

Arboricultural Impact Assessment

Proposed Alterations & Additions at

28 Pacific Road, Palm Beach

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2 Summary

This Arboricultural Impact Assessment (AIA) is based on thirty (30) trees located at 28 Pacific Road, Palm Beach (subject site). Alterations and additions to the existing dwelling are proposed.

This report aims to describe the likely impacts of the proposed works on the site trees and make recommendations to limit the potential for adverse impacts on trees recommended for retention.

The Retention Values of the subject trees were rated as outlined in the following Table. Refer to the Tree Protection Plan (Attachment C) for tree locations.

	High Retention Value (Tree Number)	Medium Retention Value (Tree Number)	Low Retention Value (Tree Number)
To be Retained	22, 26, 27	1, 2, 3, 4, 7, 8, 16, 19, 20, 21, 28, 29, 30	5, 9, 15, 17, 18, 23, 25
To be Removed		6, 10, 13, 14	11, 12, 24

Table A: Retention Values of the Subject Trees.

All three (3) of the High Retention Value trees and thirteen (13) of the Medium Retention Value trees are able to be retained.

Seven (7) trees are proposed to be removed as part of this project. This includes four (4) Medium Retention Value trees and three (3) Low Retention Value trees.

There are construction works proposed within the Tree Protection Zones (TPZ) of Trees 7, 8, 9, 15, 17, 18, 20, 21, 22, 29 and 30. Recommendations have been made regarding tree protection measures to limit the potential for impact on retained trees.

3 Introduction

3.1 Background

This Arboricultural Impact Assessment (AIA) was prepared for Hayden & Danielle Cox in relation to the existing trees and alterations & additions at 28 Pacific Road, Palm Beach (subject site).

The purpose of this AIA is to assess the likely impacts of the proposed works on the existing site trees and make recommendations regarding construction methods and tree protection measures to limit adverse impacts on trees recommended for retention.

This AIA has been prepared in accordance with the Australian Standard 4970-2009, *Protection of trees on development sites.*

3.2 Subject Site/Proposed Works

The subject site is occupied by a two storey residential dwelling and carport on a rocky north facing slope.

It is proposed to undertake alterations and additions including construction of a new garage, pool, inclinator and landscaping works.

3.3 Subject Trees

All trees within the site have been assessed. The tree population of the site is made up of locally indigenous natives and planted exotics.

Refer to the Tree Protection Plan (Attachment C) for tree locations and numbers. A detailed description of the subject trees is included in the Tree Assessment Table (Attachment A).

4 Methodology

4.1 Site Inspection

Site inspection and tree assessment was undertaken on the 11th of January, 2021. The trees were assessed from ground level using a Tree Assessment Table, which is included as Attachment A. The definitions and explanations of terms used are outlined in the Tree Table Definitions page which is included at Attachment B.

The tree assessment was undertaken for the purpose of pre-development planning. Detailed tree risk assessment was not requested or included in the scope of works.

4.2 Plan Review

The set of plans provided by JJ Drafting (Revision B) were reviewed as part of this assessment. No detailed landscape Plan or Structural Engineering Detail were available for review as part of this assessment.

4.3 **Tree Protection Zones**

Tree assessments in accordance with the Australian Standard 4970-2009, *Protection of trees on development sites*, require calculation of a Tree Protection Zone (TPZ) and Structural Root Zone (SRZ). The following is a brief explanation of these terms:

Tree Protection Zone -TPZ: This is the area that should be isolated from construction disturbance so that the tree remains viable. Some disturbance within the TPZ may be possible following arboricultural assessment.

<u>Structural Root Zone -SRZ</u>: This is the area or undisturbed soil and roots required to maintain tree stability. Excavation within the SRZ can lead to whole tree failure.

Refer to the Tree Assessment Table (Attachment A) for the Tree Protection Zones of the assessed trees.

4.4 Retention Values

Retention values are derived from a combination of Estimated Life Expectancy rating and Landscape and Environmental Significance ratings.

- **HIGH Retention Value**: These trees are worthy of retention and design consideration should be made where possible to allow their retention.
- **MEDIUM Retention Value**: These trees are worthy of retention and minor design consideration should be made to retain these trees wherever possible (e.g. placement of ancillary structures, stormwater pipes, garden retaining walls, driveway levels).
- **LOW Retention Value**: These trees should not be considered to be a constraint to design layout. Some of these trees should be removed irrespective of any proposed development.

