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ARBORICULTURAL IMPACTS ASSESSMENT

Location:
Hampton Foreshore

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Arboricultural Consultants

Report commissioned by:
Bayside City Council

Report submitted:
19 June 2025

Our Ref.: 3049.AIA.1

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1 Introduction

1.1 Objectives

Harshitha Muthuraj of Bayside City Council engaged Tree Dimensions to provide an Arboricultural Impacts Assessment (AIA) of trees within nominated areas of the Hampton Foreshore. For the report, Tree Dimensions has:

- Identified and assessed the trees, providing their location, species, origin, dimensions, age, health and structural condition, useful life expectancy (ULE), site suitability and landscape significance
- Allocated each tree a retention rating
- Calculated the size of the area that requires protection (notional root zone (NRZ) and structural root zone (SRZ)) around trees suitable for retention
- Supplied photographs of the trees
- Documented trees that are proposed for removal
- Assessed site development impacts on the trees proposed for retention
- Specified protection measures for the trees proposed for retention
- Made recommendations.

1.2 Background

The nominated areas of assessment are shown in Figure 1.



Figure 1: Overview of nominated tree assessment areas on Nearmap aerial image (2/05/2025).

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The proposed redevelopment includes the following works:

- Redevelopment of an existing play area to the south, including replacement of retaining walls along the new alignment
- Demolition of a section of concrete shared path and bluestone edging along Beach Road, to be replaced with a vegetated area
- Demolition of a section of gravel shared path, edging, and associated landscaping elements within the park area
- Construction of a new concrete shared path within the park area
- Widening of a trafficable crossover to Beach Road and creation of a driveway with a small carpark
- Construction of a ramp providing beach access.

This report provides an assessment of the impacts that proposed works may have on the trees within the nominated assessment areas.

Plans on which the impact assessment is based:

- Surfcoast Survey & Drafting Services P/L, Existing Conditions Plan rev B, October 2024
- Enlocus, Hampton Foreshore Precinct Design Development Drawings rev B, 4 February 2025
- Enlocus, Existing Granitic Path Upgrade rev E, 2411_LD_110, 1 May 2025
- Enlocus, Detailed Levels Plan C - S1, Ref 2411, 13 June 2025
- Enlocus, Surface Finishes Plan C - S1, Ref 2411, 13 June 2025
- Brogue Consulting Engineers, Civil Structural Drawings
 - Ramp Foundation and Framing Plans rev T2, S-100, 25 March 2025
 - FRP Deck Framing Plan rev T1, S-150, 26 February 2025
- Brogue Consulting Engineers, Civil Works Drawings
 - Levels and Grading – Sheet 1 and Sheet 2 rev T2, C-111 and C-112, 30 April 2025
 - Site Civil Works – Sheet 1 and Sheet 2 rev T2, C-201 and C-202

1.3 Planning context

The site is within a Public Park and Recreation Zone (PPRZ) of Bayside City Council and is covered by Schedule 1 to the Vegetation Protection Overlay (VPO1). Pursuant to VPO1, a permit is required to remove, destroy or lop vegetation that is native to Victoria.

1.4 Procedure

Manori Senanayake of Tree Dimensions inspected the trees on 26 May 2025.

Tree height was measured with laser equipment and crown spread was estimated. Stem diameter at standard height (DSH) was measured at 1.4 m in accordance with AS 4970:2025 *Protection of trees on development sites* ('AS 4970').

Tree health and structure were assessed from the ground using Visual Tree Assessment (VTA) methods and hazard identification methods described by Harris, Clark & Matheny (2004), Lonsdale (1999), Mattheck & Breloer (1994), Matheny & Clark (1994) and Matheny & Clark (1998).

Each notional root zone (NRZ) in this report was calculated by multiplying the tree's DSH by 12, in accordance with AS 4970. Each SRZ was calculated from the tree's DSH, rather than the stem diameter above the root buttress, using the SRZ formula in AS 4970.

Tree locations were based on the supplied feature and level survey plan, except where specified in the data table. Feature survey locations were converted from the GDA 94 to GDA 2020 datum.

The assessed trees were numbered for this report and their location is shown on the Survey Plan (Appendix A).

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2 Tree protection

2.1 General

Development changes the use of an area by adding buildings, infrastructure, and people to the landscape. These changes increase the potential for trees to cause damage to people and property. Therefore, trees that are structurally poor or have a short life expectancy are generally unsuitable for retention on development sites.

Due to site restrictions, retaining all trees during development is often not possible nor reasonable. Selecting the more significant trees in good condition and protecting these well, rather than trying to retain all trees and decreasing the quality of tree protection, may be a better option (Matheny & Clark 1998).

Trees require space not only for their canopies, but also for their roots. Failure to protect roots during development usually leads to future problems – stressed trees or trees prone to wind-throw.

Most tree roots are usually found in the top 600 millimetres (mm) of soil (Harris, Clark & Matheny 2004). Several large woody roots radiate outwards from the base of the stem. These structural roots anchor the tree. Cutting or disturbing these roots is likely to undermine tree stability. The spread of a tree's structural roots, known as its structural root zone (SRZ), is generally proportional to the diameter of its stem (Mattheck & Breloer 1994).

Beyond this zone extends a network of woody transport roots and fine absorbing roots, which absorb and transport water and nutrients. Most of these roots are found in the top 150 mm of soil (Harris, Clark & Matheny 2004). Trees can lose a portion of their absorbing roots without being significantly affected in the long term. Different species tolerate different amounts of root loss; most healthy trees can tolerate losing up to a third of their absorbing roots (Matheny & Clark, 1998).

Roots are opportunistic, and their growth is affected by local soil conditions: moisture levels, oxygen availability and physical resistance. Therefore, each tree's root system is different. Root excavation is the only way to accurately locate a tree's roots but is expensive and time-consuming. Generally, we assume that roots follow the typical patterns of growth described above.

Trees can be affected by development in several ways. Direct damage to roots through trenching and site cuts can remove absorbing roots and sever structural roots. Root activity can be inhibited by various activities: soil compaction in the root zone, sealing the surface and adding fill over roots. These activities limit the amount of oxygen and moisture that may reach the roots, without which roots cannot function. This will lead to drought stress and even death and may take several years to become evident in the crown.

2.2 Designing around trees

The NRZ is designed to protect all structural roots and sufficient absorbing roots for the tree to remain viable. The SRZ is designed to protect structural roots. The NRZ radius indicates the protection zone on all sides of a tree to be retained (Standards Australia 2025). The NRZ incorporates the SRZ and ensures that tree viability and stability are protected from construction disturbance.

