



Arboriculture Impact Assessment Report

**Site Assessment Conducted and Report Prepared by:
The Tree MD Pty. Ltd. Geoffrey Ashton AQF 5 in Arboriculture**

**Hastings Secondary College Port Macquarie Campus
Owen St Port Macquarie NSW**

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1 Summary

This report was commissioned by School Infrastructure NSW (SINSW) on behalf of the Department of Education (DOE) to prepare a Site Impact Assessment Report to assess the impacts on trees and provide adequate protection measures of trees that will be proposed for retention at the Hastings Secondary College Port Macquarie Campus.

A site assessment was conducted on Tuesday 7th April 2021. Twenty-six trees are recommended for removal as they fall within the building footprint or have major encroachments on their formulated Tree Protection Zones. The remaining trees are recommended for protection throughout the development process as per Australian Standard Protection of trees on development sites AS 4970 2009¹¹.

Pruning specifications are provided to allow for clearances from the proposed works as well as deadwood removal. Recommendations for further non-invasive investigation are required to determine the final location of services, the placement of piers and the placement of hard surfaces within formulated Tree Protection Zones. Adjustments to the plans will be required if major encroachments cannot be reduced to acceptable levels to lower potential impacts on trees that are proposed for retention within this report. If adequate adjustments of the plans cannot be met additional trees will require removal.

Trees 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 31, 32, 33, 38, 43, 52, 50 and 65 are recommended for removal in order to construct the proposed development. Trees 39, 44, 56, 57, 58 and 60 were previously removed or are part of a separate application process. Retention values were assessed for each tree to be removed, they consist of eighteen trees that were assessed as a Medium STARS© retention value trees (2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 31, 33 and 65) and eight trees that were assessed as Low STARS© retention value (1, 3, 22, 32, 38, 43, 50 and 52) as identified within the Tree Profile Table.

2 Disclosure Statement

Trees are living organisms that provide numerous benefits to the environment; Trees within an urban environment often pose some degree of risk, this risk must be weighed up against the benefits that trees provide. Often the risks associated from trees are minimal when compared to the commonly accepted risks associated with everyday living. Some examples would be commuting in a motor car, using a stairwell or crossing a road.

There is no warranty or guarantee expressed or implied that the subject trees are defect free or do not pose any risk of harm to persons or property. Visual Tree Assessment (VTA¹) as well as additional tree assessment techniques cannot identify or eliminate all tree defects and failure potential.

Woodvale Tree Services Pty Ltd and The Tree MD Pty Ltd provides professional tree management options in line with industry standards to allow customers or relative legislative bodies to make informed choices. The report findings, conclusions, specifications or recommendations are often based on information provided whether it is measurements, site plans, official reports or verbal discussions. Woodvale Tree Services Pty Ltd or The Tree MD Pty Ltd cannot guarantee the accuracy of this information provided although it may be taken in good will and utilised to make findings, conclusions, specifications or recommendations within this report.

Findings, conclusions, specifications and recommendations are given utilising the information provided or present at the time of inspection, the condition of the subject trees may change over time or in the event of adverse weather and this is where further additional assessment is recommended. Woodvale Tree Services Pty Ltd, The Tree MD Pty Ltd or anyone employed or working on behalf of either company is not to be held liable for any damage or loss due to decisions made or not made regarding findings, conclusions, specifications or recommendations provided in this report.

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3 Introduction

The Tree MD Pty. Ltd. was commissioned by Woodvale Tree Services Pty. Ltd. who has been commissioned by School Infrastructure NSW (SINSW) on behalf of the Department of Education (DOE) to prepare an Arboriculture Impact Assessment Report to accompany a State Significant Development Application (SSDA) to the NSW Department of Planning, Industry and Environment (DPIE) for proposed upgrades to Hastings Secondary College (Port Macquarie Campus), previously known as Port Macquarie High School.

Hastings Secondary College consists of two campuses, being Westport and Port Macquarie. This report has been prepared for proposed works at the Port Macquarie Campus, which consists of two properties, the main campus and the Ag Plot.

The works subject to this proposal are to be carried out on the main Port Macquarie campus, which is located at 16 Owen Street, Port Macquarie (the site). The site has a secondary street frontage to Burrawan Street and adjoins Oxley Oval along the eastern boundary.

On 23 December 2020, the Secretary of the DPIE issued Secretary's Environmental Assessment Requirements (SEARs) for SSD Application No. 11920082. This report has been prepared in accordance with the SEARs requirements.

