

ARBORICULTURAL REPORT

Arboricultural Impact Assessment

ESR 49-61 Stephen Road
Banksmeadow NSW 2019

13 December 2024

JN1340

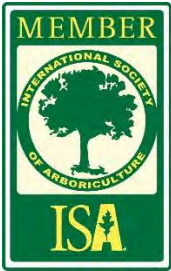


ArborScan

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13 December 2024

Olivia Ridgewell
ESR
Level 12 135 King Street
Sydney NSW 2000

Arboricultural Impact Assessment (AIA) for Site 49-61 Stephen Road Banksmeadow NSW 2019

Dear Olivia,

We are pleased to provide you with the following report to assist with the proposed Industrial development at 49-61 Stephen Road Banksmeadow NSW 2019.

This Arboricultural Impact Assessment (AIA) report is intended to identify any significant trees that could be affected by the development and to assess the likely impact of the proposed works on these trees. The report also provides recommendations for the protection of significant trees and the appropriate management measures that should be taken during and after the construction work. Protection zone advice includes specifications for fencing/trunk guards, signage, and other measures to protect trees during the construction process.

Complete use of this report is authorised under the conditions limiting its use as stated in the Arboricultural Reporting Assumptions, Limiting Conditions & Copyright Clause. This assessment and report is supplied strictly in accordance with the inclusions, conditions, terms and exclusions as detailed within our most recent quotation.

Any recommendations of this report do not constitute consent to carry out works. Approval is required in the form of Development Consent to prune or remove trees, as well as the consent of the tree owner where trees are on adjoining lands.

ArborScan Pty Ltd declares that it has no affiliation with any private contractors, associations or nurseries involved in the tree removal, pruning and tree supply business. This ensures an impartial approach to the recommendations given within this report.

Should you have any queries relating to this report or its recommendations, please do not hesitate to contact us on 1800 ARBORSCAN (272 677).

Regards,

Marc Fisher
Consulting Arborist
ArborScan Pty Ltd

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1 Executive Summary

ArborScan Pty Ltd was commissioned by ESR (The Client) to complete an Arboricultural Impact Assessment (AIA) for 163 trees (excluding groups) at 49-61 Stephen Road Banksmeadow NSW 2019 (The Site).

This report has been prepared to accompany an SSDA seeking consent for the construction and operation of a three-storey warehouse and distribution centre development at the site (SSD-65924461).

This Arboricultural Impact Assessment (AIA), provides a detailed evaluation by ArborScan of various trees located on Client, and adjoining lands. The assessment recommends the retention of trees, contingent upon the implementation of specific protection measures during the development process. These measures include the installation of protective fencing and the supervision of excavation and work activities within the Tree Protection Zones (TPZs).

A total of 163 tree numbers have been assessed as part of this report which includes a total of 172 trees when considering tree grouping (The criteria for tree grouping has been based on the selection of nearby trees which are of a similar species and size/condition attribute).

The subject site has a total of 111 assessed trees. In addition, there are 52 trees situated on adjoining lands or which are located on the perimeter boundary.

Out of the total number of tagged trees evaluated (163), it is proposed that a total of 105 tree(s) be removed, which corresponds to 64.4% of the evaluated trees. This leaves a total of 58 trees which corresponds to 35.6% of the evaluated trees that will be retained.

It is not permitted to perform any tree works on the trees located on adjoining property land. Performing tree works without permission can result in legal action and hefty fines, which can be avoided by seeking permission from the owner of the tree, and, where also required, the Lands Authority. It is recommended to advise the adjoining landowners of the 4 trees listed for removal, this includes Tree 107, 109, 152, 153.

To protect the trees during construction, special care must be exercised when constructing or altering the soil grade within the Tree Protection Zones (TPZs) of the trees designated for retention. Any such activities within the TPZs will not be allowed unless absolutely necessary, in which case design modifications should be considered to avoid harm to the trees. The trees identified for retention are clearly documented, and it is essential that the client's design team carefully review these areas. If there are any situations where avoiding conflict with tree roots is not feasible, the retention of those trees must be reassessed, and the report amended to reflect the findings and decisions made.

The AIA provides a comprehensive and systematic approach to managing trees throughout the development process. By following the report's recommendations, including retaining trees with appropriate protection measures, the development can progress in a way that ensures the preserved trees are carefully managed during construction and remain for future generations to appreciate.

It is crucial that this AIA is not solely relied upon. The engagement of an AQF5 project arborist is essential to oversee and guide the works within the TPZs, mitigating potential impacts on the trees and ensuring their long-term health and stability.

This report has been prepared to highlight and summarise the key findings related to the client's construction proposal. For detailed, tree-specific recommendations and guidance, please refer to the accompanying data schedule, which provides more specific information for each individual tree.

2 Introduction

2.1 Report Purpose

- 2.1.1 ArborScan Pty Ltd was commissioned by ESR (The Client) to complete an Arboricultural Impact Assessment (AIA) for 163 trees (excluding groups) at 49-61 Stephen Road Banksmeadow NSW 2019 (The Site).
- 2.1.2 This report has been prepared to accompany an SSDA seeking consent for the construction and operation of a three-storey warehouse and distribution centre development at 49-61 Stephen Road, Banksmeadow (SSD-65924461).
- 2.1.3 The purpose of this Arboricultural Impact Assessment (AIA) is to outline measures for managing existing trees in relation to proposed activities such as tree removal, tree pruning, demolition and construction/development at the site.
- 2.1.4 Comprehensive information regarding the trees located on the site, including an assessment of any development constraints they may pose, is required. Based on this assessment, recommendations regarding the preservation of trees in the developable regions immediately and nearby need to be discussed and presented.
- 2.1.5 To demonstrate the requirement of the SEARs.

2.2 Scope

- 2.2.1 Carry out a visual examination of the trees within the areas that have been identified by/with the Client for inspection. This includes any trees bordering on neighbouring allotments, or Council land, which have the potential to be impacted.
- 2.2.2 Conduct a thorough inspection of the trees and their growing environment and provide an impartial evaluation of the trees based on their species, estimated age, expected useful life, health, structural condition, and suitability for the landscape.
- 2.2.3 Measure tree stems in order to identify the TPZ and SRZ. Estimate tree height and widest canopy spread.
- 2.2.4 Provide independent recommendations on the retention value of the trees using a recognised tree significance rating system.
- 2.2.5 Assign identification numbers to the trees on aerial maps to facilitate their location on the site. Where directly specified by the Client, the numbering system is to be consistent with any previous reports and plans. New trees are to be added sequentially from the last tree number listed.
- 2.2.6 Identify hollows/cavities and features that may benefit native Fauna.
- 2.2.7 Include a schedule documenting tree attributes, calculated TPZ, SRZ, calculated development incursions (if any) and recommendations in relation to retention values in accordance with AS 4970-2009: Protection of Trees on Development Sites.
- 2.2.8 Create a plan identifying trees that are proposed to be retained or removed, identify the tree protection area for each tree, clearly identify the development encroachment to the TPZ and further markup an approximate location for tree protection fence installation. The plan will be site-specific and will relate to the proposed development works. The provided plan is intended to be used as a reporting guide only, and it is not intended to be used for construction/development.
- 2.2.9 Where required by the project scope, recommend replacement species for any trees identified for removal.
- 2.2.10 Identify limitations and further reporting requirements.
- 2.2.11 Provide supporting evidence in the form of a PDF report to aid with the local Authority's residential development application process.

3 Methodology

- 3.1.1 Marc Fisher (The Author) of ArborScan Pty Ltd carried out a site inspection of the subject trees during the month of February 2024.
- 3.1.2 Trees that are the subject of this report were identified during discussions with the Client at the time of the requested site consultation and tree assessment.
- 3.1.3 The subject trees were inspected from the ground using the initial component of the recognised ground-based Visual Tree Assessment (VTA) technique (without the use of binoculars) developed by Mattheck and Breloer (1994), without the use of aerial or internal investigation, foliage, wood or soil sample analysis nor an underground investigation of the root plate.
- 3.1.4 Unless specified otherwise, tree height and widest canopy spread were estimated.
- 3.1.5 In instances where there were no restrictions on accessing the tree stem, such as in neighbouring property or areas with dense vegetation, diameter measurements were taken using forestry callipers. For tree stems that were not accessible, an estimated stem size was recorded.
- 3.1.6 TPZ and SRZ were calculated in accordance with the Australian Standard AS 4970–2009: Protection of Trees on Development Sites.
- 3.1.7 Tree retention/significance values were determined using the Institute of Australian Consulting Arboriculturists, Australia (IACA) Significance of a Tree, Assessment Rating System (STARS®).
- 3.1.8 ArborScan did not receive georeferenced plans. Instead, the NSW Sites cadastre boundary was utilised to manually place the site plans and surveyed tree locations. It should be acknowledged that the cadastre boundary utilised to locate the plans and surveys incorporated in this report may not accurately represent the property's boundary surveyed in the field. However, the plans and surveys are presented in a consistent scale with the uploaded files.
- 3.1.9 The subject trees have been tagged; they have also been mapped on high-resolution aerial imagery, with their number and location readily identifiable on the plan.
- 3.1.10 Any photographs that were taken at the time of the site inspection by the Author and have not been altered for brightness or contrast, nor have they been cropped.
- 3.1.11 A visual inspection from ground level for hollows/cavities and features that may benefit native Fauna has been performed by the Author on the day of the assessment. A licenced and trained ecological consultant has not been commissioned.
- 3.1.12 A risk assessment has not been performed for the purpose of this report. Data collected on the Site was analysed by the Author, collated into report format, and relevant recommendations were formulated.

4 Observations

4.1 The Site

The subject site is located at 49-61 Stephen Road, Banksmeadow, within the Bayside local government area (LGA). The site is legally described as Lot A in Deposited Plan 190526, Lot 1 Deposited Plan 1095110, and Lot 1 Deposited Plan 311767. The site is located in the Banksmeadow Industrial Precinct, approximately 10km from Sydney CBD, 1.5 kilometres from Port Botany and 3km from Sydney Airport. The site is surrounded predominantly by a mix of industrial and warehouse and distribution uses to the north, east and south, and residential land uses to the west. The site is located in close proximity to existing employment and industrial areas including the Botany Port and Sydney Domestic and International Airports.

The site has been developed and currently accommodates the Allnex Resins manufacturing site. The site presents a two-storey office building towards the Stephen Road frontage, with 20 warehouse and ancillary use buildings as well as numerous chemical storage tanks. Due to the existing and current use of the site and the handling and manufacturing of chemical products, the site is considered contaminated and is subject to Environmental Protection Agency (EPA) notification. As part of site contamination management, a stormwater retention/remediation treatment pond is located along the Coal Pier Road frontage along the eastern boundary.

Existing planted vegetation is located along the site's boundaries predominately along the western and northern setback areas assisting in screening the development from Stephen Road and the Southgate Industrial Estate development to the north. A cleared grassed area is located to the rear of the site beside a stormwater retention and treatment pond.

Table 1. General Site Details (ePlanning Spatial Viewer Property Report, Accessed Sunday, 13 December 2024)

SITE DETAILS AND POTENTIAL PLANNING CONSTRAINTS	
KNOWN SITE NAME	Allnex Regional Head Office
STREET ADDRESS	49-61 Stephen Road Banksmeadow NSW 2019
LOT AND DP	A/-/DP190526
LOCAL GOVERNMENT AREA	BAYSIDE COUNCIL
LOCAL ENVIRONMENTAL PLANS	Bayside Local Environment Plan (2021)
LAND ZONING	IN1 - General Industrial: (pub. 8-7-2022)



Figure 1. Site map depicting boundary and land zoning. (NSW Planning Portal Spatial Viewer, 13 December 2024)

4.2 Potential Planning Constraints

- 4.2.1 The available planning layers have been utilised where possible to assist in identifying key constraints such as heritage, significant vegetation communities, and biodiversity areas that could hinder development by preventing tree removal. Our search is limited to a selection of mapping resources that are publicly available. The searched data is based on a desktop review of relevant sources and does not include any form of infield validation. Other constraints not listed by ArborScan may exist on the site that are not covered by this report. Where mapping criteria have been identified during this process, it will be detailed both in the table below and with the inventory data schedule. The information is intended to serve as a guide only and should not be relied on as the sole basis for planning the development's feasibility. For a more thorough investigation, you may wish to consider engaging the services of a town planner.

Table 2. Identified Potential Planning Constraints (SEED – NSW Government, Accessed 13 December 2024)

Acid Sulfate Soils	Qty	28
	Tree nos	136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163
	Comment	Trees in areas with Mapped Acid Sulfate Soils are critical to maintaining ecological balance, as they help stabilise the soil and prevent erosion while providing habitat for diverse wildlife. Their root systems can also aid in mitigating the negative effects of soil acidity, contributing to nutrient cycling and supporting overall ecosystem health. Preserving these trees is essential for sustaining biodiversity and enhancing the resilience of these vulnerable environments.
	Advisor	Town Planner

4.3 Fauna / Wildlife Features

- 4.3.1 Habitat features capable of supporting Fauna such as Hollows, Stick nests, Nesting boxes, Carved hollows and Lifting loose bark were observed within none of the trees surveyed during the ground-based VTA inspection performed.

4.4 Ecological Considerations – Threatened Flora & Fauna

- 4.4.1 This report does not constitute an ecological assessment. ArborScan specialises in arboricultural tree care and management. Matters concerning protected vegetation communities or threatened species have not been addressed in this Arboricultural Impact Assessment (AIA). The report aims to evaluate the specific impacts on trees resulting from the proposed development design to determine the feasibility of tree retention or removal. While the loss of key vegetation species and threatened plants or wildlife is highly significant, this must be addressed by an expert in the field. Where there are concerns about the site's ecology or uncertainties regarding protected vegetation or wildlife, ArborScan encourages clients to engage a suitable contractor with expertise in this area.

4.5 Tree Protection and Preservation Within the Local Government Area

- 4.5.1 Trees and vegetation, even those on private land, are protected under the State Environmental Planning Policy (Biodiversity and Conservation) 2021 (NSW), which prescribes that tree and vegetation works are to be processed using a permit system administered by BAYSIDE COUNCIL through its Development Control Plan.
- 4.5.2 Any exemptions under the BAYSIDE COUNCIL DCP may not be applicable to land that is a heritage item or within a heritage conservation area, Threatened Ecological Communities or for Native vegetation that is on land included on the Biodiversity Values Map. See the tree data table for guidance on trees that are deemed a proscribed tree, requiring approval from the land authority.
- 4.5.3 It is the responsibility of the landowner to confirm any exemptions with the relevant land authority prior to any tree removal taking place outside of a formal permit or development application process.

4.5.4 State Environmental Planning Policy (SEPP)

4.5.5 The State Environmental Planning Policy (SEPP) in New South Wales (NSW) is a set of legal instruments that guide land use, environmental management, and development across the state. SEPPs are designed to address specific planning issues that require a consistent, state-wide approach, such as environmental conservation, urban development, and heritage protection. When it comes to tree removal, a Planner should thoroughly explore the options under the relevant SEPP regulations to determine whether the removal is permissible. These regulations often outline conditions related to environmental impact, species protection, and local council provisions. Consulting SEPP guidelines is essential to ensure compliance with planning and environmental laws before proceeding with tree removal.

4.6 Tree Location & Ownership

4.6.1 A total of 163 tree numbers have been assessed as part of this report which includes a total of 172 trees when considering tree grouping (The criteria for tree grouping has been based on the selection of nearby trees which are of a similar species and size/condition attribute).

4.6.2 The subject site has a total of 111 assessed trees. In addition, there are 52 trees situated on adjoining lands or which are located beyond the fenced perimeter boundary. Trees on adjoining lands include 4, 5, 6, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 107, 108, 109, 110, 111, 124, 125, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163.



Figure 2. Site map depicting the location of 52 neighbouring trees Red – Trees within the neighbouring property. Yellow – Trees on Council managed land. (ArborScan, 13 December 2024)

4.7 Summary Of Tree Retention Values

- 4.7.1 Retention values have been determined using the Retention Value - Priority Matrix of the IACA Significance of a Tree, Assessment Rating System (STARS®) (IACA, 2010).
- 4.7.2 This method uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. Other criteria such as its physical dimensions, age class, location and its Amenity, Heritage and Environmental significance are also considered.
- 4.7.3 In accordance with the STARS® Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, the retention value categories include:

Table 3. Summary Of IACA Significance of a Tree, Assessment Rating System (STARS®)

STARS® Retention Value	Qty	%	Tree Numbers
HIGH	11	6.7	4, 117, 118, 137, 140, 141, 143, 144, 147, 159, 161
MEDIUM	74	45.4	2, 6, 12, 13, 14, 17, 19, 20, 22, 23, 24, 25, 28, 29, 30, 32, 33, 35, 43, 46, 47, 50, 51, 53, 55, 56, 57, 58, 60, 61, 66, 67, 68, 69, 70, 88, 89, 91, 92, 93, 94, 95, 96, 98, 99, 100, 101, 102, 105, 106, 107, 108, 110, 111, 114, 115, 116, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 136, 138, 156, 162, 163
LOW	77	47.2	1, 3, 5, 7, 8, 9, 10, 11, 15, 16, 18, 21, 26, 27, 31, 34, 36, 37, 38, 39, 40, 41, 42, 44, 45, 48, 49, 52, 54, 59, 62, 63, 64, 65, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 90, 97, 103, 109, 112, 113, 119, 132, 133, 134, 135, 139, 142, 145, 146, 148, 149, 150, 151, 152, 153, 154, 155, 157, 158, 160
PRIORITY FOR REMOVAL	1	0.6	104



Figure 3. Aerial image representing the distribution of tree STARS® tree retention values. (ArborScan, 13 December 2024)

4.8 Proposed Development

4.8.1 The project involves the demolition of all existing structures, site preparation with bulk earthworks, infrastructure upgrades, and the removal of 105 trees, followed by extensive site remediation. It includes the construction and operation of two three-storey warehouse and distribution buildings with a total GFA of 57,034m², comprising 51,195m² of warehouse space, 4,775m² of office space, 964m² of lobby space, and a 100m² café, with each building housing 12 units. Parking facilities will provide 243 spaces in a mezzanine car park, 50 ground-level spaces off Coal Pier Road, 20 motorcycle spaces, and end-of-trip amenities. The project also features 5,327m² of landscaping (11.06% of the site) and includes provisions for building and business signage to support operational needs.