The method of determining and defining retention values used in this report has been derived from the ©Retention Index developed by Tree Wise Men[®] Australia Pty Ltd.

4.5 **Consideration for Tree Retention and Removal**

Where demolition of existing structures, excavation or fill is proposed within the Tree Protection Zone (TPZ), arboricultural assessment and sensitive construction methods will be required. Where works are proposed outside of the TPZ, no sensitive construction methods are required.

Tree removal recommendations have been based on tree Retention Values and construction offsets. Trees may generally be recommended for removal in the following circumstances:

- Trees located within construction footprints.
- Trees with construction proposed within SRZ where root loss cannot be avoided through sensitive design.
- Trees with a TPZ loss of more than 25%, may be recommended for removal providing tree sensitive design cannot be implemented to avoid significant root and canopy loss.
- Trees with low Retention Values may be recommended for removal irrespective of proposed development.

5 Potential Impacts of Proposed Works

Tree Number	Retention Value	Reason for Removal
6	Medium	Within the area of proposed new stairway construction.
10	Medium	Within the alignment of the proposed new inclinator.
11, 12	Low	Tree 10 (Bangalow Palm) is exempt from protection within the Northern Beaches LGA.
13, 14	Medium	Within the area of bulk excavation for the new garage.
24	Low	Inappropriate species for the location (Canary Island Date Palm). Spines at eye level. This species is exempt from protection within the Northern Beaches LGA.

5.1 **Trees to be removed**

5.2 **Potential Impacts of Proposal on Retained Trees**

Tree	Retention	Works proposed within the Tree Protection Zone (TPZ)			
Number	Value				
7, 8	Medium	New inclinator installation is proposed within the TPZ. Excavation for			
9, 15	Low	affected. No notable impact is expected.			
17, 18	Low	The levelled lawn area and retaining wall is proposed within the TPZ. The area where this is proposed is in an existing sandstone drop-off where no			
		were in poor health at the time of inspection and may not be remain viable in the long term irrespective of the proposed works.			
20	Medium	Construction is proposed within the existing building footprint. No root zone impact is expected.			
21	Medium	The building addition is proposed within the TPZ. Footings are to be founded within the exposed sandstone bedrock. No surface roots were			
22	High	observed in this area. No impact is expected.			

27	High	Internal alterations are proposed are proposed within the TPZ. No impact is expected.
20, 29, 30	Medium	Canopy pruning will be required to accommodate the roof extension. Less than 15% of the total crown volume would be removed (refer to the recommendations). Each of these trees is in good health and vitality and a species that is generally tolerate of pruning. These trees are expected to remain viable in the long-term.

Incidental Impacts: There is the potential for incidental/accidental damage to the trunk, canopy and shallow roots of all retained trees throughout the construction process. Trees are commonly impacted on construction sites in the following ways.

- Stripping of topsoil and removal of organic material form the soil surface.
- Compaction of the topsoil and damage to surface roots through use of heavy machinery and frequent foot traffic.
- Soil contamination through washing out barrows and disposal or spillage of chemical materials.
- Root loss due to unforeseen excavation for plumbing upgrades and landscape construction.
- Bark/trunk and branch injuries from accidental contact with machinery.

These impacts can be easily avoided through communication with building contractors and basic tree protection measures.

6 Recommendations

6.1 Site Establishment – Prior to Construction

Appointment of a Project Arborist: An Arborist with an AQF Level 5 qualification in Arboriculture and experience in tree protection within construction sites should be engaged prior to the commencement of work on the site. The Project Arborist should be present at the following times:

- Following installation of tree protection fencing.
- During any excavation within the TPZ of retained trees.
- At any time tree protection fencing is required to be altered.
- At project completion to verify tree protection and retention.

<u>Tree Removal</u>: Seven (7) trees are proposed to be removed as part of the project. Tree removal contractors should be briefed on the need to protect retained trees during tree removal operations. The mulch collected during the tree removal operation should be retained on-site to be spread within the Tree Protection Zones of retained trees.

Tree removal works should be undertaken in accordance with the WorkSafe Australia *Guide to Managing Risks of Tree Trimming & Removal Work.*

Canopy Pruning (Tree 20, 29, 30): Canopy pruning will be required to allow roof-line clearance. Canopy pruning should be undertaken by an AQF Level 2 (minimum) Arborist in accordance with AS4373-2007-*Pruning of Amenity Trees,* Section 7.2.4 (Selective Pruning). No more than 15% of the canopy volume will need to be removed.