Proposed Development

The upgrades will support high-quality educational outcomes to meet the needs of students within the local community and deliver innovative learning and teaching spaces as follows:

- Demolition works to accommodate new works;
- Upgrade to school entry;
- Construction of new two (2) storey Creative and Performing Arts (CAPA) building;
- Construction of new Police Citizens Youth Club (PCYC);
- Partial refurbishment of Building L;
- Refurbishment and alteration to Building B;
- Removal of Building S and demountable buildings;
- New lift connections, covered outdoor learning area (COLA) and covered walkways;
- Associated earthworks, landscaping, stormwater works, service upgrades; and
Tree removal/ tree safety works.

No change to current staff or student numbers is proposed.

with a requested for a Site Impact Assessment Report on trees at the Hastings Secondary College Port Campus. A section of the school was highlighted for demolition and construction. A site assessment was conducted by Geoffrey on Tuesday 7th April 2021. The assessment was on all trees that may potentially be affected by the proposed development including trees in the neighbouring properties.

The report has utilised the following relevant documents for the assessment-

FJMT Studio SSDA Architectural Drawings SSDAQ- 120010 Site Plan- Proposed Revision 5 dated 14/04/21²

JHA SSDA Report for hydraulics and Electrical Services Revision P3 dated 14/04/21³

FJMT Studio SSDA Landscape Plan Site Plan Tree Management Plan – Proposed SSDA – 800003 revision 3 14/04/21

Tree Management Plan - Tree Removal- SSDA -800002 Revision 02 14/04/21, Landscape General Arrangement Plans

Landscape Plan - Zone 1 PCYC SSDA- 810000 Revision 02 Dated 14/04/21, Landscape General Arrangement Plans

Landscape Plan - Zone 2 PCYC SSDA- 810001 Revision 04 date 14/04/21⁴

Northrop Stormwater Management Report SINNSW Hastings Secondary College- Port Macquarie Campus Revision 2 dated 14/04/21⁵

YSCO Geomatics land and engineering surveying project management survey plans Hastings Secondary College Port Macquarie Campus reference 5819/2 sheets 1-5 date 09/12/19⁶

The objective of this report is to provide guidance and recommendations that are in line with current arboriculture industry standards and practices. The author of this report has no affiliation or conflict of interest regarding this development.

4 Site

The site is located approximately 1.2km south east of the Port Macquarie town centre, with access from Oxley Highway (Gordon Street) via Owen Street to the centre, William Street via Owen Street to the north and Burrawan Street via Owen Street to the south. A maintenance access road exists to the east of the site along Burrawan Street.

The site is located at 16 Owen Street, Port Macquarie and is legally known as Lot 111 in DP 1270315. The Port Macquarie Campus site is located within a coastal setting (east), with residential (single two storey and residential flat buildings) located to the west and south and Port Macquarie Bowling Club to the north. The surrounding street network provides on-street parking. Maintenance vehicular access is located off Burrawan Street.

No Natural watercourses are mapped as traversing the site. Scattered vegetation is located throughout the site, with a small area of vegetation concentrated towards the pedestrian access area.

The Port Macquarie Campus site is gently sloping downwards in three general 'platforms' towards the north, with distinct views out towards the ocean and the Hastings River. It also has a distinct view line to the row of Norfolk pine trees along the

coastline. The siting of the campus provides many opportunities for ongoing cultural connection to Country. Current built form has an established language of two (2) story, face brick, low pitched metal roof buildings.

The site is zoned Medium Density Residential (R3)⁷, and is located within the Port Macquarie Council precinct and controlled by the Port Macquarie Council's Local Environment Plan (LEP⁸) and the Port Macquarie Council's Development Control Plan (DCP)⁹. Through investigation of the online zoning and heritage maps there was no heritage listing or conservation area identified for this address¹⁰.

5 Methodology

The site inspection consisted of a Visual Tree Assessment (VTA¹). This technique assesses trees from ground level identifying features, symptoms and signs. VTA¹ is a useful tool but can be limiting as it does not inspect below ground or within the internal structure of a tree, it is also limited in the upper canopy where it may not identify concerns that may be seen from an aerial inspection.

Despite its limitations, VTA¹ is an industry recognised and accepted approach. Any further diagnostic or assessment methodology would only be incorporated where requested; further information has been obtained warranting the need for further investigation or a VTA¹ has identified the need for further investigation.

Additional methodology utilised within this report is to assess the site and implement practices that will establish a compliance with Australian Standard Protection of trees on development sites AS 4970 2009. An overlay of the trees and their numbers onto the existing survey plan is provided within the Tree Protection Plan Site Diagram. This plan in conjunction with the measurements supplied within the Tree Profile Table will allow for an accurate analysis of the trees canopy and rootsystems as well as the associated impacts.