4.8.2 Plans and associated reports provided by the Client include:

- 20240911 Progress Set_49 Stephen RD Banksmeadow (Architectural Plans_Sept24)
- CO14950.01-SSDA100-A (Civil - Preliminary SSDA_Oct24)
- 230519_SSD_DWG_SSD [DRAFT] 04.10.24 (Landscape Plan_Sep24)

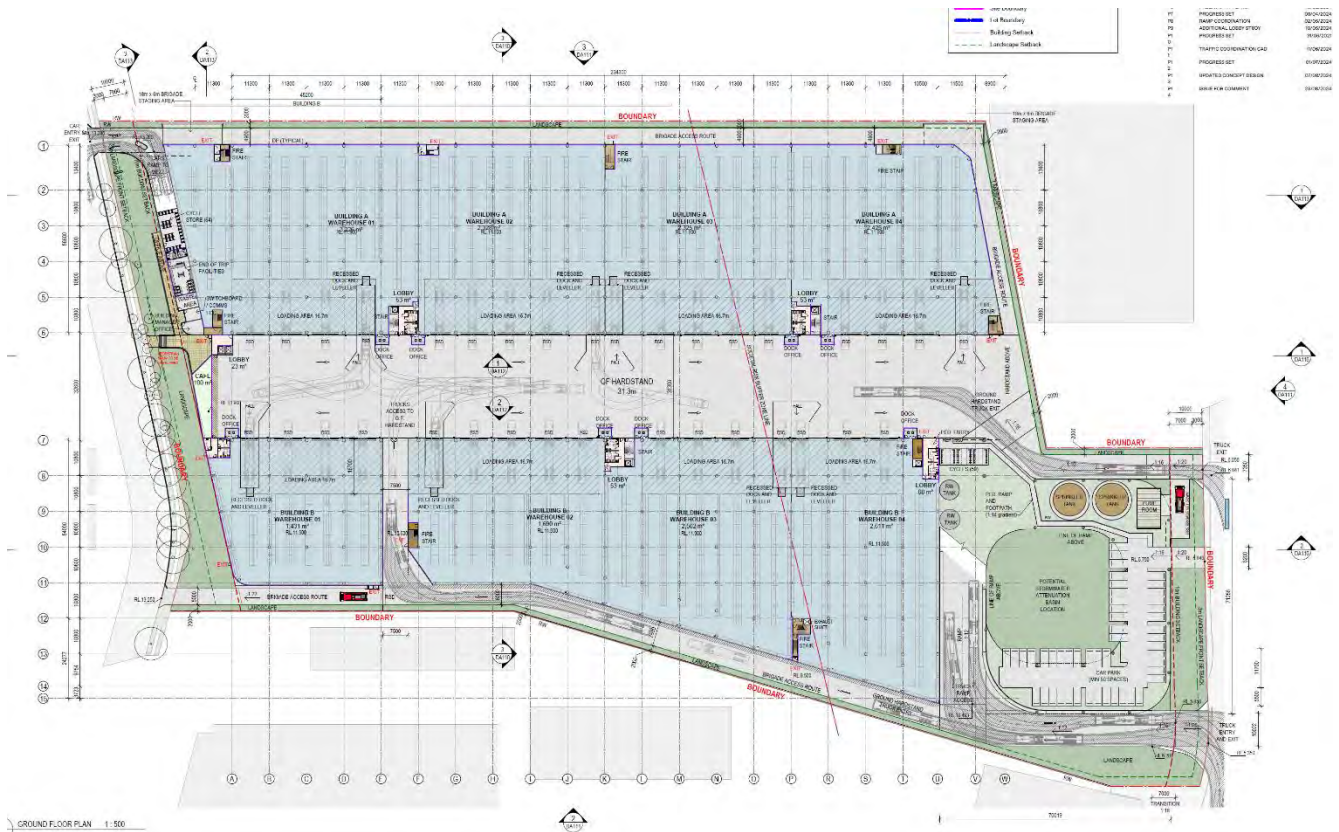


Figure 4. Client architectural plan representing the development works proposed. (Viewed, 13 December 2024)

4.9 Tree Protection Zone Encroachment

- 4.9.1 It may be possible to encroach into or make variations to the standard TPZ. Encroachment includes excavation, compacted fill and machine trenching. Any area lost to encroachment should be compensated for elsewhere and contiguous to the TPZ.
- 4.9.2 Tree-sensitive construction measures such as pier and beam, suspended slabs, cantilevered building sections, screw piles and contiguous piling can minimise the impact of encroachment.
- 4.9.3 The levels of encroachment are below defined:

Table 4. Encroachment

Major encroachment	As per the Australian Standard AS 4970–2009: Protection of Trees on Development Sites, a major encroachment into the TPZ of any tree is considered to occur when it is beyond 10% of the total TPZ area. Trees with major encroachment may require removal or, in certain instances, be retained with specific protection requirements throughout the construction stage. Exploratory excavation using non-destructive methods such as pneumatic, hydraulic, or hand digging may also be required to evaluate the extent of potential damage to the root system and determine whether the trees will remain viable.
Minor encroachment	Under the aforementioned standard, a minor encroachment is determined as being less than 10% of the total TPZ area. Trees with minor encroachment may be retained with specific, generic or no protection requirements throughout the construction stage.
No encroachment	Trees with no encroachment may be retained with generic or no protection requirements throughout the construction stage.

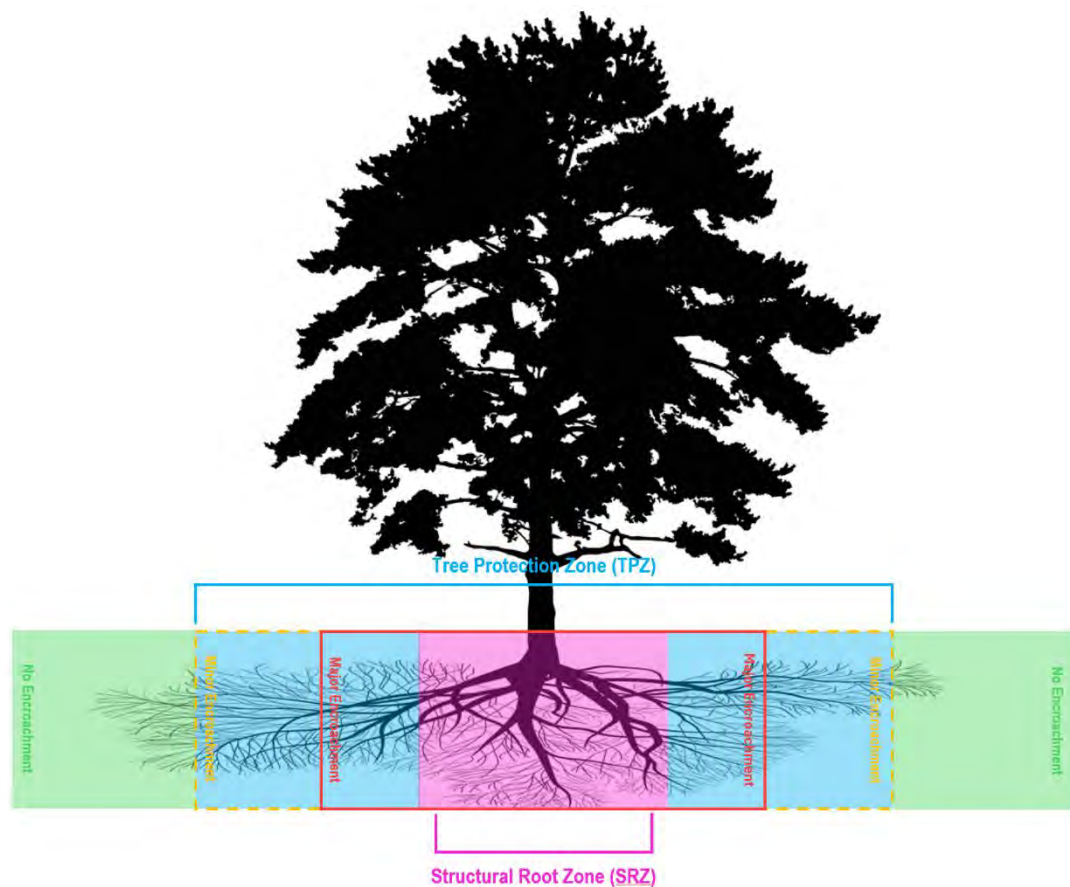


Figure 5. General guidance on TPZ encroachment. (ArborScan, 13 December 2024)

- 4.9.4 The table below provides a breakdown summary of the Tree Protection Zone encroachment for the assessment inventory. The assessment of impact severity focuses on encroachment that would result in the complete loss of the tree protection zone area due to development or significant root damage. Temporary encroachment or access into the Tree Protection Zone, which can be managed with specific or generic protection requirements (i.e. protective fencing and restriction of activities within TPZ), is not included in the assessment. Subsequent report sections will provide a detailed review and commentary on the severity of encroachment and the proposed impacts on the trees.

Table 5. Tree Protection Zone Encroachment

STARS® Retention Value	Qty	%	Tree Number
Major Encroachment (>10%)	117	71.8	1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 96, 97, 98, 104, 105, 106, 107, 108, 109, 110, 112, 113, 114, 115, 119, 122, 125, 126, 127, 128, 129, 130, 131, 152, 153
Minor Encroachment (<10%)	11	6.7	99, 100, 101, 102, 103, 117, 118, 120, 121, 123, 124
No Encroachment Based On The Plan Design	35	21.5	4, 5, 95, 111, 116, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163

4.10 Mitigating Development Impacts

- 4.10.1 Encroachment within the Tree Protection Zone (TPZ) must be counterbalanced with various mitigation strategies to minimise impacts on the affected tree(s) as much as possible. The extent of mitigation should be proportional to the degree of encroachment into the TPZ to ensure the continued health and viability of the tree(s). The following table details the requirements according to AS 4970-2009, alongside the necessary mitigation measures for each encroachment category. These mitigation measures are applicable only if the trees are intended to be preserved.

Encroachment	Mitigation Measures
No encroachment (0%)	Not applicable.
Minor Encroachment (<10%)	- The area lost to this encroachment should be compensated for elsewhere, contiguous with the TPZ. - Detailed root investigations should not be required. - Tree protection must be installed and maintained.
Major Encroachment (>10%)	- The project arborist must demonstrate the tree(s) would remain viable. - Root investigation by non-destructive methods may be required for any trees proposed for retention. - Consideration of relevant factors, including root location and distribution, tree species, condition, site constraints, and design factors. - The area lost to this encroachment should be compensated for elsewhere, contiguous with the TPZ. - The project arborist will be required to supervise any works within the TPZ. - Tree protection must be installed.

5 Impact Assessment

5.1.1 The presumption of permissible encroachment on trees, while minimising any potential long-term health or structural damage, is contingent upon a comprehensive approach. This involves adherence to root-sensitive construction methods within the TPZ, limited excavation within the TPZ to avoid root severance, avoidance of any construction within the SRZ, availability of compensatory space surrounding the unaffected aspects of the tree, and enhancement of the existing TPZ through techniques such as mulching, soil conditioning, and irrigation as needed.

5.1.2 A review of the proposed design has been undertaken in the context of tree retention and removal across the site; the following trees have been identified to be impacted by the proposal –

5.2 No Encroachment

5.2.1 Retain – A total of 31 trees are proposed to be retained with no encroachment based on the development design. Includes Tree 4, 5, 95, 111, 116, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163.

5.2.2 Remove - A total of 4 trees numbered 132, 133, 134, 135 have been identified for removal due to reasons unrelated to development impacts alone.

5.3 Minor Encroachment (<10%)

5.3.1 Retain - A total of 11 trees numbered 99, 100, 101, 102, 103, 117, 118, 120, 121, 123, 124 are identified as being susceptible to minor encroachment as a result of the development of hard surfaces, building envelope, driveway and soil grade changes in areas. Although encroachment is anticipated to occur partially within the TPZ zones of these trees, their long-term retention and structural stability are not believed to be compromised.

5.4 Major Encroachment (>10%)

5.4.1.1 Retain - The project will involve a significant encroachment within the Tree Protection Zone (TPZ) of 16 trees numbered 6, 90, 91, 92, 93, 94, 96, 97, 98, 108, 110, 119, 122, 125, 130, 131 due to conflicts between the TPZs and the disturbance footprint. However, this impact is considered manageable, and the trees are expected to remain viable for retention, provided that the specified tree protection measures are strictly followed. Please refer to the data table and the assigned tree protection requirements for each tree to guide their retention and management.

5.4.2 Remove - Following a comprehensive assessment, it has been determined that 101 trees fall within the disturbance footprint of the proposed development. Regrettably, due to the expected extent of root severance or damage from the construction activities, these trees are classified as having a significant 'Major' encroachment under AS4970-2009 Protection of Trees on Development Sites. Consequently, the retention of these trees is not feasible within the current development design. Includes Tree 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 109, 112, 113, 114, 115, 126, 127, 128, 129, 152, 153.

Table 6. Summary of the Tree Status Breakdown Based On Design Proposal or When Considering Poor Tree Condition or Hazardous Trees

Status Breakdown			
Item	Tree Qty.	%	Tree Number(s)
Remove	105	64.4	1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 109, 112, 113, 114, 115, 126, 127, 128, 129, 132, 133, 134, 135, 152, 153
Retain	58	35.6	4, 5, 6, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 111, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163

Table 7. Summary Of the Tree Status Breakdown Based on Tree Canopy Size

Status Breakdown			
Item	Qty Retain	Qty Remove	Qty Habitat prune
Small (Diameter Less Than 5m)	19	59	0
Medium (Diameter Between 5-15m)	38	46	0
Large (Diameter More Than 15m)	1	0	0

Table 8. Summary Of the Tree Status Breakdown Based On STARS Retention Value

Status Breakdown			
Item	Qty Retain	Qty Remove	Qty Habitat prune
HIGH	11	0	0
MEDIUM	29	45	0
LOW	18	59	0
PRIORITY FOR REMOVAL	0	1	0

Table 9. Summary Of The Tree Status Breakdown Based on Native Status

Status Breakdown			
Item	Qty Retain	Qty Remove	Qty Habitat prune
Native	52	75	0
Exotic	6	29	0
Dead	0	0	0
Weed Species	0	0	0
Not Specified	0	1	0

Table 10. Summary Of The Tree Species Proposed For Removal

Status Breakdown		
Botanical Species	Qty	% of Total Removals
<i>Banksia integrifolia</i>	1	0.95%
<i>Callistemon viminalis</i>	14	13.33%
<i>Casuarina cunninghamiana</i>	4	3.81%
<i>Casuarina glauca</i>	45	42.86%
<i>Corymbia gummifera</i>	2	1.90%
<i>Cupressus torulosa</i>	22	20.95%
<i>Elaeocarpus reticulatus</i>	1	0.95%
<i>Eucalyptus haemastoma</i>	3	2.86%
<i>Eucalyptus punctata</i>	1	0.95%
<i>Eucalyptus sp.</i>	1	0.95%
<i>Ficus sp.</i>	2	1.90%
<i>Fraxinus angustifolia</i> ssp. <i>oxycarpa</i> 'Raywood'	2	1.90%
<i>Glochidion ferdinandi</i>	1	0.95%
<i>Hibiscus sp</i>	1	0.95%
<i>Plumeria rubra</i> var. <i>acutifolia</i>	2	1.90%
<i>Ricinus communis</i>	1	0.95%
<i>Syagrus romanzoffiana</i>	1	0.95%
<i>Unknown sp.</i>	1	0.95%

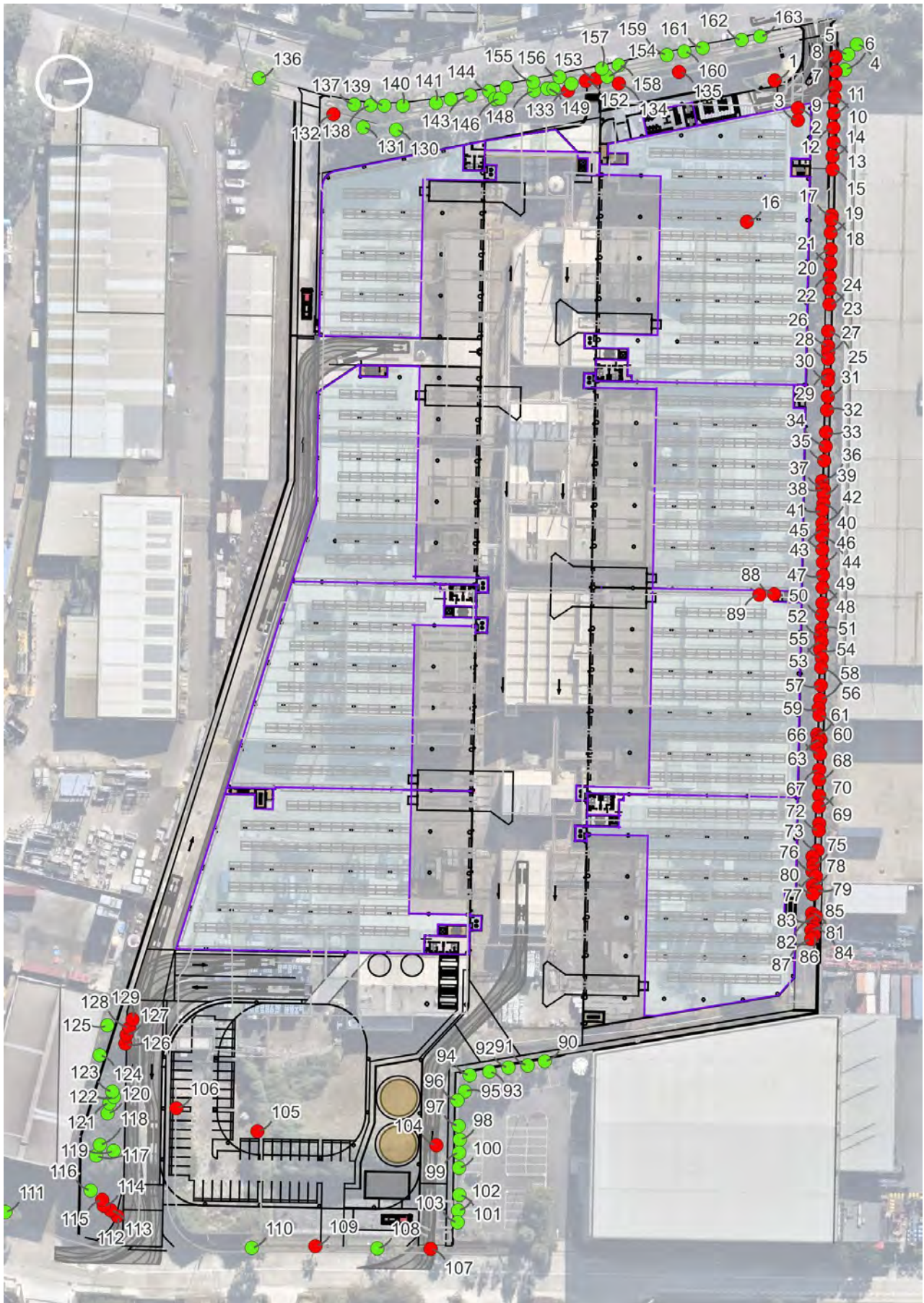


Figure 6. Image depicting a plan view of trees proposed for removal and retention. (ArborScan, 13 December 2024)

6 Recommendations

Following is a summary of proposed recommendations by type of action based on development design.

