Arboricultural Impact Assessment

Prepared for: **6 Mitchell Road, Palm Beach NSW 2108**

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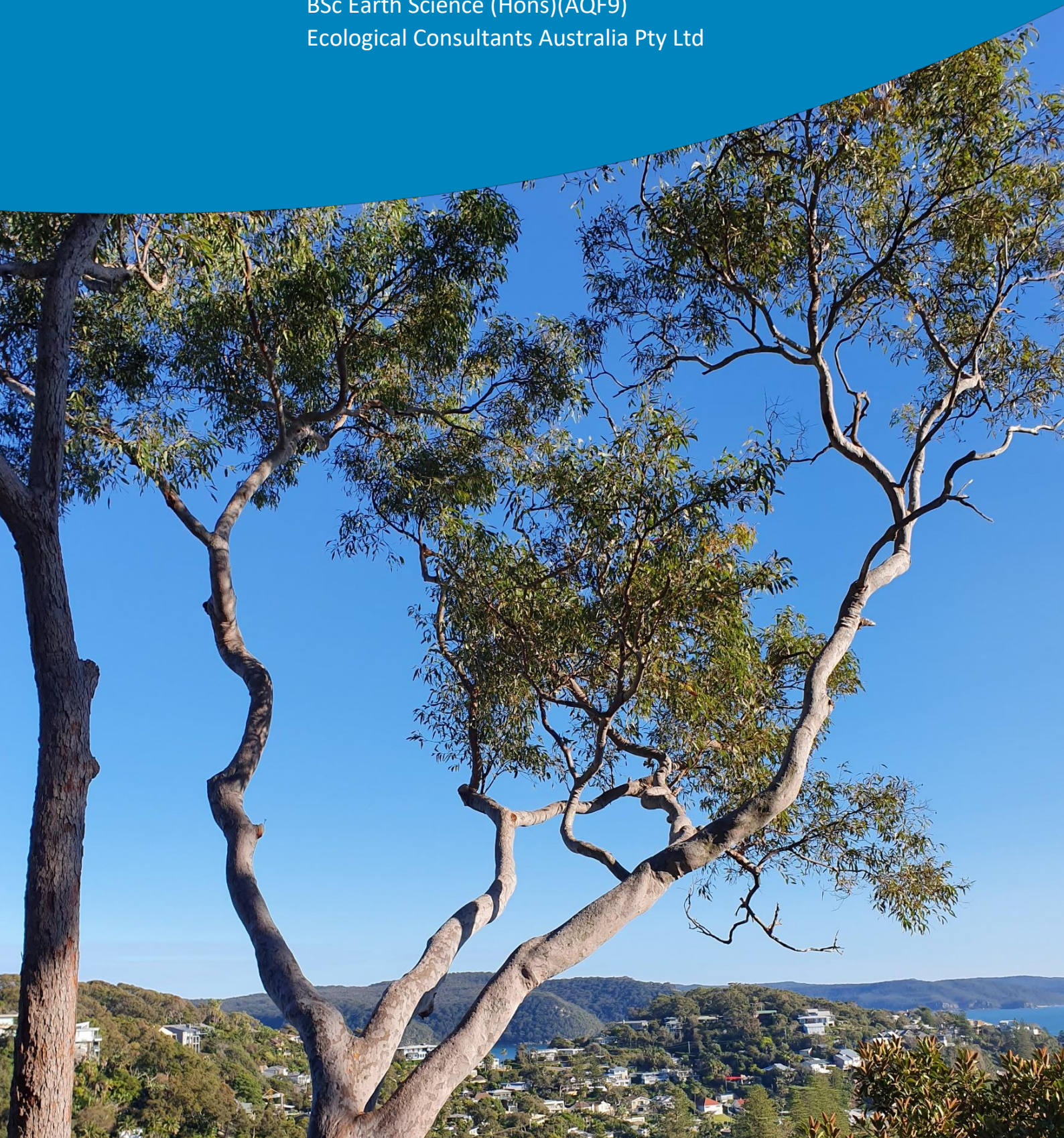
Prepared by: Vicki Beecher
Consulting Arborist (AQF5), Horticulturalist (AQF5)
BSc Earth Science (Hons)(AQF9)
Ecological Consultants Australia Pty Ltd



About this document

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Statement of Authorship

This study and report were undertaken by Kingfisher at 6 Mitchell Road, Palm Beach. The author of the report is Vicki Beecher with qualifications BSc. majoring in Geology and Climate Science with over 20 years' experience in this field, AQF level 5 Horticulture, AQF level 5 Horticulture (Arboriculture) and AQF level 3 Landscape Construction.