Trees that were in close proximity were grouped together and the larger trees measurements utilised for the purpose of this report. Trees in adjacent properties were provided estimated measurements to allow for adequate protection from access or storage throughout the surrounding area.

6 Observations

The site has varying degrees of hard surfaces consisting of footpaths, open area and buildings. The limited resources have resulted in a decline and reduced vitality in many specimens.

Norfolk Island Pine trees along the council verge and trees located along the sides of the oval were assessed to be unaffected by the proposed works. Many trees were assessed to have major encroachments from either hard surfaces or proposed services however with improvised design and AQF 5 level arborist non-invasive exploratory assessment additional trees may be retained and protected throughout the development process. Trees 39, 44, 56, 57, 58 and 60 were previously removed or are part of a separate application process.

Proposed hard surfaces and services within the Tree Protection Zone of Tree 4 are a major encroachment and will require preliminary non-invasive root mapping assessment. An alternative porous paving design can be constructed above grade or where it can be determined there is no significant root system observed. The construction should be porous paving to allow for soil moisture levels to be maintained.

Trees 40 and 42 require Crown lifting (AS 4373 2007 Section 7.3.3) to allow for the proposed shelter which was redesigned to reduce the extent of pruning required on Tree 40. The final pier location for the shelter will need to be flexible to avoid significant root systems as well as the cutting for the ramp and services will require AQF level 5 arborist supervision and be subject to the findings from the preliminary non-invasive root mapping assessment. The preparation of the area will need to not compact or significantly impact on vital root systems throughout the area.

The proposed entry area from Owen street that is between Tree 30 and Tree 34 will require adjustment to minimise impacts on the subject trees. There is a 200mm to 400mm elevation of the garden bed from footpath levels and the proposed path location is a major encroachment on the Tree Protection Zone and within the Structural Root Zone of the subject trees. The Stormwater Plan has proposed excavation that is likely to require adjustments if not will require preliminary non-invasive assessment within this area.

The routing of services from Owen St within the school ground primarily needs to pass through formulated Tree Protection Zones and potentially Structural Root Zones of Trees 35, 37 and 63. There is potential to route the services through areas that are hard surfaced with less root development or in a non-invasive manner that does not sever significant root systems.

An adjustment to the corner near Tree 59 where a driveway and retaining wall is located is approximately 800mm encroachment and assessed as a tolerable encroachment on the subject tree however the work will require AQF level 5 arborist non-invasive exploratory assessment and Pruning Procedures (AS 4373 2007 Section 5) to reduce associated impacts.

Tree protection fencing at the formulated tree Protection Zones should suffice however trunk and branch protection with weight displacement boarding could be implemented by the Site Arborist if required.

Trees 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 31, 32, 33, 38, 43, 52, 50 and 65 are recommended for removal in order to construct the proposed development. Retention values were assessed for each tree to be removed, they consist of eighteen trees that were assessed as a Medium STARS© retention value trees (2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 31, 33 and 65) and eight trees that were assessed as Low STARS© retention value (1, 3, 22, 32, 38, 43, 50 and 52) as identified within the Tree Profile Table.

7 Discussion

Potential impacts on the trees are assessed and determined by the encroachment of the proposed development. Trees that pose major encroachments are recommended for removal however a governing body may request that a retention option be placed on certain trees, this would require alterations to the proposed plan and that additional tree protection measures and possible further investigation may be implemented. Throughout discussions with design management, it was determined although there are significant encroachments on trees proposed for retention, there can be design adjustments made at a later date once an AQF level 5 arborist can provide further evidence from non-invasive excavation (root mapping).

Preliminary non-invasive excavation (root mapping) by an AQF level 5 arborist will provide additional information to determine acceptable elevations and the potential size of the path between Trees 30 and 34 the signage is a potential encroachment on the subject trees as well as the hard surface within Tree 4's Tree Protection Zone. The use of porous pavement above the existing root systems allows for water and gaseous exchange and a viable retention option for the subject trees. The stormwater trench between Trees 30 and 34 will also require adjustment to minimise impacts. It is noted this would need to be installed in a tree sensitive manner without compaction root systems. The root mapping can also determine potential impacts or allow for a non-destructive installation of services within any formulated Tree Protection Zones. The below grade cut along of the access ramp under Tree 42 will need preliminary investigation to provide evidence this is achievable without adverse impacts on the tree.

