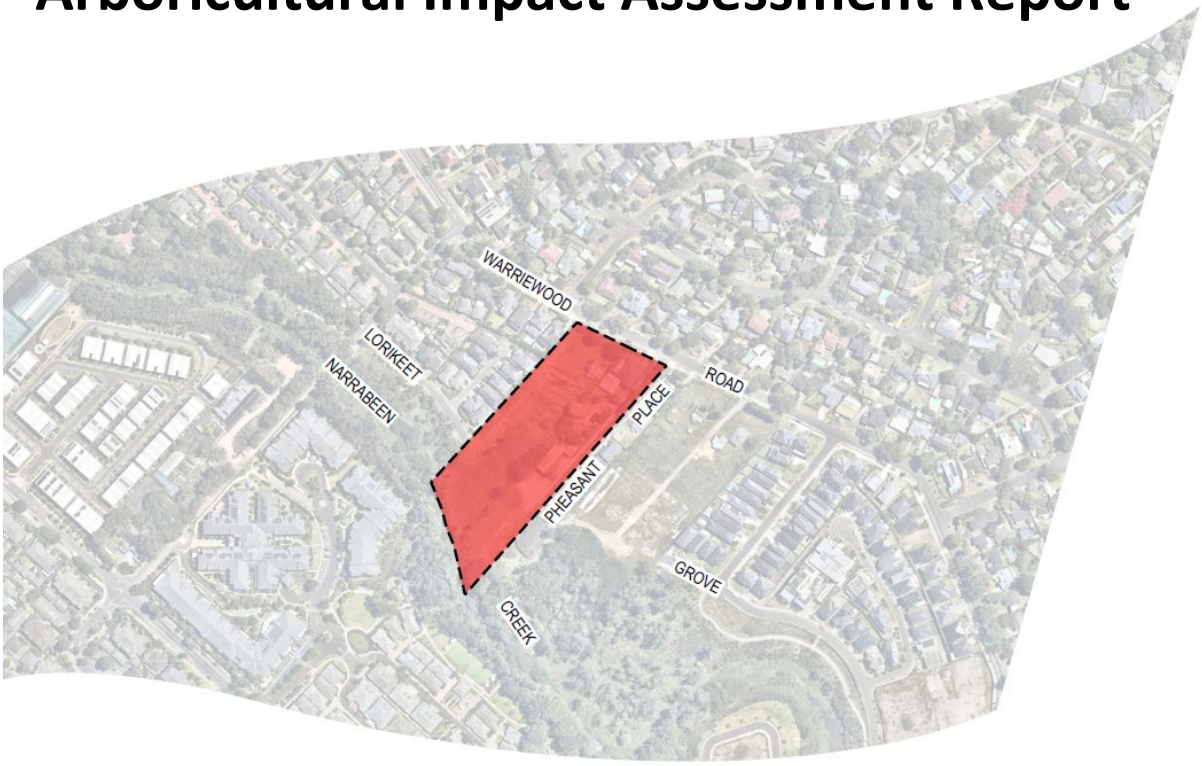
Arboricultural Impact Assessment Report



53A 53B Warriewood Road, Warriewood, NSW, 2102

Prepared for
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Version 3.0

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1.0 CONTENTS

2.0 INTRODUCTION

This report was commissioned by Emily Young of Sekisui House Australia Holdings Pty Ltd to accompany a Development Application for the subdivision of lots located at both 53A and 53B Warriewood Road, Warriewood, NSW, 2102. Version 3.0 addresses impacts to trees based upon updated Civil plans and redacts previous impact assessments made upon individual Lot locations.

The purpose of this report is to assess the current health and condition of individual trees within the site and any tree outside the site (including trees in neighbouring properties, street trees, and park trees) that may be impacted by the proposed development.

The report has been prepared in accordance with the *State Environmental Planning Policy (Biodiversity and Conservation) 2021*, *Pittwater 21 Development Control Plan (DCP)* and the Australian Standards *'AS4970:2009 - Protection of Trees on Development Sites'.*

3.0 METHODOLOGY

An assessment of any tree contained within this report was limited to a visual assessment from ground level. A summary of the findings from the assessment are detailed in the Tree Assessment Schedule appended to this report. Information included in the table which will be relied upon throughout the report and form the basis of the discussions and recommendations includes:

- Species Name
- Height and Spread (metres)
- Diameter at Breast height (DBH)
- Age Class
- Health
- Structure
- Landscape Significance
- Remaining Life Expectancy
- Retention Value
- Tree Protection Zone (TPZ)
- Structural Root Zone (SRZ)

(See Appendix A - Definition and Criteria for further explanation)

The height and canopy spread of each tree was estimated. A metric diameter measuring tape was used to establish the trunk Diameter at Breast Height (DBH) and is recorded in millimetres.

A Smart Phone was used for the purpose of providing photographic evidence which may be cross referenced by persons who have obtained this report for the purpose of reading and analysing the information that has been discussed throughout.

Aerial inspection, root or soil analysis, exploratory root trenching and internal diagnostic testing has not been undertaken.

3.1 Tree Protection Zone and Structural Root Zone

The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) has been calculated in accordance with the *Australian Standard AS 4970-2009, 'Protection of Trees on Development Sites'.*

4.0 SITE DESCRIPTION

The subject sites are residential dwellings currently known as 53A and 53B Warriewood Road, Warriewood, NSW, 2102. The subject sites are irregular in shape and have a combined land size of approximately 1.624ha. The site land is zoned category R3: Medium Density Residential pursuant to the *Pittwater Local Environmental Plan 2014 (pub. 30-5-2014)* and are legally defined as Lots 2 and 3 in Deposited Plan 1115877.

Soil of this area is typical of Watagan Soil Landscape Group (as classified in the Soil Landscapes of the Sydney 1:100,000 Sheet). This consisting of rolling to steep hills on fine-grained Narrabeen Group sediments. Soils are typically shallow to deep (30-200cm) *Lithosols/Silliceous Sands* and *Yellow Podzolic Soils* on sandstones, moderately deep *Brown Podzolic Soils*, *Red Podzolic Soils* and *Greyed Podzolic Soils* on shales.

Figure 1 - Aerial view of subject site (source: SIX Maps)

4.1 Legislation and Planning Controls

Planning Control	Relevant	Not Relevant
Land Zoning	**R3**	
10/50 Vegetation Clearing Entitlement Area		✓
Acid Sulfate Soils	**Class 4**	
Foreshore Building Line		✓
Flood Prone Land		✓
Heritage Conservation Area		✓
Heritage Listed Site		✓
Terrestrial Biodiversity	✓	

5.0 OBSERVATIONS

5.1 Trees

A total of 49 trees or groupings of trees were inspected on Saturday the 13th of April at 7:00am. The general health and structural condition of the trees has been assessed as ranging from good to poor. Individual assessment findings are detailed in Appendix C - Tree Assessment Schedule.

5.2 Tree Significance

Determined by an assessment of the cultural, environmental and aesthetic value of individual trees - Appendix B, the following Landscape Significance findings were made for the 49 assessed trees.

Significance Scale:
1 – High
2 – Medium
3 – Low
4 - Insignificant

Significance	High	Medium	Low	Insignificant
Tree Number	6	11, 24, 34, 37, 38, 40, 41, 43, 45, 47 & 48	1, 2, 3, 7, 8, 10, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 39, 42, 44, 46 & 49	4, 5, 9 & 16

5.3 Tree Retention Values

Determined by combining the Useful Life Expectancy and Landscape Significance Rating into the Retention Value Matrix - Appendix B, the following Retention Values were given for the 49 assessed trees.

