

# Arboricultural Assessment and Report

## Elwood Foreshore

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Prepared for City of Port Phillip  
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# 1 Summary

## Reason for Assessment

Tree Logic was engaged by City of Port Phillip to undertake an arboricultural assessment and prepare a report for trees within the Elwood Foreshore. Requirements of the arboricultural report include:

- To provide a preliminary arboricultural assessment and report to inform potential future development.
- To provide information on the species, origin, dimensions, health and structure of the trees and their appropriateness for retention.
- Determine the Tree Protection Zones (TPZ) for trees compliant with AS4970 'Protection of trees on development sites'.
- To offer recommendations regarding the management of the trees, including any tree protection measures for retained trees.

## Overview

Aside from the row of maturing Norfolk Island Pines lining the beach, the mature row of Norfolk Island Hibiscus along Ormond Esplanade and the heterogeneous mix of vegetation in and around Head Street Reserve and Elwood Tennis Club, the other areas of foreshore, including carparks, the tennis and sailing club, playground, kindergarten and various ovals, were almost entirely vegetated with indigenous coastal species. Coast Banksias (*Banksia integrifolia*), Moreton Bay Figs (*Ficus macrophylla*), Port Jackson Figs (*Ficus rubiginosa*) and Norfolk Island Hibiscus (*Lagunaria patersonia*) were generally in the best condition, while Drooping Sheoaks (*Allocasuarina verticillata*) and the Norfolk Island Pines (*Araucaria heterophylla*) were exhibiting lower overall vigour. Planners and designers should refer to the arboricultural ratings and useful life expectancies (ULEs) attributed to each tree as a means of determining the appropriateness of retaining trees in the context of site redevelopment. In general, the Norfolk Island Pines and the maturing Figs were the most significant landscape features and thus had the highest retention ratings, though many of the Norfolk Island Pines were suffering health problems and attracted shorter ULEs. Conversely, the Coast Banksias were less significant features individually and thus attracted lower Arb ratings, though many were in fine condition and had long ULEs. The rows of Norfolk Island Hibiscus were prominent features and were mostly in fair or better condition although some were exhibiting minor decline symptoms. Drooping She-oaks were generally both of lower arb ratings and shorter ULEs. Designers should also refer to the tree protection zones and structural root zones when designing around retained trees.

# 2 Method

- 2.1 Site inspections were carried out on Thursday 19<sup>th</sup> and Monday 23<sup>rd</sup> of March 2020. Trees in the eastern section of the study area (Trees 350-524) were inspected on Wednesday 27 May 2020. The trees were inspected from the ground and observations were made of the growing environment and surrounding area. The trees were not climbed and no samples of the tree or soil were taken.
- 2.2 Observations were made of the assessed trees to update or determine the species, age category, and condition with measurements taken to establish tree crown height (measured with a height

meter) and crown width (paced) and trunk dimensions (measured 1.4 metres above ground level with a diameter tape unless otherwise stated). Descriptors used in the assessment can be seen in Appendix 3.

- 2.3 Assessment details of individual trees are listed in Appendix 1 and a copy of the tree location plan can be seen in Appendix 2.
- 2.4 City of Port Phillip tree asset ID numbers were matched to existing features where possible and included in Appendix 1.
- 2.5 Photographic examples of trees and the environs were taken for further reference and inclusion in the report.
- 2.6 Only trees were assessed and data collected. A tree is generally a plant with a height greater than 5 metres on a single trunk with a single trunk (stem) diameter (DBH) being greater than 150 mm at a height of 1.4 metres above ground level.
- 2.7 Each of the assessed trees was attributed an 'Arboricultural Rating'. The arboricultural rating correlates the combination of tree condition factors (health and structure) with tree amenity value. It should be noted that the arboricultural rating is different to the conservation/ecological values placed on trees by other professions. Definitions of arboricultural ratings can be seen in Appendix 4.
- 2.8 The assessed trees have been allocated tree protection zones (TPZ). The Australian Standard, AS 4970-2009, has been used as a guide in the allocation of TPZs for the assessed trees. This method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius, from the centre of the trunk at (or near) ground level. All TPZ measurements for retained trees are provided in Appendix 1.

### 3 Observations

- 3.1 The tree study area comprised the Elwood foreshore area separating Port Phillip Bay from Ormond Esplanade. The northern and southern extents of the study area were the Lady Forster Kindergarten and Head Street respectively (Figure 1). The bay trail with designated bicycle path ran parallel and next to Elwood beach. The main built area of the study area, comprising Elwood Life Saving Club, restaurant and public toilets, was immediately next to the beach and at the western extent of Elwood Park. Paths of traffic entered the site from two roads off Ormond Road and led to two designated carpark areas. The centre of the study area was dominated by ovals and other grassed recreation areas, including Elwood Park, Wattie Watson Oval and Elwood City Football Club. Head Street reserve occupied the eastern extent of the study area, which was next to Elwood Croquet Club. Other parts of the foreshore area included Elwood Tennis Club at the northwest corner of Elwood Park, and Elwood Sailing and Angling Clubs were at the northern extent of the study area, between the beach and the Kindergarten.
- 3.2 The vegetation within the subject site consisted primarily of natives, approximately 2/3 of which were Coast Banksia and Drooping She-oak that were planted around the edges of the parks and built infrastructure in a coastal scrub type setting. Somewhat separate from the coastal scrub

arrangements were an assortment of non-natives, some of which were the most prominent features of the area. The most significant non-natives comprised:

- A row of maturing Norfolk Island Pines growing parallel to the beachfront and bay trail. These were the main vegetative features contributing to the foreshore's coastal character.
- A population of maturing Norfolk Island Hibiscus lining Ormond Esplanade and planted heavily throughout Head Street Reserve.
- Several Moreton Bay and Port Jackson Figs were growing in Head Street Reserve and adjacent to Elwood Tennis Club.
- Several other prominent trees were also growing in Head Street reserve including a Chinese Elm (*Ulmus parvifolia*), a Southern Mahogany (*Eucalyptus botryoides*) and Prickly-leaved Paperbarks (*Melaleuca stypheloides*).



**Figure 1.** Study area given by continuous red polygon.

3.3 Five hundred and twenty-four (524) individually assessed trees were growing within the study area. The species composition was heterogenous, with forty one (41) different species recorded, although much of this diversity was contained within Head Street Reserve, and most of the individuals were Coast Banksia, Drooping She-oak or Norfolk Island Hibiscus (Table 1).

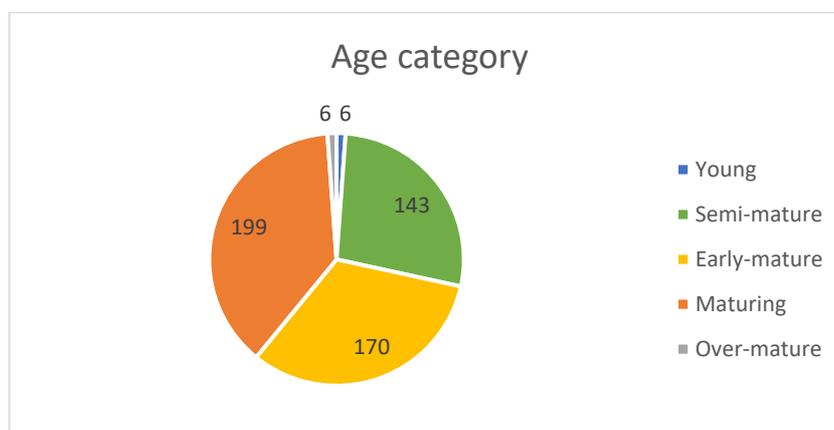
See the tree assessment table attached as Appendix 1 for details of each tree feature. See Appendix 2 for tree numbers and locations.

**Table 1.** Species with more than two recorded individuals.

Common name ( <i>species</i> )	Origin	No. of trees
<i>Allocasuarina verticillata</i> (Drooping She-oak)	Indigenous	181
<i>Banksia integrifolia</i> (Coast Banksia)	Indigenous	171

Common name ( <i>species</i> )	Origin	No. of trees
<i>Lagunaria patersonia</i> (Norfolk Island Hibiscus)	Australian native	62
<i>Araucaria heterophylla</i> (Norfolk Island Pine)	Australian native	19
<i>Myoporum insulare</i> (Boobialla)	Indigenous	12
<i>Melaleuca stypheloides</i> (Prickly-leaved Paperbark)	Australian native	9
<i>Leptospermum laevigatum</i> (Coast Tea-tree)	Indigenous	8
<i>Ligustrum lucidum</i> (Shining Privet)	Exotic evergreen	6
<i>Pittosporum undulatum</i> (Sweet Pittosporum)	Victorian native	6
<i>Ficus macrophylla</i> (Moreton Bay Fig)	Australian native	6
<i>Allocasuarina littoralis</i> (Black She-oak)	Indigenous	4
<i>Agonis flexuosa</i> (Willow Myrtle)	Australian native	3
<i>Ficus rubiginosa</i> (Port Jackson Fig)	Australian native	3
<i>Corynocarpus laevigatus</i> (Karaka)	Exotic evergreen	3

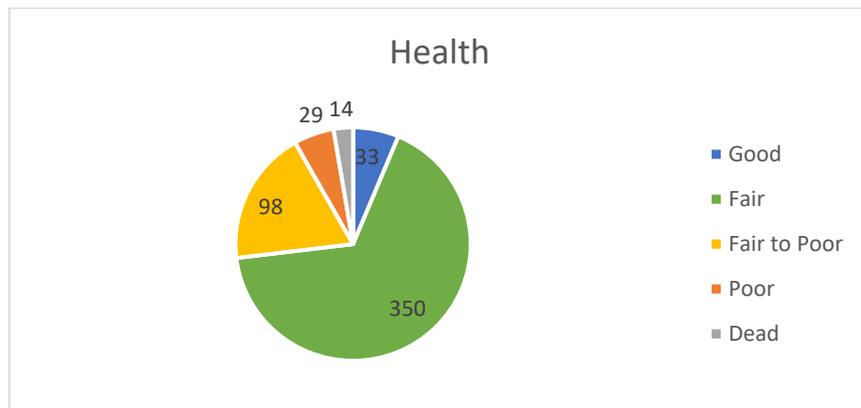
3.4 Tree age was relatively well spread through the five age categories (Figure 2), indicating that the coastal scrub has been continually managed in its recent history. Though most of the trees are in the maturing category, most are relatively fast-growing species and would have been planted or naturally germinated less than 50 years ago. Some of the non-natives, including the maturing Norfolk Island Hibiscus and Port Jackson Figs were older trees, probably exceeding 50 years of age, while the row of Norfolk Island Pines were probably planted in the early 20<sup>th</sup> century.



**Figure 2.** Breakdown of tree age category

3.5 Tree health was assessed based on foliage colour, size and density as well as shoot initiation and elongation.

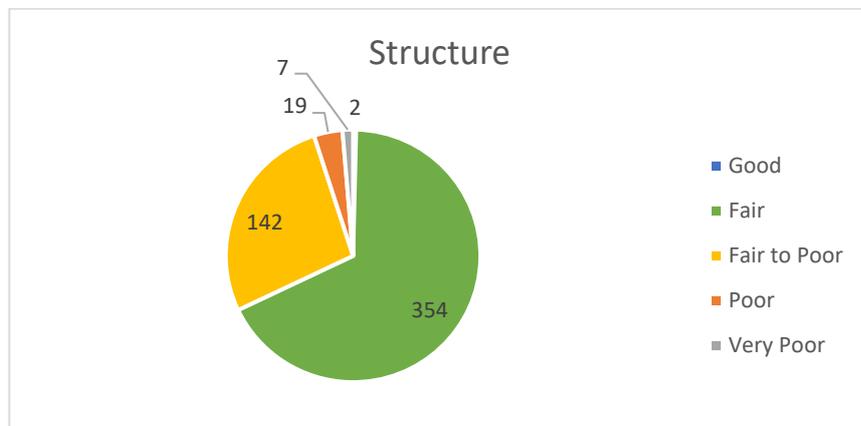
- Almost three quarters of individually assessed trees (383 trees) were displaying characteristics considered to be typical or better of the species growing in this environment under current conditions.
- Approximately 1/5 of the population (98 trees) had Fair to poor health with reduced foliage density, partial dieback and deadwood signifying stress.
- The remaining trees (approximately 10% of the population) were in various stages of decline or were dead.



**Figure 3.** Breakdown of tree health

3.6 Tree structure was assessed for structural defects and deficiencies, likelihood of failures and risk to potential targets.

- Approximately two-thirds of the population (356 trees) displayed Fair or better structure in terms of primary branching arrangement and architecture.
- Approximately ¼ of the population (142 trees) had Fair to poor structure with minor deficiencies, over-extended limbs, acute fork attachments, wounds, past failures and crown asymmetry. Some of the deficiencies may be manageable with arboricultural input.
- Twenty six (26) trees had Poor or Very poor structure with an elevated risk of partial or entire tree failure.



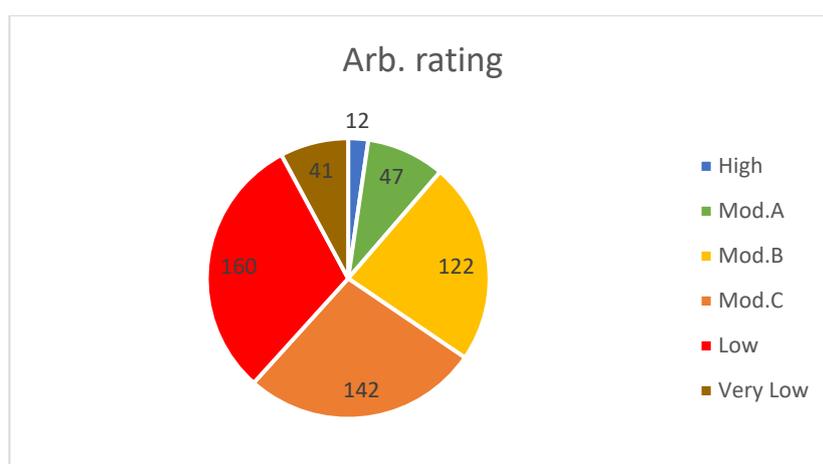
**Figure 4.** Breakdown of tree structure

3.7 Each of the assessed trees was attributed an 'Arboricultural Rating'. The arboricultural rating correlates the combination of tree condition factors (health, structure & form) with tree amenity value. Amenity relates to the trees biological, functional and aesthetic characteristics within an urban landscape context and its ability to continue to provide these qualities into the medium to long term future. The arboricultural rating in combination with other factors can assist the project team and planners in nominating trees suitable for retention. It should be noted that the arboricultural rating is different to the conservation/ecological values placed on trees by other professions. Definitions of arboricultural ratings can be seen in Appendix 3.

Trees may be considered significant to the landscape because of their size, dominance within the site, presence within outlooks and general amenity in terms of shade, screen, foliage and flowers and historic, cultural or horticultural characteristics. The key to successful tree retention is to identify the trees that represent the best opportunity for retention and implement tree protection and design amendments before any site works commence.

The six arboricultural ratings used by Tree Logic include:

- High: Trees of high quality in good to fair condition. Retention of such trees is highly desirable.
- Moderate: Trees with a Moderate arboricultural rating are generally suitable for retention and design should attempt to incorporate these trees and provide adequate clearances during development stages where reasonable design intent is not unduly hampered. The following sub-categories relate predominately to age, size and amenity.
  - A: Moderate to large, maturing tree.
  - B: Moderate sized, established tree >50% of attainable age/size. Maturing tree with amenity value but could have identified deficiencies.
  - C: Small and/or semi-mature tree, established, > 5 years in location. Maturing tree with accumulating deficiencies, trending towards becoming of Low arboricultural value.
- Low: Trees with a Low arboricultural rating generally have low retention values. They are either fair specimens of relatively small size, display general health or structural deficiencies or are environmental weed species. Retention of Low rated trees may be considered in some instances if not requiring a disproportionate expenditure of resources to successfully incorporate into the design or manage ongoing condition.
- Very low: Trees attributed an arboricultural rating of Very low have health or structural characteristics that are beyond arboricultural maintenance.



**Figure 5.** Breakdown of arboricultural rating

As shown in Figure 5 a majority of trees were in Mod.C, Low and Very Low categories. The predominance of these ratings is mainly a result of the tree population being composed primarily of small and/or relatively young trees.

The High rated trees included seven Norfolk Island Pines growing adjacent to the beach, three Port Jackson Figs and one Chinese Elm growing in Head Street Reserve, and one Moreton Bay Fig growing next to the playground in Elwood Park.

The Moderate A rated trees were the largest and/or best quality Norfolk Island Hibiscus and Coast Banksias as well as some of the more significant trees that were in fair or better condition (including Norfolk Island Pines, Moreton Bays Figs, Canary Island Date Palm, Yellow Gum, Brittle Gum and Southern Mahogany).

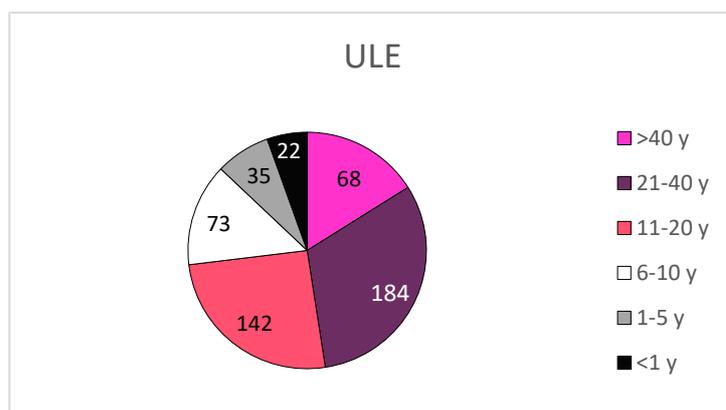
Table 2 indicates the arboricultural ratings attributed to High and Mod.A rated trees.

**Table 2.** Individual IDs of High and Mod.A rated trees.

Rating		Total	Individual tree numbers
High		12	207, 321, 325, 327, 330, 332, 334, 335, 416, 417, 425, 438
Moderate	A	47	4, 109, 121, 144, 164, 197, 199, 204, 206, 208, 209, 213, 267, 268, 315, 323, 324, 328, 329, 348, 362, 366, 385, 387, 397, 402, 403, 422, 427, 437, 441, 442, 444, 445, 450, 452, 463, 469, 471, 472, 474, 480, 482, 487, 488, 497, 498

3.8 Useful life expectancy (ULE) was collected to provide an indication of health and tree appropriateness to the study area. It involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to landowners. The ULE categories can be used as a guide when developing a landscape strategy for a future site redevelopment.

The ULE breakdown of the population is summarised below in Figure 6.



**Figure 6.** Useful life expectancy (ULE)

The sixty eight (68) trees with greater than forty years ULE were either young trees in fair or better health or were well-established semi-mature to mature trees in fair or better condition. They are, or are expected to become, valuable landscape features for the long term.

The one hundred and eighty four (184) trees with between 21 to 40 years ULE were also well-established trees, however, were either closer to late-maturity, were shorter-lived species, or had some minor health deficiencies and would be expected to begin displaying age-related decline symptoms within this time frame.

One hundred and forty-two (142) trees with between 11 and 20 years either had inherent health or structural issues, were over-mature, or are relatively short-lived species and would be expected to senesce in the short to medium term. Most of these trees could be considered for retention in the short to medium term, however they would be expected to require periodic arboricultural maintenance and/or monitoring.

In general, the one hundred and thirty (130) trees in the remaining ULE categories (less than 10 years) should be considered for removal within this time frame. A site redevelopment presents a good opportunity to replace a majority of these trees.

ULEs for individual trees are listed in Appendix 1, and trees are colour-coded by ULE and Arb rating in the tree location plan at Appendix 2.

## 4 Photographic examples



**Image 1 (above).** Tree 164, a Mod A rated Coast Banksia in the BBQ area of Elwood Park.



**Image 2 (above).** Looking southwest showing Trees 285-290. Centre and right of Image are two Mod B rated Coast Banksias, left of image are mostly Mod C and Low rated Drooping Sheoaks.