Limitations Statement

Information presented in this report is based on an objective study undertaken in response to the brief provided by the client. Any opinions expressed in this report are the professional, objective opinions of the authors and are not intended to advocate any proposal or pre-determined position.

Table of contents

1 Introduction

1.1 Background

1.1.1 This Arboricultural Impact Assessment (AIA) was prepared for Stephen Lesuik on behalf of the property owners. It relates to the proposed development 6 Mitchell Road, Palm Beach (the site). This report identifies the impact of the proposed development works on trees located within and adjacent to the subject site.

1.1.2 The proposal involves the demolition of the existing house, hardstand and landscape areas and construction of a new residential dwelling, car garage, stair and lift access.

1.1.3 The following documentation was reviewed and assists in the preparation of this report:

- Preliminary Tree Assessment, prepared by Ecological Consultants Australia Pty Ltd, dated 02/01/2019.
- Plan of Lots 1 & 2 in DP1086858 at No 6 Mitchell Rd, Palm Beach, prepared by DP Surveying, dated 11/09/2018 & 12/03/2019.
- Development Application Plans, prepared by Housed by Nanna Lesuik, dated 6/02/2024, Drawings DA0, DA00, DA01, DA02, DA03, DA04, DA08, DA09, DA10, DA13, DA14, DA15 and DA21.

1.1.4 This report is based upon the information provided and observations made during an on-site inspection and site walk-through. Tree data, including tree identification numbers, names and tree protection zone offsets, collected as part of the Ecological Consultants Australia Pty Ltd Preliminary Tree Assessment, dated 02/01/2019, have been used within this report to maintain consistency.

1.1.5 This report is to be used in its entirety only. Any written or verbal submission, report or presentation that includes statements taken from the findings, discussions, conclusions or recommendations made in this report may only be used where the whole original report (or a copy) is referenced to and directly attached to that submission, report or presentation. Information contained in the report covers only the trees that were inspected and reflects the trees condition at the time of the inspection. There is no guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.

2 Trees on Development Sites

2.1 The Australian Standard 4970-2009 Protection of Trees on Development Sites defines the requirements for assessing trees with respect to development. It provides the guidance on how to decide which trees are appropriate for retention and on the means of protecting them during construction works. It describes the areas and offsets, referred to as the Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) required to be free from development works to maintain tree vitality and stability. This report has been prepared in accordance with the conditions set out within the standard.

2.2 Tree Protection Zone – The tree protection zone is defined as a specified area above and below ground set aside for the protection of the tree's roots and crown. It is expressed as a radial measurement taken from the centre of the trunk at ground level.

2.3 Structural Root Zone – The structural root zone is defined as a specified area around the base of a tree required to maintain its stability within the ground. It is expressed as a radial measurement taken from the centre of the trunk at ground level. Excavation and development works are not recommended within the structural root zone unless additional investigation as to root size and location is undertaken.

2.4 Tree protection zone calculations have been made in accordance with AS4970-2009 and can be found within the Tree Assessment Schedule (Appendix 1). Calculation of the Structural Root Zone (SRZ) has been made where required.

2.5 Encroachments into the tree protection zone are defined as minor or major.

- A minor encroachment is less than 10% of the area of the TPZ and is outside of the SRZ. Detailed root investigation works should not be required, and the loss of root zone compensated for elsewhere and contiguous with the TPZ.
- A major encroachment is greater than 10% of the area of the TPZ or is inside the SRZ. Where a major encroachment exists the project arborist must demonstrate that the tree would remain viable. The area lost should be compensated for elsewhere and contiguous with the TPZ. Major encroachments may require detailed root investigation works to be undertaken.