It is understood that the impacts from a development can reduce the long-term viability of a tree; it is further noted that trees can impact upon structures and it is common to see development that is not designed to withstand the forces exerted by tree roots. The development is to be constructed in a manner that limits the impacts on all trees for retention. It is additionally recommended the designed should be constructed to withstand the forces exerted by roots or be adjustable and managed in a manner that is not detrimental to the trees for retention.

Ongoing management of the trees will be required throughout the development process. Monitoring tree health, potential pest activity and maintaining soil moisture levels can ensure the tree resilience into the future. The pruning recommended within this report will allow for sufficient clearances and will not have any long-term impacts on each of the subject tree's health. The implementation of a Site Arborist overseeing the Tree Protection Plan will allow for the management of the trees throughout the development process. Any access that requires additional encroachments on the Tree Protection Zones should be subject to approval or decline by the Site Arborist.

8 Recommendations

To allow for the proposed development to proceed the governing body should consider the retention and protection of trees 4, 5, 6, 7, 23, 24, 25, 26, 27, 28, 29, 30, 34, 35, 36, 37, 40, 41, 42, 45, 46, 47, 48, 49, 53, 54, 55, 59, 61, 62, 63, 64, 66, 67, 68, 69, 70 and 71 as per Australian Standard Protection of trees on development sites AS 4970 2009¹¹. Due to significant encroachment or poor retention value the removal of 18 trees (2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 31, 33 and 65) that were assessed as Medium STARS© retention value trees and the removal of 8 trees (1, 3, 22, 32, 38, 43, 50, 52) that were assessed as Low STARS© retention value trees as identified within the Tree Profile Table.

Pruning specifications to allow for clearances, -

- Tree 40 western side on the western ascending leader lower 1st order branch Crown lifting (AS 4373 2007 Section 7.3.3) 300mmØ final cut (AS 4373 2007 Section 5.4).
- Tree 42 eastern and northern side Crown lifting (AS 4373 2007 Section 7.3.3) of two branches up to 400mmØ final cut (AS 4373 2007 Section 5.4).
- Dead wooding (AS 4373 2007 Section 7.2.2) of branches greater than 40mmØ final cut (AS 4373 2007 Section 5.4) of all trees to be retained and the Selective pruning (AS 4373 2007 Section 7.2.4) up to 60mmØ final cut (AS 4373 2007 Section 5.4) of any branches that maybe in close proximity to the proposed structures.

An AQF level 5 arborist is to carry out preliminary non-invasive excavation and assessment to gain additional information (Root Mapping) to assist with adjustments to design plans which are major encroachments and require alterations to minimise impacts on trees proposed for retention. An addendum should suffice to allow for the alternative design. The root mapping assessment is to determine-

- Final pier location of the shelter, the below grade encroachment of the ramp as well as final location of services to avoid significant root systems around Tree 42.
- The routing of services from Owen St in and around Trees 35, 37 and 63.
- Proposed hard surfaces and the joining of services within the Tree Protection Zone of Tree 4, if elevations are above grade and services are joined outside the TPZ this may be null and void.
- The proposed entry area from Owen street that is between Tree 30 and Tree 34 to determine elevations required to maintain root systems with a porous pavement alternative design that is not as wide. The proposed signage will also require assessment and be modified around significant root systems as well as the proposed stormwater within this area.

Additional non-invasive excavation is to be carried out by an AQF Level 5 Arborist where below grade encroachments are within the formulated Tree protection Zones of any trees that are proposed for retention. Root protection during works (AS 4373 2007 Section 4.5.4) can be carried out to reduce associated impacts. The encroachments for the top side of the ramp within the TPZ of Tree 42 or the excavation of the driveway and retaining wall under Tree 59 are identifiable areas where these excavation and protection measures will be required.

Tree Protection fencing is to be established to reduce the potential impacts on trees to be retained, trunk protection and Modified Tree Protection Zones that use weight displacement boarding can be utilised if additional access closer to the trees is required and a hard surface is not in place.

The Tree Protection Plan and Tree Protection Plan Site Diagram is to be utilised by an AQF 5 level arborist (Site Arborist) to establish and oversee all works in the Tree Protection Zones as well as assess tree health and record compliance/non-compliance at each stage of development as per Australian Standard Protection of trees on development sites AS 4970 2009¹².