Photo A: Tree 20. Branch that may require removal (red line).



Photo B and C: Tree 29 (above) and Tree 30 (right). Approximate area of canopy to be removed (red lines). BLUEGUM - Tree Care and Consultancy

Tree Protection Fencing: Tree Protection Fencing should be installed prior to any machinery or materials being bought on site and remain in position throughout the entire project. Tree Protection Fencing should be erected around the Tree Protection Zones as defined in the Tree Protection Plan (Attachment C). Tree Protection Fencing should consist of 1.8 metre high chainlink panels on moveable concrete pads. Tree Protection Fencing should be clamped at each panel junction.

In areas where the slope is too steep for standard temporary fencing, starpickets (1.8m) and web-mesh or shadecloth could be used as an alternative.

Tree Protection Fencing should not be moved at any time without consultation with the Project Arborist. An example of adequate tree protection fencing is detailed below.



Figure A: Example of adequate tree protection fencing

6.2 **During Construction**

Tree Protection Zones: Refer to the Tree Assessment Table (Attachment A) for the spread of TPZ's of trees nominated for retention. The following should be prohibited within the Tree Protection Zones:

- Stripping of topsoil or organic surface material.
- Storage of material, vehicles and machinery.
- Disposal of solid, liquid or chemical waste.
- Any excavation, fill or other construction activity other than that discussed in this report.

If the existing groundcover is stripped within a Tree Protection Zone, it should be replaced with leaf and woodchip mulch to a depth of 80-100mm.

6.3 Post Construction Tree Care

At the completion of the project, the retained trees should be inspected by the Project Arborist. Depending on the health and vitality of retained trees, the Project Arborist may prescribe some remedial tree care. This may include installation of temporary or permanent irrigation, application of soil conditioners, compost application, fertiliser application and installation of mulch.

7 Statement of Impartiality

- This report prepared by Bluegum Tree Care & Consultancy (BTCC) reflects the impartial and expert opinion of Alexis Anderson.
- BTCC is acting independently of and not as the advocate for the owners of the subject trees.
- BTCC does not undertake tree pruning and removal works and will not have any involvement with pruning or removing trees which are the subject of this report.

8 Limitations

- The findings of this report are based upon and limited to visual examination of trees from ground level without any climbing, internal testing or exploratory excavation.
- The tree assessment was undertaken for the purpose of pre-development planning. Detailed tree risk assessment was not requested or included in the scope of works.
- This report reflects the health and structure of trees at the time of inspection. Bluegum cannot guarantee that a tree will be healthy and safe under all circumstances or for a specified period of time. There is no guarantee that problems or defects with assessed trees, will not arise in the future. Liability will not be accepted for damage to person or property as a result of failure of assessed trees.