3 Impacts of the Proposed Works

3.1 General

3.1.1 A total of 11 trees were assessed as part of this report. Individual tree details and data captured during the on-site inspection has been extracted from the Preliminary Tree Assessment report and may be found as Appendix 1 Tree Assessment Schedule. Tree specific development impacts and control measures are provided in Appendix 2.

3.1.2 Trees located within the Bible Garden (Lot 2 of DP 1086858) are clear of development encroachments. Their root systems are not considered to encroach within the subject site due to existing landscape features and level changes.

3.1.3 Tree 1 is located within the Bible Gardens at the street entry to the site. Its TPZ is free from development encroachments.

3.1.4 Tree 2 consists of a mixed planting along the western edge of the existing driveway. The TPZ's of these trees are free from development encroachments.

3.1.5 Tree 3 is located adjacent the western side of the entry driveway. Its TPZ is free from development encroachments.

3.1.6 Tree 4 is located adjacent the western side of the entry driveway. Its TPZ is free from development encroachments.

3.1.7 The TPZ's of trees 5, 6 and 7 are free from development encroachments due to their position on the rocky outcrop.

3.1.8 Tree 8 is located within the footprint of the residential entry and lift access as indicated on drawing DA011. As such, the tree cannot be retained under the current design.

3.1.9 The TPZ's of trees 9 and 10 are free from development encroachments. Their root systems are considered to be contained within the terraced garden bed areas of the Bible Garden.

3.1.10 Tree 11 is located within the footprint of the ground floor ensuite bathroom. As such, the tree cannot be retained under the current design.

3.1.11 Demolition works are not expected to have any impact upon trees retained within the site.

3.1.12 Appendix 3 shows the proposed development with respect to the protection zones of the site's trees.

3.2 Trees to be removed

5.2.1 Trees 8 and 11 are located within the development footprint and shall require removal. Tree 11 is regarded as an exempt tree species under local tree preservation conditions.

3.3 Trees to be retained

5.3.1 Trees 1, 2, 3, 4, 5, 6, 7, 9 and 10 can be retained throughout the development process.

3.4 Tree pruning works

5.4.1 No tree pruning works were identified as being required as part of the proposed development.

4 Site Specific Tree Protection

6.1 Prior to the commencement of any construction works a project arborist is to be appointed. The project arborist is to advise on, monitor, inspect and ensure compliance where trees are retained within and where required adjacent to the site. Any work within a designated tree protection zone requires authorisation from the project arborist.

6.2 Prior to demolition or construction works, identified tree removals are to be undertaken. The removal of trees 8 and 11 is to be undertaken by suitably qualified tree workers (minimum AQF level 3 or equivalent) and in accordance with Safe Work Australia's Guide to Managing Risks of Tree Trimming and Removal Works. All appropriate approvals and consents are to be obtained prior to tree removal works commencing.

6.3 It is understood that the ability to establish a tree protection zone, to its fullest extent, may be difficult and impractical due to physical site restrictions and the need for a workable area. It is recommended that the protection measures are established under consultation between the property owner, construction contractor and project arborist. Tree protection measures may be altered and adjusted under guidance of the project arborist as construction works progress. Where encroachments through or over a tree protection zone are required appropriate ground protection measures are to be implemented.

6.4 Trees 3 and 4 are to be protected through the installation of protective trunk battens. Trunk protection is installed by first wrapping the stem of the tree in hessian or like material then strapping timber battens over the top. It is recommended that timber battens with the dimensions of length 2000mm, width 75mm and depth 50mm are used. The battens are not to be directly screwed or nailed into the tree.

6.5 The health and condition of trees retained on the site and within the Bible Garden is to be monitored throughout the duration of construction works by the project arborist. It is recommended that monthly visits are undertaken by the project arborist. All visits are to be documented by the project arborist with a copy of any reporting provided to the construction contractor.