Retention Value
High – Priority for Retention
Medium – Consider for Retention
Low – Consider for Removal

Retention Value	High	Medium	Low
Tree Number	6	11, 24, 34*, 37, 38, 40, 41, 43, 45*, 47 & 48	1*, 2, 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36, 39, 42, 44*, 46 & 49

*Trees within neighbouring property should be retained and protected regardless of retention value

6.0 THE PROPOSAL

The proposed development includes:

- Subdivision of existing land into multiple lots

The following plans have been reviewed:

Dwg No.	Revision	Plan Name	Date	Prepared by
434-20	-	Detail Survey Sheet 1 of 2	02/01/2021	Craig & Rhodes
434-20	-	Detail Survey Sheet 2 of 2	02/01/2021	Craig & Rhodes
C01.01	1	Drawing Schedule	1/07/2024	Enspire
C01.21	1	Specification Notes	28/06/2024	Enspire
C01.41	2	General Arrangement Plan	1/07/2024	Enspire
C02.01	3	Demolition Plan	1/07/2024	Enspire
C03.01	2	Erosion and Sedimentation Control Plan	1/07/2024	Enspire
C03.21	1	Erosion and Sediment Control Details	28/06/2024	Enspire
C04.01	2	Bulk Earthworks Cut and Fill Plan	1/07/2024	Enspire
C04.21	1	Bulk Earthworks Cut and Fill Sections Sheet 01	28/06/2024	Enspire
C04.22	1	Bulk Earthworks Cut and Fill Sections Sheet 02	28/06/2024	Enspire
C05.01	3	Siteworks and Stormwater Management Plan Sheet 01	06/05/2024	Enspire
C05.02	4	Siteworks and Stormwater Management Plan Sheet 02	06/05/2024	Enspire
C06.01	1	Road Typical Cross Sections	01/07/2024	Enspire
C07.01	1	Road Longitudinal Sections	R.I.P	Enspire
C11.01	2	Pavement, Signage and Linemarking Plan	01/07/2024	Enspire
C13.01	2	Site Sections	01/07/2024	Enspire
C14.01	1	Siteworks Details	01/07/2024	Enspire
C20.01	1	Pre-Development Catchment Plan	28/06/2024	Enspire
C21.01	1	Post-Development Catchment Plan	01/07/2024	Enspire
C22.01	1	Turning Path Plan Sheet 01	01/07/2024	Enspire
C22.02	1	Turning Path Plan Sheet 02	01/07/2024	Enspire
C22.03	1	Turning Path Plan Sheet 03	01/07/2024	Enspire
C22.04	1	Turning Path Plan Sheet 04	01/07/2024	Enspire

7.0 TREE PROTECTION STANDARDS

This report adopts the Australian Standard *'AS4970-2009, Protection of Trees on Development Sites'* as a point of reference and guide for the recommended minimum setbacks from the centre of a tree's trunk to development works.

7.1 Tree Protection Zone (TPZ)

The Tree Protection Zone (TPZ) is a radial distance measured from the centre of the tree trunk at 1.4 metres in height and are specified for each tree in Appendix D – Tree Impact Schedule. These have been calculated in accordance with *'AS4970-2009 - Protection of Trees on Development Sites'*

The purpose of the TPZ is to ensure the tree's root area and crown area are protected during construction works. It is an area that is to be isolated from construction disturbances such as excavation, level changes, ripping of soil, trenching and movement of construction machinery, so that the tree remains viable into the future.

7.2 Structural Root Zone (SRZ)

The Structural Root Zone is an area which provides a trees structural stability. This is a radial distance calculated by formula (D x 50) 0.42 x 0.64. An SRZ should not be less than 1.5 metres.

This area should be completely restricted from construction activities unless clearly demonstrated that the works will not adversely impact on a trees stability or viability.

7.3 Incursion into TPZ

Encroachments into a TPZ may be possible where it is assessed by a suitable qualified AQF Level 5 Arborist and deemed to be acceptable without being detrimental to the ongoing vigour of a tree.

- Minor Encroachment of 10% or less of the TPZ area and outside of the Structural Root Zone (SRZ) is generally considered acceptable. However, the area lost should be compensated for elsewhere and only be restricted to one side of the tree. Other factor such as health, condition, age, species type and tolerance to disturbance, as well as lean and stability must also be considered when establishing if the encroachment is acceptable and won't adversely impact on the tree.

- Major Encroachment of more than 10% of the TPZ area will require detailed investigation to establish if the tree will remain viable. Such investigation should involve either root investigation or consideration of health, condition, age, species type and tolerance to disturbance, lean and stability.

8.0 IMPACT ASSESSMENT

8.1 Site Trees TPZ and SRZ Calculations

The following TPZ and SRZ calculations have been made for all trees captured within *Appendix C – Tree Assessment Schedule* that are not listed as exempt. The encroachment into the TPZ of each tree has been nominated as either 'No Incursion', 'Minor', 'Major' or 'Within Footprint' based on the above criteria:

Tree No.	TPZ	SRZ	Incursion
1	2.0m	1.5m	Minor Encroachment
2	3.96m	2.08m	Within Footprint
5	3.96m	2.08m	Within Footprint
6	8.28m	3.08m	Within Footprint
7	2.0m	1.5m	Within Footprint
11	11.76m	3.48m	Within Footprint
12	2.0	1.85	Within Footprint
16	3.6m	2.0m	Within Footprint
18	2.0m	1.5m	Within Footprint
19	3.48m	2.08m	Within Footprint
20	3.48m	1.94m	Within Footprint
21	2.76m	1.97m	Within Footprint

Tree No.	TPZ	SRZ	Incursion
25	3.6m	2.13m	Within Footprint
27	3.6m	2.0m	Within Footprint
28	4.2m	2.13m	Within Footprint
32	3.6m	2.0m	Within Footprint
33	2.4m	1.75m	Within Footprint
34	10.2m	3.17m	No Impact
35	2.4m	1.75m	Within Footprint
37	7.32m	2.85m	Within Footprint
38	6.6m	2.76m	Within Footprint
40	2.76m	1.91m	Within Footprint
41	2.64m	1.75m	Within Footprint
42	2.64m	1.75m	Within Footprint
43	3.6m	2.0m	Within Footprint
44	2.4m	1.68m	No Impact
45	10.2m	3.17m	No Impact
46	N/A	N/A	No Impact
47	2.4m	1.68m	No Impact
48	9.6m	3.09m	No Impact
49	3.0m	1.85m	No Impact

8.2 Proposed Development Assessment Findings

Exempt Trees

Within the front and rear yard of the subject sites, there are a mixture of trees that either a) do not exceed 5 metres in height or b) are within the Northern Beaches Council Exempt Species list and as such, under the provisions of the *Pittwater Development Control Plan 2021* are exempt due to their size, species or condition and therefore Council consent is not required for their removal.

Tree's 3, 4, 8, 9, 10, 13, 14, 15, 17, 22, 23, 24, 26, 29, 30, 31, 36 & 39 are all listed as exempt.

Trees within the Footprint

The proposed development will require the removal of twenty-three (23) trees located within the footprint of proposed Civil works in addition to trees already listed as exempt. A total of fifteen (16) trees were noted to exhibit 'Low' Retention Values, six (6) trees were noted to exhibit 'Medium' retention values and one (1) tree was noted to exhibit a 'High' retention value.