6.1 Tree Removal

Tree Qty.	Tree Number
Remove – Significant adverse impact based on development design	
101	1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 109, 112, 113, 114, 115, 126, 127, 128, 129, 152, 153
Remove – Unrelated to development impact (i.e. Weed species, damaging infrastructure, inappropriate location)	
4	132, 133, 134, 135

6.2 Retention

Tree Qty.	Tree Number
Retain - Situated outside the development footprint, no detectable impact	
30	4, 5, 95, 111, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163
Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ)	
1	116
Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	
27	6, 90, 91, 92, 93, 94, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 117, 118, 119, 120, 121, 122, 123, 124, 125, 130, 131

6.3 Modifying Site Plans and Survey

- 6.3.1 Before construction, it is recommended to review and potentially revise the site plans and survey plan to align them with the tree assessment plan. This entails accurately depicting the TPZ, SRZ, tree number/ID, and all newly added trees. To achieve this, the radial distances and tree numbers provided in the data table of this report should be utilised as a minimum level of accuracy. Suitable areas for soil stockpiling, material waste (Skip Bins), site office and sheds, parking, new material delivery and material set down/storage should also be shown where applicable.

6.4 Ecological Assessment

- 6.4.1 A qualified Ecological consultant has been commissioned by the client as part of the SSDA application process. Any requirements pertaining to ecology should be referenced in the ecology reporting provided as part of the SSDA application submission.

6.5 Tree Removal

- 6.5.1 Out of the total number of tagged trees evaluated (163), it is proposed that a total of 105 trees be removed, which corresponds to 64.4% of the evaluated trees. This leaves a total of 58 trees that will be retained.
- 6.5.2 It is not permitted to perform any tree works on the trees located on adjoining property land. Performing tree works without permission can result in legal action and hefty fines, which can be avoided by seeking permission from the owner of the tree, and, where also required, the Lands Authority. It is recommended to advise the adjoining landowners of the 4 trees listed for removal, this includes Tree 107, 109, 152, 153.
- 6.5.3 All approved tree removal works shall be carried out by a qualified Arborist, with a minimum Level 3 AQF in arboriculture and in accordance with WorkCover's Code of Practice – Amenity Tree Industry.
- 6.5.4 Stumps located within the TPZ of trees to be retained shall be grubbed-out where required using a mechanical stump grinder (or by hand where less than 150mm in diameter) without damage to the root system of other trees. Stumps within the Tree Protection Zone of other trees to be retained shall not be pulled out using excavation equipment or similar without the prior consent of the Project Arborist.
- 6.5.5 Where trees to be removed are within the SRZ of any trees to be retained, consideration should be given to cutting the stump close to ground level and retaining the root crown intact. Grinding or excavating of stumps in the SRZ is not permitted without the prior consent of the Project Arborist.

6.6 Transplanting

- 6.6.1 No trees have been identified as being suitable for transplant/relocation in the landscape.

6.7 Tree Canopy Pruning

- 6.7.1 Based on the proposed development plan, An overview of the works being proposed is as follows: trees will come into contact with, or will overhang the proposed development footprint, which will require limbs to be trimmed, this includes Tree 130, 131. Please refer to the data table for specific information on the pruning requirements assigned to each tree.
- 6.7.2 Where pruning is deemed to be required, ensure a high standard of work is achieved; all proposed arboricultural works must be completed by a suitably qualified and experienced Arborist of a minimum AQF Level 3 in accordance with the principles of the Australian Standard 4373-2007 Pruning of Amenity Trees.

6.8 Obtaining Approval For Tree Related Works

- 6.8.1 The following table identifies the trees that require confirmation with the land authority before removal, pruning, transplanting, or root pruning can occur. ArborScan specialises in tree-related advice and does not extend its expertise to planning controls or constraints that may be present on the site. Information provided by ArborScan regarding relevant codes and standards, including any requirements specific to trees stipulated by local councils, should serve strictly as a reference. It is recommended that this information be verified by consulting with a suitably qualified and experienced Planning consultant.

Table 11. Summary Of Tree Work Approval Needs

Status Breakdown		
Approval Category	Qty	Tree Numbers
Retain tree	58	4, 5, 6, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 111, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163
Confirm ownership	2	107, 109
Prescribed tree needing approval	93	2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 105, 106, 113, 114, 115, 126, 127, 128, 129, 133
Non-prescribed tree which is exempt (Size / Species / Location / Condition)	10	1, 16, 73, 104, 112, 132, 134, 135, 152, 153

6.9 Offset Tree Planting

- 6.9.1 Replacement planting to compensate for the loss of these trees will be required. Offset planting should reflect the number of trees removed and the initial loss of amenity and biomass. New trees should be of long-term potential and sourced from a reputable supplier.
- 6.9.2 Replacement tree species must suit their location on the site in terms of their potential physical size and their tolerance to the surrounding environmental conditions. To avoid unethical or unprofessional tree selection and/or their placement within the landscape, replacement tree species must be selected in consultation with a consulting arborist, who can also assist in implementing successful tree establishment techniques.
- 6.9.3 Replacement tree species should be selected to ensure that, at a minimum, the replacement trees will achieve the same size as the trees removed for the development. The replacement trees must have the genetic potential to reach a mature size equivalent to the removed trees. This will ensure they provide similar amenity value to the property and contribute to the surrounding area's tree canopy in the future.
- 6.9.4 Offset planting requirements and species selection are to be specified by the land authority.

Table 12. Summary Of The Minimum Tree Replacement Requirements To Offset Proposed Tree Removals

Status Breakdown		
Minimum Replace Ratio	Qty	Tree Number
Retain tree	58	4, 5, 6, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 111, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 130, 131, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163
Replace 1:1	95	2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 105, 106, 107, 109, 113, 114, 115, 126, 127, 128, 129, 133
No replacement proposed	10	1, 16, 73, 104, 112, 132, 134, 135, 152, 153

6.10 Tree Damage

- 6.10.1 In the event of any tree becoming damaged for any reason during the construction period, a consulting arborist (Australian Qualification Framework Level 5) shall be engaged to inspect and provide advice on any remedial action to minimise any adverse impact. Such remedial action shall be implemented as soon as practicable and certified by the arborist.

6.11 Specific Tree Protection Requirements

- 6.11.1 Where recommended, tree protection must be installed by a competent person and certified by a minimum qualified Arborist (AQF level 5) before any machinery or materials are brought to the site and before the commencement of any works.
- 6.11.2 The following table shows trees with specific recommendations. Please refer to the general requirements which are additionally applicable, and will be guided by the appointed project arborist.

Table 13. Summary Of Proposed Specific Tree Protection Considerations To Minimise Tree-Related Impact and Damage

Status Breakdown		
Specific Tree Protection & Work Actions	Tree Qty.	Tree Number(s)
Alternative design required	3	6, 108, 110
Boundary fence offers protection	16	4, 5, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103
Generic tree protection considerations apply	27	111, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163
Ground protection in TPZ	3	6, 130, 131
Non-destructive excavation	16	6, 90, 91, 92, 93, 94, 96, 97, 98, 99, 100, 101, 102, 103, 130, 131
Project arborist engagement (AQF5)	24	6, 90, 91, 92, 93, 94, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 120, 121, 122, 123, 124, 125, 130, 131
Selective tree canopy pruning	2	130, 131
Tree proposed for removal	105	1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 104, 105, 106, 107, 109, 112, 113, 114, 115, 126, 127, 128, 129, 132, 133, 134, 135, 152, 153
Tree protection fencing	15	6, 108, 110, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 130, 131
Works in TPZ to be supervised	24	6, 90, 91, 92, 93, 94, 96, 97, 98, 99, 100, 101, 102, 103, 108, 110, 120, 121, 122, 123, 124, 125, 130, 131

7 General Guidance AS 4790–2009: Protection of Trees on Development Sites

7.1.1 Tree Protection Fencing

- TPZ is to be protected by fencing in line with Figure 7 and the Australian Standard AS 4790–2009: Protection of Trees on Development Sites.
- Fencing should be installed as far as practicable from the trunk of any retained trees unless specified otherwise. Fencing should be erected as per the tree protection plan and Figure 7. Once erected, protective fencing must not be removed or altered without approval from the Project Arborist. The TPZ fencing should be secured to restrict access.
- TPZ fencing is to be a minimum of 1.8m high, and mesh or wire between posts must be highly visible. Fence posts and supports should have a diameter greater than 20mm and should ideally be freestanding, otherwise, be located clear of the roots.
- Tree protection fencing must remain intact throughout all proposed construction works and must only be dismantled after their conclusion. The temporary dismantling of tree protection fencing must only be done with the authorisation of a consulting arborist and/or the responsible authority.
- Only when approval from the Project Arborist has been obtained, can alternate delineation TPZ fencing be used.
- The tree protection fencing must not to be used as a billboard to support advertising material.

7.1.2 Tree Protection Signage

- Signs identifying the TPZ is compliant with AS 4970–2009 should be placed in prominent positions at a maximum of 10m intervals around the edge of the TPZ and should be visible from within the development site.

7.1.3 Tree Trunk Protection

- Trunk protection should be undertaken in line with Figure 8 and the Australian Standard AS 4790–2009: Protection of Trees on Development Sites.
- Tree trunks and/or major branches located within close proximity to works must be wrapped with protective hessian or similar acceptable material to prevent tree injury. Major branches would typically be considered to be of a diameter greater than 100mm in diameter.
- Timber battens (50mm x 100mm x 2m or similar) must be placed around the trunk with battens spaced at a maximum of 100mm intervals. Battens are to be strapped to the tree, not nailed or screwed into the trunk. Temporary signs, or any other items, shall not be fixed or attached to any tree.

7.1.4 Ground Protection

- Ground protection should be undertaken in line with Figure 8 and the Australian Standard AS 4790–2009: Protection of Trees on Development Sites.
- Construction routes for approved equipment shall be confined to existing hard-surfaced areas wherever possible to minimise compaction and disturbance of the underlying soil profile and root zone. Where construction access into the TPZ of retained trees cannot be avoided, the root zone of each tree must be protected by placing weight distribution mats/track mats until such a time as the permanent above-ground surfacing is installed.
- Exposed surface roots shall first be covered in a layer of mulch at a minimum thickness of 75-100mm before placing down weight distribution mats / track mats; root buttresses which are exposed shall have tree protection extended downward from the trunk to prevent tree injury.

7.1.5 Scaffolding/Hoarding

- Where scaffolding/Hoarding is required, it should be erected outside the TPZ. Where it is essential for scaffolding/Hoarding to be erected within the TPZ, branch removal should be minimised. This can be achieved by designing scaffolding/Hoarding to avoid branches or tying back branches. The ground below the scaffolding / hoarding should be protected by boarding (e.g. scaffolding board or plywood sheeting). Where access is required, a boardwalk or other surface material should be installed to minimise soil compaction. Boarding should be placed over a layer of mulch and impervious sheeting to prevent soil contamination. The boarding should be left in place until the scaffolding is removed. If holes for supports are required, these are to be manually excavated (by hand).

7.1.6 Mulch In TPZ

- Any TPZ, unless the existing surface is grass or garden, or specified otherwise by the Project Arborist, should be mulched to a depth of 75mm and kept free of weeds and grass for the duration of works. Mulching shall occur where existing landscape or hard surfaces are removed within the TPZ.

7.1.7 Excavation In TPZ

- Excavations within the TPZ of trees to be retained is to be carried out under arborist supervision (or with the express permission of the Project Arborist). No excavation should occur within the SRZ of these trees. Any proposed excavation should commence at the outer extent of the TPZ and move inwards to minimise root damage to these trees.
- Works should be undertaken using techniques that are sensitive to tree roots to avoid unnecessary damage. Such techniques include:
 - Excavation using a high-pressure water jet and vacuum truck
 - Excavation using an Air Spade with a vacuum truck
 - Mechanical excavation with a toothless bucket under direct Project Arborist supervision
 - Manual excavation by hand.
- Machine excavation is prohibited within the TPZ of retained trees unless undertaken at the direct consent of (or under supervision from) the Project Arborist.
- Roots discovered are to be treated with care and minor roots (<40mm diameter) pruned with a sharp, sterile handsaw or secateurs. All significant roots (>40mm diameter) are to be recorded, photographed and reported to the Project Arborist.

7.1.8 Exploratory Root Investigation (Non-Destructive Excavation)

- Where specifically requested, or where further information is needed to support the development proposed, non-destructive excavation along the direct edge of the alignment posing impact will be needed to determine the severity. Non-destructive excavation techniques may include the use of hand-held implements, air pressure (using an Air-spade® device) or water pressure (hydro-excavation in combination with a vacuum extraction unit).
- Hard surfaces such as concrete restricting access to exposed soil areas may require cutting/removing prior the non-destructive excavation taking place.
- The exploratory excavation shall be undertaken along the perimeter of the alignment (within the TPZ). The exploration should be carried out to the extent of either the maximum depth of the proposed development excavation or the depth of the subterranean rock layer, whichever comes first.
- Where large roots greater than 40mm in diameter are present and the AQF level 5 Arborist believes that these roots belong to a tree within the site (a tree to be removed) that root must be traced back to the trees buttress (clear photographic evidence is required).

- An Exploratory Root Investigation Report must be prepared and submitted to and approved by Council's Planning Manager prior to the commencement of any such works, the report must:
 - Be prepared by a qualified Arborist (minimum AQF Level 5).
 - Include the assessment and documentation (including photos) of tree root size, number and condition is to be prepared.
 - Include a site plan showing all excavation lines and root locations in relation to the proposed works.
 - Information on the Arborist's involvement during these works.
 - All care shall be undertaken to preserve woody roots intact and undamaged during exploratory excavation. Any roots encountered of less than 40mm in diameter may be cleanly severed with clean sharp pruning implements at the face of the excavation.
 - Where large woody roots (greater than 40mm diameter) are encountered during exploratory excavations, they are to be documented only and not severed.
 - Where vacuum excavation requires backfilling of holes or trenches, a clean-washed sand is to be used.

7.2 Addition of Fill (Soil)

- 7.2.1 Where practicable, site soil textural (field) analysis is recommended in order to help guide the composition of fill.
- 7.2.2 Unless otherwise specified, the selected fill should be composed of non-cohesive granular material, which is free draining.
- 7.2.3 As a guide (and in the absence of onsite soil analysis), fill should consist of suitably sourced and clean (i.e. free of weeds/contaminants and providing a beneficial environment for the promotion of plant growth) material consistent with a sandy loam. Indicative organic matter content should be no higher than 2–5%, with a clay content of between 10–20% by mass.
- 7.2.4 Backfill is to be consolidated/compacted as per construction standards/specifications.

7.3 Tree Protection Zone (TPZ)

- 7.3.1 The TPZ is a radial distance measured from the centre of the trunk. It is a combination of the root area and crown area requiring protection from construction disturbance so that the tree remains viable.
- 7.3.2 Incursions into the TPZ may occur due to excavation, modification of existing ground levels, trenching or inverting the soil profile. Such works may damage part or all of the root system or affect soil structure and growing conditions required for long-term growth.
- 7.3.3 A TPZ should not be less than 2m nor greater than 15m (except where crown protection is required).
- 7.3.4 The TPZ of palms, other monocots, cycads, and tree ferns should not be less than 1m outside the crown projection.
- 7.3.5 Radial measurements for the TPZ can be found in the data schedule within this report.

7.4 Working In Designated TPZ

7.4.1 The following works are excluded from any TPZ:

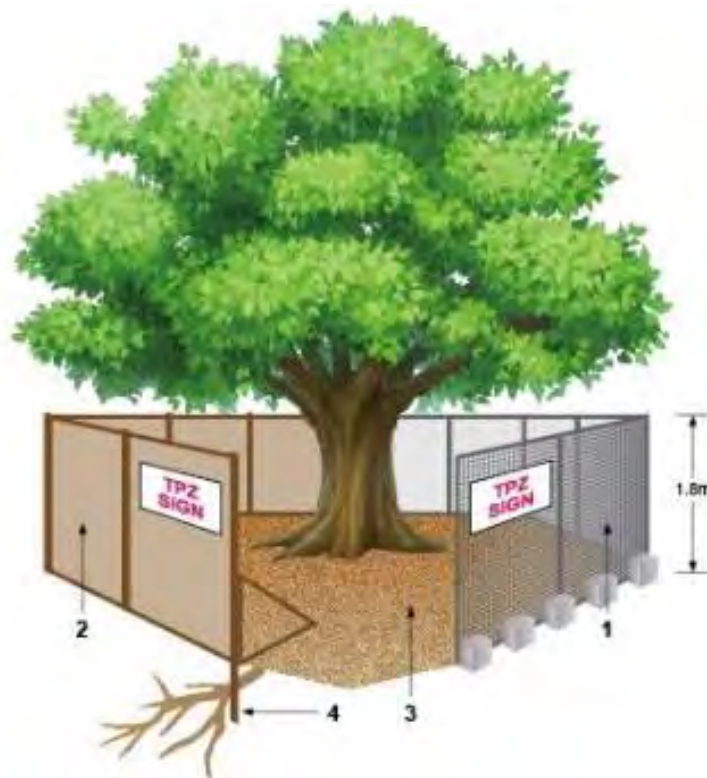
- Excavation (except for localised siting of piers/demolition of the concrete slab).
- Soil cut or fill, including trenching.
- Soil cultivation, disturbance or compaction.
- Stockpiling, storage or mixing of material.
- The parking, storing, washing and repairing of tools, equipment and machinery.
- The disposal of liquids and refuelling.
- The disposal of building materials.
- The siting of offices or sheds.
- Any other action leading to the impact on tree health or structure.