6.6 Any discernible change in the characteristics of any retained tree throughout the construction period is to be referred to the project arborist and an inspection undertaken. These changes can include, but are not limited to:

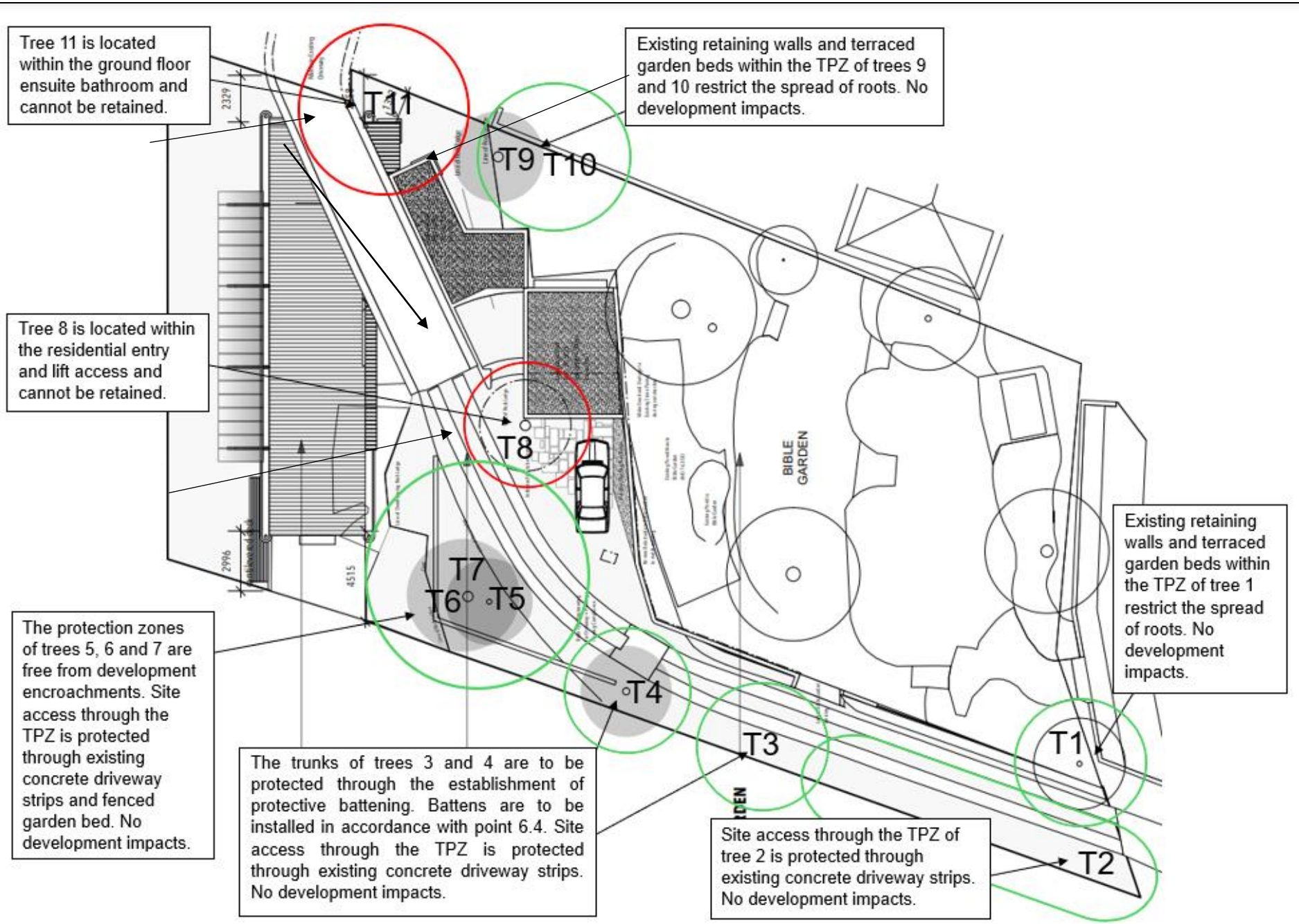
- A change in foliage colour and or density
- Dieback or death of branches or areas of the tree canopy
- Occurrence of branch failure
- Infestation by pest species