The below table shows individual tree identification numbers within the footprint of specified construction activities pertaining to the Civil works and are colour coded by retention values;

	Construction Impact (Within footprint of)			
	Cut & Fill	**Proposed Road**	**Bus Lane**	**Stormwater Line & Batter**
Tree Identification No.	**2, 5, 6, 7, 11, 16, 18, 19, 20, 21, 25, 27, 28, 33 & 38**	**32, 37, 40, 41, 42 & 43**	**12**	**35**
Tree identification numbers recorded in **RED** represent trees of **'Low'** Retention Values				
Tree identification numbers recorded in **BLUE** represent trees of **'Medium'** Retention Values				
Tree identification numbers recorded in **GREEN** represent trees of **'High'** Retention Values				

In addition to the above, Tree's 2, 5 & 16 are recommended for removal irrespective of the development and due to individual Arboricultural reasons. They each exhibit 'Low' Retention Values, refer to *Appendix C: Tree Assessment Schedule* for further detail regarding the Arboricultural condition of trees proposed for removal.

Trees with a Minor Incursion

Tree 1: *Row of small screening shrubs and vegetation* - Retain

Located within neighbouring properties adjoining the sites Western boundary, a number of newly planted screening species spans approximately 100m from Warriewood Road to Lorikeet Grove. Species include *Howea forsteriana, Bamboo sp. Photinia sp.* and other small shrub like plantings.

Diameter of the trees do not exceed the minimum requirement to require TPZ's & SRZ's of greater than 2.0m and 1.5m. Previous construction impact to Tree 1 was calculated as having a maximum of 15.2% if the Western boundary fence was to be replaced. Updated plans show the cut and fill levels having a TPZ encroachment ranging from 6.4 – 8.5%. The encroachment is considered minor and within the acceptable limits as defined within *AS4970.*

Trees with No Incursion

Tree's 34, 44, 45, 46, 47, 48, & 49 are not expected to have their TPZ encroached upon. They are still to be retained and protected in accordance with *AS4970:2009 – Protection of Trees on Development Sites* to avoid accidental damage. Tree 46 (Dense Bushland) may be protected using the same measures and TPZ specifications as Tree 45 as the grouping is set further back from development with all trees having a smaller trunk diameter than that of Tree 45.

9.0 RECOMMENDATIONS

As a result of inspection and assessment of the subject trees, the following recommendations are made;

9.1 Tree Removal

Tree's 3, 4, 8, 9, 10, 13, 14, 15, 17, 22, 23, 24, 26, 29, 30, 31, 36 and 39 are all listed as exempt trees which may be removed without Council consent.

Tree's 2, 5, 6, 7, 11, 12, 16, 18, 19, 20, 21, 25, 27, 28, 32, 33, 35, 37, 38, 40, 41, 42 and 43 are located within the proposed development footprint and will require removal to facilitate the civil works.

Tree's 2, 5 and 16 are in a health or condition that warrants their removal based upon Arboricultural reasons irrespective of development.

9.2 Tree Retention

Tree's 1, 34, 44, 45, 46, 47, 48 and 49 are recommended for retention and are to be protected in accordance with the Australian Standards *AS4970:2009 – Protection of Trees on Development Sites* & *Appendix B: Tree Protection (Generic)* of this report.

Should you require any further information in relation to this report, please contact our office on:
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Regards,

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10.0 LIMITATION OF LIABILITY

The Tree Guardian Arboricultural Consultants are tree specialists who use their qualifications, education, knowledge, training, diagnostic tools and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of this assessment and report.

The Tree Guardian cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways the arboriculture industry does not fully understand. Conditions are often hidden within trees and below ground. Unless otherwise stated, observations have been visually assessed from ground level. The Tree Guardian cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments cannot be guaranteed.

Treatment, pruning and removal of trees may involve considerations beyond the scope of The Tree Guardian's services, such as property boundaries and ownership, disputes between neighbours, sight lines, landlord-tenant matters, and related incidents. The Tree Guardian cannot take such issues into account unless complete and accurate information is given prior or at the time of the site inspection. Likewise The Tree Guardian cannot accept responsibility for the authorisation or non-authorisation of any recommended treatment or remedial measures undertaken.

In the event that The Tree Guardian recommends retesting or inspection of trees at stated intervals these works must be carried out within the designated time frame. It is the client's responsibility to make arrangements with The Tree Guardian to conduct the re-inspection. Trees can be managed, but they cannot be controlled. To live or work near a tree involves a degree of risk. There is no warranty or guarantee, either expressed or implied by The Tree Guardian, that problems or deficiencies of the subject trees may not arise at a future time.

Trees are living entities. As such, their health may alter, they will grow and their environmental circumstances may change from the time of the site inspection upon which this report is based. For this reason, this report has a maximum validity time of 1 year from the date of being written. Should there be any alteration to the site, the tree or the trees immediate environment from those current at the time of the site inspection, upon which this report is based, the report will become invalid immediately.

All written reports must be read in their entirety, at no time shall part of the written assessment be referred to unless taken in full context of the whole written report. This report remains the intellectual property of The Tree Guardian. It has been issued to the identified client for the specified and agreed purpose only. Use of this report for any other purpose or by any other individual or company must have the written consent of The Tree Guardian PRIOR to that use. Failure to obtain such consent is deemed a breach of copyright and will result in legal action being undertaken against all parties involved. If this written report is to be used in a court of law or any legal situation The Tree Guardian must be advised in writing prior to the written assessment being presented in any form to any other party.

Care has been taken to obtain information from reliable sources. All data has been verified wherever possible however, The Tree Guardian can neither guarantee nor be responsible for the accuracy of information provided by others.

References and Bibliography

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- 'Eucalypts of the Sydney Region' Van Klaphake, Third edition 2012
- Code of Practice - Amenity Tree Industry, 1998.
- J. Dunster ISA, 2017, Tree Risk Assessment Manual, 2nd ed, Illinois.
- *State Environmental Planning Policy (Biodiversity and Conservation) 2021*
- *AS 4970:2009 - Protection of Trees on Development Sites*
- *AS 4373:2007 - Pruning of Amenity Trees,*
- *AS 2303:2018 - Tree Stock for Landscape Use*

APPENDIX A – DEFINITIONS AND CRITERIA

Tree ID No A unique identification number assigned to a particular tree and used to identify it throughout the report.

Common Name The name in common use and accepted by most persons for that particular species.

Botanical Name The taxonomic name, expressed in binomial nomenclature, derived from visual identification features and visible from ground level or specimen collection.

Height (m) The visually estimated height of the tree in metres.

Width N/S = North to South; **E/W** = East to West. The visually estimated maximum width of the canopy in that direction in metres.

Ø (m) Diameter at Breast Height (DBH) measured at 1.4m above ground, unless otherwise noted, as outlined in AS 4970 – 2009.

Ø @ Base (m) Diameter at Base measured above the root flares and below the DBH as outlined in AS4970-2009.

Health Good (G) – In good, health with no significant health issues visible. Fair (F) – Some health issues which could be addressed by intervention. Poor (P) – Significant health issues that could be addressed by intervention. Very Poor (VP)- Significant health issues which are unlikely to be addressed by intervention. Senescent (S) – Tree has entered a cycle of decline from where it is unlikely to recover regardless of intervention.

Structure Good (G)– No visible defects within the structure of the tree. Fair (F) – Minor visible defects within the structure of the tree relative to the species. Poor (P) - Major visible defects within the structure of the tree relative to the species. Very Poor (VP) - Significant visible defects within the structure of the tree relative to the species.