**Image 3 (right).** Looking north showing two Mod B rated Drooping She-oaks next to the playground in Elwood Park.



**Image 4 (above).** Looking south at Tree 304, a Mod C rated Boobialla at the rear of the kindergarten. Though a short tree, it was very large for its species and was in outstanding condition.



**Image 5 (above).** Looking west at Tree 319, a Mod C rated Drooping Sheoak at the northern edge of the study area.



**Image 6 (above).** Looking south showing Norfolk Island Pines 324-328, with Tree 324 rightmost in image.



**Image 7 (above).** Looking north showing Norfolk Island Pines 330 -335, with Tree 335 closest to image.



**Image 8 (above).** Looking east showing High rated Norfolk Island Pine, Tree 321.

**Image 9 (right).** Looking west showing relative size, location and condition of Low rated Tree 322 (right) and Mod A rated Tree 323 (left). Both had health issues although Tree 323 was in much worse condition and possibly beyond remediation.





**Image 10 (above).** Looking east showing Trees 102-104, all Drooping She-oaks with Low to Very low Arboricultural value.



**Image 11 (above).** Looking south showing Trees in southwestern corner of Elwood Park. Several trees in this area were in poor health which may be related to site conditions e.g soil, pathogens or past disturbance.



**Image 12 (above).** Looking north showing Tree 207, a High rated Moreton Bay Fig at the edge of the Playground in Elwood Park.



**Image 13 (above).** Looking south showing Trees 42-45 all Coast Banksia growing in a median within the southern carpark area. Along with several other Coast Banksias in the carpark, their reduced state of health is likely associated with the restricted growing environments.



**Image 14 (above).** Looking west at Trees 334 (right) and 335 (left), both High-rated Norfolk Island Pines.

**Image 15 (left).** Within the southern carpark area, showing the kerb and road damage caused by trees growing from the small raised beds.



**Image 16 (above).** Looking east at row of Norfolk Island Hibiscus at southern end of Head Street Reserve (Trees 388-395)



**Image 17 (above).** Looking east at Tree 425, one of three High-rated Port Jackson Figs in Head Street Reserve.



**Image 18 (above).** Looking south at, left to right, Tree 470, a Mod. C rated Drooping Sheoak and Trees 471 and 472, both Mod.A rated Norfolk Island Hibiscus.



**Image 19 (above).** Looking southeast at Trees 360 & 362, Mod.B and Mod.A rated Norfolk Island Hibiscus at the southern edge of the soccer fields.



**Image 20 (above).** Looking south at Tree 369, a Mod.B rated Manna Ash (*Fraxinus ornus*) growing next to the croquet club.



**Image 21 (above).** Looking south at High rated Trees in Head Street Reserve. Closest to screen is 416, a Chinese Elm, and in the rear ground is Tree 417, a Port Jackson Fig.

## 5 Tree protection zones

- 5.1 The Tree protection zones (TPZs) provided for each tree in the Tree Assessment Table in Appendix 1 and referred to in this statement, are calculated using the formula provided in the Australian Standard AS4970 where the Radial TPZ = Trunk diameter (DBH) measured at 1.4m above grade and multiplied by 12. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. A TPZ should not be less than 2m nor greater than 15m. The method for calculating, applying and managing the tree protection zone is described in Appendix 5.
- 5.2 The TPZ forms an area around a tree or group of trees that addresses both the stability and growing requirements of a tree. Construction and worksite activities within the TPZ need to be determined to assess their impacts in order to preserve tree condition.
- 5.3 Minor encroachment, up to 10% of the TPZ area, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Encroachment greater than 10% is considered major encroachment under AS4970 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.
- 5.4 The structural root zone (SRZ) provided for each tree has been calculated using the method provided in AS4970. The SRZ is the area in which the larger woody roots required for tree stability are found close to the trunk and which then generally taper rapidly. This is the minimum area recommended to maintain tree stability but does not reflect the area required to sustain tree health. No works should occur within the SRZ radius as tree stability could be compromised.
- 5.5 See Appendix 4 for TPZ establishment and types of encroachment

## 6 Discussion and recommendations

- 6.1 The pre-development arboricultural inspection report provides planners and designers with information on whether trees are worthy or unworthy of being a constraint on the site.

At the time of preparing the report no proposed development plans were available to be reviewed.

In the absence of specific site design plans, it is not appropriate to speculate on which trees are most appropriate for retention beyond the general guide provided by the arboricultural ratings and ULE attributed to each tree feature. Retention suitability will be dependent on the proposed landscape setting in which trees are intended to be retained. The following recommendations are provided for consideration in the design process.

- 6.2 In terms of **arboricultural rating**:

- High and Moderate rated trees are generally most suitable for retention (with Mod-A, Mod-B and Mod-C providing further distinction in terms of tree quality, size and/or amenity value). Sufficient space should be allocated within the design where possible to adequately protect the recommended TPZ and minimise construction encroachment. Three hundred and twenty three (323) trees were considered to be worthy of retention within the site.

- Trees of Low arboricultural value should not compromise reasonable design intent. One hundred and sixty (160) trees were Low rated. Some of these trees were low rated due to diminutive size and could be retained as established tree resources, while those trees with health or structural deficiencies should generally be considered for removal based on sound arboricultural opinion.
- The Forty one (41) trees rated Very Low were either in poor condition and should be removed or were recently planted and very small trees that could be easily replaced if required.

6.3 **ULE** is also a useful tool for categorising trees on their suitability within a redevelopment:

- The sixty eight (68) trees attributed >40 years present the best options as established landscape features while the one hundred and eighty four (184) trees categorised with 21 to 40 years are also well suited as part of a moderate to long term landscape strategy.
- One hundred and forty two (142) trees with 11-20 years of ULE were generally exhibiting health issues and are expected to have heightened sensitivity to external pressures such as drought, soil compaction, disease and site changes. These trees may require remedial input such as mulching or irrigation within their root zones if they are intended to be retained as landscape features.
- Most of the trees with lower ULES (less than 10 years) could be retained as established tree resources (for shade, amenity, landscape or ecological value) but would be expected to deteriorate in condition over the short to medium to term.

6.4 **Species considerations:**

Norfolk Island Pines: The row of Norfolk Island Pines was the most significant group of tree features in the foreshore landscape. Most of the trees were exhibiting stress, although the degree of decline was highly variable, from the Low-rated Tree 322 which was probably in irreversible decline to the High rated Tree 335 with relatively normal foliage density and colouration. Due to their reduced condition, the trees are expected to be sensitive to changes within their TPZs and care should be taken during the design phase to minimise TPZ encroachment. Those involved in landscape design should be make noted of the growing environment around those trees in the best condition (Trees 334 and 335) and introduce landscape elements of a similar nature around all retained Norfolk Island Pines. During the construction phase, the trees must have TPZ measures implemented, protecting a maximum area of their TPZs.

Coast Banksias: Coast Banksias made up a significant proportion of trees in the foreshore and they can become significant, long-term landscape features. As shown in Images 13 and 15, the trees have a relatively low tolerance to confined growing environments, which is manifested in health decline as well as heaving of hard surfaces around the root buttress. Coast Banksia will perform best in designated beds where they are allowed to self-mulch within a maximum proportion of their dripline.

Drooping Sheoaks: Drooping Sheoaks were also widely used in the foreshore area. They also have potential to remain in the landscape for the medium term, although several in the area were suffering from health issues. It is recommended that some soil tests are undertaken,

especially around the edges of Elwood Park, to help determine the cause of dieback in the Drooping She-oaks and also in some of the Coast Banksias. This should take place before any site redevelopment occurs.

#### 6.5 **Other considerations:**

The design should ensure appropriate growing space for the retained trees is allocated. Some of the subject trees comprised semi-mature specimens which will increase in size over the coming years. If infrastructure is constructed too close to any of the retained trees, there will be potential for damage to occur from root activity.

Several groupings of trees of the same species, similar size, age and condition growing in close proximity to one-another existed on the site. The close grown nature of the trees influences the growth habit of each tree and as such the trees are best managed as a group. Fragmentation of the group can expose the individual trees to potential damage from newly exposed forces such as altered wind patterns, sun exposure and soil disturbance.

All trees that are to be retained adjacent to work activities will require Tree Protection Zones to be established prior to commencing any works onsite including demolition, bulk earthworks, construction, landscaping activity, delivery and storage of materials or placement of site sheds.

No form of excavation for installation of underground services is permitted within the nominated TPZ areas for any retained trees without prior consultation with an appropriately qualified arborist, as the risk of severing roots vital to the stability and continued sustainability of the trees can occur.

Any proposed encroachment of a TPZ in excess of 10% must be approved by the consulting arborist/relevant authority and based on the results of non-destructive root investigation using either Air-spade ® or hydro-excavation.

## 7 Conclusions

7.1 Five hundred and twenty-four (524) trees were growing within the study area. Most of the trees were either Coast Banksia, Drooping She-oak and Norfolk Island Hibiscus, although the most significant tree features in the foreshore were the row of Norfolk Island Pines.

7.2 All trees were attributed an arboricultural rating that reflects their individual retention value.

Twelve (12) trees were High rated and were the most outstanding tree features in the foreshore in terms of size and/or quality, although the forty seven (47) Moderate A rated trees were also of relatively high quality and should be prioritised for retention. Those rated Moderate B were generally well-established trees in fair or better condition but were usually smaller and/or younger than the higher categories. Those rated moderate C were either smaller again or were beginning to show decline symptoms and were of lower landscape value than the higher categories.

Trees with a Low or Very low were usually of limited landscape value due to either small size, short life expectancy and/or due to poor quality. Those rated Low due to poor health or structure should be considered for removal.

Useful life expectancies have also been provided for each tree feature to help determine the relative longevity of trees within a re-landscaped foreshore. Those in the highest ULE categories (>40 years & 21-40 years) are generally best placed for retention, while the others, in descending order have less chance of thriving into the future, especially in changed settings.

Trees are colour coded based on their Arb rating and ULE in the tree location plan at Appendix 2. Individual tree ratings are provided at Appendix 1.

- 7.3 Tree protection zones must be considered when planning and constructing the new foreshore elements. Tree protection measures should be installed around trees adjacent to construction/landscaping activities. Recommended TPZ distances are provided in Appendix 1.

Tree protection guidelines attached as Appendix 4 are provided as guidelines for use during site activities.

Existing soil grades must remain unaltered within any tree protection zone adopted on site. Trenching for installation of services or the placement of soil fill greater than 100mm must not occur within the recommended TPZ of any retained trees.

Any encroachment greater than 10% of the recommended TPZ area must be based on a non-destructive root investigation in consultation with the site arborist or relevant authorities and root sensitive construction methods.

I am available to answer any questions arising from this report.

No part of this report is to be reproduced unless in full.

Signed



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## Appendix 1: Tree Assessment Table

Refer to the following 19 pages.

- DBH = Diameter at Breast Height (measured 1.4m above ground unless otherwise stated)
- ULE = Useful Life Expectancy
- Arb. rating = arboricultural rating
- TPZ = Tree Protection Zone.
- SRZ = Structural Root Zone
- TPZ & SRZ measurements are radius in metres from the centre of the trunk per AS 4970-2009.
- CoPP Asset ID = City of Port Phillip tree asset ID number

Definitions of the descriptor categories used in the assessment can be seen in Appendix 3.

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
1	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	20	24	4	5	Fair to Poor	Fair to Poor	Low	6-10 y		2.4	1.8	
2	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Semi-mature	Australian conifer	13	17	6	4	Fair to Poor	Fair	Low	11-20 y	Tip dieback	2.0	1.6	
3	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Semi-mature	Australian conifer	28	34	8	5	Fair	Fair	Mod.C	21-40 y	Trunk wounds	3.4	2.1	
4	<i>Phoenix canariensis</i>	Canary Island Date Palm	Maturing	Exotic palm	100	110	14	6	Fair	Fair	Mod.A	21-40 y		12.0	3.4	29610
5	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Semi-mature	Australian conifer	28	34	8	5	Fair	Fair to Poor	Mod.C	11-20 y	Trunk wounds; side shoot	3.4	2.1	29597
6	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	36@0.5	42	7	6	Fair	Fair	Mod.B	>40 y		4.3	2.3	29598
7	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	22,12,11	34	6	5	Fair	Fair	Mod.C	11-20 y		3.3	2.1	
8	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Semi-mature	Indigenous	9,4	14	3	4	Fair	Fair	Low	21-40 y		2.0	1.5	
9	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	30	36	6	5	Fair	Fair	Mod.B	>40 y		3.6	2.2	29593
10	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	28,12	36	6	5	Fair	Fair	Mod.B	>40 y	trunk obscured by vine	3.7	2.2	29592
11	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	36,27,26	65	8	5	Fair	Fair	Mod.B	>40 y		6.2	2.8	29591
12	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	22,12	34	5	4	Fair	Fair	Mod.C	11-20 y		3.0	2.1	
13	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	25,24,15	45	7	5	Fair to Poor	Fair	Mod.C	11-20 y	Tip dieback	4.5	2.4	29605
14	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	22	26	5	4	Fair to Poor	Fair	Low	6-10 y	Reduced foliage density;Tip dieback	2.6	1.9	29604
15	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	17,15,14,13	43	6	4	Fair	Fair	Mod.B	21-40 y		3.6	2.3	29602
16	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	12,10,10,9,6	36	5	4	Fair	Fair to Poor	Mod.C	11-20 y		2.2	2.2	29601
17	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	12,10,10	22	3	3	Fair to Poor	Fair to Poor	Low	6-10 y		2.2	1.8	29608
18	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	27,23,20	52	7	5	Fair to Poor	Fair	Mod.C	11-20 y	Reduced foliage density; heaving surrounding kerb and road surface	4.9	2.5	29606
19	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	20,12,10,10	35	4	6	Fair	Fair	Mod.C	11-20 y		3.3	2.1	29576
20	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	27,22,19,18,14	81	6	6	Fair	Fair	Mod.B	>40 y		5.5	3.0	29575
57	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	14	16	5	3	Dead	Fair to Poor	Very Low	<1 y		2.0	1.5	
22	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	35	42	6	5	Poor	Fair	Low	6-10 y	Reduced foliage density	4.2	2.3	29612
23	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	28,24	39	6	5	Fair	Fair	Mod.B	21-40 y	heaving surrounding kerb and road surface	4.4	2.2	29611
24	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	52@0.5	54	8	5	Fair	Fair	Mod.B	11-20 y	Over-extended limbs;Reduced foliage density; heaving surrounding kerb and road surface	6.2	2.6	29609
25	<i>Myoporum insulare</i>	Boobiella	Maturing	Indigenous	10,10	19	3	4	Fair	Fair	Low	6-10 y		2.0	1.6	29629
26	<i>Myoporum insulare</i>	Boobiella	Maturing	Indigenous	10,10	18	3	4	Fair	Fair	Low	6-10 y		2.0	1.6	29630
27	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	18,16,12,10	42	5	4	Fair	Fair	Mod.C	21-40 y		3.4	2.3	29621
28	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	25,17,13	42	5	4	Fair	Fair	Mod.C	21-40 y		3.9	2.3	29620
29	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	22,10	29	5	4	Fair	Fair	Mod.C	21-40 y		2.9	2.0	29619
30	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	26,23,19	53	5	4	Fair	Fair	Mod.C	21-40 y		4.7	2.5	29618
31	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	14	18	4	3	Dead	Fair to Poor	Very Low	<1 y		2.0	1.6	29617

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
32	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	17,17,11	37	5	4	Poor	Fair to Poor	Low	1-5 y		3.2	2.2	29616
33	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	10,10,10	26	5	4	Fair to Poor	Fair	Low	6-10 y		2.1	1.9	29615
34	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	6,6,6	13	3	3	Fair to Poor	Fair to Poor	Very Low	1-5 y		2.0	1.5	29613
35	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	10,7,6,6	18	3	4	Fair to Poor	Fair to Poor	Very Low	1-5 y		2.0	1.6	29614
36	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	14,9,9,8	35	5	4	Fair to Poor	Fair	Low	6-10 y		2.0	2.1	29631
37	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	22,19,16	39	6	4	Fair	Fair	Mod.B	>40 y	base obscured	4.0	2.2	29571
38	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	10,7,5	19	5	3	Poor	Fair to Poor	Very Low	1-5 y		2.0	1.6	29570
39	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	27,20	42	7	4	Fair	Fair	Mod.B	21-40 y	heaving surrounding kerb and road surface	4.0	2.3	29568
40	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	28	37	7	4	Fair	Fair	Mod.B	21-40 y	heaving surrounding road surface	3.4	2.2	29569
41	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	16,12,12,10	28	5	5	Fair	Fair	Mod.C	21-40 y		3.0	1.9	
42	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	7,6	12	3	3	Fair to Poor	Fair	Low	11-20 y		2.0	1.5	29638
43	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	8	10	3	2	Dead	Fair to Poor	Very Low	<1 y		2.0	1.5	29637
44	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	9	12	3	2	Fair	Fair	Low	11-20 y		2.0	1.5	29636
45	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	8,7,4,4,4	20	4	3	Fair	Fair	Low	11-20 y		2.0	1.7	29634
46	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	7,7	10	4	2	Dead	Fair to Poor	Very Low	<1 y		2.0	1.5	
47	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	14,13,11,10	22	4	4	Fair to Poor	Fair to Poor	Low	6-10 y	Borers	2.9	1.8	29635
48	<i>Myoporum insulare</i>	Boobiolla	Maturing	Indigenous	14,13,12	48	3	4	Fair	Fair	Low	11-20 y		2.7	2.4	29632
49	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	13	17	4	3	Fair to Poor	Fair to Poor	Low	6-10 y	Trunk wounds	2.0	1.6	29639
50	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	19,11,8,6	39	5	4	Fair	Fair	Mod.C	>40 y		2.6	2.2	
51	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	38	43	7	7	Fair	Fair	Mod.B	21-40 y	base obscured	4.6	2.3	29655
52	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	27	33	7	4	Fair	Fair	Mod.C	21-40 y		3.2	2.1	
53	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	38	49	7	7	Fair	Fair	Mod.B	21-40 y		4.6	2.5	29656
77	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	10,10	24	4	4	Dead	Fair to Poor	Very Low	<1 y		2.0	1.8	29690
55	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	28,20,16	52	7	5	Fair	Fair	Mod.B	21-40 y	Suppressed	4.6	2.5	
56	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	23	28	6	5	Fair to Poor	Fair	Low	6-10 y		2.8	1.9	
68	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	12,12,9	31	5	3	Dead	Fair to Poor	Very Low	<1 y		2.0	2.0	29684
58	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	19,19	32	5	5	Fair to Poor	Fair to Poor	Low	6-10 y		3.2	2.1	29665
59	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	14	18	5	4	Fair	Fair	Mod.C	21-40 y		2.0	1.6	29673
60	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	24,12,9,8	39	6	5	Fair to Poor	Fair	Mod.C	11-20 y		3.2	2.2	29671
62	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	20,19,12	33	6	6	Poor	Poor	Very Low	<1 y	dead branches over footpath	3.6	2.1	29679
61	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	22,19	34	6	5	Poor	Fair to Poor	Very Low	<1 y	In irreversible decline	3.5	2.1	29670