If there is no proposed encroachment into the NRZ, the NRZ will generally be the basis for the tree protection zone (TPZ) to protect the tree during site works.

Encroachment by site works into a maximum of 10% of the NRZ is regarded as minor encroachment and is therefore acceptable according to AS 4970. The encroachment must be outside the SRZ and should be compensated for elsewhere, contiguously with the NRZ, to form the TPZ.

Encroachment into more than 10% and up to 20% of the NRZ, but outside the SRZ, is regarded as moderate encroachment. In this case, the project arborist must demonstrate that the affected tree would remain viable. Determining viability may require the implementation of temporary measures and construction controls. Again, the NRZ area lost to encroachment must be compensated for within the TPZ.

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Encroachment into more than 20% of the NRZ, or into the SRZ, is regarded as major encroachment. In this case, the consulting arborist must demonstrate that the affected tree would remain viable through a more detailed investigation, such as a root investigation by non-destructive methods, or a detailed site analysis and history. Any NRZ area lost to encroachment must be compensated for within the TPZ.

3 Findings

3.1 Trees

Twenty-eight trees were assessed for this report.

Photographs of all assessed trees are included in Appendix B.

Full assessment details of the trees are listed in the tree survey table (Appendix C).

Explanatory notes for the tree survey table are provided in Appendix D.

3.2 Trees proposed for removal on supplied plans

Five trees are proposed for removal on the supplied design and development plans (Table 1).

Table 1. Details of the trees proposed for removal.

Tree #	Species name	Origin	Height (m)	DSH (cm)	Maturity	Health	Structure	Retention value	VPO1 Permit required
1	<i>Allocasuarina verticillata</i>	I	3	28	S	G	F	Low	Yes
21	<i>Myoporum insulare</i>	V	3	42	O	F	P	Low	Yes
24	<i>Olearia axillaris</i>	V	1	7	M	F	F	Low	Yes
25	<i>Allocasuarina verticillata</i>	I	2	39	S	G	F	Low	Yes
26	<i>Leptospermum laevigatum</i>	I	3	26	M	G	F	Low	Yes

The five trees, some of which are shrubs, are all indigenous species. Their removal requires a permit pursuant to VPO1. The trees/shrubs are generally multi-stemmed (contributing to higher total DSH) and relatively short (3 metres or less), with low landscape significance and low retention value.

3.3 Impacts on trees proposed for retention

Of the 23 trees proposed for retention, 14 trees will have proposed works (including demolition) within their NRZs. Table 2 summarises the NRZ encroachments. The following sections will describe how trees could tolerate the proposed work and remain viable.

Table 2. Summary of NRZ impacts from proposed works (including demolition).

Tree #	Species name	Origin	Height (m)	DSH (cm)	Maturity	Retention value	NRZ radius (m)	Encroachment percentage (%)	SRZ encroachment
2	<i>Leptospermum laevigatum</i>	I	4	26	M	Medium	3.1	23.8	Yes
8	<i>Banksia integrifolia</i>	I	13	60	M	High	7.2	9.9	Yes
10	<i>Hesperocyparis macrocarpa</i>	E	11	107	O	Medium	12.8	27.1	No
11	<i>Araucaria heterophylla</i>	A	21	66	M	Medium			
12	<i>Araucaria heterophylla</i>	A	22	86	M	High			
14	<i>Araucaria heterophylla</i>	A	13	42	S	Medium			
15	<i>Araucaria heterophylla</i>	A	17	54	M	Medium			

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Tree #	Species name	Origin	Height (m)	DSH (cm)	Maturity	Retention value	NRZ radius (m)	Encroachment percentage (%)	SRZ encroachment
16	<i>Araucaria heterophylla</i>	A	13	39	S	Medium	4.7	9.7	No
17	<i>Araucaria heterophylla</i>	A	12	34	S	Medium	4.1	14.7	No
19	<i>Araucaria heterophylla</i>	A	16	50	M	Medium	6.0	32.1	No
20	<i>Allocasuarina verticillata</i>	I	5	51	M	Medium	6.1	6.7	No
22	<i>Allocasuarina verticillata</i>	I	7	40	M	Medium	4.8	9.9	No
23	<i>Araucaria heterophylla</i>	A	17	58	M	High	7.0	11.2	Yes
27	<i>Banksia integrifolia</i>	I	8	30	S	Medium	3.6	0.2	No

3.3.1 Tree #2 (coast tea-tree)

- Proposed demolition and a retaining wall are within its SRZ
 - NRZ encroachment is likely less than calculated (23.8%) as roots are unlikely to extend beyond the existing retaining wall
 - The tree is small and shrub-like in form; it is unlikely to have substantial structural roots within the impacted SRZ area
 - Works could be conducted in a root-sensitive manner so as to minimise root impacts (to be specified in Tree Protection Specifications (TPS)).
- The new retaining wall alignment is slightly closer to the tree
 - Ensure works cause no additional root damage after demolition
 - Any additional excavation may destabilise the tree.
- Tree #2 will remain viable with appropriate protection measures in place.

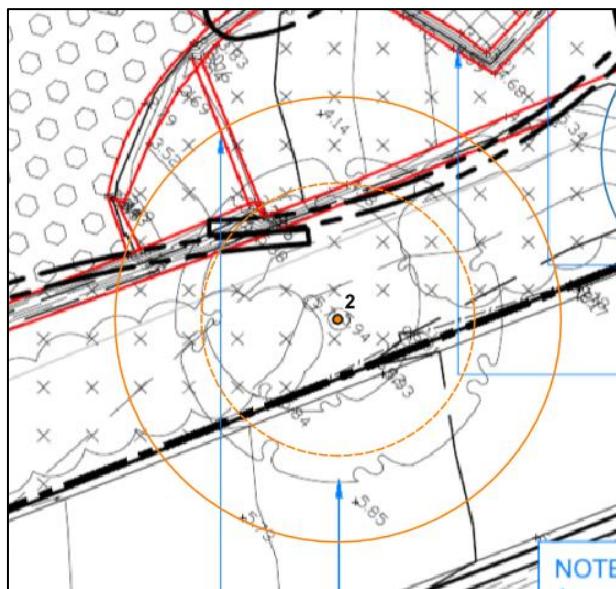


Figure 2. Works within the NRZ and SRZ of tree #2.