7.5 Structural Root Zone (SRZ)

- 7.5.1 The SRZ defines the area around the base of a tree that is required for the tree's stability in the ground. The woody root growth and soil cohesion in this area is necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. This zone considers a tree's structural stability only, not the root zone required for a tree's vigour and long-term viability, which will usually be a much larger area.
- 7.5.2 Incursions into the SRZ are not recommended as they are likely to result in loss or damage to woody roots, which may significantly affect stability.
- 7.5.3 Radial SRZ measurements can be found in the data schedule within this report.

7.6 TPZ and SRZ Setbacks

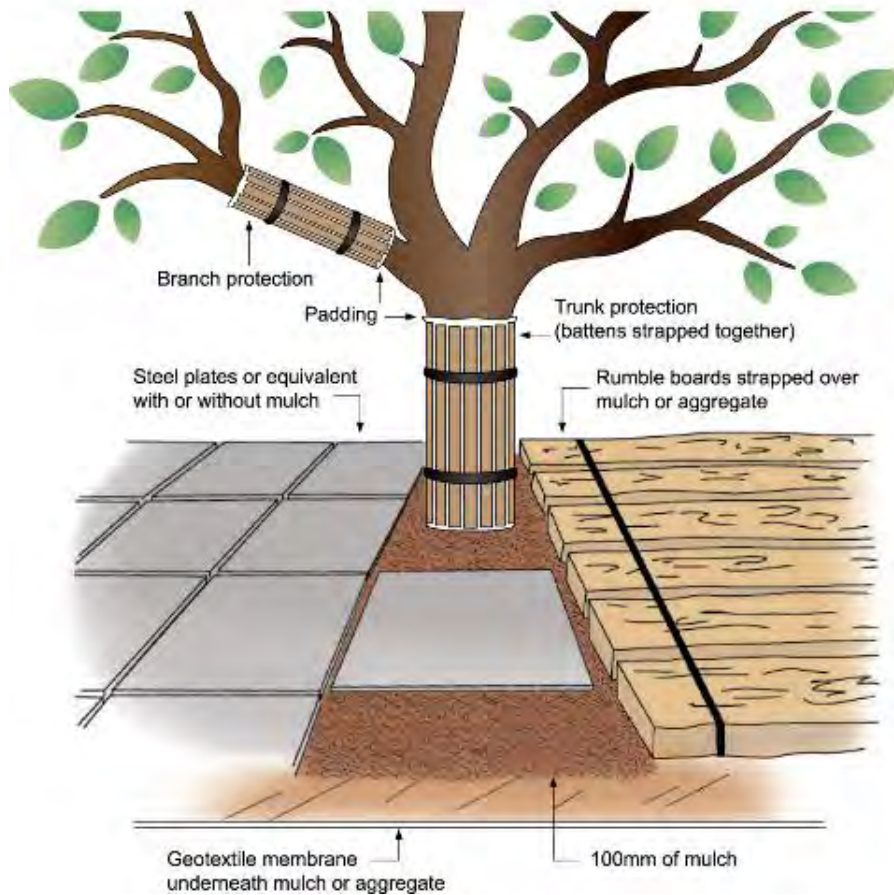
- 7.6.1 Trees and their root systems may occupy a substantial part of any development site and, because of their potential size, can have a major influence on planning the use of the site. Early identification and protection of important trees on development sites is essential from the outset and will minimize the problems of retaining inappropriate trees.
- 7.6.2 The extent of encroachment within the tree protection zone (greater than 20%) will result in damage to structural roots. The structural roots and structural root zone (SRZ) is the area of the root system required for stability and anchorage of the tree.
- 7.6.3 The below TPZ and SRZ radius measurements are to be taken from the centre of the stem at ground level.



Legend:

1. Chain wire mesh panels with shade cloth attached (if required), held in place with concrete feet.
2. Alternative plywood or wooden paling fence panels. This fencing material also prevents building materials or soil from entering the TPZ.
3. Mulch installation across the surface of TPZ (at the discretion of the Project Arborist). No excavation, construction activity, grade changes, surface treatment or storage materials of any kind are permitted within the TPZ.
4. Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Figure 7. Depicts standard fencing techniques. (AS 4970–2009).



Notes:

1. For trunk and branch protection, use boards and padding that will prevent damage to the bark. Boards are to be strapped to trees, not nailed or screwed.
2. Rumble boards or weight dispersion mats should be of a suitable thickness to prevent soil compaction and root damage.

Figure 8. Depicts trunk and ground protection techniques. (AS 4970–2009).

7.7 Project Milestones

- 7.7.1 The following visits and milestones were recommended as to when on-site tree inspection by the Project Arborist is required:

Table 14. Project Milestones

Item	Purpose of Visit	Timing of Visit	Prerequisites
1	Pre-start induction	Following sign-off from Item 1. Contractor to provide a minimum of five days advance notice for this visit.	Prior to the commencement of works. All parties involved in the project to attend.
2	Installation of tree protection measures.	Following the completion of its installation by a competent person.	Prior to the commencement of any site works, including demolition.
3	Supervision of works in TPZ, including all regrading and excavations	Whenever there is work planned to be performed within the TPZ. Contractor to provide a minimum of five days advance notice for such visits.	
4	Regular site inspections	Minimum frequency of 3 Monthly inspections for the duration of the project.	The checklist must be completed by the Project Arborist at each site inspection and signed by both parties.
5	Final sign off	Following completion of works.	Practical completion of works prior to tree protection removal.

7.8 Compliance Reporting

- 7.8.1 Following each inspection, the Project Arborist shall prepare a report detailing the condition of the trees. These reports should certify whether or not the works have been completed in compliance with the consent relating to tree protection.
- 7.8.2 These reports should contain photographic evidence where required to demonstrate that the work has been carried out as specified.
- 7.8.3 Matters to be monitored and included in these reports should include tree condition, tree protection measures and the impact of site works that may arise from changes to the approved plans.
- 7.8.4 The reports and Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) following each inspection.
- 7.8.5 The reports and any Non-Compliance Statements shall be submitted to the Project Manager (as well as the Clients' nominated representative) if tree protection conditions have been breached. Reports should contain clear remedial action specifications to minimise any adverse impact on any subject tree.

7.9 Project Arborist

- 7.9.1 An official "Project Arborist" must be commissioned to oversee the tree protection, any works within the TPZ's and complete regular monitoring compliance certification.
- 7.9.2 The project arborist must have minimum five (5) years industry experience in the field of arboriculture, horticulture with relevant demonstrated experience in tree management on construction sites, and Diploma level qualifications in arboriculture – AQF Level 5.

8 References

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9 Tree Data Table



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STARS)	Retention Value (STARS)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
1	Client Site	Fraxinus angustifolia ssp. oxycarpa 'Raywood'	Claret Ash	Exotic	1	14	17	2.00	12.56	1.57	<5m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback, Epicormic shoots			Low	LOW	Directly within the footprint	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree is located within the proposed development footprint.
2	Client Site	Unknown sp.	Unknown sp.	Not Specified	1	33	36	3.96	49.24	2.15	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood 25-50 mm, Epicormic shoots, Pest(s)/Insect(s), Shallow soil volume, Wound(s) branches			Medium	MEDIUM	Directly within the footprint	49.24	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
3	Client Site	Fraxinus angustifolia ssp. oxycarpa 'Raywood'	Claret Ash	Exotic	1	29	25	3.48	38.03	1.85	5-10m	5-10m	Medium (Diameter Between 5-15m)	Poor	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Deadwood 25-50 mm, Dieback, Epicormic shoots, Hanging branch(s), Pathog./Dis. suspected, Wound(s) trunk			Low	LOW	Directly within the footprint	38.03	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
4	Neighbouring Site	Ficus benjamina	Weeping Fig	Native	1	45	65	5.40	91.56	2.76	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Long (Over 40 years)	No	Co-dominant stems, Exposed surface roots, Included bark, Not tagged, Union(s) appear sound	Visually prominent		High	HIGH			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Boundary fence offers protection	Located in neighbouring land behind existing fence.	
5	Neighbouring Site	Elaeocarpus reticulatus	Blueberry Ash	Native	1	18	22	2.16	14.65	1.75	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Not tagged, Suppressed, Uncharacteristic form			Low	LOW			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Boundary fence offers protection	Located in neighbouring land behind existing fence.	
6	Neighbouring Site	Cupaniopsis anacardioides	Tuckeroo	Exotic	1	60	70	7.20	162.78	2.85	5-10m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Dead branches/fronds over limited use area, Deadwood 25-50 mm, Epicormic shoots, Included bark		Prune - Crown raise	Medium	MEDIUM	Demolition of hard ground surfaces, Landscaping, Retaining wall(s), Road construction, Root zone disturbance	53.01	33	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Alternative design required, Ground protection in TPZ, Non-destructive excavation, Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Located in neighbouring land behind existing fence. Any form of boundary retaining wall is to be done with a foundation which does not require a long continuous footing. A development free zone of 2m from the boundary line into the clients property must be maintained unless prior approval from the project arborist has been obtained.
7	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	22	24	2.64	21.88	1.82	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Dieback, Suppressed	Tree within avenue		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	21.88	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
8	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	17	20	2.04	13.07	1.68	10-15m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Deadwood <25 mm, Dieback, Inappropriate location, Suppressed	Tree within avenue		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	13.07	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
9	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	26	31	3.12	30.57	2.02	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Short (5-15 years)	No	Inappropriate location			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	30.57	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
10	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	30	39	3.60	40.69	2.23	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Inappropriate location, Infrastructure contact			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	40.69	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
11	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	35	40	4.20	55.39	2.25	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Mature	Short (5-15 years)	No	Co-dominant stems, Inappropriate location, Infrastructure contact			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	55.39	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
12	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	38	39	4.56	65.29	2.23	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Mature	Medium (15-40 years)	No	Inappropriate location			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	65.29	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
13	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	36	41	4.32	58.6	2.28	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Mature	Medium (15-40 years)	No	Inappropriate location			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	58.6	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
14	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	37	42	4.44	61.9	2.3	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Mature	Medium (15-40 years)	No	Co-dominant stems			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	61.9	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
15	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	40	49	4.80	72.35	2.45	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Mature	Short (5-15 years)	No	Co-dominant stems, Exudation, Inappropriate location			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	72.35	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
16	Client Site	Elaeocarpus reticulatus	Blueberry Ash	Native	1	6	9	2.00	12.56	1.2	<5m	<5m	Small (Diameter Less Than 5m)	Good	Excellent	Juvenile	Short (5-15 years)	No	Co-dominant stems, Incorrectly planted			Low	LOW	Directly within the footprint	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree is located within the proposed development footprint.
17	Client Site	Casuarina glauca	Swamp she-oak	Native	1	38	48	4.56	65.29	2.43	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Exposed surface roots, Hanging branch(s), Suckers, Wound response growth - Good, Wound(s) trunk			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	65.29	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STARS)	Retention Value (STARS)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
18	Client Site	Casuarina glauca	Swamp she-oak	Native	1	41	54	4.92	76.01	2.55	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Short (5-15 years)	No	Co-dominant stems, Exposed surface roots, Inappropriate location		Medium		LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	76.01	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
19	Client Site	Casuarina glauca	Swamp she-oak	Native	1	33	43	3.96	49.24	2.32	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Suckers		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	49.24	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
20	Client Site	Casuarina glauca	Swamp she-oak	Native	1	33	50	3.96	49.24	2.47	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Exposed surface roots, Hanging branch(s), Suckers		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	49.24	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
21	Client Site	Casuarina glauca	Swamp she-oak	Native	1	44	61	5.28	87.54	2.69	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Short (5-15 years)	No	Exposed surface roots, Inappropriate location, Suckers		Medium		LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	87.54	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
22	Client Site	Casuarina glauca	Swamp she-oak	Native	1	25	37	3.00	28.26	2.18	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Exposed surface roots, Suckers		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	28.26	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
23	Client Site	Casuarina glauca	Swamp she-oak	Native	1	30	45	3.60	40.69	2.37	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Suckers, Uncharacteristic form		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	40.69	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
24	Client Site	Casuarina glauca	Swamp she-oak	Native	1	34	46	4.08	52.27	2.39	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Suckers		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	52.27	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
25	Client Site	Casuarina glauca	Swamp she-oak	Native	1	47	56	5.64	99.88	2.59	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Included bark, Suckers, Union(s) appear sound		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	99.88	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
26	Client Site	Casuarina glauca	Swamp she-oak	Native	1	16	24	2.00	12.56	1.82	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Good	Juvenile	Medium (15-40 years)	No	Exposed surface roots, Suppressed		Low		LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
27	Client Site	Casuarina glauca	Swamp she-oak	Native	1	40	54	4.80	72.35	2.55	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Short (5-15 years)	No	Exposed surface roots, Inappropriate location		Medium		LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	72.35	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
28	Client Site	Casuarina glauca	Swamp she-oak	Native	1	38	49	4.56	65.29	2.45	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Exposed surface roots, Hanging branch(s), Infrastructure damage		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	65.29	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
29	Client Site	Casuarina glauca	Swamp she-oak	Native	1	37	47	4.44	61.9	2.41	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Suckers, Uncharacteristic form, Union(s) appear sound		Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	61.9	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
30	Client Site	Casuarina glauca	Swamp she-oak	Native	1	28	37	3.36	35.45	2.18	10-15m	5-10m	Medium (Diameter Between 5-15m)	Average	Average	Mature	Medium (15-40 years)	No			Medium		MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	35.45	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
31	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	35	37	4.20	55.39	2.18	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Poor	Semi-Mature	Short (5-15 years)	No	Poor pruning, Uncharacteristic form		Low		LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	55.39	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inrespect Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
32	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	34	30	4.08	52.27	2	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback, Exudation		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	52.27	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
33	Client Site	Casuarina glauca	Swamp she-oak	Native	1	32	41	3.84	46.3	2.28	15-20m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Deadwood <25 mm, Suckers		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	46.3	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
34	Client Site	Casuarina glauca	Swamp she-oak	Native	1	26	31	3.12	30.57	2.02	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Poor pruning, Suppressed		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	30.57	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
35	Client Site	Casuarina glauca	Swamp she-oak	Native	1	37	54	4.44	61.9	2.55	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Exposed surface roots		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	61.9	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
36	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	29	32	3.48	38.03	2.05	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Dieback, Poor pruning		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	38.03	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
37	Client Site	Eucalyptus punctata	Grey Gum	Native	1	40	46	4.80	72.35	2.39	10-15m	10-15m	Medium (Diameter Between 5-15m)	Average	Poor	Semi-Mature	Limited (Under 5 years)	No	Boring insect, Deadwood <25 mm, Hanging branch(s), Structural faults, Suppressed, Wound response growth - Poor, Wound(s) basal trunk		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	72.35	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
38	Client Site	Casuarina glauca	Swamp she-oak	Native	1	14	18	2.00	12.56	1.61	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Suppressed		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
39	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	21	28	2.52	19.94	1.94	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Dieback, Suppressed		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	19.94	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
40	Client Site	Casuarina glauca	Swamp she-oak	Native	1	21	27	2.52	19.94	1.91	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Exposed surface roots, Suppressed		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	19.94	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
41	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	29	32	3.48	38.03	2.05	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	38.03	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
42	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	28	31	3.36	35.45	2.02	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	35.45	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
43	Client Site	Casuarina glauca	Swamp she-oak	Native	1	31	39	3.72	43.45	2.23	15-20m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm, Exposed surface roots, Included bark, Union(s) appear sound		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	43.45	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
44	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	20	25	2.40	18.09	1.85	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
45	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	26	28	3.12	30.57	1.94	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback, Poor pruning		Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	30.57	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STARs)	Retention Value (STARs)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
46	Client Site	Casuarina glauca	Swamp she-oak	Native	1	51	66	6.12	117.61	2.78	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm, Exposed surface roots, Uncharacteristic form	Age/size		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	117.61	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
47	Client Site	Casuarina glauca	Swamp she-oak	Native	1	36	43	4.32	58.6	2.32	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Infrastructure contact, Infrastructure damage, Uncharacteristic form			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	58.6	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
48	Client Site	Casuarina glauca	Swamp she-oak	Native	1	36	48	4.32	58.6	2.43	10-15m	5-10m	Medium (Diameter Between 5-15m)	Average	Good	Mature	Short (5-15 years)	No	Co-dominant stems, Deadwood <25 mm, Exposed surface roots, Included bark, Poor pruning, Sparse canopy, Union(s) appear sound, Wound(s) branches			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	58.6	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
49	Client Site	Casuarina glauca	Swamp she-oak	Native	1	25	37	3.00	28.26	2.18	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Short (5-15 years)	No	Deadwood <25 mm, Exposed surface roots, Infrastructure contact			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	28.26	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
50	Client Site	Casuarina glauca	Swamp she-oak	Native	1	32	43	3.84	46.3	2.32	15-20m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Exposed surface roots, Infrastructure contact, Poor pruning, Suckers			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	46.3	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
51	Client Site	Casuarina glauca	Swamp she-oak	Native	1	34	55	4.08	52.27	2.57	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Epicormic shoots, Exposed surface roots, Infrastructure contact			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	52.27	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
52	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	19	22	2.28	16.32	1.75	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Dieback, Sparse canopy, Suppressed			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	16.32	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
53	Client Site	Casuarina glauca	Swamp she-oak	Native	1	25	32	3.00	28.26	2.05	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Deadwood <25 mm, Exposed surface roots, Infrastructure contact, Suppressed			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	28.26	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
54	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	22	27	2.64	21.88	1.91	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Dieback, Sparse canopy, Suppressed			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	21.88	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
55	Client Site	Casuarina glauca	Swamp she-oak	Native	1	33	44	3.96	49.24	2.34	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm, Exposed surface roots, Infrastructure contact, Mechanical damage - roots			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	49.24	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
56	Client Site	Casuarina glauca	Swamp she-oak	Native	1	36	47	4.32	58.6	2.41	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Deadwood <25 mm, Exposed surface roots, Suckers, Suppressed			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	58.6	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
57	Client Site	Casuarina glauca	Swamp she-oak	Native	1	24	35	2.88	26.04	2.13	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	26.04	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
58	Client Site	Casuarina glauca	Swamp she-oak	Native	1	37	50	4.44	61.9	2.47	15-20m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Deadwood <25 mm, Exposed surface roots, Infrastructure contact, Suckers			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	61.9	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
59	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	25	26	3.00	28.26	1.88	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Dieback, Included bark, Suppressed			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	28.26	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STARs)	Retention Value (STARs)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
60	Client Site	Casuarina glauca	Swamp she-oak	Native	1	26	33	3.12	30.57	2.08	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Co-dominant stems, Deadwood <25 mm, Suppressed		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	30.57	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
61	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	32	41	3.84	46.3	2.28	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Good	Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback		Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	46.3	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
62	Client Site	Casuarina glauca	Swamp she-oak	Native	1	12	16	2.00	12.56	1.53	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No	Suppressed			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
63	Client Site	Casuarina glauca	Swamp she-oak	Native	1	12	16	2.00	12.56	1.53	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Limited (Under 5 years)	No	Infrastructure contact, Suppressed			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
64	Client Site	Casuarina glauca	Swamp she-oak	Native	1	12	16	2.00	12.56	1.53	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No	Exposed surface roots, Mechanical damage - branch, Suppressed, Wound(s) branches			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
65	Client Site	Cupressus torulosa	Bhutan Cypress	Exotic	1	24	23	2.88	26.04	1.79	10-15m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback, Suppressed, Wound(s) trunk			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	26.04	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
66	Client Site	Casuarina glauca	Swamp she-oak	Native	1	30	37	3.60	40.69	2.18	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Deadwood <25 mm, Exposed surface roots, Infrastructure contact			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	40.69	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
67	Client Site	Casuarina glauca	Swamp she-oak	Native	1	38	47	4.56	65.29	2.41	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Included bark, Uncharacteristic form, Union(s) appear sound			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	65.29	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
68	Client Site	Casuarina glauca	Swamp she-oak	Native	1	23	28	2.76	23.92	1.94	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	23.92	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
69	Client Site	Casuarina glauca	Swamp she-oak	Native	1	25	33	3.00	28.26	2.08	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Exposed surface roots, Infrastructure contact			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	28.26	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
70	Client Site	Casuarina glauca	Swamp she-oak	Native	1	35	40	4.20	55.39	2.25	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Deadwood <25 mm, Exposed surface roots			Medium	MEDIUM	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	55.39	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
71	Client Site	Casuarina glauca	Swamp she-oak	Native	1	35	41	4.20	55.39	2.28	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Short (5-15 years)	No	Branch failure(s), Co-dominant stems, Deadwood <25 mm, Inappropriate location, Infrastructure contact, Infrastructure damage, Wound(s) branches			Medium	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	55.39	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
72	Client Site	Casuarina glauca	Swamp she-oak	Native	1	26	29	3.12	30.57	1.97	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Dead branches/branches limited volume, Deadwood 25-50 mm, Dieback, Infrastructure contact, Infrastructure damage, Poor pruning, Suppressed, Wound(s) trunk			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	30.57	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
73	Client Site	Casuarina glauca	Swamp she-oak	Native	1	11	15	2.00	12.56	1.49	<5m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Limited (Under 5 years)	No	Inappropriate location, Infrastructure contact, Suckers			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree is located within the proposed development footprint.