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Tree No.	Common Name/ Genus Species	Trunk Diameter (cm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vitality	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Comments	Works proposed within the TPZ	Proposed Action.
1	Tree Fern, Cyathea cooperi	10	4	2	м	G	G	2.0	1.0	Long (30+ yrs)	3	Medium	Street tree.	Nil.	Retain.
2	Weeping Bottlebrush, Callistemon viminalis	10, 8, 5, 5	5	3	м	G	F	2.0	1.5	Medium (10-30 yrs)	3	Medium	Heavily weighted limb growing towards the street.	Nil.	Retain.
3	Weeping Bottlebrush, Callistemon viminalis	8, 5	4	2	м	G	G	2.0	1.5	Medium (10-30 yrs)	3	Medium		Nil.	Retain.
4	Cheese Tree, Glochidion ferdinandi	10	5	2	EM	G	G	2.0	1.5	Long (30+ yrs)	3	Medium		Nil.	Retain.
5	Lilly Pilly, Acmena smithii	8	4	2	м	Ρ	Р	2.0	1.5	Short (0-10 yrs)	4	Low	Almost dead.	Nil.	Retain.
6	Tree Fern, Cyathea cooperi	15	6	2	м	G	G	2.0	1.0	Long (30+ yrs)	3	Medium		Within the proposed new stairway footprint.	Remove.
7	Bangalow Palm, Archontophoenix cunninghamiana	33	14	2	м	G	G	3.0	1.0	Long (30+ yrs)	3	Medium	Exempt from protection within the Northern Beaches LGA.	New inclinator installation within the TPZ.	Retain.
8	Bangalow Palm, Archontophoenix cunninghamiana	33	14	2	м	G	G	3.0	1.0	Long (30+ yrs)	3	Medium	Exempt from protection within the Northern Beaches LGA.	New inclinator installation within the TPZ.	Retain.
9	Cocos Palm, Syagrus romanzoffianum	18	8	2	м	G	G	3.0	1.0	Long (30+ yrs)	4	Low	Exempt from protection within the Northern Beaches LGA.	New inclinator installation within the TPZ.	Retain.
10	Bangalow Palm, Archontophoenix cunninghamiana	15, 15	11	2	м	G	G	3.0	1.0	Long (30+ yrs)	3	Medium	Exempt from protection within the Northern Beaches LGA.	Within the alignment of the new inclinator.	Remove.
11	Tree Fern, Cyathea cooperi	9	5	1	м	F	G	2.0	1.0	Long (30+ yrs)	4	Low		Within the alignment of the new inclinator.	Remove.
12	Tree Fern, Cyathea cooperi	7	6	1	м	F	G	2.0	1.0	Long (30+ yrs)	4	Low		Within the alignment of the new inclinator.	Remove.
13	Tree Fern, Cyathea cooperi	8	4	1	м	G	G	2.0	1.0	Long (30+ yrs)	3	Medium		Within the area of bulk excavation for the new garage.	Remove.
14	Tree Fern, Cyathea cooperi	20	5	1	м	G	G	2.0	1.0	Long (30+ yrs)	3	Medium		Within the area of bulk excavation for the new garage.	Remove.
15	Giant Bird of Paradise , Stelitzia nicholii	15, 15, 15, 15	7	4	м	G	G	2.0	1.0	Long (30+ yrs)	4	Low		New inclinator installation within the TPZ.	Retain.
16	Cocos Palm, Syagrus romanzoffianum	30	16	2	м	G	G	3.0	1.0	Long (30+ yrs)	3	Medium	Exempt from protection within the Northern Beaches LGA.	Nil.	Retain.
17	Sweet Pittospoum, Pittosporum undulatum	15, 12	2	1	м	Р	Р	2.4	1.0	Short (0-10 yrs)	3	Low	Heavily pruned.	The levelled lawn area and retaining wall is proposed within the TPZ. The area where this is proposed is in an existing sandstone drop off where no tree root growth has occured.	Retain.

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Tree No.	Common Name/ Genus Species	Trunk Diameter (cm)	Height (m)	Canopy Spread Radius (m)	Age Class	Health / Vitality	Structural Condition	Tree Protection Zone (m)	Structural Root Zone (m)	Estimated Life Expectancy (ELE)	Landscape and Environmental Significance	Retention Value	Comments	Works proposed within the TPZ	Proposed Action.
18	Sydney Red Gum, Angophora costata	37	16	6	м	Ρ	Ρ	4.5	2.3	Short (0-10 yrs)	3	Low	Upper crown dieback. Crown thinning. Large dead branches. Borer damage. Trunk decay.	The levelled lawn area and retaining wall is proposed within the TPZ. The area where this is proposed is in an existing sandstone drop off where no tree root growth has occured.	Retain.
19	Lilly Pilly, Acmena smithii	10	5	1	EM	G	F	2.0	1.5	Medium (10-30 yrs)	3	Medium	Heavily pruned. Trunk injury.	Nil.	Retain.
20	Weeping Bottlebrush, Callistemon viminalis	33, 27	8	3	м	G	G	5.1	2.3	Long (30+ yrs)	3	Medium		Construction is proposed within the existing building footprint. No root zone impact is expected. Canopy pruning may be required to accommodate the roof addition.	Retain.
21	Willow Bottlebrush, Callistemon salignus	22, 20	7	3	м	G	G	3.6	2.0	Long (30+ yrs)	3	Medium		The building addition is proposed within the TPZ. Footings are to be founded within the exposed sandstone bedrock. No surface roots were observed in this area.	Retain.
22	Large Fruited Red Mahogany, Eucalyptus scias	44	16	4	м	F	F	5.3	2.4	Medium (10-30 yrs)	2	High	Upper crown dieback. Trunk wound at the base. Further investigation of the structural condition is recommended.	The building addition is proposed within the TPZ. Footings are to be founded within the exposed sandstone bedrock. No surface roots were observed in this area.	Retain.
23	Giant Bird of Paradise , Stelitzia nicholii	15, 15, 15, 15	7	3	м	G	G	2.0	1.0	Long (30+ yrs)	4	Low		Nil.	Retain.
24	Canary Island Date Palm, Phoenix canariensis	15	5	1	ЕM	G	G	2.0	1.0	Long (30+ yrs)	5	Low	Exempt from protection within the Northern Beaches LGA. Spines on the fronds.	Nil.	Remove.
25	Giant Bird of Paradise , Stelitzia nicholii	15, 15, 15, 15	8	5	м	G	G	2.0	1.0	Long (30+ yrs)	4	Low		Nil.	Retain.
26	Cabbage Tree Palm, Livistona australis	32	8	2	м	G	G	3.0	1.0	Long (30+ yrs)	2	High		Nil.	Retain.
27	Broad-leaved Paperbark, Melaleuca quinquenervia	1150	21	7	м	G	G	13.8	4.0	Long (30+ yrs)	1	High	Large surface roots spreading across the lawn.	Internal alterations are proposed within the TPZ. No impact is expected.	Retain.
28	Riberry, Syzygium leuhmannii	11, 6	6	2	М	Ρ	G	2.0	1.5	Medium (10-30 yrs)	3	Medium	Canopy damaged by possum browsing.	Nil.	Retain.
29	Orange Jessamine, Murraya paniculata	10, 10, 10, 10	7	3	м	G	G	3.0	1.5	Long (30+ yrs)	3	Medium		Canopy pruning will be required to accommodate the roof extentsion.	Retain.
30	Hibiscus, Hibiscus tileaceus	12	7	2	м	G	G	3.0	1.5	Long (30+ yrs)	3	Medium		Canopy pruning will be required to accommodate the roof extentsion.	Retain.