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21	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	24,20	36	6	4	Dead	Fair to Poor	Very Low	<1 y		3.7	2.2	29574
64	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	20,19,14,12,13	50	6	7	Fair	Fair	Mod.C	11-20 y	trunk obscured	4.3	2.5	29677
65	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	19,18	36	5	4	Fair to Poor	Fair	Low	6-10 y	Tip dieback	3.1	2.2	29682
66	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	29	36	5	4	Fair	Fair	Mod.C	11-20 y		3.5	2.2	29680
67	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	22,19	36	6	5	Poor	Fair to Poor	Very Low	<1 y		3.5	2.2	29681
54	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	39	45	7	8	Poor	Fair to Poor	Low	1-5 y	Declining	4.7	2.4	29660
69	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	20,19,15,12,12	50	6	7	Fair	Fair	Mod.C	11-20 y	trunk obscured	4.3	2.5	29686
70	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	29@0.5	30	5	5	Fair to Poor	Fair to Poor	Low	6-10 y	Suppressed	3.5	2.0	
71	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	9,9,9,9	25	4	4	Fair	Fair	Low	11-20 y	trunk obscured	2.0	1.8	
72	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	14	18	5	4	Fair	Fair	Low	11-20 y		2.0	1.6	29688
73	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	16,14,14,8	30	5	6	Fair	Fair	Low	11-20 y	trunk obscured	3.1	2.0	
74	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	30,29,27,21	55	6	7	Fair	Fair	Low	6-10 y	Tip dieback; trunk obscured	6.5	2.6	29695
75	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	19,13,11	35	5	5	Fair to Poor	Fair to Poor	Low	6-10 y	Tip dieback	3.1	2.1	29696
76	<i>Eucalyptus camaldulensis</i>	River Red Gum	Semi-mature	Victorian native	21	27	8	5	Fair to Poor	Fair	Low	6-10 y	Tip dieback; over mulched. roots possibly suffocated.	2.5	1.9	
230	<i>Allocasuarina verticillata</i>	Drooping She-oak	Over-mature	Indigenous	47@0.5	50	7	7	Fair to Poor	Fair	Low	6-10 y	Declining	5.6	2.5	29755
78	<i>Allocasuarina verticillata</i>	Drooping She-oak	Young	Indigenous	6	10	4	2	Fair	Fair	Very Low	21-40 y		2.0	1.5	
79	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	21,19,16,10	38	5	5	Fair	Fair	Low	11-20 y	Tip dieback; trunk obscured	4.1	2.2	
80	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	14,8	24	4	4	Fair	Fair	Low	11-20 y		2.0	1.8	29700
81	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	33,28,24,18,17	58	5	8	Fair	Fair	Mod.B	11-20 y		6.6	2.6	
82	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	17	24	5	4	Fair	Fair	Mod.C	11-20 y	minor leaf discolouration	2.0	1.8	29704
83	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	18,10,10	25	4	4	Poor	Fair to Poor	Very Low	<1 y		2.7	1.8	204634
84	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25	32	5	4	Fair	Fair	Mod.C	>40 y		3.0	2.1	29710
85	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	20	30	6	5	Fair	Fair	Mod.C	21-40 y	ivy infestation	2.4	2.0	29711
86	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	12	14	4	4	Good	Fair	Low	21-40 y		2.0	1.5	
87	<i>Banksia integrifolia</i>	Coast Banksia	Young	Indigenous	10	12	4	3	Fair	Fair	Low	>40 y		2.0	1.5	204636
88	<i>Banksia integrifolia</i>	Coast Banksia	Young	Indigenous	10	12	4	3	Fair	Fair	Low	>40 y		2.0	1.5	204642
89	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	12	14	4	3	Fair	Fair	Low	21-40 y		2.0	1.5	204633

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90	<i>Banksia integrifolia</i>	Coast Banksia	Young	Indigenous	14	17	5	3	Fair	Fair	Low	>40 y	Acute forks	2.0	1.6	204632
91	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	15	4	3	Fair	Fair	Low	21-40 y		2.0	1.5	204628
92	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	8,7	16	5	3	Fair	Fair	Low	>40 y		2.0	1.5	204627
93	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	35,23	80	4	5	Fair	Fair to Poor	Mod.C	6-10 y	Significant crown bias west over road	5.0	3.0	29516
94	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15	22	3	2	Fair	Fair	Low	21-40 y		2.0	1.8	29517
95	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	25,25	55	6	5	Dead	Very Poor	Very Low	<1 y	Dead, splits in wood, but leaning on live tree. Remove	4.2	2.6	29515
96	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	36	44	7	7	Fair	Fair to Poor	Low	6-10 y		4.3	2.3	29518
97	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	31,17	35	7	7	Fair to Poor	Fair	Low	6-10 y		4.2	2.1	
98	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	28	34	8	4	Fair	Fair	Mod.C	>40 y		3.4	2.1	29521
99	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,10	15	5	4	Fair	Fair	Low	21-40 y		2.0	1.5	
100	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	22,12	34	7	4	Fair	Fair	Mod.C	21-40 y		3.0	2.1	29529
101	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	9,8,7	39	3	6	Fair	Poor	Low	6-10 y	Basal decay; trunk running along ground for ~5m	2.0	2.2	29531
63	<i>Allocasuarina verticillata</i>	Drooping She-oak	Over-mature	Indigenous	28,25,18,13	53	6	6	Poor	Fair to Poor	Very Low	1-5 y	Declining	5.2	2.5	29674
103	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	27	33	7	6	Poor	Fair to Poor	Very Low	1-5 y		3.2	2.1	29541
104	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	28,26,20,20,19	56	7	6	Poor	Fair to Poor	Very Low	1-5 y		6.1	2.6	29542
105	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7,6	10	4	2	Fair	Fair	Low	21-40 y		2.0	1.5	
106	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	32,28,26,22,22	74	7	9	Fair	Fair to Poor	Mod.C	11-20 y	Active split;Tip dieback	7.1	2.9	29545
107	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	19	23	5	5	Fair	Fair	Mod.C	21-40 y		2.3	1.8	
108	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	32,14	41	7	7	Good	Fair	Mod.B	>40 y		4.2	2.3	29550
109	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	43,28	52	7	7	Fair	Fair	Mod.A	>40 y		6.2	2.5	29551
110	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	34	41	7	4	Good	Fair	Mod.B	>40 y	trunk obscured	4.1	2.3	29552
111	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	8	8	4	2	Fair	Fair	Very Low	11-20 y		2.0	1.5	
112	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	19,12	22	5	4	Fair	Fair	Low	11-20 y		2.7	1.8	29554
113	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	24,22	28	5	5	Fair	Fair	Mod.C	11-20 y		3.9	1.9	29555
114	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	24,24	36	5	5	Fair	Fair	Mod.C	11-20 y		4.1	2.2	29556
115	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	14,12,9,9	26	5	6	Fair	Fair	Low	11-20 y		2.2	1.9	
116	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	9,9,9	25	4	5	Poor	Fair to Poor	Low	1-5 y		2.0	1.8	29921
117	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	30@0.5	30	2	5	Fair	Fair	Low	6-10 y		3.6	2.0	29920

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118	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25	31	7	4	Fair	Fair	Mod.C	21-40 y		3.0	2.0	29918
119	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	36	42	9	5	Fair	Fair	Mod.B	21-40 y	Acute forks	4.3	2.3	29919
120	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	13,9,9	28	5	4	Fair	Fair	Mod.C	21-40 y	trunk obscured	2.0	1.9	29917
121	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	30,29,23	68	8	8	Fair	Fair	Mod.A	>40 y		5.7	2.8	29913
122	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	12,12,12	35	5	5	Fair	Fair	Low	11-20 y	Suppressed	2.5	2.1	
123	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	48@0.5	53	6	6	Fair	Fair	Mod.C	11-20 y		5.8	2.5	29912
124	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	19,18,12,10	40	6	5	Fair	Fair	Mod.B	21-40 y		3.7	2.3	
125	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	65	70	8	7	Fair	Very Poor	Very Low	1-5 y	Active split;Past stem failure	7.8	2.8	29911
126	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	29,28	36	8	5	Fair	Fair	Mod.B	21-40 y		4.8	2.2	29909
127	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	18,16	36	8	4	Fair	Fair	Mod.C	>40 y		2.9	2.2	29907
128	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	17,10	27	6	4	Poor	Fair to Poor	Very Low	<1 y		2.4	1.9	29903
129	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	13,11	27	5	3	Poor	Fair to Poor	Very Low	<1 y		2.0	1.9	29906
130	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	13	19	5	4	Fair	Fair	Low	11-20 y		2.0	1.6	29904
131	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	18,17,17,15, 13	52	6	6	Fair to Poor	Fair	Low	6-10 y		4.3	2.5	29901
132	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15,14,9,9	39	6	5	Poor	Fair to Poor	Very Low	1-5 y		2.5	2.2	29902
133	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	23,16,12,11	39	6	5	Poor	Fair to Poor	Very Low	1-5 y		3.9	2.2	
134	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	36	43	6	5	Poor	Poor	Very Low	1-5 y		4.3	2.3	
135	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	26	35	6	4	Fair	Fair	Mod.C	>40 y		3.1	2.1	29897
136	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7,6,6,5	27	3	4	Fair	Fair	Low	21-40 y		2.0	1.9	29896
137	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,8,7	16	3	4	Fair	Fair	Low	21-40 y		2.0	1.5	
138	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,7,6	14	4	3	Fair	Fair	Low	11-20 y		2.0	1.5	29893
139	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	25	29	6	5	Fair	Fair	Low	11-20 y		3.0	2.0	29895
140	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	28,27	39	6	5	Fair	Fair	Mod.C	11-20 y		4.7	2.2	29894
141	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	27,18	45	7	5	Good	Fair	Mod.B	>40 y		3.9	2.4	29892
142	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	13,10,10	26	6	4	Fair	Fair	Mod.C	>40 y		2.3	1.9	29891
143	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	30,29,18	59	8	5	Good	Fair	Mod.B	>40 y		5.5	2.7	
144	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	46	54	9	6	Fair	Fair	Mod.A	>40 y		5.5	2.6	
145	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	28,27,20,10	67	6	7	Fair to Poor	Fair to Poor	Mod.C	11-20 y		5.4	2.8	29749
146	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	16	23	4	2	Fair	Fair	Low	>40 y		2.0	1.8	466377

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
147	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	14	20	4	2	Fair	Fair	Low	>40 y		2.0	1.7	466378
148	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	18,13	24	5	2	Dead	Very Poor	Very Low	<1 y	Dimensions estimated.	2.7	1.8	29740
149	<i>Myoporum insulare</i>	Boobiella	Early-mature	Indigenous	15,10,10	27	4	4	Fair	Fair to Poor	Mod.C	6-10 y	subsiding limbs, pruned back	2.5	1.9	
150	<i>Myoporum insulare</i>	Boobiella	Semi-mature	Indigenous	10,7,5	17	3	2	Fair	Fair	Low	21-40 y		2.0	1.6	
151	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	29,24,24,21	80	6	5	Fair	Fair	Mod.B	11-20 y		5.9	3.0	29738
152	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	18,16	35	6	3	Fair	Fair to Poor	Mod.C	21-40 y	Co-dominant stems; Crossing branches	2.9	2.1	
153	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	23,20,20	65	6	5	Fair	Fair	Mod.B	11-20 y		4.4	2.8	29713
154	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	37	46	6	3	Fair	Fair	Mod.B	11-20 y		4.4	2.4	29713
155	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	15	4	2	Fair	Fair	Low	>40 y		2.0	1.5	466386
156	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	16	3	2	Fair	Fair	Low	>40 y		2.0	1.5	466387
157	<i>Myoporum insulare</i>	Boobiella	Maturing	Indigenous	15,14,13@0.8m	35	3	6	Fair to Poor	Fair to Poor	Low	1-5 y	Collapsing, one stem dying	2.9	2.1	
158	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	8,5,3	15	3	1	Fair	Fair	Mod.C	21-40 y		2.0	1.5	
159	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	24	4	2	Fair	Fair	Mod.C	21-40 y		2.0	1.8	
160	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	10,5,5	25	3	1	Fair to Poor	Fair to Poor	Low	1-5 y	Chlorotic foliage; trunk wound to west 50x6cm appears well-occluded	2.0	1.8	
161	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	20	27	3	2	Fair	Fair	Mod.C	21-40 y	Partly suppressed - crown bias west	2.4	1.9	
162	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	17	22	3	2	Fair to Poor	Fair	Low	11-20 y	Reduced foliage density; shaded out	2.0	1.8	
163	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	11	14	3	2	Fair	Fair to Poor	Low	11-20 y	Suppressed	2.0	1.5	
164	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	32,29,27,22	100	9	7	Good	Fair to Poor	Mod.A	11-20 y	substandard attachment of limb to east, could be pruned back	6.7	3.3	29724
165	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	21,19,10	36	5	3	Fair	Fair to Poor	Mod.B	21-40 y		3.6	2.2	
166	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	21,17,13,13	42	6	5	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Previous failures; Reduced foliage density	3.9	2.3	
167	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	26	32	5	2	Fair	Fair	Mod.B	21-40 y	Not surveyed	3.1	2.1	
168	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	22,19	42	5	2	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Reduced foliage density; 20cm stem tearout to west	3.5	2.3	
169	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	8,8,8	22	4	3	Fair to Poor	Poor	Low	6-10 y	Suppressed; to west, acute forks, vine infested	2.0	1.8	
170	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	12,3	17	3	2	Fair to Poor	Poor	Low	6-10 y	Suppressed to west, vine infested	2.0	1.6	
171	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	19,5	23	5	4	Good	Fair to Poor	Mod.C	21-40 y	Acute forks	2.3	1.8	
172	<i>Solanum aviculare</i>	Kangaroo Apple	Semi-mature	Indigenous	16@0.3	16	1	3	Fair to Poor	Fair to Poor	Low	1-5 y	suppressed shrub	2.0	1.5	
173	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	19	4	2	Fair	Fair	Mod.C	21-40 y		2.0	1.6	
174	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	16	20	4	2	Fair	Fair	Mod.C	21-40 y		2.0	1.7	
175	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	5	8	3	1	Fair	Fair	Low	21-40 y	Partly suppressed - crown bias north	2.0	1.5	
176	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	30	34	7	3	Fair	Fair	Mod.B	21-40 y		3.6	2.1	29733
177	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	20,14,8	37	6	4	Fair	Fair to Poor	Mod.B	21-40 y		2.9	2.2	29732
178	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25@1.2m	30	6	3	Good	Fair	Mod.B	>40 y		3.0	2.0	29731

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
179	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	24@1.2m	28	6	3	Fair	Fair to Poor	Mod.B	21-40 y	Partly suppressed - crown bias west	2.9	1.9	29730
180	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	26,26,24	60	7	5	Fair	Fair	Mod.B	21-40 y		5.3	2.7	29804
181	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	25,21,19,11, 10	47	7	6	Fair	Fair to Poor	Mod.B	21-40 y		4.9	2.4	29802
182	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	38	46	8	4	Fair	Fair	Mod.B	21-40 y		4.6	2.4	29805
183	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	29,26	67	8	6	Fair	Fair	Mod.B	21-40 y	2 stems from base	4.7	2.8	29810
184	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	37	45	10	3	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias southwest	4.4	2.4	29813
185	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	31,29	47	10	3	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias west	5.1	2.4	29812
186	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15,10	20	3	2	Dead	Very Poor	Very Low	<1 y		2.2	1.7	29814
187	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	57,29	104	12	5	Fair	Fair	Mod.B	11-20 y	1 large stem removed from base	7.7	3.4	29817
188	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	25,17	55	12	7	Fair	Fair to Poor	Mod.B	11-20 y	Suppressed	3.6	2.6	29819
189	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	39@1.2m	42	12	4	Fair	Fair to Poor	Mod.B	11-20 y	Partly suppressed - crown bias north	4.7	2.3	29820
190	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	32,24	50	10	3	Poor	Fair to Poor	Low	1-5 y	One stem dead, other declining	4.8	2.5	29822
191	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	28,27,20,12	70	10	3	Dead	Very Poor	Very Low	<1 y		5.4	2.8	29823
192	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	67@0.8m	76	10	5	Good	Fair	Mod.B	11-20 y	Partly suppressed - crown bias northwest	8.0	2.9	29825
193	<i>Myoporum insulare</i>	Boobialla	Semi-mature	Indigenous	15	17	4	2	Fair	Fair to Poor	Low	11-20 y		2.0	1.6	
194	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	26,26	65	8	4	Fair	Fair to Poor	Mod.B	11-20 y	Dimensions estimated.	4.4	2.8	29828
195	<i>Myoporum insulare</i>	Boobialla	Early-mature	Indigenous	15,10,10@1 m	35	3	6	Fair	Fair to Poor	Mod.C	6-10 y		2.5	2.1	
196	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25	30	5	3	Fair	Fair	Mod.B	21-40 y		3.0	2.0	29830
197	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	56,34,26	110	12	10	Good	Fair	Mod.A	11-20 y	large root mass next to tennis club entrance footpath	8.5	3.4	29832
198	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	24,15	33	9	4	Fair	Fair	Mod.B	21-40 y	not surveyed	3.4	2.1	29837
199	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	58,21	67	11	7	Good	Fair	Mod.A	11-20 y		7.4	2.8	29839
200	<i>Ficus macrophylla</i>	Moreton Bay Fig	Early-mature	Australian native	13,12,11,10	25	5	5	Fair	Fair	Mod.C	>40 y		2.8	1.8	
201	<i>Agonis flexuosa</i>	Willow Myrtle	Early-mature	Australian native	36	42	5	5	Fair	Fair	Mod.C	11-20 y	raised bed	4.3	2.3	
202	<i>Agonis flexuosa</i>	Willow Myrtle	Early-mature	Australian native	40	45	5	5	Fair	Fair	Mod.C	11-20 y	raised bed	4.8	2.4	
203	<i>Acacia sp.</i>	Wattle Tree	Semi-mature	Australian native	9,7,7	16	4	3	Fair	Fair	Low	11-20 y		2.0	1.5	
204	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	46,32	88	9	7	Fair	Fair	Mod.A	>40 y	suppressed	6.7	3.1	29821
205	<i>Agonis flexuosa</i>	Willow Myrtle	Early-mature	Australian native	24,13,11	38	6	6	Fair	Fair	Mod.C	21-40 y	raised planter	3.5	2.2	
206	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	62,19	80	14	7	Fair	Fair	Mod.A	>40 y		7.8	3.0	29796
207	<i>Ficus macrophylla</i>	Moreton Bay Fig	Maturing	Australian native	66	69	12	15	Fair	Fair	High	>40 y		7.9	2.8	29794
208	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	65	78	14	7	Fair	Fair	Mod.A	>40 y	root growth under court surface?	7.8	3.0	29791
209	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	68,26	79	14	7	Fair	Fair	Mod.A	>40 y		8.7	3.0	29790
210	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	24,11	32	6	6	Fair	Fair	Mod.C	11-20 y	leaning stem	3.2	2.1	29787
211	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	10,10,8,8	23	3	4	Fair	Fair	Low	11-20 y		2.0	1.8	
212	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	24,23	44	12	6	Fair	Fair	Mod.B	21-40 y		4.0	2.3	29785

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
213	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	42	52	11	7	Fair	Fair	Mod.A	>40 y		5.0	2.5	29786
214	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	18,10,10	26	7	4	Fair	Fair	Mod.C	>40 y		2.7	1.9	29776
215	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15	18	6	4	Fair	Fair	Low	21-40 y		2.0	1.6	29772
216	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20	24	6	4	Fair	Fair	Low	21-40 y		2.4	1.8	29771
217	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	12,9	15	6	4	Fair	Fair	Low	21-40 y		2.0	1.5	29770
218	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15	18	6	4	Fair	Fair	Low	21-40 y		2.0	1.6	29769
219	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	9	10	5	3	Fair	Fair	Low	21-40 y		2.0	1.5	29768
220	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15,13,10,10, 9	40	8	5	Fair	Fair	Low	11-20 y		2.9	2.3	29767
221	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	22	28	6	5	Fair	Fair	Low	11-20 y	Acute forks	2.6	1.9	29766
222	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	18	20	6	4	Fair	Fair	Mod.C	21-40 y		2.2	1.7	29765
223	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	26,20,20	38	8	5	Fair	Fair	Mod.B	>40 y		4.6	2.2	29764
224	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	16,12,10	28	5	4	Fair	Fair	Low	11-20 y		2.7	1.9	
225	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	19,12	27	8	4	Fair	Fair	Mod.C	21-40 y	Tip dieback	2.7	1.9	29761
226	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	14	16	6	4	Fair	Fair	Low	21-40 y		2.0	1.5	
227	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	18,11	22	6	4	Fair	Fair	Low	21-40 y		2.5	1.8	29758
228	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	13	14	6	3	Fair	Fair	Low	21-40 y		2.0	1.5	
229	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	13,13,12,10	29	4	5	Fair to Poor	Fair to Poor	Low	6-10 y	Reduced foliage density;Suppressed	2.9	2.0	29757
102	<i>Allocasuarina verticillata</i>	Drooping She-oak	Over-mature	Indigenous	64	71	8	8	Fair to Poor	Fair to Poor	Low	6-10 y		7.7	2.9	29540
231	<i>Allocasuarina littoralis</i>	Black She-oak	Maturing	Indigenous	12,6	15	4	5	Fair to Poor	Fair to Poor	Low	6-10 y		2.0	1.5	29756
232	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	12	3	3	Fair	Fair	Low	21-40 y		2.0	1.5	
233	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	30,28,10,10	39	5	7	Fair	Fair	Mod.C	11-20 y	secondary stem growing along ground	5.2	2.2	29754
234	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	19,11	27	5	5	Poor	Fair to Poor	Low	1-5 y		2.6	1.9	29752
235	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	23,19	37	6	5	Fair	Fair	Mod.B	>40 y		3.6	2.2	29932
236	<i>Banksia integrifolia</i>	Coast Banksia	Young	Indigenous	9	11	4	2	Fair	Fair	Low	>40 y		2.0	1.5	
237	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	22	26	4	4	Fair	Poor	Very Low	1-5 y	Lost main leader	2.6	1.9	29927
238	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	24	27	6	4	Fair	Fair	Mod.C	21-40 y		2.9	1.9	29926
239	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	34,22	41	7	5	Fair	Fair	Mod.B	21-40 y	Tip dieback	4.9	2.3	29928
240	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	26,25,17	76	7	5	Fair	Fair to Poor	Mod.C	11-20 y	Past stem failure;Tip dieback; base obscured	4.8	2.9	29922
241	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	39,33,31	76	8	7	Fair	Fair	Mod.B	21-40 y	Reduced foliage density; base obscured	7.2	2.9	29923