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STARs)	Retention Value (STARs)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
74	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
75	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
76	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
77	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
78	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
79	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
80	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
81	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
82	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
83	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
84	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
85	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
86	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
87	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	20	23	2.40	18.09	1.79	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Included bark			Low	LOW	Demolition of above ground services, Demolition of hard ground surfaces, Demolition of infrastructure, Excavation impacts, Road construction, Root zone disturbance, Soil grade change	18.09	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.



Tree ID	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
88	Client Site	Plumeria rubra var. acutifolia	Frangipani	Exotic	1	22	35	2.64	21.88	2.13	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Mature	Medium (15-40 years)	No	Cankers/Galls/Burls, Co-dominant stems, Poor pruning, Suppressed, Wound(s) branches, Wound(s) trunk	Landscape feature	Medium	MEDIUM	Directly within the footprint	21.88	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
89	Client Site	Plumeria rubra var. acutifolia	Frangipani	Exotic	1	21	28	2.52	19.94	1.94	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Mature	Medium (15-40 years)	No	Cankers/Galls/Burls, Co-dominant stems, Infrastructure contact, Poor pruning, Suppressed, Wound(s) branches	Landscape feature	Medium	MEDIUM	Directly within the footprint	19.94	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.	
90	Neighbouring Site	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	16	19	2.00	12.56	1.65	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Uncharacteristic form		Low	LOW	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	2.91	23	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
91	Neighbouring Site	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	20	24	2.40	18.09	1.82	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Juvenile	Medium (15-40 years)	No			Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	3.46	19	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
92	Neighbouring Site	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	26	30	3.12	30.57	2	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Included bark, Suppressed, Union(s) appear sound		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	9.74	32	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
93	Neighbouring Site	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	32	36	3.84	46.3	2.15	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	14.79	32	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
94	Neighbouring Site	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	36	38	4.32	58.6	2.2	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Included bark, Union(s) appear sound		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	19.69	34	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
95	Neighbouring Site	Corymbia maculata	Spotted Gum	Native	1	21	27	2.52	19.94	1.91	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Deadwood <25 mm		Medium	MEDIUM				Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Boundary fence offers protection	Located in neighbouring land behind existing fence.	
96	Neighbouring Site	Banksia integrifolia	Coast Banksia	Native	1	20	25	2.40	18.09	1.85	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Vines		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	5.46	30	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
97	Neighbouring Site	Banksia integrifolia	Coast Banksia	Native	1	10	16	2.00	12.56	1.53	<5m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No			Low	LOW	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	1.64	13	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
98	Neighbouring Site	Corymbia maculata	Spotted Gum	Native	1	22	28	2.64	21.88	1.94	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No			Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	2.92	13	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
99	Neighbouring Site	Banksia integrifolia	Coast Banksia	Native	1	17	25	2.04	13.07	1.85	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Included bark, Union(s) appear sound		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.93	7	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
100	Neighbouring Site	Corymbia maculata	Spotted Gum	Native	1	11	15	2.00	12.56	1.49	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No			Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.7	6	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	
101	Neighbouring Site	Corymbia maculata	Spotted Gum	Native	1	18	21	2.16	14.65	1.72	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems		Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.53	4	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQF5), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.	



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
102	Neighbouring Site	Banksia integrifolia	Coast Banksia	Native	1	14	18	2.00	12.56	1.61	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Infrastructure contact			Medium	MEDIUM	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.74	6	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQFS), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.
103	Neighbouring Site	Corymbia maculata	Spotted Gum	Native	1	7	11	2.00	12.56	1.31	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No				Low	LOW	Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.88	7	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Boundary fence offers protection, Non-destructive excavation, Project arborist engagement (AQFS), Works in TPZ to be supervised	Located in neighbouring land, planted just off the boundary fence line. Project arborist is to oversee all works in the TPZ. The young trees appear healthy, and will tolerate root related impacts proposed.
104	Client Site	Ricinus communis	Castor Oil Plant	Exotic	1	27	35	3.24	32.96	2.13	5-10m	5-10m	Medium (Diameter Between 5-15m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Dieback, Included bark, Weed species			Environmental Pest / Noxious Weed Species	PRIORITY FOR REMOVAL	Directly within the footprint	32.96	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree is located within the proposed development footprint.
105	Client Site	Casuarina glauca	Swamp she-oak	Native	1	23	28	2.76	23.92	1.94	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems			Medium	MEDIUM	Directly within the footprint	23.92	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
106	Client Site	Casuarina glauca	Swamp she-oak	Native	1	38	49	4.56	65.29	2.45	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Hanging branch(s), Infrastructure contact, Wound(s) trunk			Medium	MEDIUM	Directly within the footprint	65.29	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the proposed development footprint.
107	Council Land	Corymbia gummitera	Red Bloodwood	Native	1	16	20	2.00	12.56	1.68	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch end weight, Branch failure(s), Epicormic shoots, Infrastructure contact, Poor pruning, Uncharacteristic form			Medium	MEDIUM	Excavation impacts, Road construction, Root zone disturbance, Soil grade change	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Confirm ownership	Tree proposed for removal	Tree located within the development footprint.
108	Council Land	Corymbia gummitera	Red Bloodwood	Native	1	27	38	3.24	32.96	2.2	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch end weight, Co-dominant stems, Epicormic shoots, Infrastructure contact, Uncharacteristic form			Medium	MEDIUM	Soil grade change	13.47	41	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Alternative design required, Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered in the specified tree protection area. A retaining wall should be constructed to minimise any form of grade change.
109	Council Land	Corymbia gummitera	Red Bloodwood	Native	1	12	14	2.00	12.56	1.45	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Uncharacteristic form			Low	LOW	Excavation impacts, Road construction, Root zone disturbance, Soil grade change	7.33	58	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Confirm ownership	Tree proposed for removal	Tree located within the development footprint.
110	Council Land	Corymbia maculata	Spotted Gum	Native	1	32	41	3.84	46.3	2.28	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Deadwood <25 mm, Epicormic shoots, Mechanical damage - branch, Wound(s) branches			Medium	MEDIUM	Soil grade change	22.47	49	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Alternative design required, Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered in the specified tree protection area. A retaining wall should be constructed to minimise any form of grade change.
111	Council Land	Eucalyptus robusta	Swamp Mahogany	Native	1	29	35	3.48	38.03	2.13	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Deadwood <25 mm, Epicormic shoots, Exposed surface roots, Infrastructure contact, Mechanical damage - roots, Wound(s) trunk			Medium	MEDIUM				Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	
112	Client Site	Eucalyptus haemastoma	Scribbly Gum	Native	1	22	28	2.64	21.88	1.94	<5m	5-10m	Medium (Diameter Between 5-15m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Abnormal lean, Exudation, Infrastructure contact, Suppressed, Wound(s) trunk			Low	LOW	Demolition of hard ground surfaces, Road construction, Root zone disturbance, Soil grade change	21.88	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	
113	Client Site	Eucalyptus haemastoma	Scribbly Gum	Native	1	14	18	2.00	12.56	1.61	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Juvenile	Medium (15-40 years)	No	Suppressed			Low	LOW	Below ground services, Excavation impacts, Infrastructure installation, Root zone disturbance	4.27	34	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the alignment of the proposed drainage easement.
114	Client Site	Eucalyptus haemastoma	Scribbly Gum	Native	1	16	20	2.00	12.56	1.68	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No				Medium	MEDIUM	Below ground services, Directly within the footprint, Excavation impacts, Infrastructure installation, Root zone disturbance	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the alignment of the proposed drainage easement.
115	Client Site	Banksia integrifolia	Coast Banksia	Native	1	16	19	2.00	12.56	1.65	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Suppressed			Medium	MEDIUM	Below ground services, Excavation impacts, Infrastructure installation, Root zone disturbance	2.23	18	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree is located within the alignment of the proposed drainage easement.
116	Client Site	Banksia integrifolia	Coast Banksia	Native	1	15	18	2.00	12.56	1.61	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems			Medium	MEDIUM	Site access, Soil grade change			Nil	Retain - Situated outside the development footprint, protect tree with generic protection measures during works (i.e. protective fencing and restriction of activities within TPZ)	Retain	Retain tree	Retain tree	Tree protection fencing	Soil grade is not to be altered within the tree protection area.
117	Client Site	Eucalyptus microcarps	Tallowood	Native	1	45	55	5.40	91.56	2.57	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Suppressed			High	HIGH	Retaining wall(s), Root zone disturbance, Site access, Soil grade change	5.49	6	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Tree protection fencing	Soil grade is not to be altered within the tree protection area.
118	Client Site	Corymbia maculata	Spotted Gum	Native	1	45	52	5.40	91.56	2.51	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Deadwood <25 mm, Epicormic shoots	Age/size		High	HIGH	Retaining wall(s), Root zone disturbance, Site access, Soil grade change	0.5	1	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Tree protection fencing	Soil grade is not to be altered within the tree protection area.
119	Client Site	Celtis sinensis	Chinese Hackberry	Exotic	1	37	44	4.44	61.9	2.34	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Long (Over 40 years)	No	Weed species			Environmental Pest / Noxious Weed Species	LOW	Excavation impacts, Road construction, Root zone disturbance, Soil grade change	6.94	11	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Tree protection fencing	Soil grade is not to be altered within the tree protection area.



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
120	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	47	58	5.64	99.88	2.63	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Dead branches/fronds over limited use area, Deadwood 25-50 mm, Hanging branch(s)			Medium	MEDIUM	Retaining wall(s), Road construction, Root zone disturbance, Soil grade change	5.91	6	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered within the tree protection area. It is recommended that the project arborist oversees the works proposed within the protection area of the tree.
121	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	38	44	4.56	65.29	2.34	15-20m	5-10m	Medium (Diameter Between 5-15m)	Average	Average	Mature	Medium (15-40 years)	No	Branch failure(s), Dead branches/fronds over limited use area, Deadwood 25-50 mm, Suppressed			Medium	MEDIUM	Retaining wall(s), Road construction, Root zone disturbance, Soil grade change	0.44	1	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered within the tree protection area. It is recommended that the project arborist oversees the works proposed within the protection area of the tree.
122	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	42	49	5.04	79.76	2.45	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Dead branches/fronds over limited use area, Deadwood 25-50 mm, Epicormic shoots, Hanging branch(s)			Medium	MEDIUM	Retaining wall(s), Road construction, Root zone disturbance, Soil grade change	10.37	13	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered within the tree protection area. It is recommended that the project arborist oversees the works proposed within the protection area of the tree.
123	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	40	49	4.80	72.35	2.45	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Branch failure(s), Crossing branches, Dead branches/fronds over limited use area, Deadwood 50-100 mm, Epicormic stem(s)			Medium	MEDIUM	Retaining wall(s), Road construction, Root zone disturbance, Soil grade change	6.47	9	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Soil grade is not to be altered within the tree protection area. It is recommended that the project arborist oversees the works proposed within the protection area of the tree.
124	Neighbouring Site	Livistona australis	Cabbage Fan Palm	Native	2	26		2.00	12.56		5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Dead fronds/fruit, Infrastructure contact	Within group		Medium	MEDIUM	Excavation impacts, Footing(s), Retaining wall(s), Root zone disturbance, Soil grade change	0.76	6	Minor	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Neighbouring tree to be retained throughout the development.
125	Neighbouring Site	Casuarina cunninghamiana	River She-oak	Native	1	32	38	3.84	46.3	2.2	10-15m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm, Infrastructure contact, Mistletoe			Medium	MEDIUM	Excavation impacts, Footing(s), Retaining wall(s), Root zone disturbance	8.56	18	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Project arborist engagement (AQFS), Tree protection fencing, Works in TPZ to be supervised	Neighbouring tree to be retained throughout the development. Project arborist is to oversee all works within the tree protection area.
126	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	39	43	4.68	68.77	2.32	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Branch failure(s), Dead branches/fronds over limited use area, Deadwood 25-50 mm, Epicormic shoots, Hanging branch(s), Suppressed			Medium	MEDIUM	Demolition of hard ground surfaces, Road construction, Soil grade change	68.77	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree within the proposed road alignment.
127	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	42	54	5.04	79.76	2.55	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Dead branches/fronds over limited use area, Deadwood 25-50 mm, Epicormic shoots, Hanging branch(s), Mistletoe			Medium	MEDIUM	Demolition of hard ground surfaces, Road construction, Soil grade change	79.76	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree within the proposed road alignment.
128	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	42	53	5.04	79.76	2.53	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Branch failure(s), Deadwood <25 mm, Epicormic shoots, Poor pruning			Medium	MEDIUM	Demolition of hard ground surfaces, Road construction, Soil grade change	79.76	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree within the proposed road alignment.
129	Client Site	Casuarina cunninghamiana	River She-oak	Native	1	50	64	6.00	113.04	2.74	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Branch end weight, Branch failure(s), Deadwood <25 mm, Epicormic shoots, Hanging branch(s), Poor pruning, Vines			Medium	MEDIUM	Demolition of hard ground surfaces, Road construction, Soil grade change	113.04	100	Major	Remove - Significant adverse impact based on development design	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree within the proposed road alignment.
130	Client Site	Callistemon viminalis	Weeping Bottlebrush	Native	1	45	53	5.40	91.56	2.53	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Deadwood <25 mm, Poor pruning, Suppressed			Medium	MEDIUM	Demolition of hard ground surfaces, Excavation impacts, Footing(s), Landscaping, Retaining wall(s), Root zone disturbance, Soil grade change	34.88	38	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Ground protection in TPZ, Non-destructive excavation, Project arborist engagement (AQFS), Selective tree canopy pruning, Tree protection fencing, Works in TPZ to be supervised	The tree is situated above the lower soil grade, and the retaining wall must remain in place to ensure its stability. While none have been specified, any modifications to the tree canopy need to be approved by the local authority. It is possible that tree roots have extended below the blumen into the area proposed for filling, so caution is required when removing the blumen from the lower surface. The tree is expected to tolerate the proposed raising of the lower areas grade. A project arborist should be engaged to oversee all works conducted within the Tree Protection Zone. The estimated encroachment percentage of the root zone area is not entirely accurate as a result of the tree being positioned on the upper level.
131	Client Site	Ficus benjamina	Weeping Fig	Native	1	74	65	8.88	247.6	2.76	10-15m	15-20m	Large (Diameter More Than 15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Crossing branches, Hanging branch(s), Infrastructure contact, Infrastructure damage, Poor pruning, Wound(s) branches	Age/size		Medium	MEDIUM	Demolition of hard ground surfaces, Excavation impacts, Footing(s), Landscaping, Retaining wall(s), Root zone disturbance, Soil grade change	101.31	41	Major	Retain - Sustainable impact, protect tree with specific protection measures during works (i.e. Supervision of works and careful excavation in TPZ plus generic requirements)	Retain	Retain tree	Retain tree	Ground protection in TPZ, Non-destructive excavation, Project arborist engagement (AQFS), Selective tree canopy pruning, Tree protection fencing, Works in TPZ to be supervised	The tree is situated above the lower soil grade, and the retaining wall must remain in place to ensure its stability. While none have been specified, any modifications to the tree canopy need to be approved by the local authority. It is likely that tree roots have extended below the blumen into the area proposed for filling, so caution is required when removing the blumen from the lower surface. The tree is expected to tolerate the proposed raising of the lower areas grade. A project arborist should be engaged to oversee all works conducted within the Tree Protection Zone. The estimated encroachment percentage of the root zone area is not entirely accurate as a result of the tree being positioned on the upper level.
132	Client Site	Syagrus romanzoffiana	Cocos Palm	Exotic	1	24		2.50	19.63		5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Semi-Mature	Medium (15-40 years)	No	Dead fronds/fruit, Infrastructure contact			Low	LOW	Landscaping		0	Nil	Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location)	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Remove undesirable species.
133	Client Site	Eucalyptus sp.	Eucalypt	Native	2	13	16	2.00	12.56	1.53	5-10m	<5m	Small (Diameter Less Than 5m)	Average	Average	Juvenile	Short (5-15 years)	No	Inappropriate location	Within group		Low	LOW			0	Nil	Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location)	Remove	Replace 1:1	Prescribed tree needing approval	Tree proposed for removal	Tree located within garden area between lower retaining wall and boundary fence, remove tree.
134	Client Site	Hibiscus sp	Hibiscus	Exotic	1	28	30	3.36	35.45	2	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Inappropriate location, Infrastructure contact			Low	LOW				Nil	Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location)	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree located within garden area between lower retaining wall and boundary fence, remove tree.
135	Client Site	Glochidion ferdinandi	Cheese Tree	Native	1	14	17	2.00	12.56	1.57	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No	Inappropriate location			Low	LOW			0	Nil	Remove - Reasons unrelated to direct development impact (i.e. Weed species, damaging infrastructure, inappropriate location)	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree located within garden area between lower retaining wall and boundary fence, remove tree.