3.3.2 Tree #8 (coast banksia)

- Proposed demolition of the bluestone edging and pavement are within the SRZ
 - Structural roots are likely to be present behind the bluestone edging/kerb
 - Works should not impact roots if conducted in a ~~root sensitive manner (to be~~ specified in TPS) under supervision of a suitably ~~qualified~~ professional
 - Avoid excavation below the sub-base of existing
 - Protect any roots exposed between demolition a

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- Construction of a new shared path (light-duty concrete pavement) and associated edging within the NRZ
 - All construction is to be above existing levels
 - Bluestone edging must be reinstalled without additional compaction where roots are present.
- Bluestone edging shown within the SRZ is to be reinstalled along the same alignment as existing edging. This will not impact structural roots
- Tree #8 will remain viable with appropriate protection measures in place.



Figure 3. Demolition works within the NRZ of tree #8.



Figure 4. Bluestone edging being reinstated within the NRZ and SRZ of tree #8.

3.3.3 Tree #10 (Monterey cypress)

- Demolition of a path and landscaping within the NRZ
 - Works should not impact roots if conducted in a root-sensitive manner (to be specified in TPS).
- Demolition of edging and a shared path along Beach Road
 - Root growth is likely to be suppressed in this location and distance from the tree
 - The area to be reinstated as vegetated nature strip

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- Construction of new path within the NRZ
 - Proposed above-grade deck with isolated ground screws to reduce impacts
 - Typical shared path design unlikely to significantly impact tree if constructed above grade (removal of up to 30mm organic layer permitted)
 - Compaction from construction and use of shared path unlikely to significantly impact root absorption to support existing crown
 - The large NRZ is reflective of original size of tree; its crown has significantly reduced due to past branch failures, resulting in reduced area of roots required to support its biomass.
- Tree #10 will remain viable with appropriate protection measures in place.

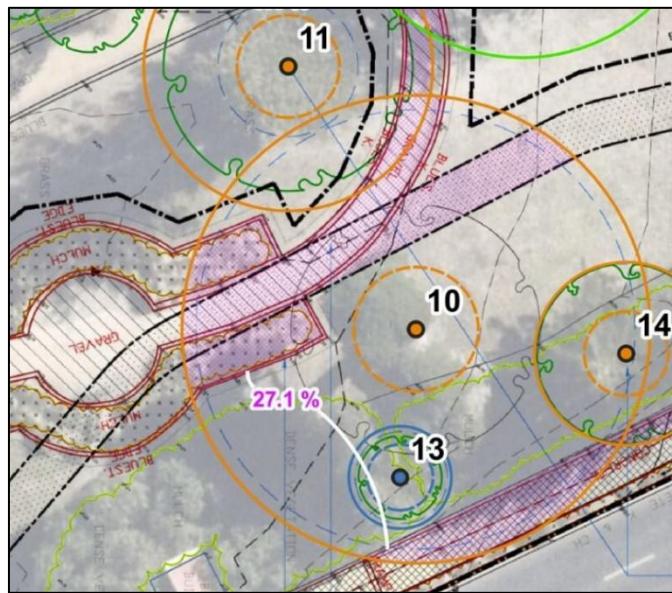


Figure 5. Path and landscaping works within the NRZ of tree #10.

3.3.4 Trees #11 and 12 (Norfolk Island pines)

- Demolition of edging and gravel footpath are proposed within the NRZ
 - Removal of edging should not impact roots if conducted in a root-sensitive manner (to be specified in TPS).
- Trees #11 and 12 will remain viable with appropriate protection measures in place.

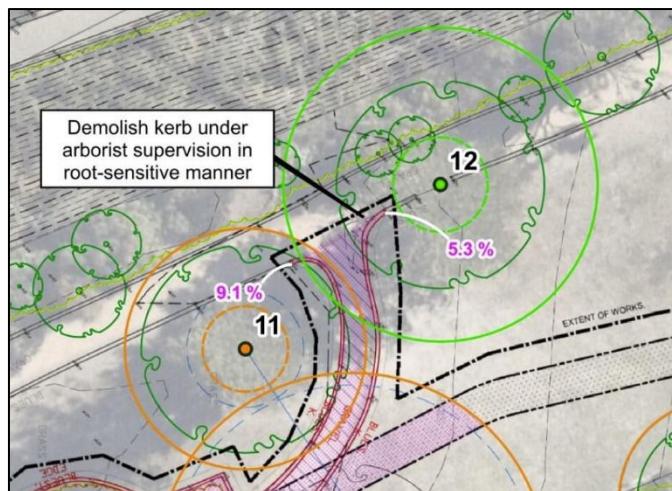


Figure 6. Path and landscaping works within the NRZs of trees #11 and 12.

3.3.5 Trees #14 and 16 (Norfolk Island pines)

- Demolition of edging and shared path along Beach Road to reduce encroachment of NRZs

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- Trees #14 and 16 will remain viable with appropriate protection measures in place.

3.3.6 Trees #15 and 17 (Norfolk Island pines)

- Demolition of edging and shared path along Beach Road with moderate (10–20%) encroachment of NRZs
 - Significant root growth is unlikely under existing pavement due to existing compaction, distance from trees, and size of trees
 - Removal of edging should not impact roots if conducted in a root-sensitive manner (to be specified in TPS)
 - Area to be reinstated as vegetated nature strip is conducive to root growth.
- Trees #15 and 17 will remain viable with appropriate protection measures in place.

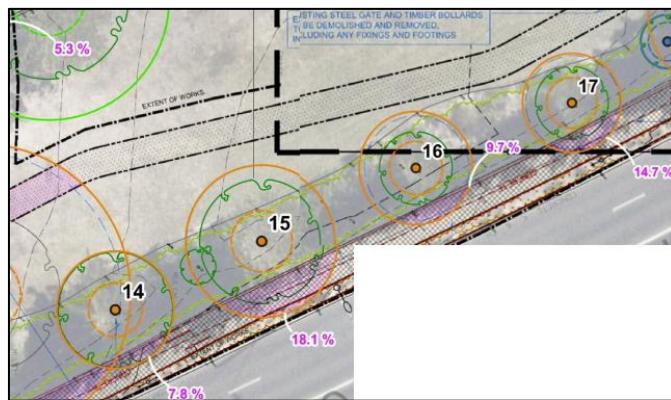


Figure 7. Path and landscaping works within the NRZs of trees #14–17.