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
242	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	14,7	22	4	2	Good	Fair	Mod.C	>40 y		2.0	1.8	
243	<i>Banksia integrifolia</i>	Coast Banksia	Young	Indigenous	5	9	2	1	Fair	Fair	Low	>40 y		2.0	1.5	
244	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	19	3	2	Fair	Fair	Mod.C	>40 y	kinked trunk. Not surveyed	2.0	1.6	193282
245	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	5,3,2	8	2	1	Fair	Fair	Low	>40 y		2.0	1.5	
246	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,7,5	20	3	2	Fair	Fair	Low	>40 y		2.0	1.7	
247	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	8,5,5	20	3	2	Fair	Fair	Low	>40 y		2.0	1.7	
248	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15	18	3	2	Fair	Fair	Low	>40 y		2.0	1.6	
249	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	10,4	14	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	156573
250	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	11,8	15	3	2	Fair to Poor	Fair	Mod.C	21-40 y		2.0	1.5	193283
251	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	17	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.6	156574
252	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	17,16,16	31	4	3	Good	Fair	Mod.B	>40 y		3.4	2.0	193279
253	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	14	19	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.6	193280
254	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15,8,7	20	4	2	Poor	Fair	Low	1-5 y	Reduced foliage density;Tip dieback	2.0	1.7	466194
255	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	11,3,3	15	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	156578
256	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,3	17	3	2	Fair to Poor	Fair	Low	11-20 y		2.0	1.6	
257	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	17	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.6	156577
258	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	11,3	15	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	
259	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	9,8,6	15	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	156579
260	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	12	15	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	156580
261	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	13	15	3	2	Fair	Fair	Mod.C	21-40 y		2.0	1.5	156581
262	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	16@1.2m	19	3	2	Fair	Fair to Poor	Mod.C	11-20 y	Twisted form	2.0	1.6	193275
263	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	17,15	20	4	3	Fair	Fair	Mod.C	21-40 y		2.7	1.7	193276
264	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	12,11,9,7	23	4	2	Fair	Fair	Mod.C	21-40 y		2.0	1.8	193277
265	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	10	14	3	2	Fair	Fair	Low	21-40 y		2.0	1.5	156582
266	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	15	18	5	2	Fair	Fair	Mod.C	>40 y		2.0	1.6	204612
267	<i>Ficus macrophylla</i>	Moreton Bay Fig	Semi-mature	Australian native	37,34,33,31,26	94	7	13	Good	Fair	Mod.A	>40 y		8.7	3.2	30015
268	<i>Ficus macrophylla</i>	Moreton Bay Fig	Early-mature	Australian native	42,33,32,30,30@1.2m	109	8	14	Fair	Fair	Mod.A	21-40 y		9.0	3.4	30014
269	<i>Ficus macrophylla</i>	Moreton Bay Fig	Early-mature	Australian native	32,25,23,22,21	93	7	10	Fair to Poor	Fair	Mod.B	11-20 y	Chlorotic foliage;Reduced foliage density	6.7	3.2	30013
270	<i>Ficus macrophylla</i>	Moreton Bay Fig	Early-mature	Australian native	42,35,31,30,27	130	10	16	Fair to Poor	Fair	Mod.B	11-20 y	Chlorotic foliage;Minor dieback;Reduced foliage density	9.0	3.7	30012
271	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	38	39	6	6	Fair to Poor	Poor	Very Low	1-5 y	Main stem lopped. Severely pruned under HV +LV PL	4.6	2.2	147
272	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	33,31,25	86	8	11	Fair	Fair to Poor	Mod.C	6-10 y	Large basal wound to east, well-occluded, past limb tearout to north	6.2	3.1	30163
273	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	19	22	7	5	Poor	Fair to Poor	Low	1-5 y	Partly suppressed - crown bias; south, severe. Very little live foliage	2.3	1.8	30164

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274	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	49,37,28	85	12	9	Fair	Fair to Poor	Mod.B	11-20 y	Trunk wound to north appears well-occluded. Some branch damage too - likely during construction of wall. North limb becoming heavy, reaction growth present	8.1	3.1	30159
275	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	27,20@1.2m	32	9	5	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias north. Some trunk damage from construction	4.0	2.1	30156
276	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	31,21@1m	40	9	7	Fair to Poor	Fair to Poor	Mod.C	11-20 y	Reduced foliage density	4.5	2.3	30155
277	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	25,24,17	83	9	7	Fair	Fair to Poor	Mod.B	11-20 y	3 stems from base. Suckering slightly, one sucker tied to a stem with strap	4.6	3.1	30172
306	<i>Allocasuarina verticillata</i>	Drooping She-oak	Over-mature	Indigenous	55,52	109	9	8	Fair to Poor	Fair to Poor	Low	6-10 y	Declining;Previous failures	9.1	3.4	30117
279	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15,12	30	5	6	Fair to Poor	Fair to Poor	Low	6-10 y	Partly suppressed - crown bias north	2.3	2.0	30147
280	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	28,23,19,15	47	9	10	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Reduced foliage density; 15cm stem to north dead and cracking, remove	5.2	2.4	30145
281	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	26,25	40	9	6	Fair	Fair to Poor	Mod.B	11-20 y	Very acute union	4.3	2.3	30144
282	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	17,15	30	7	6	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias east	2.7	2.0	30146
283	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	25,22,18	60	7	9	Good	Fair to Poor	Mod.B	11-20 y	Childcare tree - assessed from outside, limited assessment. Partly suppressed - crown bias west. Dense foliage except under shade of neighbouring tree to east. Dimensions estimated.	4.5	2.7	30166
284	<i>Melia azedarach</i>	White Cedar	Semi-mature	Australian native	25	32	5	5	Good	Fair	Mod.C	21-40 y	Childcare tree - assessed from outside, limited assessment. Behind sign and close to roof, growing next to Woollybush shrub. Dimensions estimated.	3.0	2.1	
285	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	20	25	5	3	Fair	Fair to Poor	Mod.C	6-10 y	Partly suppressed - crown bias north. Not surveyed	2.4	1.8	30018
286	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	34,12	47	6	5	Fair	Fair to Poor	Mod.C	6-10 y	Partly suppressed - crown bias north - trunk lean 45 deg with some crown self-correction. Not surveyed	4.3	2.4	30019
287	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	18	26	4	7	Fair to Poor	Poor	Low	1-5 y	Nearly prostrate, 40% dead, vine infested at base. Not surveyed	2.2	1.9	30020
288	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	34,17	47	7	6	Fair	Fair to Poor	Mod.C	11-20 y	Crown biased east with trunk lean but foliage developing to west, however limb wounds on western branch and lowest branch to east dead with old split. Not surveyed	4.6	2.4	30021
289	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	50	64	10	7	Good	Fair	Mod.B	21-40 y	Partly suppressed - crown bias north with trunk swoop but crown self-correcting. Recent branch failure ~50mm diameter	6.0	2.7	30022
290	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	35,13	40	9	4	Fair	Fair	Mod.B	21-40 y		4.5	2.3	30310
291	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25	28	8	3	Fair	Fair to Poor	Mod.C	21-40 y	Partly suppressed - crown bias north	3.0	1.9	30024
292	<i>Myoporum insulare</i>	Boobialla	Maturing	Indigenous	15,15,10,8	40	4	8	Fair	Fair to Poor	Mod.C	6-10 y	Low branching shrub	2.8	2.3	204233
293	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	26,22,21,12 @1.2m	60	8	5	Fair	Fair to Poor	Mod.B	21-40 y		5.0	2.7	
294	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	12,10	16	3	2	Fair	Fair to Poor	Low	11-20 y	Partly suppressed - crown bias east	2.0	1.5	
295	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	32,20,19,15	67	7	8	Fair	Fair	Mod.B	21-40 y		5.4	2.8	30026
296	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	35,10	40	6	5	Good	Fair to Poor	Mod.B	21-40 y		4.4	2.3	30059

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297	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20,15,14	44	5	5	Fair	Fair to Poor	Mod.B	21-40 y	Partly suppressed - crown bias east. Not surveyed	3.4	2.3	30062
298	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	22,19	37	5	5	Fair	Fair to Poor	Mod.C	11-20 y	Partly suppressed - crown bias north, leaning on fence. Trunk wound to south. Not surveyed	3.5	2.2	30063
299	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	16,4	19	5	3	Fair	Fair to Poor	Low	11-20 y	Trunk wound to west. Kinked form. Not surveyed	2.0	1.6	30084
300	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20,18	50	9	9	Fair to Poor	Poor	Low	6-10 y	Very wide union, base obscured by weeds, sparse foliage to west	3.2	2.5	30074
301	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	37,27,24@1.2m	60	8	6	Fair	Fair	Mod.B	21-40 y	Past limb tearout to south but well-occluded	6.2	2.7	30080
302	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	32,21,20	67	8	4	Fair	Fair to Poor	Mod.C	6-10 y	Partly suppressed - crown bias west. Trunk wound and old tearout to west poor occlusion	5.2	2.8	30079
303	<i>Myoporum insulare</i>	Boobiella	Early-mature	Indigenous	15,15,10,8,8	50	5	7	Fair	Fair	Mod.C	11-20 y		2.8	2.5	
304	<i>Myoporum insulare</i>	Boobiella	Maturing	Indigenous	18,17,14	41	4	6	Good	Fair	Mod.C	11-20 y		3.4	2.3	
305	<i>Myoporum insulare</i>	Boobiella	Maturing	Indigenous	15,11	29	4	6	Fair to Poor	Fair	Low	6-10 y		2.2	2.0	
278	<i>Acacia mearnsii</i>	Late Black Wattle	Over-mature	Indigenous	42,32,30,30,29	170	9	16	Fair to Poor	Fair to Poor	Low	1-5 y	Outstanding size and form but progressive decline due to age with dieback (~40%), borers, dead limbs. Short-lived species	8.8	4.1	30150
307	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	41	45	9	7	Poor	Fair to Poor	Very Low	<1 y	In irreversible decline	4.9	2.4	30140
308	<i>Eucalyptus pryoriana</i>	Gippsland Manna Gum	Semi-mature	Indigenous	12,12	22	4	6	Good	Fair to Poor	Low	11-20 y		2.0	1.8	
309	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	16	35	4	3	Fair	Fair to Poor	Low	6-10 y		2.0	2.1	30136
310	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	24,9	31	6	4	Fair	Fair	Mod.C	>40 y		2.9	2.0	30138
311	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	18	22	5	3	Fair	Fair	Low	11-20 y		2.2	1.8	30178
312	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	81	95	9	6	Fair to Poor	Fair	Mod.B	11-20 y	kino exudate on trunk	9.7	3.2	29949
313	<i>Melaleuca linariifolia</i>	Snow in Summer	Semi-mature	Australian native	16	21	4	4	Fair to Poor	Fair	Low	11-20 y		2.0	1.7	
314	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	12	15	4	2	Fair	Fair	Low	>40 y		2.0	1.5	522216
315	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	46	57	8	5	Fair	Fair	Mod.A	21-40 y		5.5	2.6	29945
316	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	41,20	68	8	6	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Suppressed	5.5	2.8	
317	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	29,28,23,14,12	100	7	7	Fair	Fair	Mod.C	11-20 y		6.0	3.3	30091
318	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	25,14,12,10	60	4	7	Fair	Poor	Low	1-5 y	collapsing. Dimensions estimated.	3.9	2.7	30088
319	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	25,17,12	31	5	5	Fair	Fair	Mod.C	11-20 y		3.9	2.0	30883
320	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	23,17,13	52	6	4	Fair	Fair	Mod.C	21-40 y		3.8	2.5	193274
321	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	88	115	28	10	Fair to Poor	Fair	High	21-40 y		10.6	3.5	29943
322	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	58	67	18	8	Poor	Fair	Low	6-10 y		7.0	2.8	29942
323	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	77	87	22	10	Fair to Poor	Fair	Mod.A	11-20 y		9.2	3.1	29941
324	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	57	67	17	9	Fair to Poor	Fair	Mod.A	21-40 y		6.8	2.8	29940

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325	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	74	86	19	9	Fair to Poor	Fair	High	21-40 y		8.9	3.1	29939
326	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	65	73	17	10	Fair to Poor	Fair	Mod.B	11-20 y		7.8	2.9	29938
327	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	95	111	28	10	Fair to Poor	Fair	High	21-40 y	Deadwood >50mm	11.4	3.5	29936
328	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	71	86	27	9	Fair to Poor	Fair	Mod.A	21-40 y		8.5	3.1	29935
329	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	78	91	25	9	Fair to Poor	Fair	Mod.A	21-40 y		9.4	3.2	29934
330	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	88	104	26	10	Fair to Poor	Fair	High	21-40 y		10.6	3.4	29628
331	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	62	74	23	8	Fair to Poor	Fair	Mod.C	6-10 y		7.4	2.9	
332	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	78	96	21	10	Fair to Poor	Fair	High	21-40 y		9.4	3.3	29626
333	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	65	73	16	9	Fair	Fair to Poor	Mod.B	21-40 y	Trunk wounds; lost main leader. new leader younger shoot.	7.8	2.9	29625
334	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	78	92	22	10	Fair	Fair	High	21-40 y		9.4	3.2	29624
335	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Maturing	Australian conifer	80	92	20	10	Fair	Fair	High	21-40 y		9.6	3.2	29623
336	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	31	37	6	6	Dead	Fair	Very Low	<1 y		3.7	2.2	
337	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	30,30,30	60	8	7	Fair	Fair	Mod.C	11-20 y	trunk obscured. Dimensions estimated.	6.2	2.7	
338	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	33,26,12,12	67	8	7	Fair	Poor	Low	1-5 y	collapsing	5.4	2.8	
339	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	22,22,18,15	68	7	7	Fair to Poor	Fair	Low	6-10 y	Reduced foliage density; trunk obscured. Dimensions estimated.	4.7	2.8	
340	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20	24	5	4	Fair	Fair	Low	11-20 y		2.4	1.8	
341	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	17,17	26	5	4	Fair to Poor	Fair	Low	11-20 y		2.9	1.9	
342	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	35,30,28	75	8	6	Fair	Fair	Mod.B	>40 y	trunk obscured. Dimensions estimated.	6.5	2.9	
343	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	28,24,24	56	7	6	Fair	Fair	Mod.B	21-40 y	trunk obscured	5.3	2.6	
344	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	25	31	7	4	Fair	Fair	Mod.B	>40 y		3.0	2.0	
345	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	38	65	7	6	Fair	Fair to Poor	Low	6-10 y	primary stem removed	4.6	2.8	
346	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	30	35	8	4	Fair	Fair	Mod.B	>40 y		3.6	2.1	
347	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	27,22,18	57	7	5	Fair	Fair	Mod.B	>40 y		4.7	2.6	
348	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	35,32,31	82	8	7	Fair	Fair	Mod.A	>40 y		6.8	3.0	
349	<i>Banksia integrifolia</i>	Coast Banksia	Maturing	Indigenous	31,26,21,15	50	7	5	Fair	Fair	Mod.B	21-40 y	Suppressed	5.8	2.5	
350	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7@1m	10	2	1	Fair to Poor	Poor	Low	6-10 y	Congested primary union;stunted	2.0	1.5	529792
351	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	15	3	2	Fair to Poor	Fair to Poor	Low	11-20 y	Congested primary union;lean north due to wind	2.0	1.5	529793

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352	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	13	2	2	Fair	Fair to Poor	Low	11-20 y	Congested primary union	2.0	1.5	529786
353	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	13	2	2	Dead	Very Poor	Very Low	<1 y		2.0	1.5	529797
354	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10@1m	15	2	3	Fair to Poor	Fair to Poor	Low	6-10 y	browning foliage to north	2.0	1.5	529798
355	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15@1.2m	20	3	3	Fair	Fair to Poor	Mod.C	11-20 y		2.0	1.7	529799
356	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	11@0.8m	14	2	2	Fair	Fair to Poor	Low	11-20 y		2.0	1.5	529800
357	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	14	3	2	Fair	Fair to Poor	Low	11-20 y	Basal wounds	2.0	1.5	529801
358	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,8	15	4	2	Fair	Poor	Low	6-10 y	twisted, fused stems with poor attachment	2.0	1.5	529781
359	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	6	10	2	2	Fair	Poor	Low	6-10 y	Lost main leader	2.0	1.5	529778
360	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	40,31,16	70	10	7	Good	Fair to Poor	Mod.B	11-20 y	past stem failure to north; fair-poor occlusion	6.4	2.8	29455
361	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7	10	5	3	Fair to Poor	Poor	Low	1-5 y	Previous failures;Reduced foliage density	2.0	1.5	529775
362	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	65	68	10	10	Good	Fair	Mod.A	21-40 y		7.8	2.8	29454
363	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7	10	2	2	Good	Fair to Poor	Low	11-20 y	Trunk wounds	2.0	1.5	529774
364	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	11	15	4	3	Good	Fair to Poor	Mod.C	21-40 y		2.0	1.5	529773
365	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	26	34	8	6	Fair to Poor	Fair	Mod.C	6-10 y	Reduced foliage density;declining	3.1	2.1	29453
366	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	59@1.2m	67	10	10	Good	Fair	Mod.A	21-40 y		7.1	2.8	29452
367	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	21	25	8	7	Fair	Fair	Mod.B	21-40 y		2.5	1.8	
368	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	35,16	55	10	9	Fair	Fair	Mod.B	21-40 y		4.6	2.6	193263
369	<i>Fraxinus ornus</i>	Manna Ash	Maturing	Exotic deciduous	49	56	12	11	Fair	Fair	Mod.B	21-40 y		5.9	2.6	29450
370	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	26	33	8	7	Fair	Fair	Mod.C	21-40 y		3.1	2.1	29449
371	<i>Leptospermum laevigatum</i>	Coast Tea-tree	Maturing	Indigenous	25	55	3	5	Fair	Fair to Poor	Mod.C	11-20 y	stem growing along ground	3.0	2.6	29448
372	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Early-mature	Victorian native	16,12,8	27	6	5	Fair	Fair	Mod.C	11-20 y		2.4	1.9	
373	<i>Ligustrum lucidum</i>	Shining Privet	Maturing	Exotic evergreen	8,8,8,7	25	4	4	Fair	Fair	Low	6-10 y		2.0	1.8	29447
374	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	23	27	8	5	Fair	Fair	Mod.B	>40 y		2.8	1.9	
375	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Maturing	Victorian native	30	33	8	5	Fair to Poor	Fair	Mod.C	6-10 y		3.6	2.1	193264
376	<i>Cotoneaster sp.</i>	Cotoneaster	Maturing	Exotic evergreen	20,10	38	8	5	Fair	Fair	Mod.C	11-20 y		2.7	2.2	
377	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Maturing	Victorian native	23,22,18	48	8	7	Fair	Fair	Mod.C	11-20 y		4.4	2.4	193265