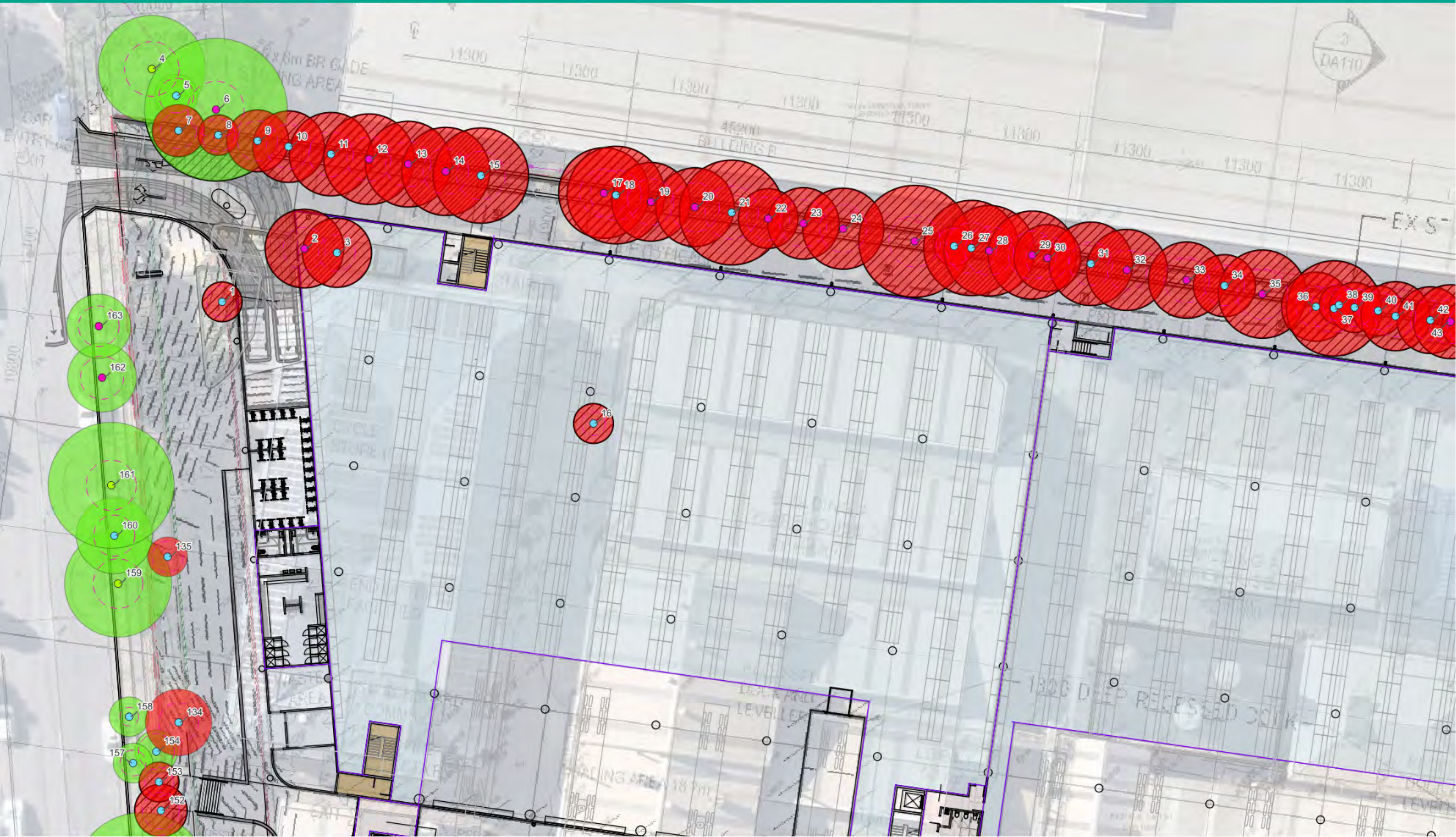
Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inrespect Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area [m2]	TPZ Encroachment Area [%]	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
136	Council Land	Platanus X acerifolia	London Plane	Exotic	1	42	42	5.04	79.76	2.3	10-15m	5-10m	Medium (Diameter Between 5-15m)	Average	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Dieback	Streetscape contribution		Medium	MEDIUM			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
137	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	75	82	9.00	254.34	3.04	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Dead branches/fronds limited volume, Deadwood 25-50 mm, Epicormic shoots	Shade value, Streetscape contribution		High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
138	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	43	51	5.18	84.25	2.49	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Co-dominant stems, Suppressed, Uncharacteristic form	Streetscape contribution		Medium	MEDIUM			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
139	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	38	38	4.59	66.15	2.2	10-15m	5-10m	Medium (Diameter Between 5-15m)	Average	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Deadwood <25 mm, Epicormic shoots, Exposed surface roots, Root damage, Suppressed, Wound(s) trunk			Medium	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
140	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	44	46	5.28	87.54	2.39	10-15m	10-15m	Medium (Diameter Between 5-15m)	Average	Average	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood 25-50 mm, Dieback, Exposed surface roots, Mechanical damage - branch, Wound(s) branches	Streetscape contribution		High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
141	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	62	66	7.44	173.81	2.78	15-20m	10-15m	Medium (Diameter Between 5-15m)	Good	Good	Mature	Medium (15-40 years)	No	Co-dominant stems, Dead branches/fronds limited volume, Deadwood 25-50 mm, Epicormic shoots, Exposed surface roots, Hanging branch(s), Wound response growth - Good, Wound(s) trunk	Shade value, Streetscape contribution		High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
142	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	41	49	4.92	76.01	2.45	15-20m	10-15m	Medium (Diameter Between 5-15m)	Poor	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Dead branches/fronds limited volume, Deadwood 25-50 mm, Dieback, Epicormic shoots, Exposed surface roots, Infrastructure damage, Wound(s) trunk			Medium	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
143	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	61	67	7.32	168.25	2.8	10-15m	10-15m	Medium (Diameter Between 5-15m)	Average	Good	Mature	Medium (15-40 years)	No	Branch end weight, Co-dominant stems, Deadwood 25-50 mm, Dieback, Epicormic shoots, Infrastructure damage, Mechanical damage - branch, Wound(s) branches	Shade value, Streetscape contribution	Prune - Deadwood >25mm, Mgmt. - Notify tree owner	High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
144	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	54	53	6.48	131.85	2.53	15-20m	10-15m	Medium (Diameter Between 5-15m)	Average	Good	Mature	Medium (15-40 years)	No	Deadwood 25-50 mm, Dieback, Epicormic shoots, Wound(s) branches	Shade value, Streetscape contribution	Prune - Deadwood >25mm, Mgmt. - Notify tree owner	High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
145	Council Land	Beaucarnea recurvata	Ponytail Palm	Exotic	7	11	16	2.00	12.56	1.53	<5m	<5m	Small (Diameter Less Than 5m)	Average	Average	Mature	Medium (15-40 years)	No	Dieback	Within group		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
146	Council Land	Beaucarnea recurvata	Ponytail Palm	Exotic	1	11	16	2.00	12.56	1.53	<5m	<5m	Small (Diameter Less Than 5m)	Poor	Average	Mature	Limited (Under 5 years)	No	Dieback, Sparse canopy		Consider - Whole tree removal, Mgmt. - Notify tree owner	Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
147	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	67	68	8.04	202.97	2.81	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood 25-50 mm, Epicormic shoots, Exposed surface roots	Streetscape contribution	Prune - Deadwood >25mm, Mgmt. - Notify tree owner	High	HIGH			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
148	Council Land	Ficus sp.	Fig	Native	1	29	28	3.48	38.03	1.94	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
149	Council Land	Ficus sp.	Fig	Native	1	23	29	2.80	24.62	1.97	5-10m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
150	Council Land	Beaucarnea recurvata	Ponytail Palm	Exotic	2	10	17	2.00	12.56	1.57	<5m	<5m	Small (Diameter Less Than 5m)	Average	Average	Mature	Medium (15-40 years)	No	Dieback	Within group		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
151	Council Land	Ficus sp.	Fig	Native	1	16	17	2.00	12.56	1.57	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
152	Council Land	Ficus sp.	Fig	Native	1	22	25	2.64	21.88	1.85	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW	Demolition of infrastructure, Excavation impacts, Hardscape, Landscaping	21.88	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree impacted by the installation of an access stairway to the upper roadway.
153	Council Land	Ficus sp.	Fig	Native	1	14	14	2.00	12.56	1.45	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW	Demolition of infrastructure, Excavation impacts, Hardscape, Landscaping	12.56	100	Major	Remove - Significant adverse impact based on development design	Remove	No replacement proposed	Non-prescribed tree which is exempt (Size / Species / Location / Condition)	Tree proposed for removal	Tree impacted by the installation of an access stairway to the upper roadway.
154	Council Land	Ficus sp.	Fig	Native	1	18	24	2.16	14.65	1.82	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Infrastructure contact	Screen value		Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
155	Council Land	Eucalyptus sp.	Eucalypt	Native	1	9	11	2.00	12.56	1.31	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No		Street tree planting	Mgmt. - Notify tree owner, Mgmt. - Remove tree stakes	Low	LOW			NI	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	



Tree Id	Tree Ownership	Botanical Name	Common Name	Native Status	Trees In Group	DBH [cm]	Diameter at Root Crown (DRC) [cm]	Radial TPZ [m]	TPZ Area [m2]	Structural Root Zone (SRZ) Radius [m]	Tree Height [m]	Canopy Spread [m]	Tree Canopy Diameter Reference	Health	Structure	Tree Age	Useful Life Expectancy [Yrs.]	Habitat Features	Observations-Characteristics	General Significance	Tree Work Recommendations Inclusive Of Development	Landscape Significance Rating (STAR5)	Retention Value (STAR5)	Likely Encroachment	TPZ Encroachment Area (m2)	TPZ Encroachment Area (%)	TPZ Encroachment Type	Development Recommendation	Retention Status	Tree Replacement Ratio	Tree Approval Advice	Tree Protection Considerations	Development Comments
156	Council Land	Eucalyptus botryoides	Southern Mahogany	Native	1	57	60	6.84	146.91	2.67	10-15m	10-15m	Medium (Diameter Between 5-15m)	Poor	Average	Mature	Short (5-15 years)	No	Co-dominant stems, Deadwood 50-100 mm, Dieback, Epicormic shoots, Exposed surface roots, Infrastructure damage, Mechanical damage - stem, Wound response growth - Good, Wound(s) trunk	Streetscape contribution	Prune - Deadwood >25mm, Mgmt. - Notify tree owner	High	MEDIUM			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
157	Council Land	Eucalyptus sp.	Eucalypt	Native	1	9	11	2.00	12.56	1.31	<5m	<5m	Small (Diameter Less Than 5m)	Good	Average	Juvenile	Medium (15-40 years)	No	Co-dominant stems, Suckers	Street tree planting	Prune - Crown raise, Mgmt. - Notify tree owner, Mgmt. - Remove tree stakes	Low	LOW			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
158	Council Land	Tristanopsis laurina	Kamooka	Native	1	4	5	2.00	12.56	0.94	<3m	<5m	Small (Diameter Less Than 5m)	Good	Good	Juvenile	Medium (15-40 years)	No		Street tree planting	Mgmt. - Notify tree owner, Mgmt. - Remove tree stakes	Low	LOW			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
159	Council Land	Eucalyptus saligna x botryoides	Hybrid Sydney Blue Gum	Native	1	45	52	5.40	91.56	2.51	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Semi-Mature	Medium (15-40 years)	No	Branch failure(s), Deadwood <25 mm, Epicormic shoots, Mechanical damage - branch, Mechanical damage - stem, Wound response growth - Poor, Wound(s) basal trunk, Wound(s) branches, Wound(s) trunk	Shade value, Streetscape contribution		High	HIGH			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
160	Council Land	Eucalyptus saligna x botryoides	Hybrid Sydney Blue Gum	Native	1	32	33	3.84	46.3	2.08	10-15m	5-10m	Medium (Diameter Between 5-15m)	Poor	Average	Semi-Mature	Short (5-15 years)	No	Co-dominant stems, Deadwood 50-100 mm, Dieback, Epicormic shoots, Mechanical damage - stem, Suppressed, Wound response growth - Good, Wound(s) basal trunk, Wound(s) trunk		Prune - Deadwood >25mm, Mgmt. - Notify tree owner	Medium	LOW			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
161	Council Land	Eucalyptus saligna x botryoides	Hybrid Sydney Blue Gum	Native	1	53	53	6.36	127.01	2.53	10-15m	10-15m	Medium (Diameter Between 5-15m)	Good	Average	Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood 25-50 mm, Dieback, Epicormic shoots, Infrastructure damage	Shade value, Streetscape contribution	Prune - Deadwood >25mm, Mgmt. - Notify tree owner	High	HIGH			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
162	Council Land	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	29	37	3.48	38.03	2.18	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm	Streetscape contribution		Medium	MEDIUM			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	
163	Council Land	Melaleuca quinquenervia	Broad-leaved Paperbark	Native	1	27	32	3.24	32.96	2.05	5-10m	5-10m	Medium (Diameter Between 5-15m)	Good	Good	Semi-Mature	Medium (15-40 years)	No	Co-dominant stems, Deadwood <25 mm	Streetscape contribution		Medium	MEDIUM			Nil	Retain - Situated outside the development footprint, no detectable impact	Retain	Retain tree	Retain tree	Generic tree protection considerations apply	Tree is located outside of the site on the Council Street frontage.	