Attachment B: TREE ASSESSMENT DEFINITIONS

<u>**Height**</u>. Tree height is estimated from ground level. This assessment is made independently of data plotted on survey plan. These measurements have not been confirmed with clinometer or other surveying instrument.

Trunk Diameter. Trunk diameter is measured at 1.4 metres above ground level. A diameter tape is used which calculates the diameter from a measurement of the circumfrence. DBH is primarily used for the calculation of the TPZ and SRZ.

If a tree has more than 4 trunks, the diameter of the four largest trunks is recorded. For irregular trunk formations the DBH is calculated as outlined in Appendix A of AS4970-2009 -*Protection of Trees on Development Sites*.

<u>Canopy Spread Radius</u>. Average canopy spread radius is estimated from the centre of trunk to the outer edge of canopy. Refer to Comments column for detail of heavily skewed canopy spread.

<u>Age Class</u> - This is an estimation of the tree's current age class based on size, growth habit, local environmental conditions and comparison with surrounding trees.

- Immature (IM): This is a juvenile specimen that is likely to have germinated within the previous 5 years.
- Early Mature (EM): This is a tree that is established within its growing environment, though has not reached an age of reproductive maturity or the natural growth habit of a mature individual.
- Mature (M): This is a tree has reached both reproductive maturity and a physical form and shape typical for the species. Trees can have a Mature Age Class for the majority of their life span.
- Late-Mature (LM): There trees show early signs of senescence with symptoms such as reduced canopy density and an accumulation of dead branches.
- **Over-mature (OM)**: These trees show symptoms of irreversible decline such as canopy dieback with dead branches concentrated in the upper canopy.

<u>Health/Vitality</u> - Good (G), Fair (F) or Poor (P). This is primarily based on the extent of vigorous new foliage growth at branch tips and the colour, size and density of foliage generally. The percentage of live branches to dead branches is considered. The location of any dead branches is also considered. The presence of any pest or disease is considered as part of this assessment. Health can vary with climatic conditions.

<u>Structural Condition</u> - Good (G), Fair (F) or Poor (P). This is an assessment of tree structure and stability. Root anchorage, trunk lean, structural defects, canopy skew and any hazardous features are considered. Dead branches can be considered as part of Structural Condition if they are of a size and location that could cause injury or property damage.