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378	<i>Ficus carica</i>	Common Fig	Semi-mature	Exotic deciduous	10,8,8	24	4	6	Fair	Fair to Poor	Low	6-10 y		2.0	1.8	
379	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Semi-mature	Australian native	20	25	4	3	Fair	Fair to Poor	Low	11-20 y	large shrubby fotm	2.4	1.8	
380	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Semi-mature	Victorian native	13,9,6	21	4	3	Fair	Fair to Poor	Low	11-20 y	Woody weed sp.	2.0	1.7	
381	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	80	80	11	10	Fair	Fair to Poor	Mod.B	11-20 y	Past stem failure old wound at union extending to base, moderate occlusion, no apparent signs of active decay.	9.6	3.0	193253
382	<i>Ligustrum lucidum</i>	Shining Privet	Maturing	Exotic evergreen	40,30,20,20,15@0.2m	90	9	7	Poor	Poor	Very Low	1-5 y	Woody weed sp.;>60% dead	7.1	3.2	193254
383	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	73	78	10	8	Fair	Fair to Poor	Mod.B	21-40 y	minor basal wounds from mowing, poorly occluded	8.8	3.0	193255
384	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Semi-mature	Victorian native	22,16,15,14,10	55	10	8	Fair to Poor	Fair to Poor	Low	1-5 y	Reduced foliage density;Woody weed sp.	4.3	2.6	193256
385	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	66	73	12	9	Fair	Fair	Mod.A	21-40 y		7.9	2.9	193257
386	<i>Ligustrum lucidum</i>	Shining Privet	Maturing	Exotic evergreen	20,18,14,10	46	5	6	Poor	Fair to Poor	Very Low	1-5 y	Declining	3.8	2.4	193258
387	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	69	77	13	11	Fair	Fair	Mod.A	21-40 y		8.3	3.0	193259
388	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	56	69	8	8	Good	Fair	Mod.B	21-40 y		6.7	2.8	29365
389	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	50@1.2m	50	8	7	Fair	Fair to Poor	Mod.C	11-20 y	Acute forks;Congested primary union;Included bark	6.0	2.5	29367
390	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	40@1m	46	8	7	Fair	Fair to Poor	Mod.C	11-20 y	Slightly reduced foliage density; minor basal wounds from mowing, old pruning wounds at union poorly occluded	4.8	2.4	29368
391	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	37	47	9	8	Fair	Fair	Mod.B	21-40 y		4.4	2.4	29370
392	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	33,29,15	40	7	6	Fair	Fair to Poor	Mod.B	21-40 y		5.6	2.3	29372
393	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	26,24,23	39	7	5	Fair	Fair	Mod.B	21-40 y		5.1	2.2	29373
394	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	31,28,17	47	7	6	Fair	Fair	Mod.B	21-40 y		5.4	2.4	29375
395	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	25,19,18,15,12	46	6	6	Fair	Fair to Poor	Mod.C	11-20 y	services in TPZ	4.9	2.4	29377
396	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	43@1.2m	48	7	6	Fair	Fair to Poor	Mod.B	21-40 y	crown reduced under service line, branch split to north over grass	5.2	2.4	29378
397	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	35,30,17	61	8	8	Fair	Fair	Mod.A	21-40 y		5.9	2.7	29376
398	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	45	51	6	7	Good	Good	Mod.B	21-40 y		5.4	2.5	29374
399	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	44	51	9	7	Good	Fair	Mod.B	21-40 y		5.3	2.5	29371
400	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	43	54	11	7	Fair	Poor	Low	1-5 y	Reduced foliage density;trunk lean south, appears unnatural - possible root decay to north, some tensional roots developed but unsure of integrity	5.2	2.6	29369
401	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Early-mature	Australian native	35,25,18	51	7	7	Fair	Fair	Mod.B	11-20 y	minor tip dieback	5.6	2.5	29393

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402	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	55	62	9	7	Good	Fair	Mod.A	21-40 y		6.6	2.7	29366
403	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	67	72	11	10	Fair	Fair	Mod.A	21-40 y		8.0	2.9	29392
404	<i>Ligustrum lucidum</i>	Shining Privet	Semi-mature	Exotic evergreen	8,8	15	6	4	Fair	Fair	Mod.C	11-20 y		2.0	1.5	29445
405	<i>Ligustrum lucidum</i>	Shining Privet	Semi-mature	Exotic evergreen	13	18	6	4	Fair to Poor	Fair	Low	6-10 y		2.0	1.6	29444
406	<i>Ligustrum lucidum</i>	Shining Privet	Semi-mature	Exotic evergreen	14,12,10	27	6	5	Fair to Poor	Fair	Low	6-10 y		2.5	1.9	29442
407	<i>Quercus ilex</i>	Holly Oak	Early-mature	Exotic evergreen	22	24	8	7	Fair	Fair	Mod.B	>40 y		2.6	1.8	
408	<i>Quercus ilex</i>	Holly Oak	Early-mature	Exotic evergreen	20	25	8	8	Fair	Fair	Mod.B	>40 y		2.4	1.8	29438
409	<i>Afrocarpus falcata</i>	Yellow-wood	Maturing	Exotic conifer	38	43	11	8	Fair	Fair	Mod.B	>40 y	Partly suppressed - crown bias east	4.6	2.3	29435
410	<i>Corynocarpus laevigatus</i>	Karaka	Maturing	Exotic evergreen	15,15,14,13	60	7	6	Fair	Fair	Mod.B	11-20 y		3.4	2.7	
411	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	45,38,25	72	12	10	Fair	Fair	Mod.B	11-20 y	bark necrosis	7.7	2.9	29433
412	<i>Araucaria heterophylla</i>	Norfolk Island Pine	Early-mature	Australian conifer	42	51	16	8	Fair to Poor	Fair	Mod.C	6-10 y	Declining	5.0	2.5	
413	<i>Corynocarpus laevigatus</i>	Karaka	Maturing	Exotic evergreen	18,18,16,16,12	70	5	6	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Declining	4.3	2.8	29424
414	<i>Cotoneaster sp.</i>	Cotoneaster	Maturing	Exotic evergreen	23,22,20,18,16	80	5	8	Fair to Poor	Fair to Poor	Low	1-5 y	Declining	5.4	3.0	29423
415	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	34	43	10	8	Fair	Fair	Mod.B	21-40 y		4.1	2.3	29389
416	<i>Ulmus parvifolia</i>	Chinese Elm	Maturing	Exotic deciduous	38,25	50	10	15	Fair	Fair	High	>40 y		5.5	2.5	29390
417	<i>Ficus rubiginosa</i>	Port Jackson Fig	Maturing	Australian native	90@0.5	92	13	19	Fair	Fair	High	>40 y		10.8	3.2	29391
418	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Maturing	Australian native	52@1	56	9	9	Fair	Fair	Mod.B	21-40 y		6.2	2.6	29399
419	<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	Semi-mature	Australian native	24	32	6	5	Fair	Fair	Mod.C	>40 y		2.9	2.1	29398
420	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Early-mature	Australian native	45,31,28	66	8	7	Fair	Fair	Mod.B	21-40 y		7.4	2.8	29395
421	<i>Pittosporum undulatum</i>	Sweet Pittosporum	Semi-mature	Victorian native	26,20,18	55	6	4	Fair	Fair to Poor	Mod.C	11-20 y	Woody weed sp.	4.5	2.6	29410
422	<i>Eucalyptus botryoides</i>	Southern Mahogany	Maturing	Victorian native	107	126	23	15	Fair	Fair	Mod.A	11-20 y		12.8	3.6	29411
423	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Early-mature	Australian native	43,35	58	6	8	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias northeast	6.7	2.6	29412
424	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Semi-mature	Australian native	20,18	33	5	4	Fair	Fair to Poor	Low	6-10 y	Partly suppressed - crown bias west	3.2	2.1	29413
425	<i>Ficus rubiginosa</i>	Port Jackson Fig	Maturing	Australian native	114@1.2m	116	15	25	Good	Fair	High	21-40 y		13.7	3.5	29379
426	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	40,33	50	10	6	Fair	Fair	Mod.B	21-40 y		6.2	2.5	29380
427	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	62,28	61	10	6	Good	Fair	Mod.A	21-40 y		8.2	2.7	29381
428	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	36	42	9	8	Fair	Fair	Mod.B	>40 y		4.3	2.3	
429	<i>Hoheria populnea</i> 'Variegata'	Variegated New Zealand Lacebark	Early-mature	Exotic evergreen	30,16,13@0.2m	42	4	4	Fair to Poor	Fair	Mod.C	6-10 y	30-40% dieback	4.4	2.3	29420

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430	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Early-mature	Australian native	49,30	61	6	7	Fair to Poor	Fair	Mod.B	11-20 y	Minor dieback;Reduced foliage density	6.9	2.7	29414
431	<i>Grevillea robusta</i>	Silky Oak	Semi-mature	Australian native	24	31	7	5	Fair to Poor	Fair	Mod.C	11-20 y		2.9	2.0	29415
432	<i>Corymbia ficifolia</i>	Red-flowering Gum	Semi-mature	Australian native	19	25	6	4	Fair	Fair to Poor	Low	11-20 y	recent basal wound to south likely from mowing	2.3	1.8	29397
433	<i>Cupressus macrocarpa</i>	Monterey Cypress	Maturing	Exotic conifer	58,49,44,37	96	12	11	Fair	Fair to Poor	Mod.B	11-20 y	past failures, one stem reduced	11.4	3.3	29416
434	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Maturing	Australian native	41,29,22,23,17	84	8	7	Fair to Poor	Fair	Mod.B	6-10 y	Tip dieback	7.4	3.1	29417
435	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Maturing	Australian native	39,37	52	9	10	Fair to Poor	Fair	Mod.B	11-20 y	Reduced foliage density	6.5	2.5	29421
436	<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	Maturing	Australian native	38,34,33	65	9	11	Fair to Poor	Fair	Mod.B	11-20 y	Reduced foliage density	7.3	2.8	29422
437	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	83@0.5	84	12	11	Fair	Fair	Mod.A	21-40 y		10.0	3.1	29383
438	<i>Ficus rubiginosa</i>	Port Jackson Fig	Maturing	Australian native	106,53	105	13	20	Fair	Fair	High	21-40 y		14.2	3.4	29384
439	<i>Brachychiton acerifolius</i>	Illawarra Flame Tree	Semi-mature	Australian native	13	19	5	4	Fair	Fair	Mod.C	>40 y		2.0	1.6	156558
440	<i>Calodendrum capense</i>	Cape Chestnut	Semi-mature	Exotic evergreen	10,8	14	4	4	Fair to Poor	Fair	Low	11-20 y		2.0	1.5	522565
441	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	52,31,22	67	11	10	Fair	Fair	Mod.A	21-40 y		7.7	2.8	29386
442	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	69@1	68	12	10	Fair	Fair	Mod.A	21-40 y		8.3	2.8	29385
443	<i>Corynocarpus laevigatus</i>	Karaka	Maturing	Exotic evergreen	20,18,16,14	50	5	5	Fair	Fair to Poor	Mod.C	11-20 y		4.1	2.5	31244
444	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	28,27,24,21,20	66	10	9	Fair	Fair to Poor	Mod.A	21-40 y	Multi-stemmed	6.5	2.8	31243
445	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	51	60	11	9	Fair	Fair	Mod.A	21-40 y		6.1	2.7	
446	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	51	60	11	9	Fair	Fair	Mod.B	21-40 y		6.1	2.7	31241
447	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20	25	6	6	Fair	Fair	Mod.C	11-20 y		2.4	1.8	
448	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	44	50	10	8	Fair to Poor	Fair	Mod.B	11-20 y		5.3	2.5	31240
449	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20	24	6	6	Fair	Fair	Mod.C	11-20 y		2.4	1.8	
450	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	52	58	10	9	Fair	Fair	Mod.A	21-40 y		6.2	2.6	31239
451	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	16	20	6	5	Fair	Fair	Mod.C	21-40 y		2.0	1.7	
452	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	59,28	76	10	10	Fair	Fair	Mod.A	21-40 y		7.8	2.9	31238
453	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	13	15	5	5	Fair	Fair	Low	11-20 y		2.0	1.5	
454	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	43	46	8	7	Fair	Fair	Mod.B	21-40 y		5.2	2.4	31237
455	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20	22	5	6	Poor	Fair to Poor	Very Low	1-5 y	Declining	2.4	1.8	

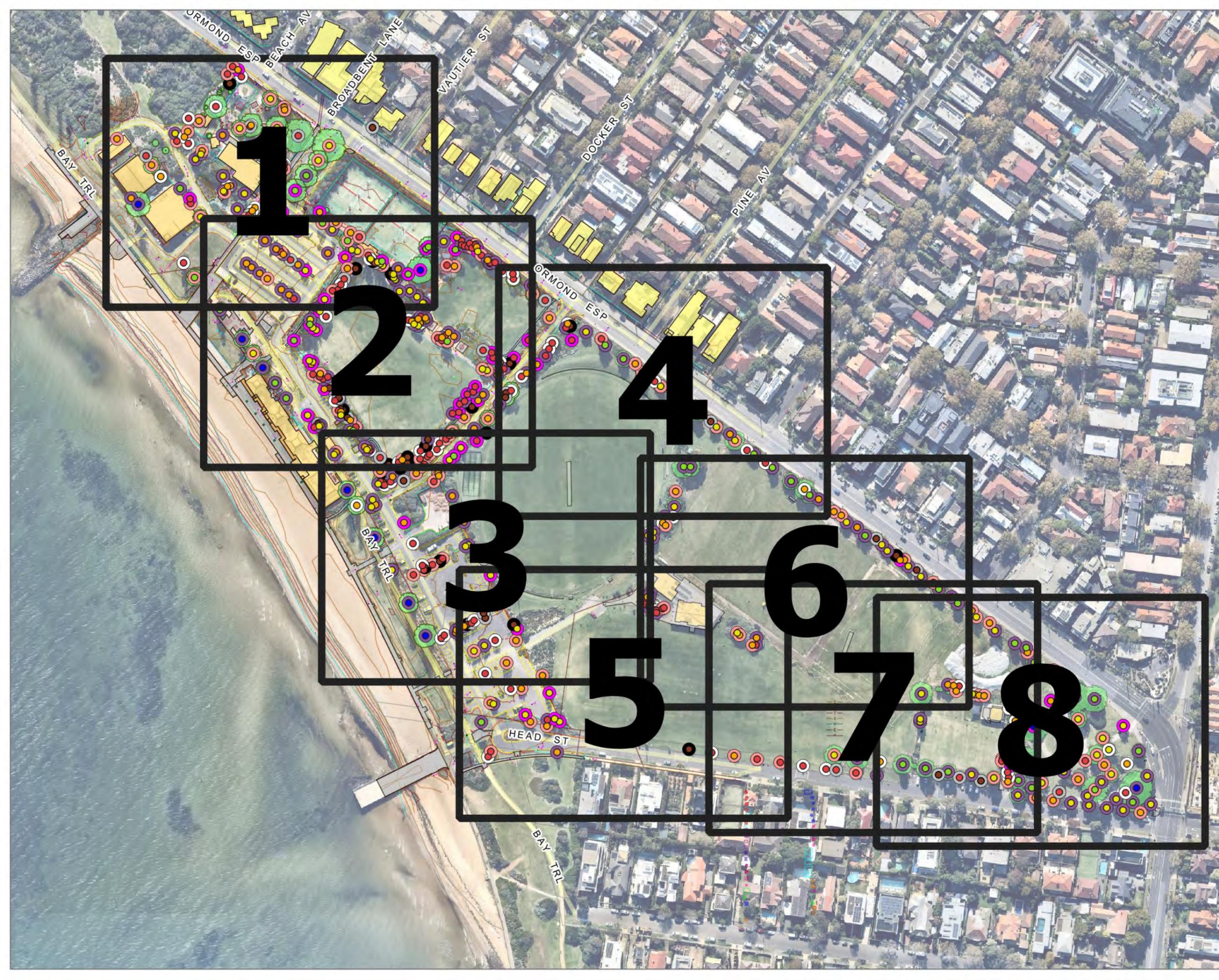
No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
456	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	23,18	36	7	7	Fair	Fair	Mod.B	21-40 y		3.5	2.2	31236
457	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	31	35	6	7	Fair	Fair	Mod.C	11-20 y		3.7	2.1	
458	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Semi-mature	Australian native	10,10,7	30	7	6	Fair	Fair	Mod.C	>40 y		2.0	2.0	
459	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	18,17,12	35	7	7	Dead	Fair to Poor	Very Low	<1 y		3.3	2.1	
460	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Early-mature	Australian native	22,19,14	38	8	7	Fair	Fair	Mod.B	21-40 y		3.9	2.2	31235
461	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	35	39	8	8	Fair	Fair	Mod.B	21-40 y		4.2	2.2	585232
462	<i>Metrosideros excelsa</i>	Pohutukawa	Maturing	Exotic evergreen	14,14,12,12	38	6	5	Poor	Fair	Very Low	1-5 y	Declining	3.1	2.2	31234
463	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	50	62	10	8	Fair	Fair	Mod.A	21-40 y		6.0	2.7	31233
464	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	18	22	6	6	Fair	Fair	Mod.C	21-40 y		2.2	1.8	585233
465	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	46	52	10	8	Fair	Fair	Mod.B	21-40 y		5.5	2.5	31232
466	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	18	23	4	6	Fair	Fair to Poor	Mod.C	11-20 y	Acute forks;Suppressed	2.2	1.8	585234
467	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Semi-mature	Australian native	18	26	6	6	Fair to Poor	Fair	Mod.C	11-20 y		2.2	1.9	31231
468	<i>Allocasuarina verticillata</i>	Drooping She-oak	Maturing	Indigenous	27@1	29	6	6	Fair	Fair	Mod.C	21-40 y		3.2	2.0	585235
469	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	50	56	10	8	Fair	Fair	Mod.A	21-40 y		6.0	2.6	31230
470	<i>Allocasuarina verticillata</i>	Drooping She-oak	Over-mature	Indigenous	56,36	80	11	13	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Hangers;Previous failures	8.0	3.0	31229
471	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	68	73	11	10	Fair	Fair	Mod.A	21-40 y		8.2	2.9	31227
472	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	54	58	10	8	Fair	Fair	Mod.A	21-40 y		6.5	2.6	31224
473	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	12	3	3	Fair to Poor	Fair	Low	6-10 y		2.0	1.5	585236
474	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	42	48	8	8	Fair	Fair	Mod.A	21-40 y		5.0	2.4	31222
475	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15	17	5	5	Fair to Poor	Fair	Low	6-10 y		2.0	1.6	
476	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	76@0.5	76	10	9	Fair to Poor	Fair	Mod.B	11-20 y		9.1	2.9	31220
477	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	16	19	4	6	Fair	Fair	Mod.C	21-40 y	Suppressed	2.0	1.6	585237
478	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	43	49	8	8	Fair to Poor	Fair	Mod.B	11-20 y	Reduced foliage density	5.2	2.5	31218
479	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15	18	6	4	Poor	Fair to Poor	Very Low	1-5 y	Declining	2.0	1.6	
480	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	51,41	76	12	9	Fair	Fair	Mod.A	21-40 y		7.9	2.9	31216