3.3.7 Tree #19 (Norfolk Island pine)

- Demolition of edging and shared path along Beach Road
 - Some root growth is possible under the pavement section (recently replaced)
 - Removal of edging and shared path should not impact roots if conducted in a root-sensitive manner (to be specified in TPS)
 - Area to be reinstated as vegetated nature strip is conducive to root growth.
- Expansion of crossover from Beach Road
 - Some root growth is possible behind the existing kerb
 - Removal of kerb should not impact roots if conducted in a root-sensitive manner (to be specified in a TMP)
 - Kerb alignment closest to the tree is to be retained, with the crossover to be extended on the other side, away from the tree.
- Tree #19 will remain viable with appropriate protection measures in place.

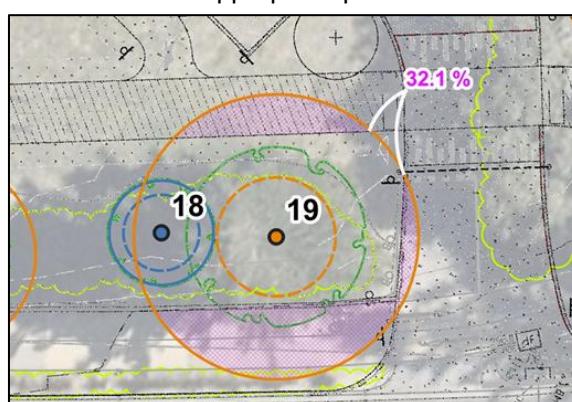


Figure 8. Path and landscaping works within the NRZ

3.3.8 Tree #20 (drooping she-oak)

- Minor NRZ encroachment only from the proposed path

- Ensure that vegetation clearance for path construction does not damage low-hanging crown (to be included in TPS).
- Tree #20 will remain viable with appropriate protection measures in place.

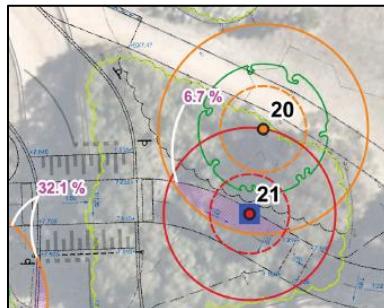


Figure 9. Proposed works within the NRZ of tree #20.

3.3.9 Trees #22 and 23 (drooping she-oak and Norfolk Island pine)

- Demolition of shared path along Beach Road, within the SRZ of tree #23
 - Root growth probable under the pavement section (recently replaced)
 - Removal of the shared path will not impact roots if conducted in a root-sensitive manner to be specified in TPS.
- New shared path alignment
 - Largely similar to the existing alignment
 - Minor additional NRZ encroachment for tree #22 is unlikely to impact the tree
 - Works are unlikely to impact roots as the path is to be constructed above grade.
- Trees #22 and 23 will remain viable with appropriate protection measures in place.

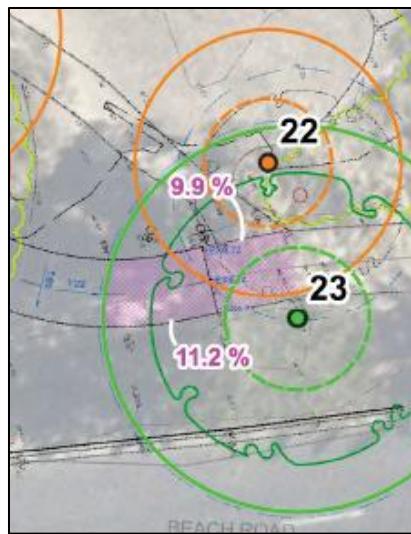


Figure 10. Proposed works within the NRZs of trees #22 and 23.

3.3.10 Tree #27 (coast banksia)

- Minor encroachment only from the proposed ramp works
- Tree #27 will remain viable with appropriate protection measures in place.

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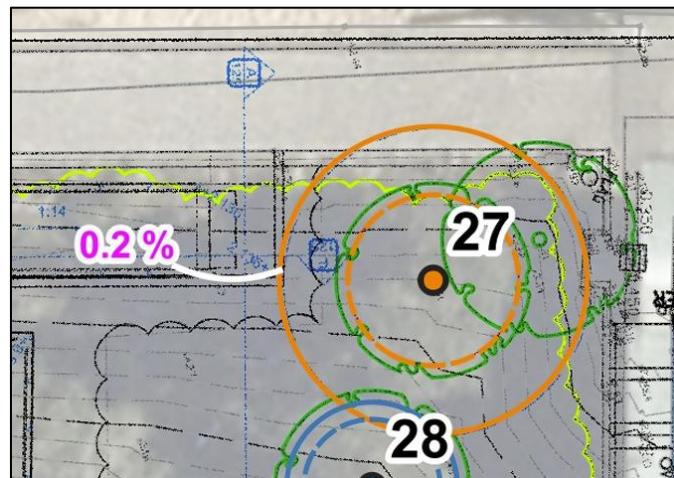


Figure 11. Proposed works within the NRZ of tree #27.

3.4 Trees with no impacts

Trees #3–7, 9, 13, 18 and 28 have no works proposed within their NRZs. These trees will remain viable with appropriate protection measures in place.

4 Conclusions

Twenty-eight trees were assessed for this report.

Table 3 provides a summary of the tree assessment and indicates which trees will require a permit for removal or pruning works.

Table 3. Summary of tree assessment.

Proposed action & location	Number of trees	Tree IDs	VPO1 permit required
REMOVE	5	1, 21, 24, 25 and 26	1, 21, 24, 25 and 26
RETAIN	23		
No impacts anticipated	9	3, 4, 5, 6, 7, 9, 13, 18 and 28	
Impacts from demolition only	6	11, 12, 14, 15, 16 and 17	
Impacts from demolition and design	8	2, 8, 10, 19, 20, 22, 23 and 27	
TOTAL	28		

As shown for each tree in Section 3 of this report, all retained trees will remain viable if adequate protection measures are in place during all site works.

5 Recommendations

Based on the findings of the arboricultural assessment presented in this report, the following actions are recommended:

- Pursuant to VPO1, obtain a permit from Council prior to removing trees #21, 24, 25 and 26.

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- If Council approves removal of the five site trees shown for removal, compensate for the associated canopy loss via sufficient replanting within the site.
- For retained site trees, develop a Tree Protection Plan and Tree Protection Specifications in accordance with AS 4970 and implement those plans during site works. Suitable protection measures for inclusion in the TPS are included below in Section 5.1.