Appendix 1: Tree Assessment Schedule

Tree No	Botanical Name Common Name	Height (m)	Canopy Spread (m)	DBH (mm)	DAB (mm)	Age Class	Vigour	Condition	SULE	Landscape Significance	Retention Value	TPZ (m)	SRZ (m)	Tree Characteristics
1	*Malus* sp (Apple Tree)	1-5	3x3	240	270	M		G	M(b)	H	H	2.88	1.91	Seasonal loss of leaves prevents assessment of tree vigour.
2	Mixed Screening Hedge	1-5	1x1	180	200	M	N	G	M(b)	M-L	M-H	2.16	1.68	Mixe4d screen planting of *Acmena smithii* and *Callistemion* sp.
3	*Washingtonia robusta* (Mexican Palm)	15-20	2x2	300	800	M	N	G	M(b)	H	H	3.6	3.01	One specimen-two trunks
4	*Corymbia gummifera* (Red Blodwood)	10-15	4x4	290	400	M		G	M(b)	H	H	3.48	2.45	Wound at base of trunk on western side. Wound wood development evident.
5	*Corymbia gummifera* (Red Blodwood)	10-15	3x3	230	300	M	N	G	M(b)	H	H	2.76	2	Previous wound (potential ring barking). Wound wood has developed, epicormic shoots evident in canopy.
6	*Angophora costata* subsp *costata* (Smooth-barked Apple)	10-15	4x4	400	500	M	N	G	M(b)	H	H	4.8	2.47	Minimal deadwood and epicormic production.
7	*Ficus rubiginosa* (Port Jackson Fig)	5-10	6x6	400	500	M	N	G	M(b)	H	M	4.8	2.47	Epicormic shoots possibly in response to topping pruning method.
8	*Washingtonia robusta* (Mexican Palm)	10-15	1x1	300	420	M	N	G	M(b)	H	M	3.6	2.3	Growing within rock rubble in contained garden bed.
9	*Washingtonia robusta* (Mexican Palm)	10-15	1x1	300	400	M	N	G	M(b)	M-H	M-H	3.6	2.25	
10	*Seratonis Siliqua* (Carob)	1-5	2x2	220	300	M	N	G	M(b)	H	H	2.64	2	In contained garden bed.
11	*Brachichyton acerifolius* (Illawarra Flame Tree)	5-10	2x2	350	400	M	N	L	S(b)	L	L-R	4.08	2.41	Previous pruning on trunk, tree showing signs of defoliation.

Appendix 2: Development Impacts & Controls

Tree No	Botanical name Common name	Development Impacts	Controls	Retain or Remove Tree
1	*Malus* sp (Apple Tree)	TPZ free from development encroachments. Root system of tree likely to be restricted to contained and terraced areas of garden beds within the Bible Garden.	No controls required, monitor tree health and condition throughout development process. Monitor site access requirements along driveway.	Retain
2	Mixed Screening Hedge	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. Monitor site access requirements along driveway.	Retain
3	*Washingtonia robusta* (Mexican Palm)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. Install trunk protection battening around trunk to prevent potential damage from vehicle access along driveway.	Retain
4	*Corymbia gummifera* (Red Bloodwood)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. Install trunk protection battening around trunk to prevent potential damage from vehicle access along driveway.	Retain
5	*Corymbia gummifera* (Red Bloodwood)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. No building materials or stockpiling of spoil to be placed within the TPZ.	Retain
6	*Angophora costata* subsp *costata* (Smooth-barked Apple)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. No building materials or stockpiling of spoil to be placed within the TPZ.	Retain
7	*Ficus rubiginosa* (Port Jackson Fig)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process. No building materials or stockpiling of spoil to be placed within the TPZ.	Retain
8	*Washingtonia robusta* (Mexican Palm)	Tree is located within the footprint of the proposed entry stairs and lift access.	No controls required. Tree cannot be retained under current design.	Remove
9	*Washingtonia robusta* (Mexican Palm)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process.	Retain
10	*Seratonis Siliqua* (Carob)	TPZ free from development encroachments.	No controls required, monitor tree health and condition throughout development process.	Retain
11	*Brachichyton acerifolius* (Illawarra Flame Tree)	Tree located within footprint of ground floor ensuite bathroom.	No controls required. Tree cannot be retained under current design.	Remove



Extract from Site Plan/Roof Plan, Drawing DA01. Tree protection zones have been scaled and plotted onto the plan. Green circles indicate extent of TPZ for trees to be retained. Red circles indicate extent of TPZ for trees to be removed.	Date: 26/03/2024	Appendix 3: Tree Protection Zones.

Appendix 4: Photos