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
481	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	10,10,9	28	6	5	Fair to Poor	Fair	Low	6-10 y		2.0	1.9	
482	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	47	54	10	9	Fair	Fair	Mod.A	21-40 y		5.6	2.6	31215
483	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	43	49	10	9	Fair to Poor	Fair	Mod.B	11-20 y	Tip dieback	5.2	2.5	31214
484	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,10,10,8	22	5	5	Fair to Poor	Fair	Low	6-10 y		2.1	1.8	31213
485	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	54	64	12	9	Fair to Poor	Fair	Mod.B	11-20 y	Reduced foliage density	6.5	2.7	31212
486	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	20@1	24	4	6	Fair	Fair	Mod.C	11-20 y		2.4	1.8	585238
487	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	37,35	57	10	9	Fair	Fair	Mod.A	21-40 y		6.1	2.6	31211
488	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	56	65	10	9	Fair	Fair	Mod.A	21-40 y	basal shoots	6.7	2.8	31210
489	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	14	16	4	5	Fair	Fair	Low	11-20 y	Suppressed	2.0	1.5	
490	<i>Lagunaria patersonia</i>	Norfolk Island Hibiscus	Maturing	Australian native	41,35	58	8	7	Fair	Fair	Mod.B	21-40 y		6.5	2.6	31209
491	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	8,8	14	4	3	Fair	Fair	Low	>40 y		2.0	1.5	
492	<i>Acacia longifolia</i> var. <i>sophorae</i>	Coast Wattle	Maturing	Victorian native	28	33	3	6	Poor	Very Poor	Very Low	<1 y	collapsed	3.4	2.1	29546
493	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10	13	4	4	Fair	Fair	Low	>40 y		2.0	1.5	466375
494	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	20	25	4	5	Fair	Fair	Mod.C	21-40 y		2.4	1.8	
495	<i>Allocasuarina verticillata</i>		Early-mature	Indigenous	21	27	5	5	Fair	Fair	Mod.C	21-40 y		2.5	1.9	204208
496	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	15,12,12,11	23	6	5	Fair	Fair	Mod.C	21-40 y		3.0	1.8	204209
497	<i>Eucalyptus leucoxylon</i>	Yellow Gum	Early-mature	Victorian native	40,35,28,20,18	80	8	12	Fair	Fair	Mod.A	21-40 y	Partly suppressed - crown bias west, paired with neighbouring tree. CoPP data wrong species	7.9	3.0	29501
498	<i>Eucalyptus mannifera</i>	Yellow Gum	Early-mature	Victorian native	36,20,25	55	8	12	Fair	Fair	Mod.A	21-40 y	Partly suppressed - crown bias east, paired with neighbouring tree. CoPP data wrong species	5.8	2.6	29502
499	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	17,12,10,7,7	32	6	4	Fair	Fair to Poor	Mod.C	11-20 y	Included bark forks;next to lighting pole	2.8	2.1	
500	<i>Eucalyptus camaldulensis</i>	River Red Gum	Maturing	Victorian native	52,26,25,20@1.2m	63	8	14	Fair	Fair	Mod.B	21-40 y	Minor dieback	8.0	2.7	29499
501	<i>Allocasuarina littoralis</i>	Black She-oak	Semi-mature	Victorian native	15	18	5	3	Fair to Poor	Fair to Poor	Low	6-10 y	Reduced foliage density	2.0	1.6	
502	<i>Allocasuarina littoralis</i>	Black She-oak	Semi-mature	Victorian native	20	28	8	5	Fair	Good	Mod.B	21-40 y	excurrent form	2.4	1.9	
503	<i>Bursaria spinosa</i>	Sweet Bursaria	Maturing	Victorian native	17,16	28	6	8	Fair to Poor	Fair to Poor	Mod.C	6-10 y	Partly suppressed - crown bias;south, >45 deg lean due to collapsed tree but self-corrected, minor dieback	2.8	1.9	29491
504	<i>Allocasuarina littoralis</i>	Black She-oak	Semi-mature	Victorian native	18	22	7	4	Fair	Fair to Poor	Mod.C	11-20 y		2.2	1.8	
505	<i>Banksia integrifolia</i>	Coast Banksia	Semi-mature	Indigenous	26,20	40	7	5	Fair	Fair	Mod.B	21-40 y	2 stems from base	3.9	2.3	29487
506	<i>Eucalyptus viminalis</i>	Manna Gum	Early-mature	Victorian native	35	45	3	10	Fair	Poor	Low	6-10 y	tree failed but resprouted - completely prostrate trunk to south with numerous upright shoots	4.2	2.4	29490

No	Species	Common Name	Age Class	Origin/Type	DBH (cm)	Basal ∅ (cm)	Height (m)	Width (m)	Health	Structure	Arb. Rating	ULE (yrs)	Comments	TPZ radius (m)	SRZ radius (m)	CoPP Asset ID
507	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	34,31,18@1 m	80	8	5	Fair	Fair to Poor	Mod.B	21-40 y		5.9	3.0	29486
508	<i>Banksia integrifolia</i>	Coast Banksia	Early-mature	Indigenous	33@1m	50	8	5	Fair	Fair	Mod.B	21-40 y	Partly suppressed - crown bias west	4.0	2.5	29485
509	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,10	12	4	2	Fair	Fair to Poor	Low	21-40 y	Included bark forks	2.0	1.5	
510	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	19	23	4	3	Fair	Fair	Mod.C	21-40 y	Partly suppressed - crown bias north	2.3	1.8	
511	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	27,10	32	3	5	Fair	Fair to Poor	Mod.C	21-40 y	Congested primary union	3.5	2.1	
512	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7,7,6	12	2	2	Fair	Fair	Low	21-40 y		2.0	1.5	
513	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	7,5	13	2	2	Fair to Poor	Fair	Low	11-20 y		2.0	1.5	
514	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15	20	4	3	Fair	Fair to Poor	Low	11-20 y	significant lean east with prominent tensional roots, self-corrected	2.0	1.7	
515	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	8,7,5	12	4	3	Fair	Fair to Poor	Low	21-40 y		2.0	1.5	
516	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	15,13@1.2m	20	3	4	Fair	Poor	Low	6-10 y	congested unions, significant lean east with prominent tensional roots, self-corrected	2.4	1.7	
517	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	11,5	15	4	2	Fair	Fair	Low	21-40 y		2.0	1.5	
518	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	10,9	12	3	2	Fair	Fair to Poor	Low	11-20 y	Included bark forks;Trunk wounds	2.0	1.5	
519	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	13,10	20	3	3	Fair to Poor	Fair	Low	11-20 y	Reduced foliage density;Partly suppressed - crown bias southeast	2.0	1.7	
520	<i>Allocasuarina verticillata</i>	Drooping She-oak	Early-mature	Indigenous	45,40,20@0.1m	70	6	12	Good	Fair to Poor	Mod.B	11-20 y	Multi-stemmed	7.6	2.8	29464
521	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	16,15,12,7,7	40	5	5	Fair	Fair to Poor	Mod.C	11-20 y	Multi-stemmed;Partly suppressed - crown bias north	3.0	2.3	29463
522	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	16,13,8@0.8 m	25	4	5	Fair	Fair	Mod.C	21-40 y	stakes and planting well still present	2.5	1.8	
523	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	13@1.2m	16	3	2	Fair	Fair to Poor	Low	21-40 y	Congested primary union	2.0	1.5	
524	<i>Allocasuarina verticillata</i>	Drooping She-oak	Semi-mature	Indigenous	19@0.5m	23	4	4	Good	Fair to Poor	Mod.C	11-20 y	Congested primary union	2.3	1.8	
Group 1	<i>Lagerstroemia Indica</i>	Crape Myrtle	Semi-mature	Exotic deciduous	Avg:8,8,7	Avg: 16	4	4	Fair	Fair	Mod.C	>40	9 trees	2.0	1.5	

## Appendix 2: Tree Location Plan

Refer to the following 9 pages.



**LEGEND**

Arb. ratings

- High
- Mod-A
- Mod-B
- Mod-C
- Low
- Very Low

ULEs

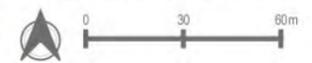
- >40 y
- 21-40 y
- 11-20 y
- 6-10 y
- 1-5 y
- <1 y

**APPENDIX 2**  
**TREE LOCATIONS**  
**AND PROTECTION**  
**ZONES**

**PROJECT**  
 Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> Overview
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

**COORDINATE REFERENCE SYSTEM**  
 EPSG:28355 | GDA 94 MGA Zone 55



**TREELOGIC PTY LTD** 4 / 21 Eugene Tce  
 Ringwood, VIC  
 ABN: 95 080 021 610  
 TEL: 1300 656 926 Australia 3134





**LEGEND**

- Arb. rating
  - High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
  - >40 y
  - 21-40 y
  - 11-20 y
  - 6-10 y
  - 1-5 y
  - <1 y
- TPZs
  - TPZ
- Tree groups
  - Moderate



**APPENDIX 2  
TREE LOCATIONS  
AND PROTECTION  
ZONES**

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Elwood Foreshore

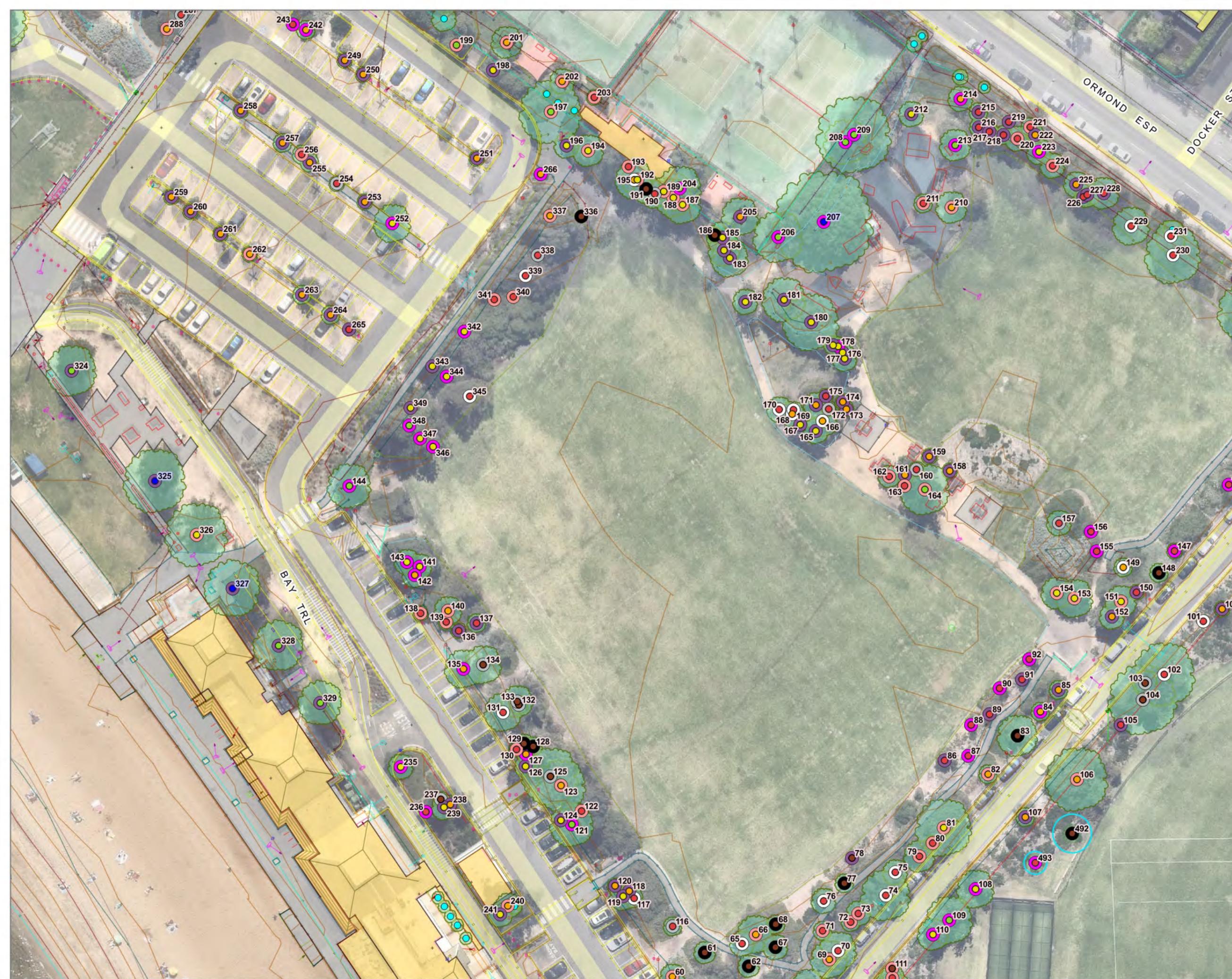
<b>TL REF.</b> J10684	<b>MAP NO.</b> 1/8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

**TREE LOCATION DISCLAIMER**  
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**LEGEND**

- Arb. rating
  - High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
  - >40 y
  - 21-40 y
  - 11-20 y
  - 6-10 y
  - 1-5 y
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  - TPZ
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Elwood Foreshore

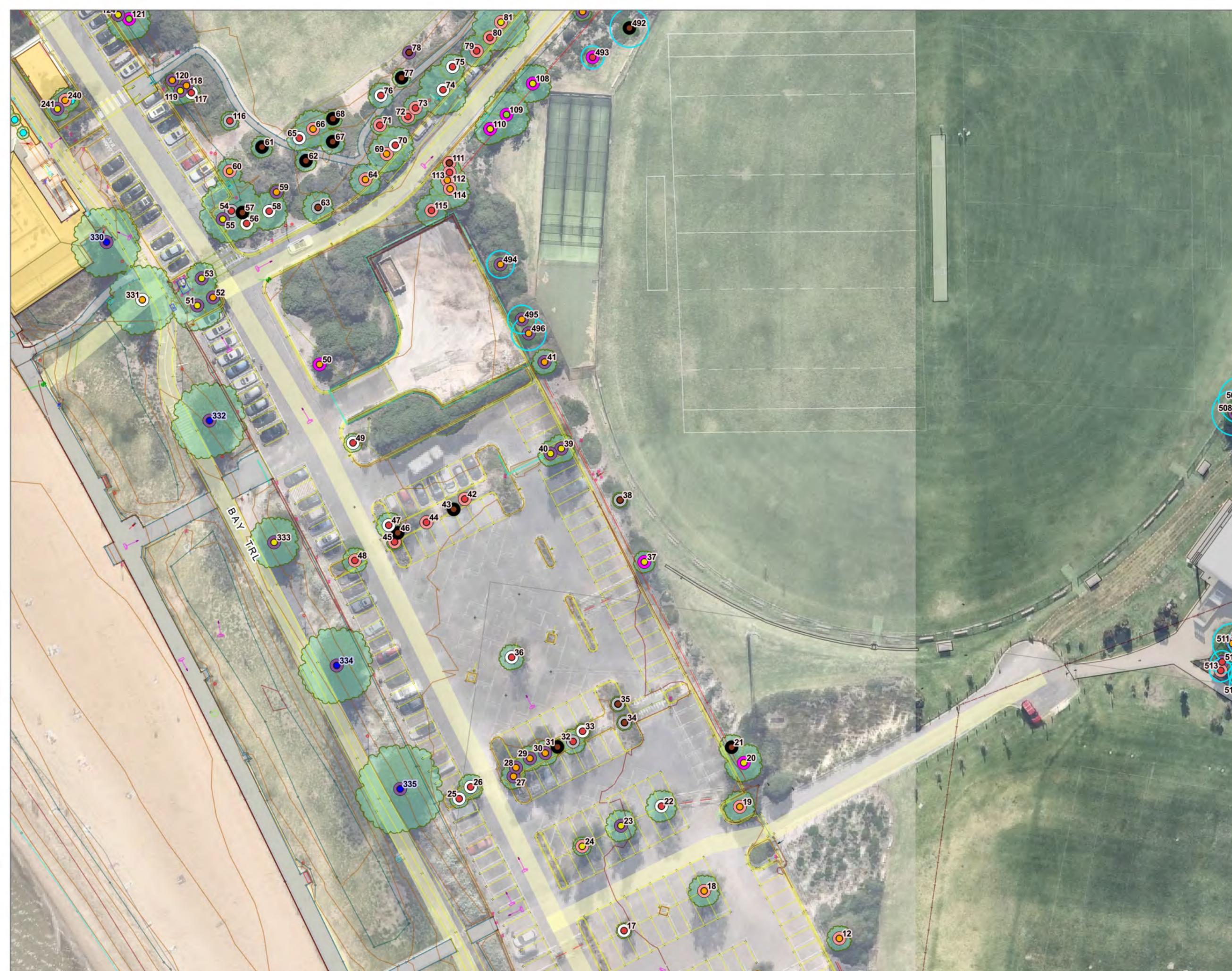
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J10684	2/8
CLIENT	DATE
City of Port Phillip	2020-05-28

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**LEGEND**

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  - Mod-A
  - Mod-B
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  - 21-40 y
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**APPENDIX 2  
TREE LOCATIONS  
AND PROTECTION  
ZONES**

**PROJECT**  
Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> 3/8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

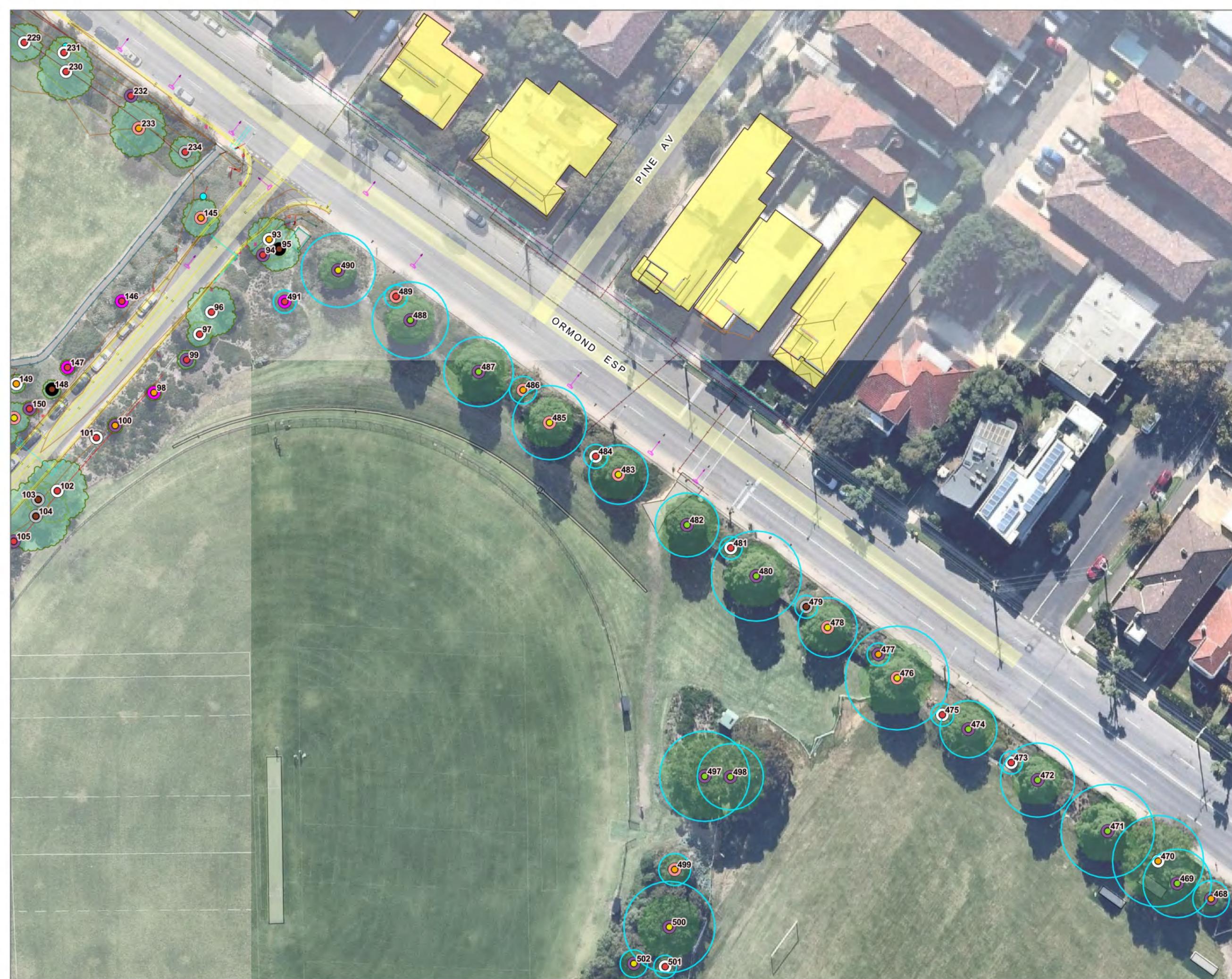
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**LEGEND**