5.1 Tree protection measures

To protect all retained site trees, the following measures must be implemented:

- Tree protection measures must comply with Australian Standard AS4970:2025 *Protection of trees on development sites*.
- Fence off TPZs temporarily *during all works on the site* (demolition, site preparation and construction). Where approved works encroach within TPZs, the fence must be as close to the works as is practically possible. In the case of road reserve trees, protective fencing must be erected around the grassed naturestrip area only, within the TPZ radius.
- Ensure that fencing is wire mesh of a minimum 1.8 m-height and remains in place at all times. Signs labelled “Tree Protection Zone – Keep Out”, or with similar wording, must be placed on the fence and be visible from all sides. Once erected, fencing must be checked by the project arborist prior to the commencement of works.
- Where appropriate, mulch TPZs with a 50-mm layer of organic material such as composted woodchips. A sprinkler system must be used to water the root zones of trees during dry spells, as advised by a consulting arborist. Watering once a fortnight when there is no rain, to provide 30 mm of water, will meet the needs of most trees.
- Prevent filling or excavation occurring within TPZs, except as approved by the responsible authority. Any roots encountered when excavating must be cut cleanly with a saw.
- Ensure that a consulting arborist supervises any excavation works within TPZs.
- Prevent materials and machinery from being stored in TPZs. Prevent waste from being dumped in TPZs. No residual herbicides are to be used within the TPZs.
- Route utilities outside of TPZs. If utilities must pass through this zone, prevent machine trenching. A consulting arborist must supervise non-mechanised digging and determine whether roots may be cut or whether services must be tunnelled beneath the roots.
- Implement remedial pruning prior to the commencement of all construction works. Pruning of tree canopies for building or vehicle clearance, or for other reasons, must be performed by a qualified arborist in accordance with Australian Standard: *Pruning of amenity trees* (AS4373–2007).
- Implement all landscaping within TPZ radii on the existing soil grade and with minimal impervious surfaces.

6 References

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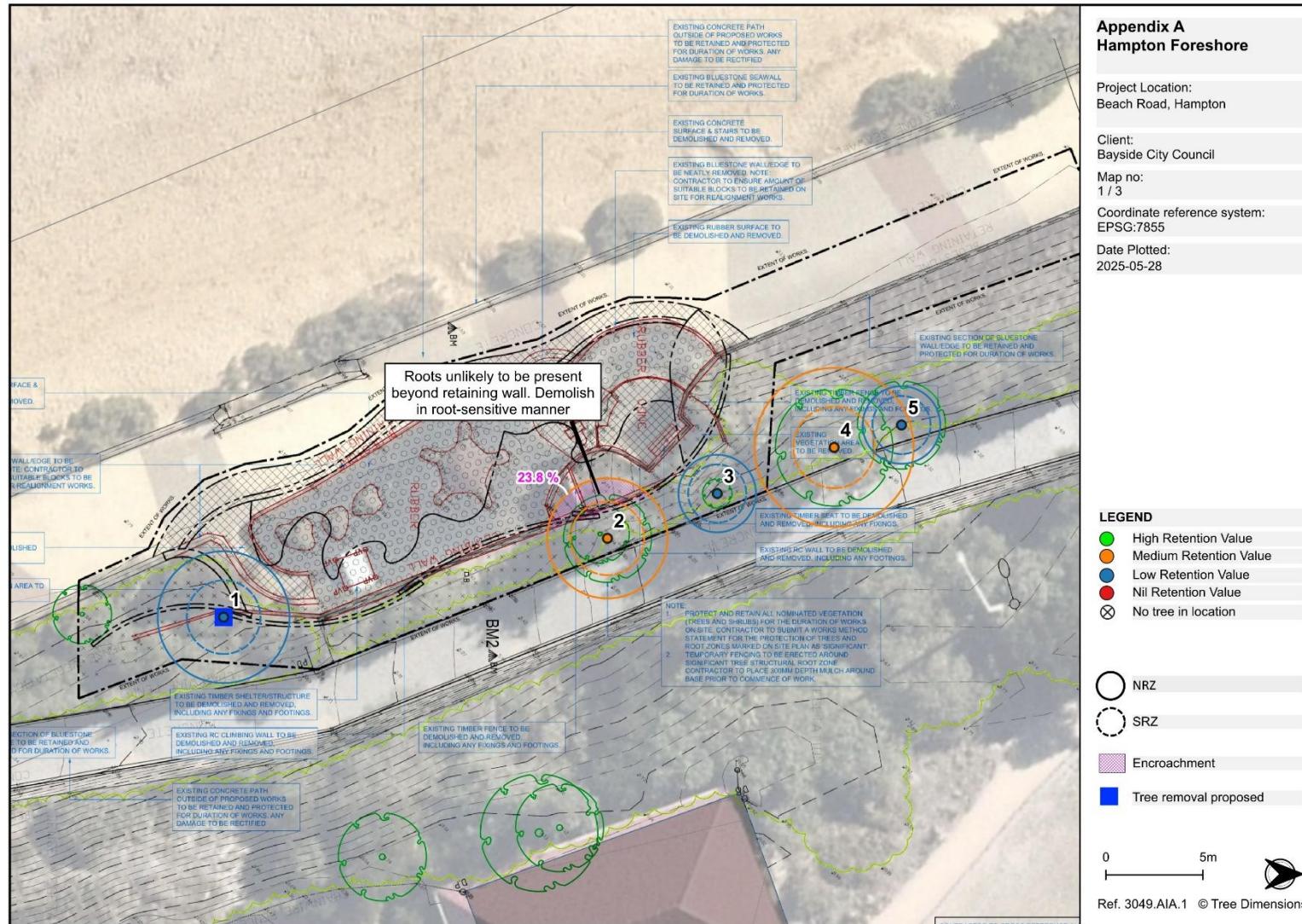
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Appendix A – Site development plan