Form Good (G) – A specimen that has attained its full genetic potential and with no physical or environmental impediments to growth. Fair (F) – A specimen that has generally attained its genetic potential and with some minor physical or environmental impediments to growth. Poor (P) – A specimen that has attained some of its genetic potential and with significant physical or environmental impediments to growth. Very Poor (VP) - A specimen that has not attained any of its full genetic potential due to major physical or environmental impediments to growth.

Age Y = Young – young tree that is yet to establish. SM = Semi-mature – an established tree but one that has not attained its full genetic potential for size and/or form. M = Mature – a tree that has attained its full genetic potential in size and/or form. OM= Over Mature – a tree that is no longer capable of further growth and/or has entered a cycle of decline.

Canopy Cover A visual estimation, expressed as a percentage, of the canopy present as compared to a specimen which has attained its full genetic potential and with no physical or environmental impediments to growth.

Foliage Density A visual estimation, and expressed as a percentage, of the level of foliage density present as compared to a specimen which has attained its full genetic potential and with no physical or environmental impediments to growth.

Tree Protection Zone (TPZ) A defined, radial area within which certain activities are prohibited or restricted to prevent or minimise potential injury to designated trees. Calculated using the formula outlined in AS4970-2009.

Encroachments into a TPZ may be possible where it is assessed by a suitable qualified Arborist and deemed to be acceptable without being detrimental to the ongoing vigour of a tree.

A Minor Encroachment of 10% or less of the TPZ area and outside of the Structural Root Zone (SRZ) is generally considered acceptable. However the area lost should be compensated for elsewhere and only be restricted to one side of the tree. Other factor such as health, condition, age, species type and tolerance to disturbance, lean and stability must also be considered when establishing if the encroachment is acceptable and won't adversely impact on the tree.

A Major Encroachment of more than 10% of the TPZ area will require detailed investigation to establish if the tree will remain viable. Such investigation should involve root investigation and consideration of health, condition, age, species type and tolerance to disturbance, lean and stability.

Structural Root Zone (SRZ) A radial area of soil around a tree where the majority of the structural roots are located and in which encroachment or activity is prohibited to prevent or minimise the potential for destabalisation of designated trees. Calculated using the formula outlined in AS4970-2009.

Useful Life Expectancy (ULE): A useful life expectancy has been determined for individual trees based on an assessment of current estimated age, species characteristics and potential life span, any known impacts, level of impact that the proposed development will have on the tree, species tolerance to development impacts. The ratings are:

Long – 40 years +
Medium – 15-40 years
Short – 5-15 years
Transient – less than 5 years
Dead or hazardous (defective or unstable)

This rating has been determined based an assessment of the tree at the time of inspection and any information made available during the assessment. Unknown impacts or adverse actions following initial inspection of individual trees do not form part of the final ratings.

Landscape Significance Rating: The Landscape Significance has been determined by an assessment of the cultural, environmental and aesthetic value of individual trees. This location, amenity, visual prominence, habitat value and species type are also considered when determining the landscape significance of individual trees.

The following criteria is used when determining the Landscape Significance Rating. This rating aids with determining the Retention Value.

Landscape Significance	Description
Very High	The subject tree is listed or forms part of the description of an item listed in the NSW Heritage Act
	The subject tree is listed as or forms part of the description of a Heritage Item under the Council's Local Environmental Plan
	The subject tree is listed in Council's Register of Significant Trees
	The subject tree is remnant
High	The subject tree is considered a land mark
	The subject tree is considered to be of local, cultural or historical importance
	The subject tree forms part of an Ecological Community associated with the site as defined by the provisions of the Threatened Species Conservation Act 1995 (NSW) or the Environmental Protection and Biodiversity Conservation Act 1999.
	The subject tree has been identified as providing habitat value to a threatened or protected species.
	The subject tree is visually prominent and provides a positive contribution to the amenity and aesthetics of the area.
	The subject tree is an excellent representative of the species in terms of health, structure and form
	The subject tree is of large /dominate dimensions (height and canopy spread) and provides a positive contribution to the canopy cover of the area.
Medium	The subject tree provides a positive contribution to the amenity and biodiversity of the immediate area
	The subject tree provides a positive contribution to the visual appearance of the area
	The subject tree is a screening element, visual and/or noise buffer
	The subject tree provides present habitat value
	The subject tree represents the species in a positive manner in term of health, structure and form.
Low	The subject tree is not protected by the provisions of Council's Development Control Plan as it is less than the proscribed height or is a species listed as exempt
	The subject tree is a species considered as being an environmental weed
	The subject tree provides little to no value to the amenity or aesthetics of the area
	The subject tree is structurally unsound or poor health which cannot be improved.
Insignificant	The tree is declared a Noxious Weeds under the Noxious Weeds Act 1993
	The tree is dead

*The above has been modified from the Tree iQ Criteria for Landscape Significance

Tree Retention Rating: The Retention Value has been allocated to individual trees by combining the Useful Life Expectancy and Landscape Significance Rating into the Matrix below to give a Retention Value of High, Medium or Low.

Useful Life Expectancy	LANDSCAPE SIGNIFICANCE				
	Very High	High	Medium	Low	Insignificant
Long					
Medium					
Short					
Transient					
Dead/Hazard					

High: Warrants retention and major design consideration (modification of footings, building alignment etc)

Medium: Warrants retention and minor design consideration (effort should be made to retain these trees wherever possible).

Low: These trees should not be considered to be a constraint to design layout. These trees should be removed irrespective of any proposed development.

APPENDIX B – TREE PROTECTION (GENERIC)

TREE PROTECTION

All trees, other than those indicated on the drawings to be removed, shall be protected at all times during construction in accordance with the Australian Standard 4970 - 2009 *Protection of Trees on Development Sites.*

All works shall be undertaken in accordance with the Tree Protection Plan and the following tree protection specifications, unless otherwise directed by the Principal's representative or the appointed Project Arborist.

PROJECT ARBORIST

A Project Arborist, with minimum AQF Level 5 qualifications, shall be appointed prior to the commencement of any construction activities. The Project Arborist will be responsible for specifying, monitoring and certification of all tree protection measures for any activities proposed around existing trees located within the limit of the construction.

The Contractor shall provide site access to the Project Arborist at all times. The Project Arborist may provide advice on the existing trees, however all communications will be formalised between the Contractor and the Principal's representative.

SITE INDUCTION

The Principal's Representative, Project Arborist, Contractor and any other persons required to work within the Tree Protection Zone (TPZ) of any trees shall attend a site induction meeting before any machinery or materials are brought onto the site and before the commencement of any site works including demolition, earthworks or site clearing.

The Tree Protection Measures, including the location of tree protection fencing, site sheds, stockpile areas, temporary access roads, sediment control devices and any drainage works shall be confirmed during the site induction meeting.

The site induction will highlight the requirements to protect the trees within the site, the type of actions that could lead to potential damage and the penalties imposed by Council for breach of the tree protection measures.

TREE PROTECTION FENCING

Prior to the commencement of any construction activities, install a Tree Protection Fence around individual trees or group of trees at the nominated TPZ distances specified on the Tree Protection Plan. Where TPZ merge together a single fence encompassing a group of trees is suitable. The fencing shall define and restrict entry into the TPZ. The fencing shall conform to the following:

- Fencing shall be a minimum of 1.8m steel galvanised chain wire fencing with lockable gates to AS 1725 and clad with shade cloth to prevent wind-blown debris entering the TPZ;
- The fencing shall be set / fixed into concrete blocks. The fencing must not be secured with posts driven into the ground;
- The area within the TPZ fencing shall be kept free of weeds and grass for the duration of project;
- Mulch shall be installed and maintained to a depth of 75mm for the duration of project

The TPZ fencing shall be erected by the Contractor and approved by the Project Arborist before any machinery or materials are brought onto the site and before the commencement of any works including demolition.