- Arb. rating
- High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
- >40 y
  - 21-40 y
  - 11-20 y
  - 6-10 y
  - 1-5 y
  - <1 y
- TPZs
- TPZ
- Tree groups
- Moderate



**APPENDIX 2  
TREE LOCATIONS  
AND PROTECTION  
ZONES**

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Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> 4 / 8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

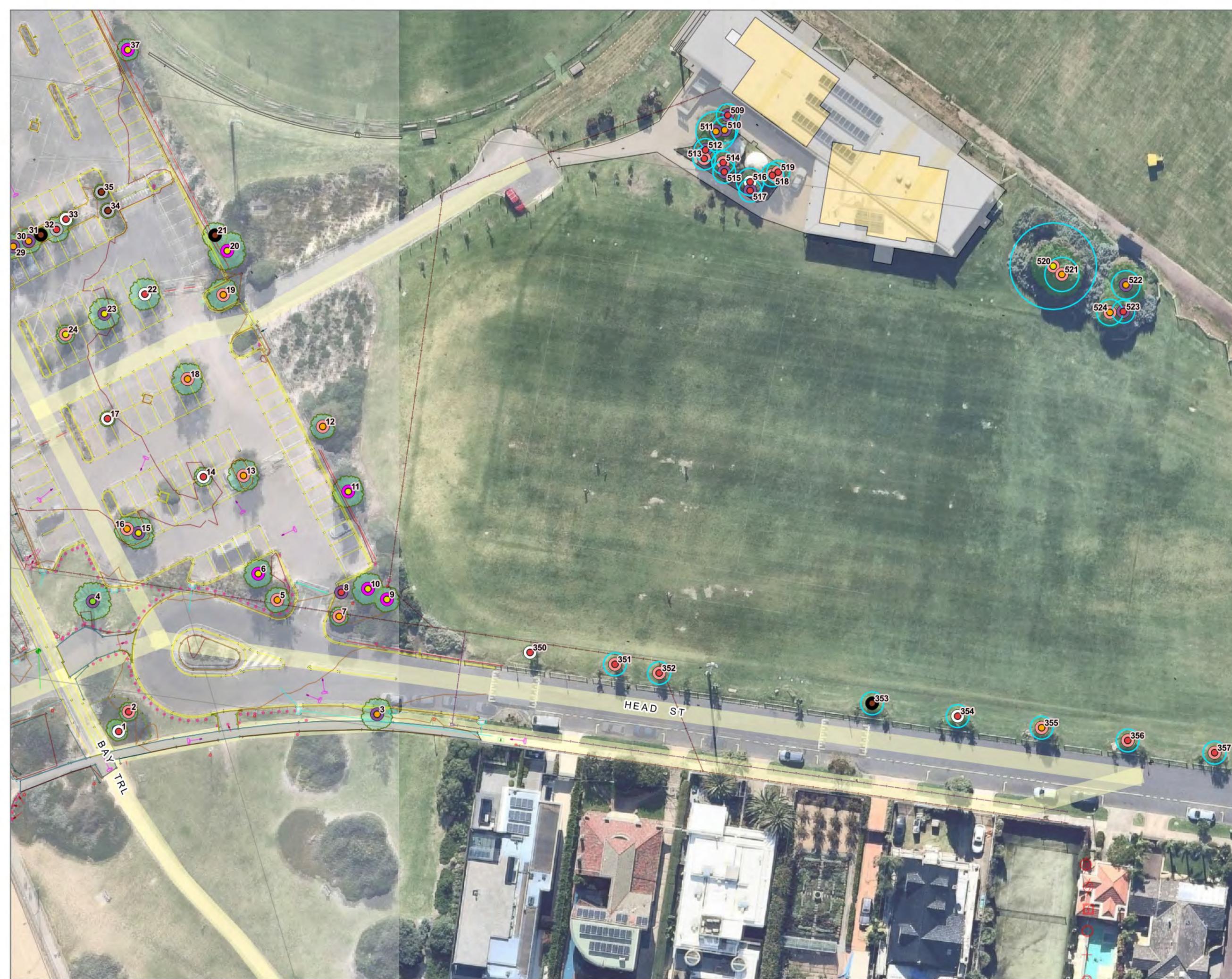
**TREE LOCATION DISCLAIMER**  
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**LEGEND**

- Arb. rating
  - High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
  - >40 y
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  - 11-20 y
  - 6-10 y
  - 1-5 y
  - <1 y
- TPZs
  - TPZ
- Tree groups
  - Moderate



**APPENDIX 2  
TREE LOCATIONS  
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ZONES**

**PROJECT**  
Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> 5/8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

**TREE LOCATION DISCLAIMER**  
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**COORDINATE REFERENCE SYSTEM**  
EPSG:28355 | GDA 94 MGA Zone 55



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**LEGEND**

- Arb. rating
- High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
- >40 y
  - 21-40 y
  - 11-20 y
  - 6-10 y
  - 1-5 y
  - <1 y
- TPZs
- TPZ
- Tree groups
- Moderate



**APPENDIX 2  
TREE LOCATIONS  
AND PROTECTION  
ZONES**

**PROJECT**  
Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> 6 / 8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

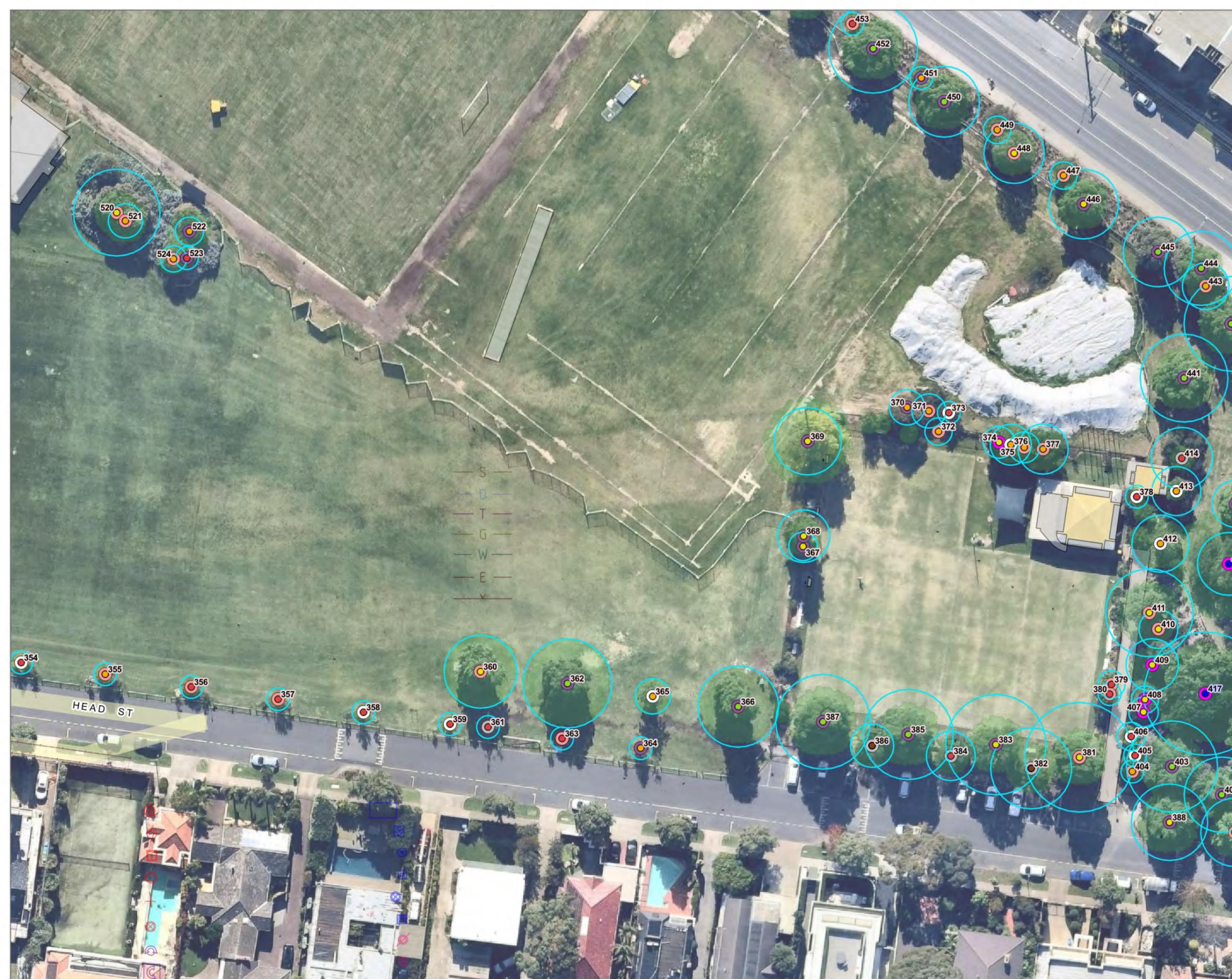
**TREE LOCATION DISCLAIMER**  
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**LEGEND**

- Arb. rating
  - High
  - Mod-A
  - Mod-B
  - Mod-C
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  - >40 y
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  - 1-5 y
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  - TPZ
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**PROJECT**  
Elwood Foreshore

<b>TL REF.</b> J10684	<b>MAP NO.</b> 7 / 8
<b>CLIENT</b> City of Port Phillip	<b>DATE</b> 2020-05-28

**TREE LOCATION DISCLAIMER**  
Unsurveyed tree locations are approximate  
**COORDINATE REFERENCE SYSTEM**  
EPSG:28355 | GDA 94 MGA Zone 55



**TREELOGIC PTY LTD** 4 / 21 Eugene Tee  
 ABN: 95 080 021 610 Ringwood, VIC  
 TEL: 1300 656 926 Australia 3134





**LEGEND**

- Arb. rating
- High
  - Mod-A
  - Mod-B
  - Mod-C
  - Low
  - Very Low
- ULE
- >40 y
  - 21-40 y
  - 11-20 y
  - 6-10 y
  - 1-5 y
  - <1 y
- TPZs
- TPZ
- Tree groups
- Moderate



**APPENDIX 2  
TREE LOCATIONS  
AND PROTECTION  
ZONES**

**PROJECT**  
Elwood Foreshore

<b>TL REF.</b>	<b>MAP NO.</b>
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## Appendix 3: Arboricultural Descriptors (February 2019)

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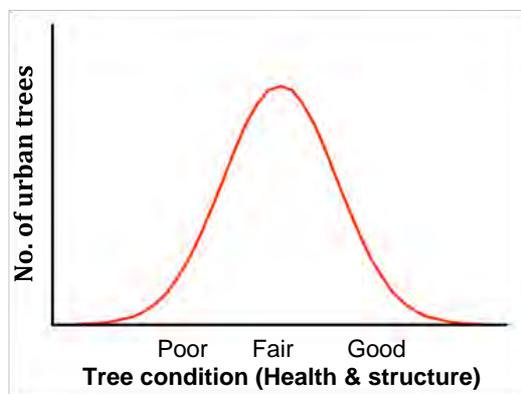
Note that not all of the described tree descriptors may be used in a tree assessment and report. The assessment is undertaken with regard to contemporary arboricultural practices and consists of a visual inspection of external and above-ground tree parts.

### Tree Condition

The assessment of tree condition evaluates factors of health and structure. The descriptors of health and structure attributed to a tree evaluate the individual specimen to what could be considered typical for that species growing in its location under current climatic conditions. For example, some species can display inherently poor branching architecture, such as multiple acute branch attachments with included bark. Whilst these structural defects may technically be considered arboriculturally poor, they are typical for the species and may not constitute an increased risk of failure.

These trees may be assigned a structural rating of fair-poor (rather than poor) at the discretion of the assessor.

Diagram 1 provides an indicative distribution curve for tree condition to illustrate that within a normal tree population the majority of specimens are centrally located within the condition range (normal distribution curve). Furthermore, that those individual trees with an assessed condition approaching the outer ends of the spectrum occur less often.



**Diagram 1:** Indicative normal distribution curve for tree condition

### Tree Name

Provides botanical name, (genus, species, variety and cultivar) according to accepted international code of taxonomic classification, and common name.

### Tree Type

Describes the general geographic origin of the species and its type e.g. deciduous or evergreen.

Category	Description
Indigenous	Occurs naturally in the area or region of the subject site. Remnant.
Victorian native	Occurs naturally within some part of the State of Victoria (not exclusively) but is not indigenous (component of EVC benchmark). Could be planted indigenous trees.
Australian native	Occurs naturally within Australia but is not a Victorian native or indigenous
Exotic deciduous	Occurs outside of Australia and typically sheds its leaves during winter
Exotic evergreen	Occurs outside of Australia and typically holds its leaves all year round
Exotic conifer	Occurs outside of Australia and is classified as a gymnosperm
Native conifer	Occurs naturally within Australia and is classified as a gymnosperm
Native Palm	Occurs naturally within Australia. Woody monocotyledon
Exotic Palm	Occurs outside of Australia. Woody monocotyledon

### Height and Width

Indicates height and width of the individual tree; dimensions are expressed in metres. Crown heights are measured with a height meter where possible. Due to the topography of some sites and/or the density of vegetation it may not be possible to do this for every tree. Tree heights may be estimated in line with previous

height meter readings in conjunction with assessor's experience. Crown widths are generally paced (estimated) at the widest axis or can be measured on two axes and averaged. In some instances the crown width can be measured on the four cardinal direction points (North, South, East and West).

Crown height, crown spread are generally recorded to the nearest half metre (crown spread would be rounded up) for dimensions up to 10 m and the nearest whole metre for dimensions over 10 m. Estimated dimensions (e.g. for off-site or otherwise inaccessible trees where accurate data cannot be recovered) shall be clearly identified in the assessment data.

### Trunk diameters

The position where trunk diameters are captured may vary dependent on the requirements of the specific assessment and an individual trees specific characteristics. DBH is the typical trunk diameter captured as it relates to the allocation of tree protection distances. The basal trunk diameter assists in the allocation of a structural root zone. Some municipalities require trunk diameters be captured at different heights, with 1.0 m above grade being a common requirement. The specific planning schemes will be checked to ascertain requirements.

Stem diameters shall be recorded in centimetres, rounded to the nearest 1 cm (0.01 m).

#### *Diameter at Breast Height (DBH)*

Indicates the trunk diameter (expressed in centimetres) of an individual tree measured at 1.4m above the existing ground level or where otherwise indicated, multiple leaders are measured individually. Plants with multiple leader habit may be measured at the base. The range of methods to suit particular trunk shapes, configurations and site conditions can be seen in Appendix A of Australian Standard AS 4970-2009 *Protection of trees on development sites*. Measurements undertaken using foresters tape or builders tape.

#### *Basal trunk diameter*

The basal dimension is the trunk diameter measured at the base of the trunk or main stem(s) immediately above the root buttress. Used to ascertain the Structural Root Zone (SRZ) as outlined in AS4970.

### Health

Assesses various attributes to describe the overall health and vitality of the tree.

Category	Vitality, Extension growth	Decline symptoms, Deadwood, Dieback	Foliage density, colour, size, intactness	Pests and or disease
Good	Above typical. Excellent. Full canopy density	Negligible	Better than typical	Negligible
Fair	Typical vitality. >80% canopy density	Minor or expected. Little or no dead wood	Typical. Minor deficiencies or defects could be present.	Minor, within damage thresholds
Fair to Poor	Below typical - low vitality	More than typical. Small sub-branch dieback	Exhibiting deficiencies. Could be thinning, or smaller	Exceeds damage thresholds
Poor	Minimal - declining	Excessive, large and/or prominent amount & size of dead wood. Significant dieback	Exhibiting severe deficiencies. Thinning foliage, generally smaller or deformed	Extreme and contributing to decline
Dead	N/A	N/A	N/A	N/A

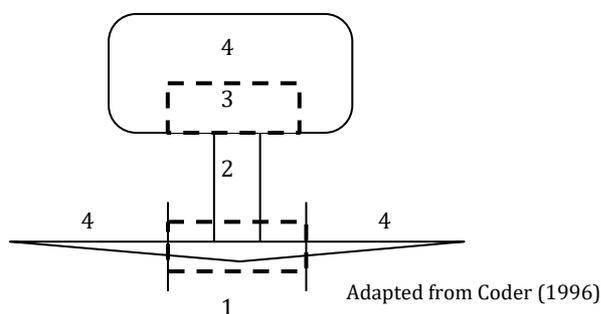
### Structure

Assesses principal components of tree structure (Diagram 2).

Descriptor	Zone 1 - Root plate & lower stem	Zone 2 - Trunk	Zone 3 - Primary branch support	Zone 4 - Outer crown and roots
Good	No obvious damage, disease or decay; obvious basal flare / stable in ground	No obvious damage, disease or decay; well tapered	Well formed, attached, spaced and tapered. No history of failure.	No obvious damage, disease, decay or structural defect. No history of failure.
Fair	Minor damage or decay. Basal flare present.	Minor damage or decay	Generally, well attached, spaced and tapered branches. Minor structural deficiencies may be present or developing. No history of branch failure.	Minor damage, disease or decay; minor branch end-weight or over-extension. No history of branch failure.
Fair to Poor	Moderate damage or decay; minimal basal flare.	Moderate damage or decay; approaching recognised thresholds	Weak, decayed or with acute branch attachments; previous branch failure evidence.	Moderate damage, disease or decay; moderate branch end-weight or over-extension. Minor branch failure evident.
Poor	Major damage, disease or decay; fungal fruiting bodies present. Excessive lean placing pressure on root plate	Major damage, disease or decay; exceeds recognised thresholds; fungal fruiting bodies present. Acute lean. Stump re-sprout	Decayed, cavities or has acute branch attachments with included bark; excessive compression flaring; failure likely. Evidence of major branch failure.	Major damage, disease or decay; fungal fruiting bodies present; major branch end-weight or over-extension. Branch failure evident.
Very Poor	Excessive damage, disease or decay; unstable / loose in ground; altered exposure; failure probable	Excessive damage, disease or decay; cavities. Excessive lean. Stump re-sprout	Decayed, cavities or branch attachments with active split; failure imminent. History of major branch failure.	Excessive damage, disease or decay; excessive branch end-weight or over-extension. History of branch failure.

**Diagram 2:** Tree structure zones

1. Root plate & lower stem
2. Trunk
3. Primary branch support
4. Outer crown & roots



Structure ratings will also take into account general branching architecture, stem taper, live crown ratio, crown symmetry (bias or lean) and crown position such as tree being suppressed amongst more dominant trees.

The lowest or worst descriptor assigned to the tree in any column could generally be the overall rating assigned to the tree. The assessment for structure is limited to observations of external and above ground tree parts. It does not include any exploratory assessment of underground or internal tree parts unless this is requested as part of the investigation. Trees are assessed and then given a rating for a point in time. Generally, trees with a poor or very poor structure are beyond the benefit of practical arboricultural treatments.

The management of trees in the urban environment requires appropriate arboricultural input and consideration of risk. Risk potential will consider the combination of likelihood of failure and impact, including the perceived importance of the target(s).

### Age class

Relates to the physiological stage of the tree's life cycle.

Category	Description
Young	Sapling tree and/or recently planted. Approximately 5 or less years in location.

Semi-mature	Tree increasing in size and yet to achieve expected size in situation. Primary developmental stage.
Early-mature	Tree established, generally growing vigorously. > 50% of attainable age/size.
Mature	Specimen approaching expected size in situation, with reduced incremental growth.
Over-mature	Mature full-size with a retrenching crown. Tree is senescent and in decline. Significant decay generally present.

### Useful life expectancy

Assessment of useful life expectancy provides an indication of health and tree appropriateness and involves an estimate of how long a tree is likely to remain in the landscape based on species, stage of life (cycle), health, amenity, environmental services contribution, conflicts with adjacent infrastructure and risk to the community. It would enable tree managers to develop long-term plans for the eventual removal and replacement of existing trees in the public realm. It is not a measure of the biological life of the tree within the natural range of the species. It is more a measure of the health status and the trees positive contribution to the urban landscape.

Within an urban landscape context, particularly in relation to street trees, it could be considered a point where the costs to maintain the asset (tree) outweigh the benefits the tree is returning.

The assessment is based on the site conditions not being significantly altered and that any prescribed maintenance works are carried out (site conditions are presumed to remain relatively constant and the tree would be maintained under scheduled maintenance programs).