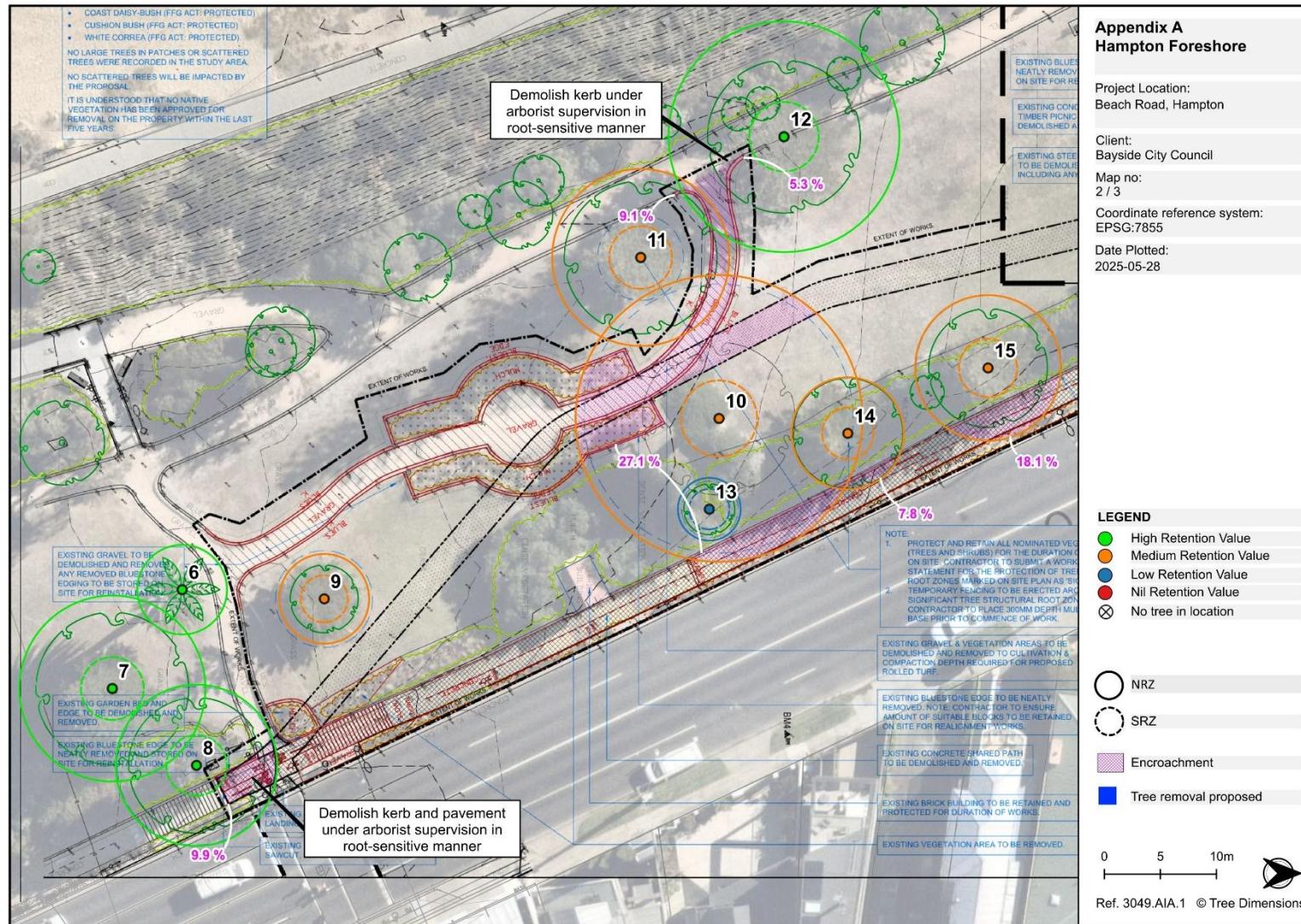


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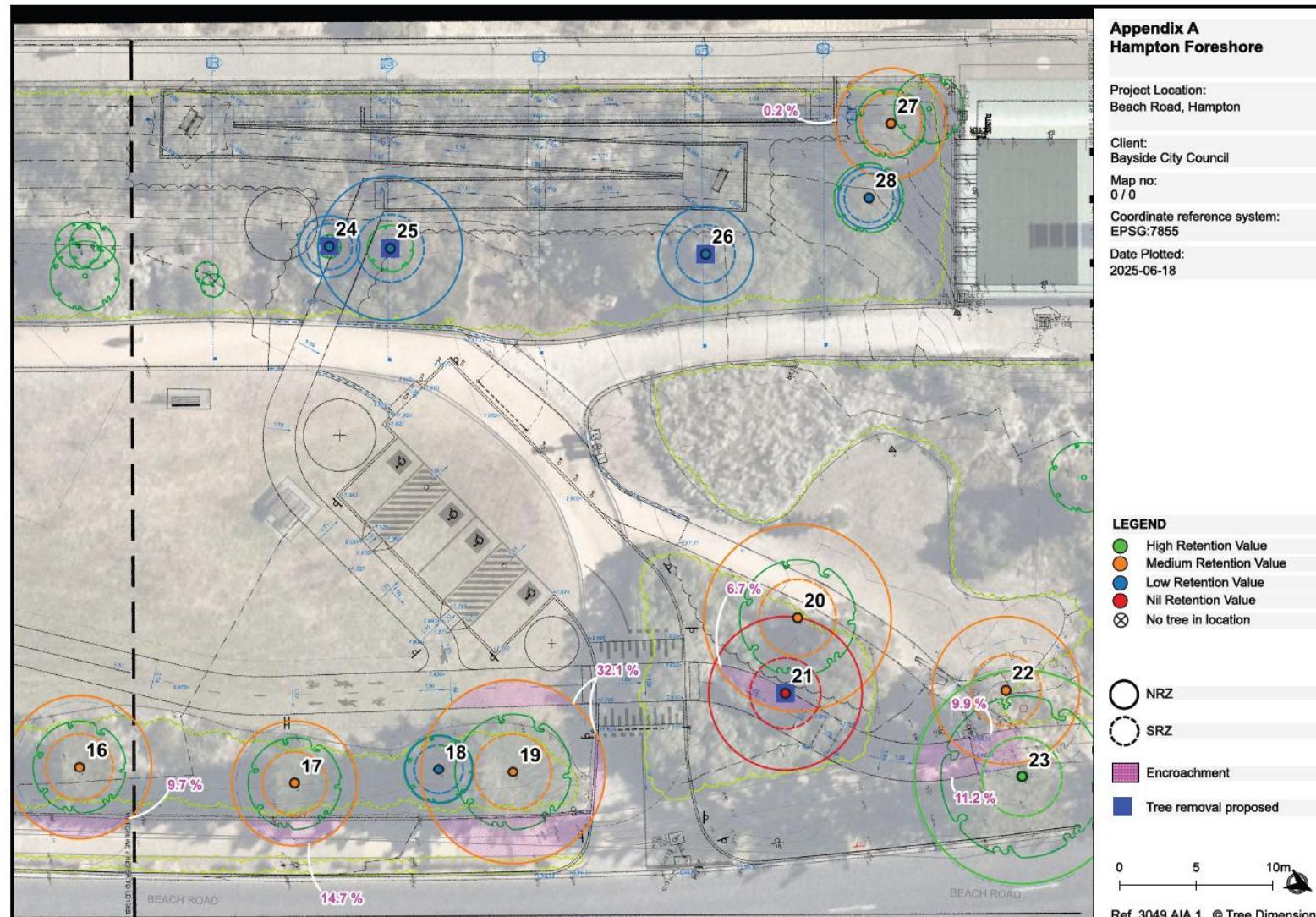


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Appendix B – Photos of assessed trees



Tree #1.