TPZ SIGNAGE

A sign (600mm x 400mm) identifying the name and contact details of the Project Arborist shall be attached to the protective fencing of each TPZ. Below is a sample signage for use:

PROHIBITED ACTIVITIES

The following activities are prohibited within the TPZ;

- Excavation, trenching (unless approved by and under the direct supervision of the Project Arborist)
- Ripping and cultivation
- Mechanical removal of vegetation
- Soil disturbance or movement of natural rock
- Soil changes including placement of fill (unless approved by and under the supervision of the Project Arborist)
- Movement and storage of plant, equipment and vehicles including machinery washing, repairs and refuelling
- Erection of site offices or sheds including portable toilets
- Affixing of signage or hoardings to trees
- Stockpiling, storage and mixing of materials including storage of waste materials, disposal of waste materials and chemicals including paint, solvents, cement slurry, fuel, oil and any other toxic liquids
- Physical damage to canopies, trunk or root systems
- Any activity likely to cause damage to any tree

TREE TRUNK PROTECTION

Trunk protection will be required where works have been approved within the TPZ. As a minimum, the trunk protection shall consist of wrapping of trunks with hessian and two-metre lengths of hardwood timber planks (100 x 50mm) spaced at 100-150mm intervals strapped around the trunk and secured with 2mm galvanised wire. The hessian and timber planks must not be fixed to the tree in any fashion or in any instance.

GROUND PROTECTION

Ground protection must be installed within the TPZ in the event that temporary access for machinery is required and has been approved by the Project Arborist. The ground protection is required to prevent root damage and soil compaction from occurring within the TPZ.

The ground protection shall include a permeable membrane such as geotextile fabric beneath a 100mm layer of mulch below rumble boards of a suitable thickness to prevent soil compaction and root damage from occurring during the movement of any machinery within the TPZ.

EXCAVATIONS WITHIN TPZ

Any excavations undertaken within the TPZ which have been approved by the Project Arborist shall be undertaken using non-destructive methods (such as by hand or with an Airspade) to ensure no tree roots greater than 40mm diameter are damaged, pruned or removed.

In the event that any roots greater than 40mm diameter are located during excavation, further advice shall be obtained by the Project Arborist before further works continues where the root has been identified.

Root pruning must not be undertaken without prior approval from the Project Arborist.

CANOPY AND/OR ROOT PRUNING

Care shall be taken when operating heavy machinery near trees to avoid damage to tree canopies

(foliage and branches). The Project Arborist shall be contacted if there is potential conflict between tree canopies and construction activities (including machinery).

Any canopy or root pruning required shall be undertaken in accordance with AS 4373-2007 *Pruning of Amenity Trees,* under the direct supervision of the Project Arborist.

Where root pruning is required, roots shall be severed at the face of the excavation by hand using clean, sharp pruning implements. All excavations within the TPZ of any tree/s shall be undertaken under the supervision of the Project Arborist.

TREE ROOT PROTECTION

Temporary root protection, including hessian or similar biodegradable material, shall be installed under the supervision of the Project Arborist to prevent roots from drying out, where roots are exposed during demolition or construction works.

SERVICES

Where trenching works are required for any services / hydraulics / drainage etc. this shall not be undertaken within any TPZ. The Project Arborist shall be contacted if any works are required within the TPZ.

Alternative installation methods for services, such as directional boring/drilling, or redirection of services shall be employed where large woody roots greater than 50mm diameter are encountered during the installation of any services adjacent to the specified TPZ.

TREE DAMAGE

In the event that any tree is damaged during construction, the Project Arborist shall be notified as soon as possible to inspect and provide advice for remedial action that may minimise any adverse impact.

EXAMPLE FENCING, PROTECTION AND SIGNAGE:

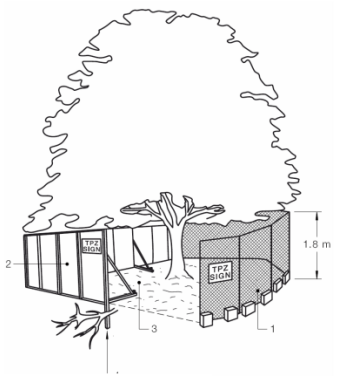


Figure 2 – Protective Fencing

Figure 3 - Tree Protection Zone Signage

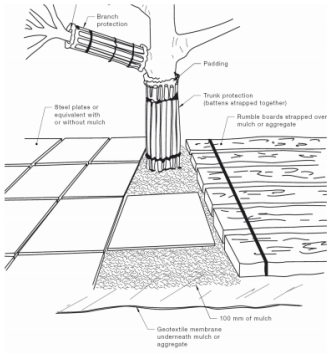


Figure 4 - Trunk, Branch & Ground Protection

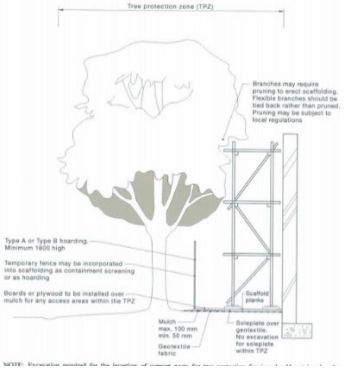


Figure 5 - Indicative Scaffolding within a TPZ

APPENDIX C – TREE ASSESSMENT SCHEDULE

Tree No.	Species Name	Height (m)	Spread (m)	DBH (mm)	DARB (mm)	Age	Health	Structure	Form	Comments
1	*Row of small screening shrubs and vegetation*	< 4	100 x 2	Min	Min	SM	Good	Good	Good	Limited VTA, hedge along Western boundary approx. 100m long.
2	*Acacia sp.*	7	4 x 4	330 @base	330	M	Fair / Poor	Fair	Fair / Poor	In decline.
3	*Acacia sp.*	4	2 x 2	140 @base	140	M	Fair	Fair	Poor	Exempt due to height. Suppressed, asymmetrical to South.
4	*Acacia sp.*	6	4 x 3	360 @base	360	N/A				Tree is dead.
5	*Acacia sp.*	8	5 x 5	330 @base	330	OM	Poor	Fair	Fair	In decline, almost dead.
6	*Eucalyptus saligna x botryoides*	11	13 x 15	690	840	M	Good	Good	Good	Minor epicormic growth, evidence of historic minor snap outs / failures,
7	*Syzygium hedge x 6*	2	1 x 1	120 @base	120	SM	Good	Good / fair	Good / Fair	Hedge.
8	*Palm x 4*	< 3	2 x 2	190 avg.	N/A	M	Good	Good	Good / Fair	Exempt due to species.
9	*Rothmannia globosa*	3	2 x 2	200 @base	300 @base	OM	Very Poor	Poor	Poor	Exempt due to height. Almost dead, structural decay, significantly lopped.
10	*Morus alba*	3	5 x 5	N/A	N/A	M	Fair	Fair / Poor	Fair	Exempt - fruit bearing.