10 Arboricultural Impact Assessment Plan

Site - JN1340 ESR AIA Banksmeadow



- MAP LEGEND**
- STARS RETENTION STATUS - HIGH x 11
 - STARS RETENTION STATUS - MEDIUM x 74
 - STARS RETENTION STATUS - LOW x 77
 - STARS RETENTION STATUS - PRIORITY FOR REMOVAL x 1

Tree Protection Zone (TPZ)
Proposed Tree Retention - x 58

Structural Root Zone (SRZ)

Tree Protection Zone (TPZ)
Proposed Tree Removal - x 105

TPZ Enchroachment Area

Site - JN1340 ESR AIA Banksmeadow



MAP LEGEND

- STARS RETENTION STATUS - HIGH x 11
- STARS RETENTION STATUS - MEDIUM x 74
- STARS RETENTION STATUS - LOW x 77
- STARS RETENTION STATUS - PRIORITY FOR REMOVAL x 1

Tree Protection Zone (TPZ)
Proposed Tree Retention - x 58

Structural Root Zone (SRZ)

Tree Protection Zone (TPZ)
Proposed Tree Removal - x 105

TPZ Enchroachment Area

Site - JN1340 ESR AIA Banksmeadow



MAP LEGEND

- STARS RETENTION STATUS - HIGH x 11
- STARS RETENTION STATUS - MEDIUM x 74
- STARS RETENTION STATUS - LOW x 77
- STARS RETENTION STATUS - PRIORITY FOR REMOVAL x 1

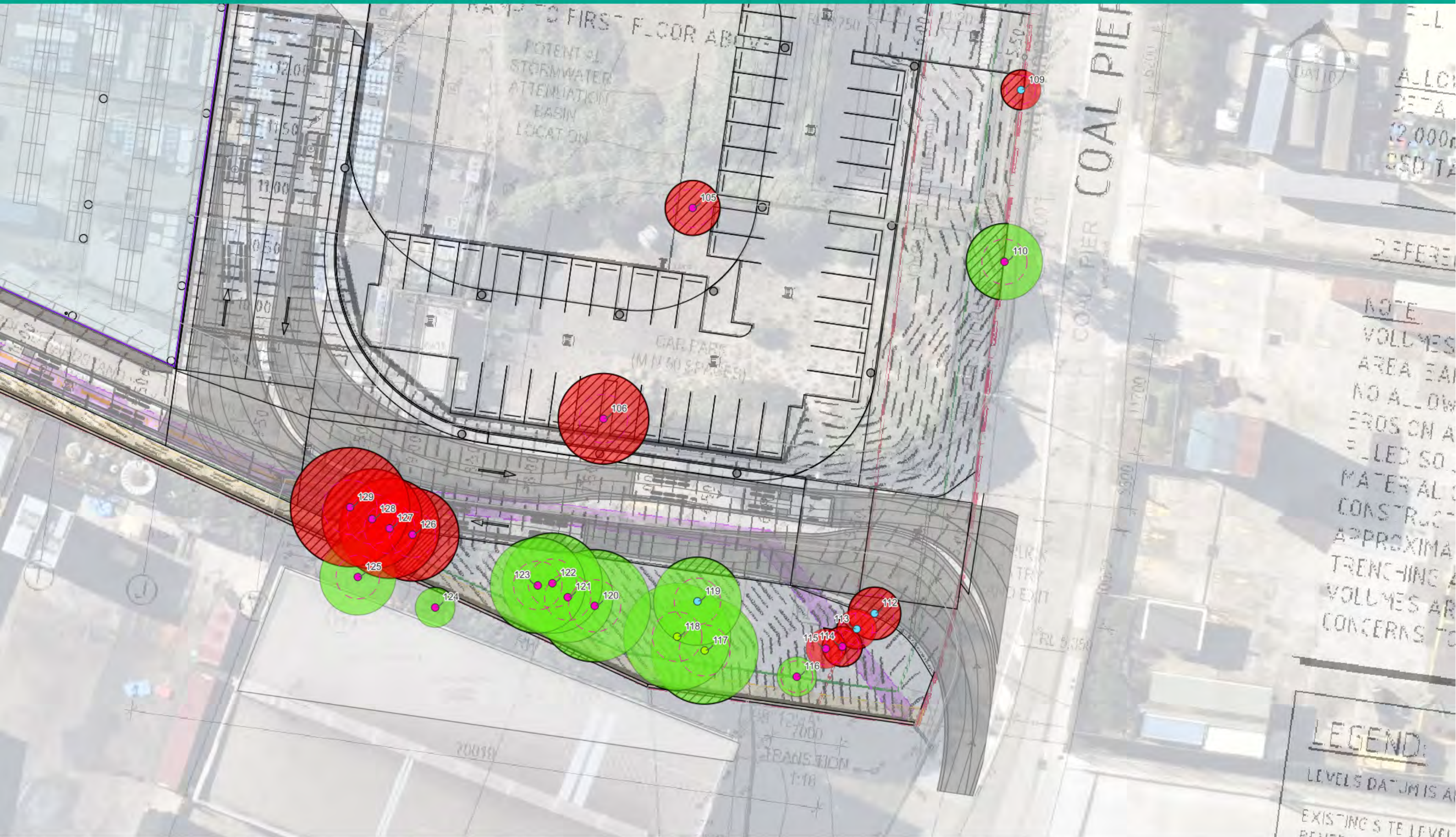
Tree Protection Zone (TPZ)
Proposed Tree Retention - x 58

Structural Root Zone (SRZ)

Tree Protection Zone (TPZ)
Proposed Tree Removal - x 105

TPZ Enchroachment Area

Site - JN1340 ESR AIA Banksmeadow



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Site - JN1340 ESR AIA Banksmeadow



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TPZ Enchroachment Area

Site - JN1340 ESR AIA Banksmeadow



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Tree Protection Zone (TPZ)
Proposed Tree Retention - x 58

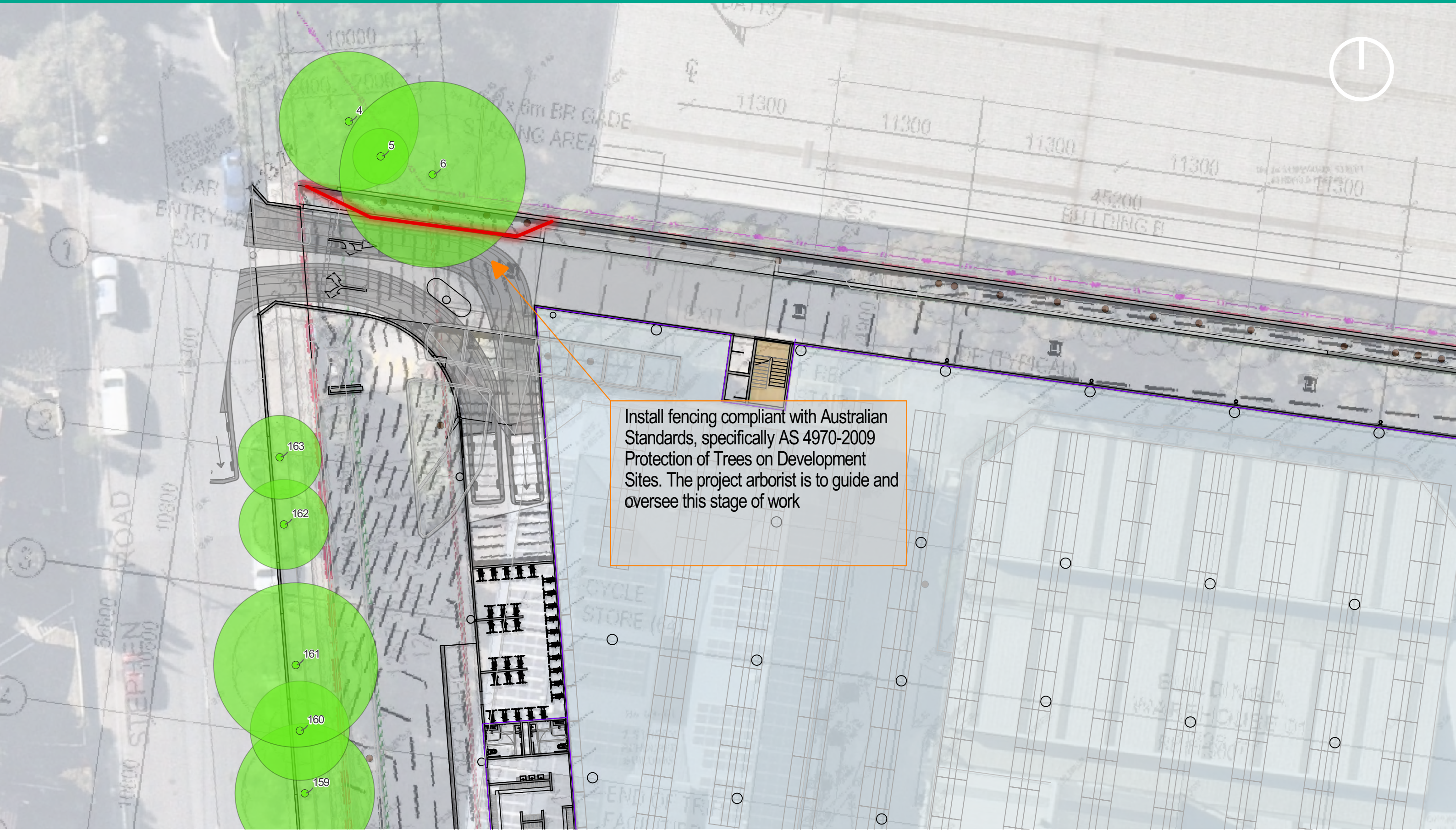
Structural Root Zone (SRZ)

Tree Protection Zone (TPZ)
Proposed Tree Removal - x 105

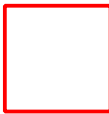
TPZ Encroachment Area

11 Tree Protection Plan

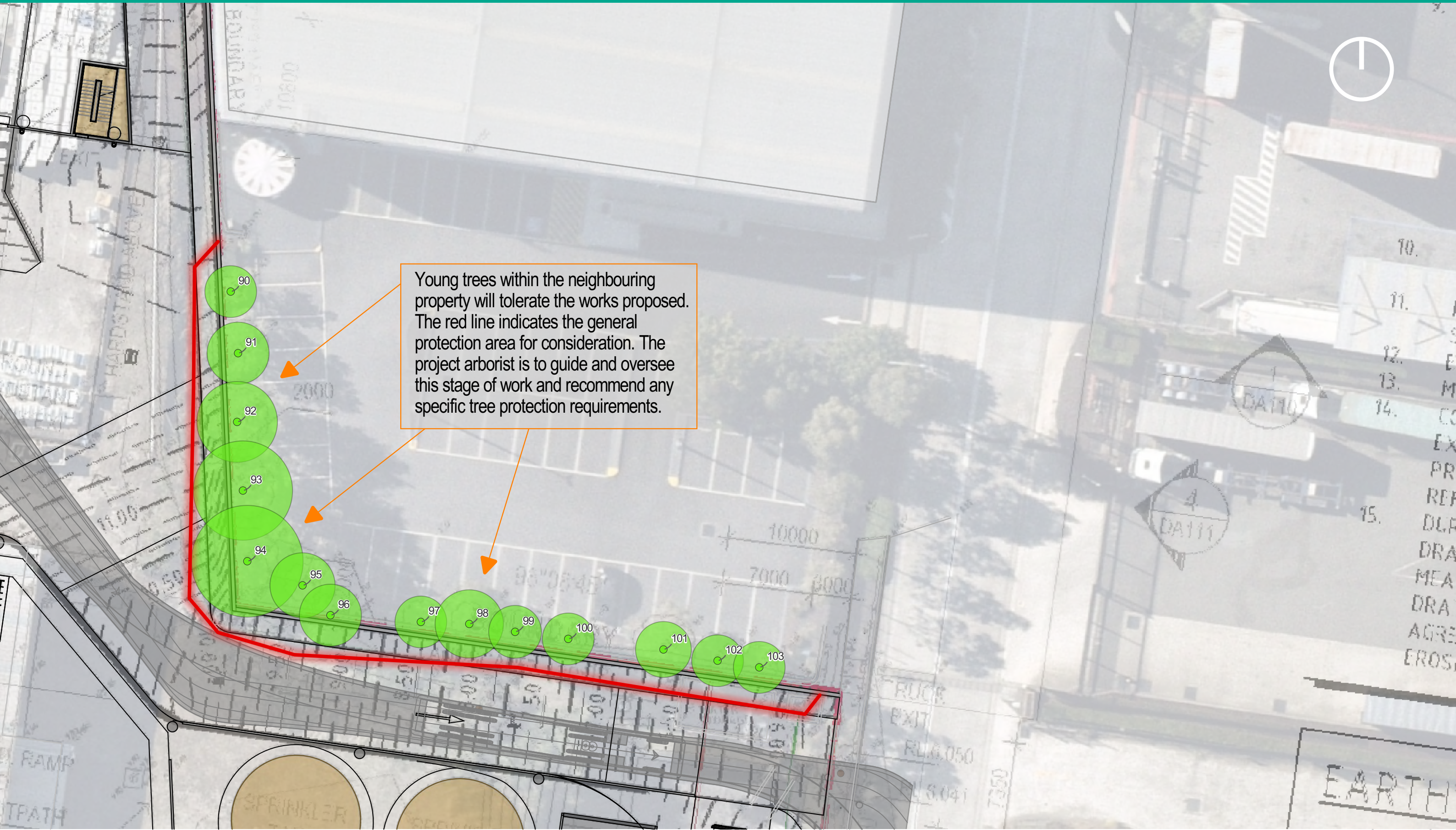
Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND

-  Tree Protection Zone (TPZ)
Proposed Tree Retention
-  The protection of trees must be guided and overseen by the assigned project arborist. All tree protection measures should comply with the relevant Australian Standards, specifically AS 4970-2009 Protection of Trees on Development Sites.

Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND

-  Tree Protection Zone (TPZ)
Proposed Tree Retention
-  The protection of trees must be guided and overseen by the assigned project arborist. All tree protection measures should comply with the relevant Australian Standards, specifically AS 4970-2009 Protection of Trees on Development Sites.

Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND



Tree Protection Zone (TPZ)
Proposed Tree Retention



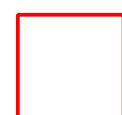
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Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND

Tree Protection Zone (TPZ)
Proposed Tree Retention

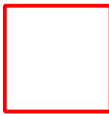


The protection of trees must be guided and overseen by the assigned project arborist. All tree protection measures should comply with the relevant Australian Standards, specifically AS 4970-2009 Protection of Trees on Development Sites.

Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND

-  Tree Protection Zone (TPZ)
Proposed Tree Retention
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Tree Protection Plan - JN1340 ESR AIA Banksmeadow



MAP LEGEND



Tree Protection Zone (TPZ)
Proposed Tree Retention



The protection of trees must be guided and overseen by the assigned project arborist. All tree protection measures should comply with the relevant Australian Standards, specifically AS 4970-2009 Protection of Trees on Development Sites.

APPENDIX 1. ASSUMPTIONS AND LIMITING CONDITIONS

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The report and any values expressed therein represent the opinion of ArborScan Pty Ltd's consultants and ArborScan Pty Ltd's fee is in no way conditional upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.

Sketches, diagrams, graphs and photographs used in the report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural drawings, reports or surveys.

Unless expressed otherwise: i) Information contained in this report covers only those items that were covered in the project brief or that were examined during the assessment and reflect the condition of those items at the time of inspection; and ii) The inspection is limited to visual examination of accessible components without dissection, excavation, further testing or probing unless otherwise stipulated.

There will be no warranty or guarantee, expressed or implied by ArborScan Pty Ltd, that failures, problems or deficiencies of the trees subject to the report (or parts thereof) may not arise at any time in the future.

All instructions (verbal or written) that define the scope of the report have been included in the report and all documents and other materials that the ArborScan Pty Ltd consultant has been instructed to consider or to take into account in preparing this report have been included or listed within the report. To the writer's knowledge all facts, matter and all assumptions upon which the report proceeds have been stated within the body of the report and all opinion contained within the report have been fully researched and referenced and any such opinion not duly researched is based upon the writer's experience and observations.

Tree risk assessment is limited in scope to the specific risk of interest and does not include any and all risks. The tree risk assessment will consider significant known and/or assigned targets and visible or detectable tree conditions, the risk assessment will represent the assessed tree and site at the time of the inspection. For the purpose of this report, the timeframe considered for likelihood of failure is 12 months. It is important to note that the timeframe should not be considered a 'guarantee period' for the risk assessment.

APPENDIX 2. DESCRIPTION OF SURVEY ASSESSMENT TERMS

The trees assessed by visual examination which form the survey reflect an impartial assessment by the assessor and is based on the assessor's arboriculture experience and on the condition of the tree on the day of its survey. The following definitions have been provided to guide a better understanding of the assessment categories included within the issued report. Depending on the report type, all categories may not be applicable.

- **Tree Number** – Number assigned to the tree, often referenced on an aerial site map, depending on the project scope, a physical tag with the trees corresponding number may also be installed.
- **Tree Location Coordinates** – Easting and northing coordinates Geocentric Datum of Australia 1994 (GDA94) will be collected for each tree surveyed and will be displayed within the reports inventory. Coordinates unless otherwise specified are +/- 4m in accuracy.
- **Tree Height & Canopy Spread** – Estimated size range in metres on its broadest axis. Where required tree height and canopy spread will be estimated to the nearest metre. Heights and spreads will only be measured where required by the scope.
- **Diameter At Breast Height (DBH)** – Estimated trunk diameter size range in 'mm' at its broadest axis at 1.4m from ground level for a single trunked tree. DBH will be accurately measured as per the Australian Standard AS 4970–2009: Protection of Trees on Development Sites when defined in the projects scope.
- **Diameter At Root Crown (DRC)** – Estimated trunk diameter size range in 'mm' at its broadest axis at immediately above the buttress. The DRC will be accurately measured as per the Australian Standard AS 4970–2009: Protection of Trees on Development Sites when defined in the projects scope.
- **Tree Species** – The accepted common name and botanical name (genus and species) will be identified and documented in the report where reproductive material and features of the tree are available to the assessor. Where species cannot be accurately identified, the assessor will identify the genus, where the genus cannot be identified, a family or general identification reference will be otherwise assigned.

Table 15. Definition – Age / Maturity Class

Term	Definition
Young	Establishing tree which has been planted or self-seeded within the last 5 years, in situ.
Juvenile	Tree aged less than 90% of its life expectancy, in situ.
Semi Mature	Tree aged less than 80% of its life expectancy, in situ.
Mature	Tree aged 20–80% of its life expectancy, in situ.
Over-mature	Tree aged greater than >80% of its life expectancy, in situ, or senescent with or without reduced vigour, and declining gradually or rapidly but irreversibly to death.

Table 16. Definition – Tree Health

Term	Definition
Excellent	Perfect specimen with excellent form and vigour, along with a well-balanced canopy. Trunk is sound and solid. No apparent pest problems. Normal to exceeding shoot length on new growth. Normal leaf size and colour. Exceptional life expectancy for the species.
Good	The tree should exhibit a full canopy of foliage. May lack natural symmetry. Good growth rate and minor deficiency in leaf development. Few pest issues or damage, and controllable if present. Normal branch and stem development with healthy growth. Typical life expectancy for the species.
Average	The tree is in reasonable condition but growing well. Canopy decline and dieback up to 25% of the canopy. Average overall symmetry. Leaf size smaller and colour somewhat chlorotic. There may be some deadwood present in the canopy. Minor decay in the trunk and major branches. Minor pathogen damage. Shoot extensions indicate some stunting and stressed growing conditions. Some signs of pest problems contributing to a lesser condition. Moderate life expectancy for the species.
Poor	Lacking a full canopy, with more than 50% decline and dieback that especially affects larger branches. Not growing to its full capacity. Stunting obvious, with little evidence of growth on smaller stems. Large amounts of deadwood may be evident throughout the canopy. Moderate decay in the trunk and major branches. Moderate pathogen damage. Leaf size and colour reveals overall stress in the plant. Insect or disease infestation may be severe. Low life expectancy for the species.
Very Poor	More than 70% of the canopy is in severe decline or dead. Canopy density is extremely low, with chlorotic and necrotic tissue dominating the canopy. Significant/Severe decay in the trunk and major branches. Significant/Severe pathogen damage. Root plate damage with a majority of roots damaged, diseased, or missing. Very low life expectancy for the species.
Dead	No live plant material observed.