Tree #2.



Tree #3.



Tree #4.

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Tree #5.



Tree #6.



Tree #7.



Tree #8.

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Tree #9.



Tree #10.



Tree #11.



Tree #12.

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Tree #13.



Tree #14.



Tree #15.



Tree #16.

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Tree #17.



Tree #18.



Tree #19.



Tree #20.

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Tree #21.



Tree #22.



Tree #23.



Tree #24.

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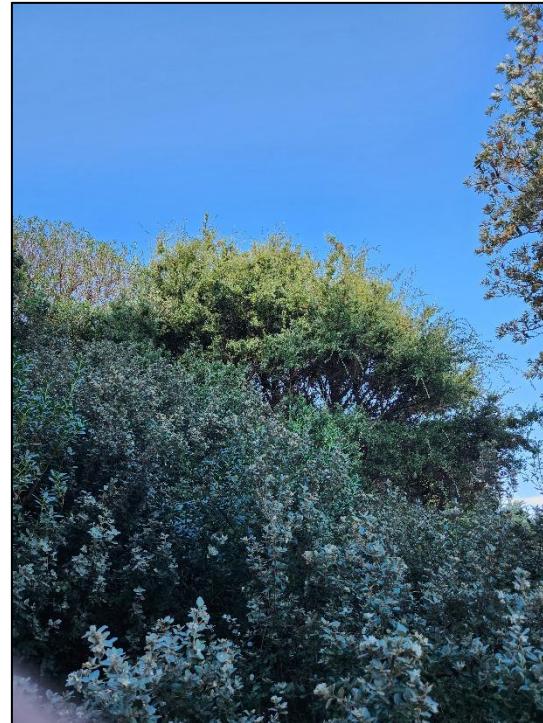
Tree #25.



Tree #26.



Tree #27.



Tree #28.

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Appendix C – Tree survey table

Tree #	Species	Common Name	Origin	Permit reqmt	Height (m)	Spread (m)	DSH (cm)	Stem 1	Stem 2	Stem 3	Stem 4	Stem 5	Maturity	Health	Structure	ULE	Suitability	Significance	Comments	Retention Value	Proposal	SRZ (m)	NRZ (m)	Encroachment %	Encroachment	AS4970	Proposed Impact
1	<i>Allocasuarina verticillata</i>	Drooping she-oak	I		3	5	28	15	15	12	10	8	S	Good	Fair	5-15	Good	Low	Short, prostrate form. Growing above retaining wall.	Low	Remove	1.9	3.4	0			
2	<i>Leptospermum laevigatum</i>	Coast tea-tree	I	VPO1	4	3	26	26					M	Fair	Fair	5-15	Good	Medium	30% dieback. Included bark at main union as is typical of species.	Medium	Retain - impacted	1.9	3.1	23.8	Major (SRZ)	Negligible	
3	<i>Myoporum insulare</i>	Boobialla	V	VPO1	2	3	10	10					M	Fair	Fair	5-15	Good	Low	Top of embankment	Low	Retain	1.5	2.0	0			
4	<i>Banksia integrifolia</i>	Coast banksia	I	VPO1	5	3	34	24	24	10			S	Good	Good	5-15	Good	Medium	Part of a large group of shrubs.	Medium	Retain	2.1	4.1	0			
5	<i>Leptospermum laevigatum</i>	Coast tea-tree	I	VPO1	2	2	15	15					M	Fair	Fair	5-15	Good	Low	Top of embankment.	Low	Retain	1.5	2.0	0			
6	<i>Phoenix canariensis</i>	Canary Islands date palm	E		13	6	73	73					M	Good	Good	15-40	Good	High		High	Retain	0	4.0	0			
7	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		21	9	69	69					M	Good	Good	15-40	Good	High		High	Retain	2.8	8.3	0			
8	<i>Banksia integrifolia</i>	Coast banksia	I	VPO1	13	5	60	60					M	Good	Good	15-40	Good	High	Becoming slightly end weighted over shared path.	High	Retain - impacted	2.7	7.2	9.9	Minor	Significant	
9	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		11	8	33	33					S	Good	Good	15-40	Good	Medium		Medium	Retain	2.1	4.0	0			
																			Large past failure to north; numerous smaller failures throughout crown; remaining areas of dieback and deadwood. Possible decay compression side of stem. Past damage to surface root. Closest surface root to existing footpath edge is 1.75m away.								
10	<i>Hesperocyparis macrocarpa</i>	Monterey cypress	E		11	10	107	107					O	Fair	Fair	5-15	Moderate	Medium		Medium	Retain - impacted	3.4	12.8	27.1	Major		
11	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		21	6	66	66					M	Fair	Good	5-15	Moderate	Medium	Reduced foliage density; dieback.	Medium	Retain - impacted (demolition)	2.8	7.9	9.1	Minor		
																			Reduced foliage density/tip dieback. Existing bluestone edging cut to accommodate tree. Old concrete pipes next to base. No major signs of infrastructure damage from roots.								
12	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		22	10	86	86					M	Fair	Good	5-15	Moderate	High		High	Retain - impacted (demolition)	3.1	10.3	5.3	Minor		
13	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		7	5	23	23					S	Fair	Good	5-15	Moderate	Low	Reduced foliage density.	Low	Retain	1.8	2.8	0			
14	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		13	9	42	42					S	Good	Good	15-40	Good	Medium		Medium	Retain - impacted (demolition)	2.3	5.0	7.8	Minor		
15	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		17	9	54	54					M	Good	Good	15-40	Good	Medium		Medium	Retain - impacted (demolition)	2.6	6.5	18.1	Major		
16	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		13	5	39	39					S	Good	Good	15-40	Good	Medium		Medium	Retain - impacted (demolition)	2.2	4.7	9.7	Minor		
17	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		12	4	34	34					S	Good	Good	15-40	Good	Medium		Medium	Retain - impacted (demolition)	2.1	4.1	14.7	Major		
18	<i>Myoporum insulare</i>	Boobialla	V	VPO1	2	6	18	15	10			M	Good	Fair	5-15	Good	Low	Sprawling shrub.	Low	Retain	1.6	2.2	0				
19	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		16	12	50	50					M	Good	Good	15-40	Moderate	Medium	Minor footpath uplifting	Medium	Retain - impacted	2.5	6.0	32.1	Major		
																			Crown biased east then swooping north. Low branches. Slow failure of branch to east over garden bed.								
20	<i>Allocasuarina verticillata</i>	Drooping she-oak	I	VPO1	5	7	51	51					M	Good	Fair	5-15	Moderate	Medium		Medium	Retain - impacted	2.5	6.1	6.7	Minor		
21	<i>Myoporum insulare</i>	Boobialla	V	VPO1	3	7	42	30	26	15			O	Fair	Poor	<5	Poor	Low	Large sprawling shrub. Prostrate stem. Numerous failures; low risk due to height of branches.	Nil	Remove	2.3	5.0	31.5	Major (SRZ)		
22	<i>Allocasuarina verticillata</i>	Drooping she-oak	I	VPO1	7	8	40	40					M	Good	Fair	5-15	Moderate	Medium	Some acute unions but generally well balanced crown. Old limb wound along shared path.	Medium	Retain - impacted	2.3	4.8	9.9	Minor		
23	<i>Araucaria heterophylla</i>	Norfolk Island pine	A		17	9	58	58					M	Good	Good	15-40	Moderate	High	New section of shared path over SRZ. Patch edge is 40cm from edge of trunk; 80cm from centre of trunk.	High	Retain - impacted	2.6	7.0	11.2	Major (SRZ)		
24	<i>Olearia axillaris</i>	Coastal daisy-bush	V	VPO1	1	2	7	5	5				M	Fair	Fair	<5	Good	Low	Small shrub.	Low	Remove	1.5	2.0	0			
25	<i>Allocasuarina verticillata</i>	Drooping she-oak	I	VPO1	2	5	39	22	20	20	15		S	Good	Fair	5-15	Good	Low	Short but broad form; multistemmed.	Low	Remove	2.2	4.7	0			
26	<i>Leptospermum laevigatum</i>	Coast tea-tree	I	VPO1	3	4	26	15	15	15			M	Good	Fair	5-15	Good	Low	Short but broad spreading, multistemmed dense shrub.	Low	Remove	1.9	3.1	0			
27	<i>Banksia integrifolia</i>	Coast banksia	I	VPO1	8	4	30	23	20				S	Good	Good	15-40	Good	Medium	Growing on embankment.	Medium	Retain - impacted. Redesign required	2	3.6	0.2	Minor		
28	<i>Leptospermum laevigatum</i>	Coast tea-tree	I	VPO1	3	5	17	10	10	10			M	Good	Fair	5-15	Good	Low		Low	Retain	1.6	2.0	0			