Tree No.	Species Name	Height (m)	Spread (m)	DBH (mm)	DARB (mm)	Age	Health	Structure	Form	Comments
11	*Angophora costata*	15	15 x 18	980	1130	M	Good / Fair	Good	Fair	High amounts of deadwood. Pruned for powerlines – form has been effected. Kino at failed wound at 8m North side. Epicormic growth.
12	*Hibiscus sp.*	2	2 x 2	Min	250	M	Fair	Fair / Poor	Fair / Poor	Within Council nature strip.
13	*Yucca sp.*	3	1 x 1	Min	Min	M	Good	Good	Good	Exempt due to height.
14	*Magnolia grandiflora*	< 3	2 x 2	Min	Min	SM	Good	Good	Good	Exempt due to height.
15	*Elaeocarpus reticulatus*	4	2 x 2	Min	Min	SM	Good	Good	Good	Exempt due to height. New planting.
16	*Brachychiton acerifolius*	11	3 x 3	?	?	M	Poor	Very Poor	Very Poor	Strangled by Ivy, tree in decline.
17	*Hedge consisting of various species*	< 8	55 x 4	200 avg.	250 avg.	M	Good / Fair	Fair	Fair / Poor	Various species forming hedge including *Syzygium sp., Callistemon viminalis & × Cupressocyparis leylandii.* All trees are exempt either by species or height.
18	*Elaeocarpus reticulatus*	5	2 x 2	Min	Min	SM	Good	Good	Good	New planting.
19	*Callistemon viminalis*	5	4 x 5	240 160	330	M	Good	Good / Fair	Fair	Codominant.

Tree No.	Species Name	Height (m)	Spread (m)	DBH (mm)	DARB (mm)	Age	Health	Structure	Form	Comments
20	*Callistemon viminalis*	5	4 x 3	230 170	280	M	Good	Fair	Fair / Poor	Lopped, suppressed.
21	*Callistemon viminalis*	5	5 x 4	230	290	M	Good	Fair	Poor	Asymmetrical to West.
22	*Yucca sp.*	4	3 x 3	280	800	OM	Fair / Poor	Fair / Poor	Fair / Poor	Exempt due to height. Lopped, bark delamination, decay, splitting.
23	*Howea forsteriana x 4*	6	3 x 3	170	N/A	M	Good	Good	Good	Exempt due to species.
24	*Ficus benjamina*	11	15 x 12	1000 approx.	1000	M	Good	Good	Good	Exempt due to species.
25	*Hedge consisting of various species*	5	50 x 4	300 avg.	350 avg.	M	Good	Fair	Fair / Poor	Majority of vegetation includes various *Hibiscus* species. L shaped hedge running North to South then East around poor area for privacy screen.
26	*Callistemon viminalis*	3	1 x 1	120	130	SM	Good	Good	Fair	Exempt due to height.
27	*Callistemon viminalis*	5	3 x 4	300 @base	300	M	Good	Fair	Fair / Poor	Codominant from base within hedge.
28	*Callistemon viminalis*	5	5 x 5	350 @base	350	M	Good	Fair	Fair / Poor	Codominant from base within hedge.

Tree No.	Species Name	Height (m)	Spread (m)	DBH (mm)	DARB (mm)	Age	Health	Structure	Form	Comments
29	*Hedge consisting of various species*	< 3	30 x 3	Min	Min	M	Fair	Fair	Fair	Various species including *Murraya paniculata, Lantana, Rothmania globosa* and dead trees. All exempt due to height or species. Hedge East side of swimming pool.
30	*× Cupressocyparis leylandii*	10	6 x 6	350 @base	350	M	Good	Good	Good	Exempt due to species.
31	*Butia capitata*	5	5 x 5	460	N/A	M	Good	Good	Good	Exempt due to species.
32	*Callistemon salignus x 5*	7 – 8	6 x 6 avg.	300 @base	300 approx.	M	Good	Fair	Fair	Limited VTA within dense bushland of over gown shrubs and vines. South of swimming pool, planted for privacy.
33	*Casuarina glauca*	10	5 x 5	200	220	SM	Good	Good	Good	Growing through metal fence. Self-sown.
34	*Eucalyptus robusta*	17	15 x 15	850 approx.	900	M	Good / Fair	Fair	Fair	Limited VTA, dieback and failures. Deadwood and epicormic growth.
35	*Casuarina glauca*	8	4 x 4	200	220	SM	Good / Fair	Good / Fair	Good / Fair	-
36	*Howea forsteriana*	7	4 x 4	180	N/A	SM	Good	Good	Good	Exempt due to species.
37	*Casuarina glauca*	15	10 x 10	610	700	M	Good	Good	Good	-
38	*Casuarina glauca Grouping of 12*	12 – 13	30 x 10	550 avg.	650 avg.	M	Good / fair	Good / fair	Fair	Woodland grouping of approximately 12 individual trees.

Tree No.	Species Name	Height (m)	Spread (m)	DBH (mm)	DARB (mm)	Age	Health	Structure	Form	Comments
39	*Morus alba*	5	7 x 7	210 220	380	M	Fair	Fair / Poor	Fair	Exempt species – fruit bearing.
40	*Allocasuarina littoralis*	8	4 x 4	230	270	SM	Good	Good	Good	-
41	*Casuarina cunninghamiana*	8	4 x 4	220 @base	220	SM	Good	Good	Good	-
42	*Allocasuarina littoralis*	7	4 x 2	220 @base	220	SM	Good	Fair	Poor	Lean to West.
43	*Allocasuarina littoralis*	13	5 x 5	300 @base	300	M	Good	Good	Good	-
44	*Casuarina cunninghamiana*	6	4 x 4	200 @base	200	SM	Good	Good	Good / Fair	Located within neighbouring property 21 Lorikeet Grove. 0.5m Setback, Limited VTA.
45	*Eucalyptus robusta*	13	10 x 10	850 approx.	900	M	Good / Fair	Good / Fair	Fair	Limited VTA.
46	*Dense Bushland*	N/A								Maintain TPZ of Tree 45 to protect.
47	*Allocasuarina littoralis*	6	3 x 3	200	200	SM	Good	Good	Good	-
48	*Eucalyptus robusta*	13	12 x 12	800	850	M	Good / Fair	Good / Fair	Good	Limited VTA.
49	*Allocasuarina littoralis x 2*	9	2 x 2	250	250	SM	Good	Good	Good	Limited VTA.

APPENDIX D – TREE IMPACT SCHEDULE

Tree No.	Species Name	TPZ (m)	SRZ (m)	ULE	Landscape Significance	Retention Value	Proposed Action	Development Impacts
1	*Row of small screening shrubs and vegetation*	2.0	1.5	Medium	Low	Low	Retain	6.4 – 8.5% Minor encroachment from Cut & Fill.
2	*Acacia sp.*	3.96	2.08	Short	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
3	*Acacia sp.*	2.0	1.5	Short	Low	Low	Remove	Exempt due to height. Within footprint of Civil works Cut & Fill.
4	*Acacia sp.*	4.32	2.15	Dead	Insignificant	Low	Remove	Exempt (Dead) - Within footprint of Civil works Cut & Fill.
5	*Acacia sp.*	3.96	2.08	Transient	Insignificant	Low	Remove	Within footprint of Civil works Cut & Fill.
6	*Eucalyptus saligna x botryoides*	8.28	3.08	Long	High	High	Remove	Within footprint of Civil works Cut & Fill. 1.5m Fill within majority of TPZ.
7	*Syzygium hedge x 6*	2.0	1.5	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
8	*Palm x 4*	2.28	N/A	Medium	Low	Low	Remove	Exempt due to species. Within footprint of Civil works Cut & Fill.
9	*Rothmannia globosa*	3.6	2.0	Transient	Insignificant	Low	Remove	Exempt due to height. Within footprint of Civil works Cut & Fill.
10	*Morus alba*	3.6	2.0	Short	Low	Low	Remove	Exempt species – fruit bearing.