Tree Protection Zone (TPZ). This is a radial distance of (12X) the DBH measured from centre of trunk. TPZ is rounded to the nearest 0.1 metre. A TPZ should not be less than 2m or greater than 15m. The TPZ for palms and other monocots should not be less than 1m outside of the crown projection. Existing constraints to root spread can vary the TPZ. For a tree to remain viable, construction activity should be excluded or undertaken with care within the TPZ. Disturbance within up to 10% of the TPZ area is considered to be a minor encroachment. Disturbance to more than 10% of the TPZ area is considered a major encroachment. Major encroachment into the TPZ is possible depending on the type of disturbance, and species tolerance to disturbance. Exploratory excavation may be required to quantify the presence of roots at the alignment of proposed ground disturbance.

This is based upon the Australian Standard AS 4970, 2009, Protection of trees on development sites and the Matheney & Clarke "Guidelines for adequate tree preservation zones for healthy, structurally stable trees".

<u>Structural Root Zone (SRZ).</u> This is a radial distance based on the following formula- SRZ =(D x 50) $^{0.42}$ x 0.64 (for trees less than 150mm Diameter, a minimum SRZ of 1.5 metres). SRZ measurements are rounded to the nearest 0.1m.

The Structural Root Zone is the area of soil and roots required to maintain tree stability. Excavation within the SRZ can result in whole tree failure. Fully elevated construction is possible within SRZ with specific rootzone assessment. Existing constraints to root spread can vary the SRZ. This method of determining SRZ is outlined at Section **3.3.5** of Australian Standard AS 4970, 2009, *Protection of trees on development sites.*

Estimated Remaining Life Expectancy: This gives a length of time that the Arborist believes a particular tree can be retained from the time of assessment with an acceptable level of risk based on the information available at the time of the inspection. This system of rating does not take into consideration the likely impacts of any proposed development. Ratings are **Long** (retainable for 30 years or more with an acceptable level of risk), **Medium** (retainable for 10-30 years), **Short** (retainable for 0-10 years) and **Removal** (tree requiring removal due to risk/hazard or absolute unsuitability).

Landscape & Environmental Significance^{*}. This is an assessment of the impact of the tree on the surrounding landscape amenity and natural environment. Rarity, habitat value, physical prominence, historical and cultural significance of the tree are considered in this rating system. The Landscape & Environmental Value ratings used in this report are:

1. Very High Value: This is an outstanding specimen that holds irreplaceable environmental, landscape or cultural value.

2. High Value: An excellent specimen that holds environmental, landscape or cultural value that is present in other site trees or that could be replaced.

3. Moderate Value: Can be a good to fair specimen with environmental, landscape or cultural value that is common within other trees in the locality.

4. Low Value: Removal would not result in any loss of site amenity or environmental value. Can include undesirable or weed species or trees growing in unsuitable locations.

5. Very Low Value : Dead or hazardous with no other environmental or cultural value. Could also include weed species. These trees should be removed or pruned in a way to make safe irrespective of any development.

*Note: The concept of using a five (5) point scale to assess tree significance was derived from the Tree Wise Men® Australia Pty Ltd ©Significance Rating Scale.

<u>Retention Value</u>*. Retention values are derived from a combination of Estimated Life Expectancy rating and Landscape and Environmental Significance ratings.

					Estimate	ed Life Expectanc	y
				Long	Medium	Short	Removal
<u>s</u>	En	La	Very High (1)				
gnifi	viron	ndso	High (2)	HIGH		MEDIUM	
cance	Iment	cape 8	Medium (3)	MED	NUM		1
	<u>a</u>	Xo	Low (4)			LOW	
			Very Low (5)				

HIGH Retention Value: These trees are worthy of retention and major design consideration should be made where feasible to allow this.

MEDIUM Retention Value: These trees are worthy of retention and minor design consideration should be made to retain these trees wherever possible (e.g. placement of ancillary structures, garden retaining walls, driveway levels).

LOW Retention Value: These trees should not be considered to be a constraint to design layout. Some of these trees should be removed irrespective of any proposed development.

*Note: The method of determining and defining retention values used in this report has been derived from the ©Retention Index developed by Tree Wise Men® Australia Pty Ltd.



Bluegum Tree Care and Consultancy®							
Tree Protection							
Plan							
28 Pacific Road, Palm Beach							
This plan is to be read in conjunction with the Arboricultural Impact Assessment report prepared for this site, January 2021.							
This plan has been prepared using the Site Analysis Plan- JJ Drafting, as a base.							
Tree protection detail is indicative only. Final positions should be determined with co- ordination between the Site Foreman and Project Arborist to allow adequate site access during construction.							
Legend							
Tree Protection Zone (retained tree)							
Tree proposed for removal							
Tree Protection Fencing							



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