Useful Life Expectancy	Typical characteristics
<1 year (No remaining ULE)	Tree may be dead or mostly dead. Tree may exhibit major structural faults. Tree may be an imminent failure hazard. Excessive infrastructure damage with high risk potential that cannot be remedied.
1-5 years (Transitory, Brief)	Tree is exhibiting severe chronic decline. Crown is likely to be less than 50% typical density. Crown may be mostly epicormic growth. Dieback of large limbs is common (large deadwood may have been pruned out). Major structural defects that cannot be remedied. Tree may be over-mature and senescing. Infrastructure conflicts with heightened risk potential. Tree has outgrown site constraints.
6-10 years (Short)	Tree is exhibiting chronic decline. Crown density will be less than typical and epicormic growth is likely to present. The crown may still be mostly entire, but some dieback is likely to be evident. Dieback may include large limbs. Structural defects present that influence the tree's risk rating, amenity or vitality. Over-mature and senescing or early decline symptoms in short-lived species. Early infrastructure conflicts with potential to increase regardless of management inputs.
11-20 years (Moderate)	Tree not showing symptoms of chronic decline, but growth characteristics are likely to be reduced (bud development, extension growth etc.). Developing structural defects that reduce viability with limited scope for management. Tree may be over-mature and beginning to senesce. Potential for infrastructure conflicts regardless of management inputs.
21-40 years (Moderately long)	Trees displaying normal growth characteristics, but vitality is likely to be reduced (bud development, extension growth etc.). Structural issues relatively minor and manageable with arboricultural input. Tree may be growing in restricted environment (e.g. streetscapes) or may be in late maturity. Semi-mature and mature trees exhibiting normal growth characteristics. Juvenile trees in streetscapes.
>40 years (Long)	Generally juvenile and semi-mature trees exhibiting normal growth characteristics within adequate spaces to sustain growth, such as in parks or open space. Could also pertain to maturing, long-lived trees. No observable major structural defects. Tree well suited to the site with negligible potential for infrastructure conflicts.

Note that ULE may change for a tree dependent on the prevailing climatic conditions, sudden changes to a tree's growing environment creating an acute stress or impact by pathogens.

The ULE may not be applicable for trees that are manipulated, such as topiary, or grown for specific horticultural purposes, such as fruit trees.

There may be instances where remedial tree maintenance could extend a tree's ULE.

## Arboricultural Rating

Relates to the combination of assigned tree condition factors, including health and structure (arboricultural merit) and ULE, and conveys an amenity value (An amenity tree can occupy a site that complements its surroundings in a useful manner which culminates in the aid, protection, comfort and emotional response of humans. Adapted from Coder, 2004). Amenity relates to the trees biological, functional and aesthetic characteristics (Hitchmough, 1994) within an urban landscape context. The presence of any serious disease or tree-related hazards that would impact risk potential are considered.

The arboricultural rating can be used by applying only the main category high, moderate, low or very low without using the sub categories. The sub-categories can assist in differentiating a trees value and/or characteristic in more detail within the specific tree assessment context, such as a development site.

Arboricultural rating			
Category	Description		
High	<p>Exemplary specimen due to multiple factors which could include; good condition and vitality, large size/canopy and prominence in the landscape. Likely to be a very long-term component in the landscape with a long ULE.</p> <p>Other factors that could contribute to a high rating:</p> <ul style="list-style-type: none"> <li>• Particularly good example of the species; rare or uncommon.</li> <li>• Tree has visual importance as a landscape feature; provides substantial contribution to landscape character.</li> <li>• Tree may have significant ecological or conservation value.</li> <li>• *Tree has historical, commemorative or other distinct social/cultural significance.</li> </ul> <p>Trees in this category must be considered for retention and/or incorporated within design proposals.</p>		
Category	Description	Sub category	Description
Moderate	<p>Tree of moderate quality, in fair or typical condition. Tree may have a condition, and or structural problem that will respond to arboricultural treatment. These trees have the potential to be moderate- to long-term components of the landscape (moderate to long ULE) if managed appropriately. The sub-categories relate predominately to age, size and amenity. Trees in this category should be considered for retention and/or incorporated within design proposals.</p>	A	<p>Moderate to large, maturing tree. Suited to the site &amp; contributes to the landscape character. Tree may have conservation or other cultural/social value.</p>
		B	<p>Moderate sized, established tree, &gt; 50% of attainable age/size. Suited to the site &amp; contributes to the landscape character (other attributes covered under 'Moderate' description)</p>
		C	<ul style="list-style-type: none"> <li>• Young to semi-mature, generally a smaller tree, established, &gt;15 cm DBH, &gt;5 years in the location. Not a dominant canopy. No significant qualities currently but has the potential to become a higher value tree &amp; long-term component of the landscape. Replacement of tree is likely to take up to 6 - 10 years to attain similar attributes.</li> <li>• Semi- to mature tree with accumulating deficiencies and reducing ULE, trending towards Low arboricultural value.</li> </ul>
Category	Description		
Low	<p>Unremarkable tree of low quality or little amenity value. Tree in either poor health and/or with poor structure. Short to transitory useful life expectancy (&lt;10 years).</p> <ul style="list-style-type: none"> <li>• Tree is not prominent in the landscape due to its size or age, such as young trees with a stem diameter below 15 cm. Tree &lt; 5 years in location. These trees are easily replaceable or capable of being transplanted.</li> <li>• Tree (species) is functionally inappropriate to the specific location. Is causing excessive damage/nuisance to adjacent infrastructure or would be expected to be problematic if retained (i.e. palm tree under power lines).</li> </ul>		

	<ul style="list-style-type: none"> <li>• Unremarkable tree of no material landscape, conservation or other cultural value. Not visible from surrounding landscapes.</li> <li>• Tree infected with pathogens that could lead to its decline.</li> <li>• Tree has potential to be an environmental woody weed (may be dependent on location of tree in an urban landscape).</li> <li>• Tree impacting or suppressing trees of better quality.</li> </ul> <p>Retention of such trees may be considered if not requiring a disproportionate expenditure of resources for a tree in its condition and location.</p>
<i>Category</i>	<i>Description</i>
Very low	<p>Trees of low quality with a brief to no remaining ULE (&lt;5 years).</p> <ul style="list-style-type: none"> <li>• Tree has either a severe structural defect or health problem or combination that cannot be sustained with practical arboricultural techniques and the loss of the tree or tree part would be expected in the short term.</li> <li>• Tree whose retention would not be viable after the removal of adjacent trees, such as trees that have developed in close spaced groups and would not be expected to adapt to severe and sudden alterations to environmental &amp; site conditions, e.g. removal of adjacent shelter trees.</li> <li>• Small or young tree, &lt;5m in height, &lt;10cm DBH. Easily replaced in short-term or capable of being transplanted.</li> <li>• Acknowledged environmental woody weed species. Tree has a detrimental effect on the environment, for example, the tree has weed potential and is likely to spread into waterways or natural areas if nearby.</li> <li>• Tree infected with pathogens that will lead to decline and has potential to spread to adjacent trees.</li> <li>• Tree is dead (dead tree may offer habitat values) or is showing signs of significant, immediate, and irreversible overall decline.</li> </ul> <p>Tree cannot realistically be retained and should be considered for removal.</p>

Other considerations - Even though a tree may be declining or dead, a tree could be retained for other purposes such as habitat or soil stabilisation. These trees would still need to be managed appropriately to reduce risk.

\*A tree may have (attract) a high value by the community for historical, commemorative or other distinct social/cultural significance factors, albeit the tree may not be in good condition. In the context of an assessment, for multiple reasons, but more so for development, if it is a noted 'significant' tree it should receive higher consideration during the planning process.

Trees have many values, not all of which are considered when an arboricultural assessment is undertaken. However, individual trees or tree group features may be considered important community resources because of unique or noteworthy characteristics or values other than their age, dimensions, health or structural condition. Recognition of one or more of the following criteria is designed to highlight other considerations that may influence the future management of such trees.

Significance	Description
Horticultural Value/ Rarity	Outstanding horticultural or genetic value; could be an important source of propagating stock, including specimens that are particularly resistant to disease or exposure. Any tree of a species or variety that is rare.
Historic, Aboriginal Cultural or Heritage Value	<p>Tree could have value as a remnant of a particular important historical period or a remnant of a site or activity no longer in action. Tree has a recognised association with historic aboriginal activities, including scar trees.</p> <p>Tree commemorates a particular occasion, including plantings by notable people, or having associations with an important event in local history.</p>
Ecological Value	<p>Tree could have value as habitat for indigenous wildlife, including providing breeding, foraging or roosting habitat, or is a component of a wildlife reserve.</p> <p>Remnant Indigenous vegetation that contribute to biological diversity</p>

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## Appendix 4: Tree Protection Zones

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### 1. Introduction

To sustain trees on a development site, consideration must be given to the establishment of tree protection zones.

The physical dimensions of tree protection zones can sometimes be difficult to define. The projection of a tree's crown can provide a guide but is by no means the definitive measure. The unpredictable nature of roots and their growth, differences between species and their tolerances, and observable and hidden changes to the trees growing environment, because of development, are variables that must be considered.

Most vigorous, broad canopied trees survive well if the area within the drip-line of the canopy is protected. Fine root density is usually greater beneath the canopy than beyond (Gilman, 1997). If few to no roots over 3cm in diameter are encountered and severed during excavation the tree will probably tolerate the impact and root loss. A healthy tree can sustain a loss of between 30% and 50% of absorbing roots (Harris, Clark, Matheny, 1999), however encroachment into the structural root system of a tree may be problematic.

The structural root system of a tree is responsible for ensuring the stability of the entire tree structure in the ground. A tree could not sustain loss of structural root system and be expected to survive let alone stand up to average annual wind loads upon the crown.

### Allocation of tree protection zone (TPZ)

The most important consideration for the successful retention of trees is to allow appropriate above and below ground space for the trees to continue to grow. This requires the allocation of tree protection zones for retained trees.

The method of allocating a TPZ to a tree will be influenced by site factors, the tree species, its age, and developed form.

Once it has been established, through an arboricultural assessment, which trees and tree groups are to be retained, the next step will require careful management through the development process to minimise any impacts on the designated trees. The successful retention of trees on any particular site will require the commitment and understanding of all parties involved in the development process. The most important activity, after determining the trees that will be retained, is the implementation of a TPZ.

The intention of tree protection zones is to:

- mitigate tree hazards;
- provide adequate root space to sustain the health and aesthetics of the tree into the future;
- minimise changes to the trees growing environment, which is particularly important for mature specimens;
- minimise physical damage to the root system, canopy and trunk; and
- define the physical alignment of the tree protection fencing

The Australian Standard AS 4970-2009 Protection of trees on development sites has been used as a

guide in the allocation of TPZs for the assessed trees. The TPZ for individual trees is calculated based on trunk (stem) diameter (DBH), measured at 1.4 metres up from ground level. The radius of the TPZ is calculated by multiplying the trees DBH by 12. The method provides a TPZ that addresses both the stability and growing requirements of a tree. TPZ distances are measured as a radius from the centre of the trunk at (or near) ground level. The minimum TPZ should be no less than 2m and the maximum no more than 15m radius. The TPZ of palms should be not less than 1.0m outside the crown projection.

Encroachment into the TPZ is permissible under certain circumstances though is dependent on both site conditions and tree characteristics. Minor encroachment, up to 10% of the TPZ, is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ. Examples are provided in Diagram 1. Encroachment greater than 10% is considered major encroachment under AS4970-2009 and is only permissible if it can be demonstrated that after such encroachment the tree would remain viable.

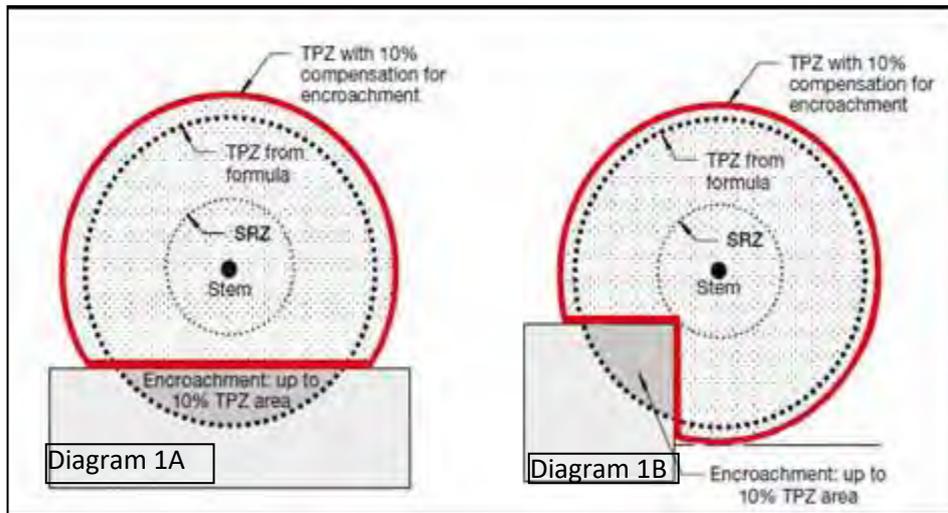


Diagram 1: Examples of minor encroachment into a TPZ. (Extract from: AS4970-2009, Appendix D, p30 of 32)

The 10% encroachment on one side equates to approximately  $\frac{1}{3}$  radial distance. Tree root growth is opportunistic and occurs where the essentials to life (primarily air and water) are present. Heterogeneous soil conditions, existing barriers, hard surfaces and buildings may have inhibited the development of a symmetrically radiating root system.

Existing infrastructure around some trees may be within the TPZ or root plate radius. The roots of some trees may have grown in response to the site conditions and therefore if existing hard surfaces and building alignments are utilised in new designs the impacts on the trees should be minimal. The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998). Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build.

The TPZ should also consider the canopy and overall form of the tree. If the canopy requires severe pruning to accommodate a building or other works and in the process the form of the tree is diminished it may be worthwhile considering altering the design or removing the tree.

### General tree protection guidelines

The most important factors are:

- Prior to construction works the trees nominated for tree works should be pruned to remove larger dead wood. Pruning works may also identify other tree hazards that require remedial works.

- Installation of tree protection fencing. Once the tree protection zones have been determined the next step is to mulch the zone with woodchip and erect tree protection fencing. This must be completed prior to any materials being brought on-site, erection of temporary site facilities or demolition/earth works. The protection fencing must be sturdy and withstand winds and construction impacts. The protection fence should only be moved with approval of the site supervisor. Other root zone protection methods can be incorporated if the TPZ area needs to be traversed.
- Appropriate signage is to be fixed to the fencing to alert people as to importance of the tree protection zone.
- The importance of tree preservation must be communicated to all relevant parties involved with the site.
- Inspection of trees during excavation works.

### **Exploratory excavation**

The most reliable way to estimate root disturbance is to find out where the roots are in relation to the demolition, excavation or construction works that will take place (Matheny & Clark, 1998).

Exploratory excavation prior to commencement of construction can help establish the extent of the root system and where it may be appropriate to excavate or build. This also allows management decisions to be made and allows time for redesign works if required.

Any exploratory excavation within the allocated TPZ is to be undertaken with due care of the roots. Minor exploration is possible with hand tools. More extensive exploration may require the use of high pressure water or air excavation techniques. Either hydraulic or pneumatic excavation techniques will safely expose tree roots; both have specific benefits dependent on the situation and soil type. An arborist is to be consulted on which system is best suited for the site conditions.

Substantial roots are to be exposed and left intact.

Once roots are exposed decisions can be made regarding the management of the tree. Decisions will be dependent on the tree species, its condition, its age, its relative tolerance to root loss, and the amount of root system exposed and requiring pruning.

Other alternative measures to encroaching the TPZ may include boring or tunnelling.

### **How to determine the diameter of a substantial root**

The size of a substantial root will vary according to the distance of the exposed root to the trunk of the tree. The further away from the trunk of a tree that a root is, the less significant the root is likely to be to the tree's health and stability.

The determination of what is a substantial root is often difficult because the form, depth and spread of roots will vary between species and sites. However, because smaller roots are connected to larger roots in a framework, there can be no doubt that if larger roots are severed, the smaller roots attached to them will die. Therefore, the larger the root, the more significant it may be.

Gilman (1997) suggests that trees may contain 4-11 major lateral roots and that the five largest lateral roots account (act as a conduit) for 75% of the total root system. These large lateral roots quickly taper within a distance to the tree, this distance is identified as the Structural Root Zone (SRZ). Within the SRZ distance, all roots and the soil surrounding the roots are deemed significant.

### **No root or soil disturbance is permitted within the SRZ**

In the area outside the SRZ the tree may tolerate the loss of one or a number of roots. The table below indicates the size of tree roots, outside the SRZ that would be deemed substantial for various tree heights. The assessment of combined root loss within the TPZ would need to be undertaken by an arborist on an individual basis because the location of the tree, its condition and environment would need to be assess

Table 1: Estimated significant root sizes outside SRZ

Height of tree	Diameter of root	Height of tree	Diameter of root
Less than 5m	≥ 30mm	Less than 5m	≥ 30mm
Between 5m - 15m	≥ 50mm	Between 5m - 15m	≥ 50mm
More than 15m	≥ 70mm	More than 15m	≥ 70mm

### Ground buffering

Where works are required to be undertaken within the tree root zone, surface, ground buffering and trunk and limb protection must be provided to minimise the potential for soil to become compacted and avoid potential for impact wounds to occur to surface roots, trunk or limbs. Refer below.

#### 4.5.3 Ground protection

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards as per Figure 4.

These measures may be applied to root zones beyond the TPZ.

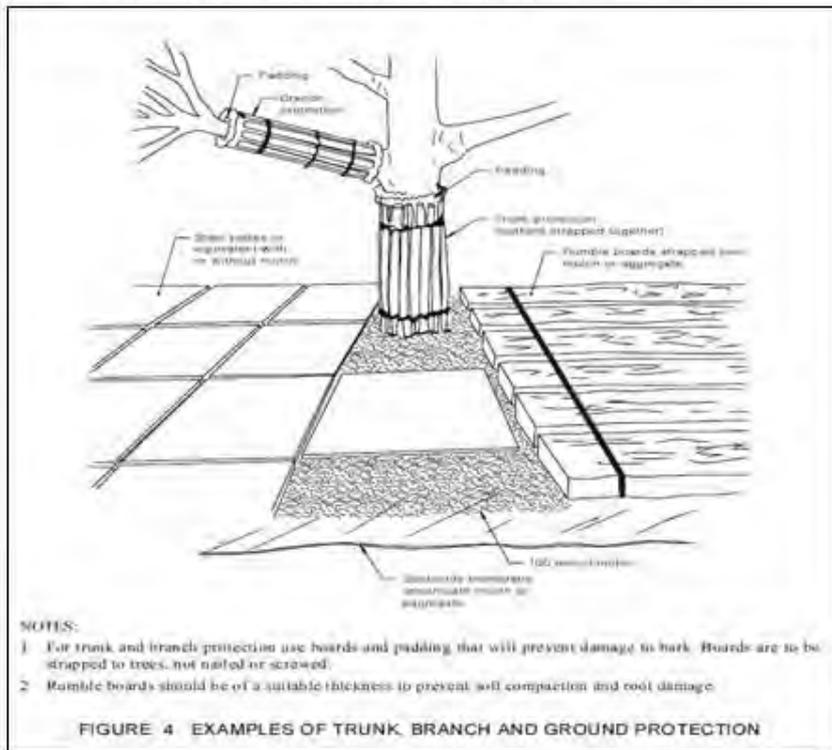


Diagram 2: Examples of ground buffering and trunk and limb protection

(Extract from: AS4970-2009, Appendix D, pg17)

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There can be no guarantees provided for on-going tree safety. It should be noted that not all of the potential structural concerns associated with trees can be eliminated and that there will always be a residual risk following any mitigation works. Also, not all tree defects are observable and extreme weather events are unpredictable. Since trees are complex, living organisms, it is difficult to quantify and precisely measure all variables when inspecting a standing tree for hazard.

Trees should be reassessed on a regular basis; the scheduled period of reassessment will be dependent on the characteristics of the tree, the landscape context and perceived targets, and resources available to maintain them.