Tree No.	Species Name	TPZ (m)	SRZ (m)	ULE	Landscape Significance	Retention Value	Proposed Action	Development Impacts
11	*Angophora costata*	11.76	3.48	Medium	Medium	Medium	Remove	Within footprint of Civil works Cut & Fill.
12	*Hibiscus sp.*	2.0	1.85	Short	Low	Low	Remove	Within footprint of proposed bus lane.
13	*Yucca sp.*	2.0	1.5	Short	Low	Low	Remove	Exempt due to height.
14	*Magnolia grandiflora*	2.0	1.5	Short	Low	Low	Remove	Exempt due to height.
15	*Elaeocarpus reticulatus*	2.0	1.5	Medium	Low	Low	Remove	Exempt due to height.
16	*Brachychiton acerifolius*	3.6	2.0	Transient	Insignificant	Low	Remove	Within footprint of Civil works Cut & Fill – remove for Arboricultural reasons.
17	*Hedge consisting of various species*	2.4	1.85	Medium	Low	Low	Remove	No Impact – Remove all trees listed as exempt species or less than 5m in height.
18	*Elaeocarpus reticulatus*	2.0	1.5	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
19	*Callistemon viminalis*	3.48	2.08	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
20	*Callistemon viminalis*	3.48	1.94	Short	Low	Low	Remove	Within footprint of Civil works Cut & Fill.

Tree No.	Species Name	TPZ (m)	SRZ (m)	ULE	Landscape Significance	Retention Value	Proposed Action	Development Impacts
21	*Callistemon viminalis*	2.76	1.97	Short	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
22	*Yucca sp.*	3.36	3.01	Short	Low	Low	Remove	Exempt due to height. Within footprint of Civil works Cut & Fill.
23	*Howea forsteriana x 4*	2.04	N/A	Medium	Low	Low	Remove	Exempt due to species. Within footprint of Civil works Cut & Fill.
24	*Ficus benjamina*	12.0	3.31	Long	Medium	Medium	Remove	Exempt due to species. Within footprint of Civil works Cut & Fill.
25	*Hedge consisting of various species*	3.6	2.13	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill and proposed road.
26	*Callistemon viminalis*	2.0	1.5	Short	Low	Low	Remove	Exempt due to height.
27	*Callistemon viminalis*	3.6	2.0	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
28	*Callistemon viminalis*	4.2	2.13	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
29	*Hedge consisting of various species*	2.0	1.5	Short	Low	Low	Remove	Exempt due to height. Within footprint of Civil works Cut & Fill.
30	*× Cupressocyparis leylandii*	4.2	2.13	Long	Low	Low	Remove	Exempt due to species. Within footprint of Civil works proposed road.

Tree No.	Species Name	TPZ (m)	SRZ (m)	ULE	Landscape Significance	Retention Value	Proposed Action	Development Impacts
31	*Butia capitata*	5.52	N/A	Medium	Low	Low	Remove	Exempt due to species. Within footprint of Civil works proposed road.
32	*Callistemon salignus x 5*	3.6	2.0	Medium	Low	Low	Remove	Within footprint of Civil works proposed road.
33	*Casuarina glauca*	2.4	1.75	Medium	Low	Low	Remove	Within footprint of Civil works Cut & Fill.
34	*Eucalyptus robusta*	10.2	3.17	Medium	Medium	Medium	Retain	No impact.
35	*Casuarina glauca*	2.4	1.75	Medium	Low	Low	Remove	Within footprint of stormwater line and batter.
36	*Howea forsteriana*	2.16	N/A	Medium	Low	Low	Remove	Exempt species – Within footprint of Civil works Cut & Fill.
37	*Casuarina glauca*	7.32	2.85	Medium	Medium	Medium	Remove	Within footprint of new road.
38	*Casuarina glauca* Grouping of 12	6.6	2.76	Medium	Medium	Medium	Remove	Within footprint of Civil works Cut & Fill.
39	*Morus alba*	3.6	2.2	Short	Low	Low	Remove	Exempt species. Within footprint of Civil works Cut & Fill.
40	*Allocasuarina littoralis*	2.76	1.91	Medium	Medium	Medium	Remove	Within footprint of Civil works proposed road.

Tree No.	Species Name	TPZ (m)	SRZ (m)	ULE	Landscape Significance	Retention Value	Proposed Action	Development Impacts
41	*Casuarina cunninghamiana*	2.64	1.75	Medium	Medium	Medium	Remove	Within footprint of Civil works proposed road.
42	*Allocasuarina littoralis*	2.64	1.75	Medium	Low	Low	Remove	Within footprint of Civil works proposed road.
43	*Allocasuarina littoralis*	3.6	2.0	Medium	Medium	Medium	Remove	Within footprint of Civil works proposed road.
44	*Casuarina cunninghamiana*	2.4	1.68	Medium	Low	Low	Retain	No impact.
45	*Eucalyptus robusta*	10.2	3.17	Medium	Medium	Medium	Retain	No impact.
46	*Dense Bushland*	N/A		Medium	Low	Low	Retain	No impact.
47	*Allocasuarina littoralis*	2.4	1.68	Medium	Medium	Medium	Retain	No impact.
48	*Eucalyptus robusta*	9.6	3.09	Medium	Medium	Medium	Retain	No impact.
49	*Allocasuarina littoralis x 2*	3.0	1.85	Medium	Low	Low	Retain	No impact.