Table 17. Definition – Tree Origin

Term	Definition
Exotic	A plant introduced from another country or region to a place where it was not indigenous. Such plants may become naturalised and often originate as garden escapees.
Native	A plant found to occur as an endemic or indigenous species where it is growing or a plant known to have originated as an endemic or indigenous species from a particular place, e.g. continent, country, region, mountain or island.
Endemic	A native plant usually with a restricted occurrence limited to a particular country, geographic region or area and often further confined to a specific habitat.
Invasive / Noxious weed	A plant species of any taxa declared a weed by legislation. Treatment for the control or eradication of such weeds is usually prescribed by the legislation.

Table 18. Definition – Tree Form

Term	Definition
Excellent	Ideal tree for that species, including shape and canopy symmetry, health, and density. Outstanding function on the site or location.
Good	Tree of typical canopy shape and habit with proportions representative of the taxa considering constraints such as origin, e.g. indigenous or exotic, but does not appear to have been adversely influenced in its development by environmental factors in situ such as soil water availability, prevailing wind, or cultural practices such as lopping and competition for space and light.
Average	Acceptable tree for that species. Tree shape and symmetry are adequate, with some substantial asymmetry in shape and canopy form. May have considerable concerns for its use and function on the site or location.
Poor	Poor tree for that species. Highly irregular canopy shape and undesirable form make it unattractive and dysfunctional on the site or location.
Very Poor	Disagreeable tree for that species, with highly diminished function and aesthetic appeal on the site or location.
Dead	No live plant material observed.

Table 19. Definition – Vigour

Term	Definition
Good	Accelerated growth of a tree due to incidental or deliberate artificial changes to its growing environment that are seemingly beneficial, but may result in premature aging or failure if the favourable conditions cease or promote prolonged senescence if the favourable conditions remain, e.g. water from a leaking pipe; water and nutrients from a leaking or disrupted sewer pipe; nutrients from animal waste, a tree growing next to a chicken coop, or a stock feedlot, or a regularly used stockyard; a tree subject to a stringent watering and fertilising program, or some trees may achieve an extended lifespan from continuous pollarding practices over the life of the tree.
Normal	Ability of a tree to maintain and sustain its life processes. This may be evident by the typical growth of leaves, Canopy cover and density, branches, roots and trunk and resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.
Low	Reduced ability of a tree to sustain its life processes. This may be evident by the atypical growth of leaves, reduced canopy cover and density, branches, roots, and trunk, and a deterioration of their functions with reduced resistance to predation. This is independent of the condition of a tree but may impact upon it, and especially the ability of a tree to sustain itself against predation.

Table 20. Definition – Structure

Term	Definition
Good	Root plate appears normal, with no damage. No trunk defects. Good branch habit and attachment; minor dieback with no visible structural defects. There may be some signs of previous pruning. Minimal deadwood. Codominant stem formation may be present. No fungal pathogens present.
Average	Root plate reveals previous minor damage or disturbance (Tree Protection Zone (TPZ) Encroachment <10%). Evidence of minor trunk damage or cavities where decay could colonise. Less than 25% of bark sections missing. Included stems are present with no evidence of cracks or splits. Some branch unions may exhibit minor structural faults. Branching habit and attachments indicate poor pruning or damage, which requires moderate corrections. Minimal previous branch failures have occurred. Fungal pathogens may be present. Removal of surrounding trees and or the removal or the addition of buildings or structures has occurred partly exposing the tree or its parts to increased wind loads.
Poor	Root plate disturbance and defects indicate major damage (Tree Protection Zone (TPZ) Encroachment >10%). Girdling roots around the trunk flare. Wounding evident with cavities and/or decay present. Trunk reveals more than 50% of bark section missing. Included stems are present and are considered likely to fail in 0–5 years. Branch structure has poor attachments, with several structurally important branches dead or broken. Branch unions may be poor or faulty at the point of attachment. Canopy reveals signs of damage or previous topping or lion-tailing, with major corrective action required. Fungal pathogens are present. Removal of surrounding trees and or the removal or the addition of buildings or structures has occurred fully exposing the tree or its parts to increased wind loads.
Very Poor	Failure imminent. Severe damage within the root plate and root collar exhibits major defects that could lead to tree death or failure. Partial root plate failure. A majority of the bark or trunk is affected, either decayed or missing. Branching is extremely poor or severely topped, with severe dieback in canopy. Active splits or partial failure. The tree has a very poorly structured canopy. Little or no opportunity for mitigation of any tree parts. Fungal pathogens are severely impacting tree structure. Tree is significantly exposed to increased wind loads as a result of the removal of surrounding trees and or the removal or the addition of buildings or structures.

Table 21. Definition – Estimated Useful Life Expectancy

Term	Definition
Dead	No live plant material observed
Limited Term	A period of time <5
Short Term	A period of time 5–15 years
Medium Term	A period of time 15–40 years
Long Term	A period of time greater than >40 years

APPENDIX 3. GENERAL ARBORICULTURAL TERMS

Abrasion wound—Mechanical wound causing laceration of tissue by an abrasive impact episode, e.g. grazed by a motor vehicle or the continuous action of the rubbing of crossed branches or stems where no graft has formed.

Aerial inspection—Assessment of the canopy of a tree by climbing within the canopy or by the use of an elevating work platform, often to examine a particular defect, e.g. cavity or hollow.

Arboriculture—The science and culture of the growth, planning, management, care and maintenance of trees primarily for amenity and utility purposes.

Asymmetrical—Imbalance within a canopy, where there is an uneven distribution of branches and the foliage canopy or root plate around the vertical axis of the trunk. This may be due to codominant or suppressed canopy form as a result of restrictions, e.g. buildings, or competition for space and light with other trees, or exposure to wind, or artificially caused by pruning for clearance of roads, buildings or power lines. An example of an expression of this may be, canopy asymmetrical, bias to west.

Basal flare—Swelling at the root crown is usually uniform around the base of the trunk involving tissue from the trunk and root crown. Here first-order roots may not be evident at the root crown.

Basal trunk wound—A wound on the trunk extending to the root crown where the base of the wound is open at the ground and usually truncated. Dependent upon the width of its base, such a wound may not become occluded.

Bracing—Systems of cables and ropes, traditionally using metal wires but generally replaced by polypropylene, used to support and prolong the life of trees in part or full; systems are susceptible to failure due to evident weaknesses in branch unions. Examples of such proprietary systems are Cobra and Yale nylon webbing.

Bracket fungus—The rigid sporophore of some fungus species, especially those associated with live trees or the decay of wood. Structures comprised of hyphae for the dispersal of spores, often bracket-shaped, usually protruding from the roots, trunk or branches of a host tree when the fungus matures. The fruiting body may be ephemeral or persistent and may last for only one season or persist for many years, with the fruiting body growing incrementally larger and continuing to produce new spores. Such fruiting bodies may be solitary or gregarious.

Cavity—A void often localised initiated by a wound and subsequent decay within the trunk, branches or roots, or beneath the bark, and maybe enclosed or have one or more openings.

Deadwooding—Removing of dead branches by pruning. Such pruning may assist in the prevention of the spread of decay from dieback or for reasons of safety near an identifiable target.

Dead Tree—A tree that does not contain any live tissue, i.e., green leaves or live limbs.

Decay—Process of degradation of wood by micro-organisms and fungus.

Deciduous—A woody plant, e.g. tree, shrub or vine, that sheds all of its leaves in one season and enters a dormant period, usually during winter.

Defect—In relation to tree hazards, any feature of a tree which detracts from the uniform distribution of mechanical stress, or which makes the tree mechanically unsuited to its environment.

Dieback—The death of some areas of the canopy. Symptoms are leaf drop, bare twigs, dead branches and tree death, respectively. This can be caused by root damage, root disease, bacterial or fungal canker, severe bark damage, intensive grazing by insects, abrupt changes in growth conditions, drought, water-logging or over-maturity. Dieback often implies reduced resistance, stress or decline which may be temporary. Dieback can be categorised as Low volume dieback, Medium volume dieback and High volume dieback.

Dormant Tree—Vigour presently indeterminable, assessment to take place at the time of leaf return.

Emergency removal—Tree removal as a matter of urgency due to its imminent potential to cause damage to people or property as a result of structural defects or modifications to its growing environment rendering it vulnerable to failure in full or part, e.g. a tree in adverse weather conditions suddenly developing a progressive lean and collapsing across a busy road.

End weight—Excessive formation of foliage concentrated at the distal end of a branch.

Epicormic shoots—Juvenile shoots produced at branches or trunk from epicormic strands in some Eucalypts (Burrows 2002, pp. 111–131) or sprouts produced from dormant or latent buds concealed beneath the bark in some trees. Production can be triggered by fire, pruning, wounding, or root damage but may also be as a result of stress or decline. Epicormic shoots can be categorised as low volume epicormic shoots, medium volume epicormic shoots and high volume epicormic shoots.

Epicormic stem—Branch derived from an epicormic shoot.

Flush cut—An incorrect cut that damages or removes the branch collar or branch bark ridge and, as a result, damages stem tissue.

Formative pruning—The pruning of young trees is usually to assist with the development of canopy form and shape and to develop strong structure (Australian Standard 2007, p. 7). Such pruning may reduce developmental weaknesses, e.g. crossed branches, branches with branch bark inclusions, or to remove codominant first-order branches to extend the length of a trunk or to guide the canopy form of a tree to a single first-order structural branch, or to encourage branching to make a canopy shape excurrent or deliquescent, respectively.

Habitat Features—The habitat features described in this report are parts of the environment (living or non-living) that may provide native animals with food and shelter and sites for nesting, migration and social interaction.

Included bark—1. The bark on the inner side of the branch union or is within a concave crotch that is unable to be lost from the tree and accumulates or is trapped by acutely divergent branches forming a compression fork. 2. Growth of bark at the interface of two or more branches on the inner side of a branch union or in the crotch where each branch forms a branch collar, and the collars roll past one another without forming a graft where no one collar is able to subsume the other. The risk of failure is worsened where branching is acutely divergent or acutely convergent and ascending or erect.

Lightning strike wound—A wound from a lightning strike. Such a wound may kill a tree outright or cause it to catch fire or may destroy the tree in full or part, or no injury may be evident, and a tree gradually declines through resulting stress. Bark may be exploded from the tree by pressure radiating from the core of the lightning path resulting in further compounded damage through water heating and steam explosions in the tissues and the electrical disruption of living cells.

Mixed-age population—A population of trees that contains representatives of each age class, i.e., young, mature and over-mature, so that trees in the population will not all mature or become senescent at the same time. This is usually achieved by staggering planting and/or removal of trees in a systematic manner. This also spreads the cost of planting, maintenance and removal over time.

Mulch—Any organic or inorganic material placed over the soil or growing media near cultivated plants primarily to suppress weeds, modify soil temperature and retain soil moisture levels. This artificial process generally imitates the function of leaf litter in a forest environment.

Nesting hollow—A hollow or cavity within any part of a tree utilised as habitat or shelter for any part of the life cycle of Fauna, e.g., birds, reptiles or mammals.

Non-invasive root mapping—Any root mapping process that does not disturb or displace soil or growing media to locate roots, e.g. ground-penetrating radar.

Occlusion Growth—Processes where wound wood develops to enclose the wound face by the merging of wound margins concealing the wound and restoring the growing surface of the structure with each growth increment gradually realigning fibres in the wood longitudinally along the stem to maximise uniform stress loading.

Occupancy rating—The frequency of use of a likely target and the possibility that people will be present when tree failure or collapse occurs.

Pathogen—Any organism is causing disease, e.g. fungus, bacterium, mycoplasma, virus, virioid, nematode or protozoan.

Pruning—Removal of any branch or root, dead or alive, by severance across the stem, back to the intersection of another live stem to a swollen area at the intersection called a branch collar where such a structure exists, with a final cut at the outer edge of the collar leaving no stub, or to undamaged woody tissue for roots. Also, the severing of any part of a tree so as to cause a reduction of the air space occupied by the branches and foliage in the canopy or roots in the root plate. Examples of pruning are dead wooding, crown lifting, formative pruning, reduction pruning, selective pruning, crown thinning, and remedial and restorative pruning (Australian Standards 2007, p. 6). Pruning should conform to recognised standards, e.g. Australian Standard® AS 4373 'Pruning of Amenity Trees'. The following are not recognised as pruning: lop, lopping, top, topping, top lopping.

Pruning wound—A wound created by the act of pruning.

Radial trenching—A series of excavated trenches near to the trunk, usually between first-order roots, allowing space for the introduction of improved growing media. This process is designed to stimulate new root growth through reduced compaction, improved aeration and removal of contaminated soil.

Mitigations/Recommendations/Actions—A list of arboricultural and/or plant health care works that are aimed at maintaining or improving the tree's health, structural condition or form. Actions may also directly or indirectly reduce the risk potential of the tree, such as via the removal of a particular branch or the moving of infrastructure from under its canopy.

Resistance Drilling—A self-powered drilling device that operates a thin spade drill bit at a constant forward speed to record soundness of wood by measuring resistance to drilling that is plotted on graph paper or with an electronic unit that gives clear support in taking, documenting and evaluating measurements. Examples of such proprietary devices are the IML-RESI PowerDrill® and Resistograph®.

Structural Root Zone (SRZ)—An zone which defines the structural root zone which is an area required for tree stability. The SRZ is located within the TPZ.

Tree Protection Zone (TPZ)—An exclusion area that allows for protection of canopy and roots. The radius of the TPZ is normally calculated for each tree by multiplying the DBH × 12. The minimum distance will be 2m and maximum 15m as stipulated in the Australian Standard 4970-2009: Protection of trees on development sites.

Tree significance—Includes environmental, social or historical reasons why the tree is significant to the site. The tree may also be rare under cultivation or have a rare or localised natural distribution.

Ultrasonic tomography—Electronic devices that measure the transmissibility of ultrasound waves through a given section of a tree by detecting pulses through multiple sensors placed around a stem to indicate areas with the same density. An example of such a proprietary device is the Picus® Tomograph.

Visual tree assessment (VTA)—A visual inspection of a tree from the ground-based on the principle that, when a tree exhibits apparently superfluous material in its shape, this represents repair structures to rectify defects or to reinforce weak areas in accordance with the axiom of uniform stress. Such assessments should only be undertaken by suitably competent practitioners.

Weed species—Any plant species exotic or native that is known to spread by the production of viable progeny often in large numbers, outcompeting and disrupting existing vegetation, e.g. in gardens, parks or bushland. The species concerned may be introduced from outside its area of natural distribution to an area where there are few or no natural predators, or it may have an ability to spread due to changes in land use creating a favourable habitat.

Information Source: Draper, Danny B. Dictionary for Managing Trees in Urban Environments. CSIRO PUBLISHING. Kindle Edition.

APPENDIX 4. STARS[®] TREE RETENTION VALUE MATRIX

11.1 IACA Significance of a Tree, Assessment Rating System (STARS[®]) (IACA 2010)[®]

- 11.1.1 In the development of this assessment rating system, the Institute of Australian Consulting Arboriculturists (IACA) acknowledges the contribution and original concept of the Footprint Green Tree Significance and Retention Value Matrix, developed by Footprint Green Pty Ltd in June 2001. The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is, therefore, necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process, all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.
- 11.1.2 This rating system will assist in the planning processes for proposed works, above and below ground, where trees are to be retained on or adjacent to a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

Table 22. Tree Significance - Assessment Criteria

1. High Significance in landscape	2. Medium Significance in landscape	3. Low Significance in landscape
The tree is in good condition and good vigour, The tree has a form typical for the species, The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age, The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register, The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity, The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values, The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - the tree is appropriate to the site conditions.	The tree is in fair-good condition and good or low vigour, The tree has form typical or atypical of the species, The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area, The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street, The tree provides a fair contribution to the visual character and amenity of the local area, The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.	The tree is in fair-poor condition and good or low vigour, The tree has form atypical of the species, The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings, The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area, The tree is a young specimen that may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen, The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - the tree is inappropriate to the site conditions, The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms, The tree has a wound or defect that has the potential to become structurally unsound.
		Environmental Pest / Noxious Weed Species The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties, The tree is a declared noxious weed by legislation.
		Hazardous/Irreversible Decline The tree is structurally unsound and/or unstable and is considered potentially dangerous, The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

The tree is to have a minimum of three (3) criteria in a category to be classified in that group. Note: The assessment criteria are for individual trees only; however, they can be applied to a monocultural stand in its entirety

11.2 Tree Retention Value - Priority Matrix

Table 23. Tree Retention Value - Priority Matrix STARS® (IACA 2010)

		Landscape Significance Rating				
		High	Medium	Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest / Noxious Species	Hazardous / Irreversible Decline
Estimated Life Expectancy (Years)	Long >40 Years					
	Medium 15-40 Years					
	Short <1-15 Years					
	Dead					

Table 24. Legend for Matrix Assessment STARS® (IACA 2010)

	Priority for Retention (High) – These trees are considered important for retention and should be retained and protected. Design modification or relocation of buildings should be considered to accommodate the setbacks as prescribed by the Australian Standards AS4970 <i>Protection of trees on development sites</i>. Tree sensitive construction measures must be implemented, e.g., pier and beam etc, if works are to proceed within the TPZ.
	Consider for Retention (Medium) – These trees may be retained and protected. These are considered less critical; however, their retention should remain a priority with removal considered only if adversely affecting the proposed building/works and all other alternatives have been considered and exhausted.
	Consider for Removal (Low) – These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention.
	Priority for Removal – These trees are considered hazardous or in irreversible decline or weeds and should be removed irrespective of development.

IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS®), Institute of Australian Consulting Arboriculturists, Australia, www.iaca.org.au



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