Appendix D – Explanatory notes for assessment terms

Tree # corresponds to the numbering on the site plan and in the tree survey table.	
Origin describes the source of the species:	
I – Native trees that are <i>Indigenous</i> to the site V – Native trees from elsewhere in <i>Victoria</i> A – Native trees from elsewhere in <i>Australia</i> E – Exotic trees from outside <i>Australia</i> .	
DBH (<i>Diameter at Breast Height</i>) was measured at 1.4 m above ground level, or calculated from the total stem area if the tree was multi-stemmed at that height, unless stated otherwise in the report.	
Maturity summarises the age class of the tree.	
I – <i>Immature</i> (Young tree with mostly dynamic mass) S – <i>Semi-mature</i> (Actively growing tree that has not yet reached 70% of its mature size) M – <i>Mature</i> (Tree has reached around 70% of its full size and growth has slowed) O – <i>Overmature</i> (Tree has reached full size, is shedding large sections and is vulnerable to pests and disease).	
Health summarises observations of tree health made in the field:	
Good – No significant pest or disease problems, expected growth rates, dense crown, and good leaf colour Fair – Minor pest or disease problems, average growth rates, crown sparse in places, or some chlorosis Poor – Serious pest or disease problems, poor growth rates, sparse crown, or major leaf discolouration. Dead	
Structure summarises observations of tree structure made in the field:	
Good – All crotches are sound; no major decay in limbs or trunk Fair – Some structurally poor crotches are developing, or decay is developing in limbs or trunk. Major structural failure is unlikely Poor – Serious structural defects are present, either structurally poor crotches, or decayed limbs or trunk; structural failure is likely.	
ULE (<i>Useful Life Expectancy</i>) indicates the anticipated remaining years of lifespan of the tree in its existing surroundings. ULE includes the assumption that recommended works will be carried out. The tree's lifespan is the time that it will continue to provide amenity value without undue risk or hazard and with a reasonable amount of maintenance.	
Suitability summarises the tree's suitability to the site based on health, structure, species and potential longevity.	
Good – Good health and structure, with potential longevity at the site. Moderate – Fair health and/or structure, requiring some treatment; may have shorter lifespan than "good" trees. Poor – Poor health and/or serious structural defects, unlikely to be repaired by treatment; unsuitable to site.	
Significance in the landscape is based on consideration of horticultural, genetic, or ecological value or environmental significance, location or context, indigeneity, age, size, aesthetic value, historical association, Aboriginal cultural association, remnant vegetation, habitat value, and/or micro-climate services.	
Retention Value indicates the rating of the tree and combines Suitability and Significance.	
High – Tree of high significance that is suitable for retention Medium – Tree of medium significance that is suitable for retention Low – Tree of low significance that is suitable for retention Nil – The tree is unsuitable for retention	
SRZ (<i>structural root zone</i>) indicates the recommended minimum distance (radius) from the trunk for protection of the tree's structural roots during construction, which is based on AS4970:2025.	
NRZ (<i>notional root zone</i>) indicates the recommended minimum distance (radius) from the trunk for protection of the tree's root zone during construction, based on AS 4970:2025.	
TPZ (<i>tree protection zone</i>) is based on the NRZ and indicates the area to be fenced.	

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