APPENDIX E – PHOTOS

Photo 1: *Tree 1 – Taken facing Southwest.*

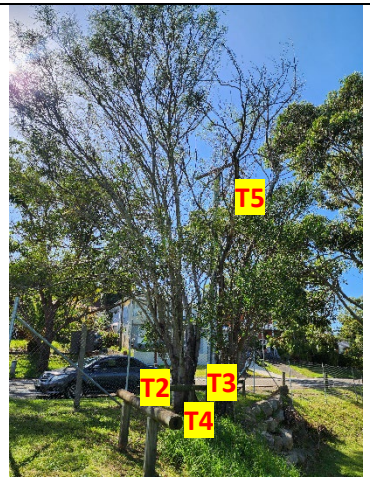


Photo 2: *Tree's 2-5 – Taken facing North.*

Photo 3: *Tree 6 – Taken facing East.*

Photo 4: *Tree 7 – Taken facing East.*

Photo 5: *Tree 8 – Taken facing Southeast.*

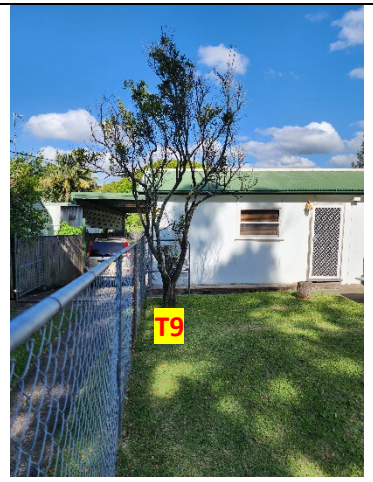


Photo 6: *Tree 9 – Taken facing South.*

Photo 7: *Tree's 10 & 11 - Taken facing North.*

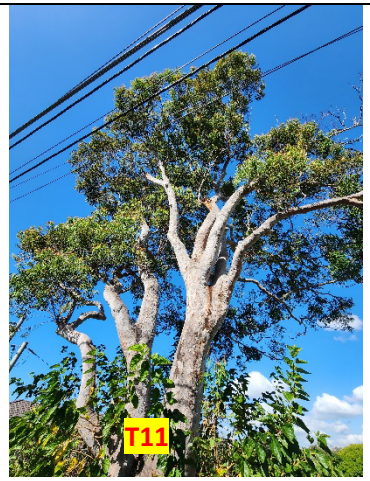


Photo 8: *Tree 11 – Canopy altered due to powerline clearing.*

Photo 9: *Tree 13 – Taken facing South.*

Photo 10: *Tree 14 – Taken facing South.*

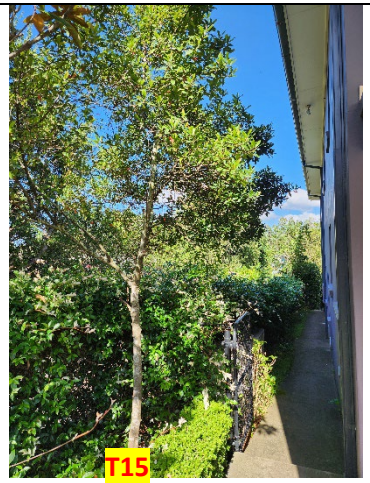


Photo 11: *Tree 15 – Taken facing Southeast.*

Photo 12: *Tree 16 strangled by Ivy - Taken facing East.*

Photo 13: *Tree 17 - Taken facing South.*

Photo 14: *x Cupressocyparis leylandii forming part of T17*

Photo 15: *Tree's 19 - 21 – Taken facing Southwest*

Photo 16: *Tree 23 – Taken facing West.*

Photo 17: *Tree's 24 & 25 – Taken facing Southwest.*

Photo 18: *Tree 26 – Taken facing South.*

		
Photo 19: *Tree's 30 & 31 – Taken facing Northwest.*	***Photo 20:*** *Tree's 31 & 32 – Taken facing West.*	***Photo 21:*** *Tree 33 – Taken facing Southwest.*
		
Photo 22: *Tree 34 - Taken facing South.*	***Photo 23:*** *Tree 35 – Taken facing West.*	***Photo 24:*** *Tree 36 – Taken facing West.*

Photo 25: *Tree's 37 & 38 – Taken facing Northwest.*

Photo 26: *Tree 38 – Taken facing Northwest.*

Photo 27: *Tree 39 – Taken facing East.*

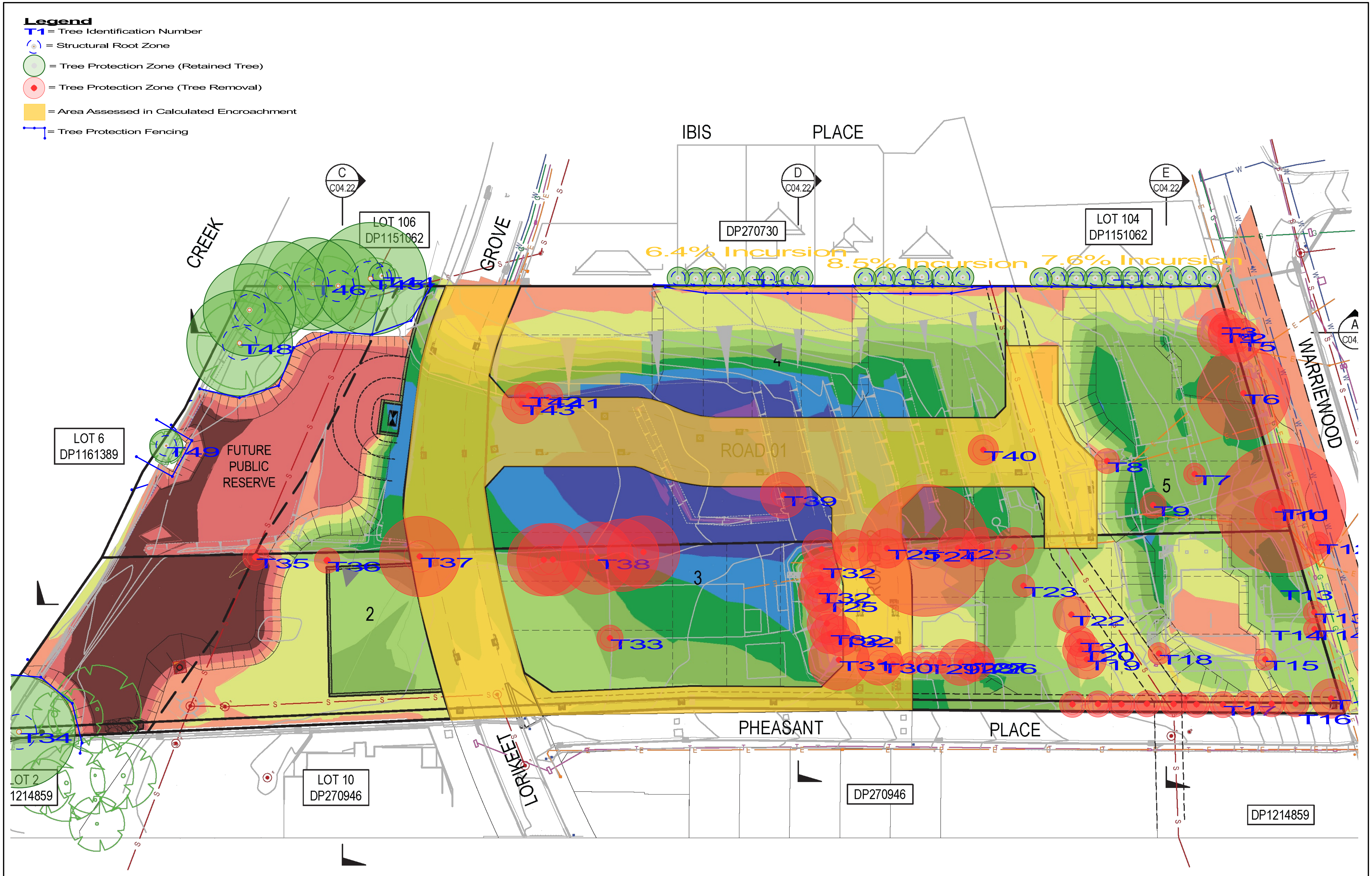
Photo 28: *Tree's 41-43 – Taken facing Southeast.*

Photo 29: *Tree's 44 & 45 – Taken facing West.*

Photo 30: *Tree 46 Dense bushland – Taken facing Southwest.*

APPENDIX F – PLANS

Plan 1 - Tree Location & Protection: Revision D


Legend
T1 = Tree Identification Number
= Structural Root Zone
= Tree Protection Zone (Retained Tree)
= Tree Protection Zone (Tree Removal)
= Area Assessed in Calculated Encroachment
= Tree Protection Fencing
IBIS PLACE
CREEK
GROVE
WARRIEWOOD
LORIKEET
PHEASANT PLACE
LOT 106 DP1151062
LOT 104 DP1151062
DP270730
LOT 6 DP1161389
LOT 10 DP270946
DP270946
DP1214859
6.4% Incursion
8.5% Incursion
7.6% Incursion
FUTURE PUBLIC RESERVE
ROAD 01
C04.22
T6
T7
T8
T9
T13
T15
T18
T22
T23
T33
T34
T35
T36
T37
T38
T39
T40
T43
T46
T48
T49
2
3
4
5

The Tree Guardian Group Pty Ltd
2/53A Park Rd,
Carlton, NSW, 2218
E: info@thetreeguardian.com.au
M: 0404 524 526

CLIENT:
SEKISUI HOUSE

DRAWN: T.H
DATE: 12.08.2024
SCALE: NTS A3

TITLE/DWG NO.
TREE LOCATION & PROTECTION PLAN
REVISION: D
53A & 53B WARRIEWOOD ROAD, WARRIEWOOD, NSW, 2102

A3