All Work Methodology Statements are to be assessed by the Site Arborist and are subject to approval or decline by the Site Arborist and or, governing or certifying body. If the governing body permits the arborist pruning or removing the trees is to have a minimum certificate 3 in arboriculture, the work is to take no more than 10% total foliage and not significantly alter the trees natural foliage distribution (AS 4373 2007 Section 6). All pruning work in accordance with Australian Standard Pruning of Amenity Trees AS 4373 2007¹³; the arborist must have Workers Compensation insurance and Liability insurance with all work complying with the Amenity Tree Industry Code of Practice and the NSW Work Health and Safety Act 2011.¹⁴

9 Appendix A Tree Profile Table

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
1	Brush Box <i>Lephostemon confertus</i>	Low The tree is in fair condition and poor vigour, The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area.	3 short <1-15 Years	Average	Poor	S	5 to 10	4	1	3	5	2.67	6.00	0.60	0.37	0.33	0.00	0.00	Significant decline within footprint	Remove and Replace
2	Tuckeroo <i>Cupaniopsis anacardioides</i>	Medium The tree is in good condition and good vigour, the tree is locally indigenous, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	I	0 to 5	2	2	2	2	1.68	2.00	0.20	0.08	0.07	0.07	0.03	within footprint	Remove and Replace
3	Blueberry Ash <i>Elaeocarpus reticulatus</i>	Low The tree is in poor condition and poor vigour, The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area.	3 short <1-15 Years	Average	Poor	S	0 to 5	2	0	1	4	1.85	2.64	0.25	0.22	0.00	0.00	0.00	Significant decline within footprint	Remove and Replace

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
4	Southern Bangalay <i>Eucalyptus botryoides</i>	Medium The tree is in fair condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Average	Average	M	5 to 10	10	5	6	10	3.25	10.08	0.96	0.84	0.00	0.00	0.00	Epicormic growth rubbing branches significant building clearance	Retain Ongoing Management Protect
5	Norfolk Pine <i>Araucaria heterophylla</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	20 to 25	5	5	5	5	3.11	9.12	0.86	0.76	0.00	0.00	0.00	Services rerouted away from tree	Retain Ongoing Management Protect
6	Canary Island Date Palm <i>Phoenix canariensis</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	5 to 10	3	3	3	3	3.31	7.80	1.00	0.65	0.00	0.00	0.00	Services rerouted away from tree	Retain Ongoing Management Protect
7	Water Gum <i>Tristanopsis laurina</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	5 to 10	1	2	2	2	1.68	1.68	0.20	0.14	0.00	0.00	0.00	Previous pruned epicormic growth at base Services rerouted away from tree	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
8	Norfolk Pine <i>Araucaria heterophylla</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	20 to 25	5	2	5	5	2.85	7.20	0.70	0.60	0.00	0.00	0.00	Subdominant leans towards road within footprint	Remove and Replace
9	Spotted Gum <i>Corymbia maculata</i>	Medium The tree is in fair condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Average	M	20 to 25	6	2	8	8	3.31	10.80	1.00	0.90	0.00	0.00	0.00	Significant die back within footprint	Remove and Replace
10	<i>Euc spp.</i>	Medium The tree is in fair poor with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Average	Poor	S	20 to 25	6	4	8	6	2.76	6.36	0.65	0.53	0.00	0.00	0.00	Significant die back within footprint	Remove and Replace
11	Spotted Gum <i>Corymbia maculata</i>	Medium The tree is in fair condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Poor	M	15 to 20	6	7	6	4	2.83	6.96	0.69	0.58	0.00	0.00	0.00	Significant die back within footprint	Remove and Replace

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
12	Paper Bark <i>Melaleuca quinquenervia</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Average	M	15 to 20	5	5	5	5	2.67	5.76	0.60	0.48	0.00	0.00	0.00	within footprint	Remove and Replace
13	Blue quandong <i>Elaeocarpus angustifolius</i>	Medium The tree is in fair condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Average	Average	M	5 to 10	5	6	8	8	2.47	4.80	0.50	0.40	0.00	0.00	0.00	Elongated branches suppressed canopy, within footprint	Remove and Replace
14	<i>Callistemon salignus</i> x2	Low The tree is in average condition and average health, The tree provides a minor contribution to the local area. The trees growth is severely restricted.	3 short <1-15 Years	Average	Average	M	5 to 10	5	5	5	5	2.13	3.60	0.35	0.30	0.00	0.00	0.00	Suppressed growth rubbing branches within footprint	Remove and Replace
15	Blue Gum <i>Eucalyptus saligna</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Good	Poor	M	20 to 25	7	7	7	7	2.67	5.04	0.60	0.42	0.00	0.00	0.00	within footprint	Remove and Replace

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
16	Norfolk Pine <i>Araucaria heterophylla</i>	Medium The tree is in good condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Average	M	20 to 25	5	1	5	5	2.88	7.56	0.72	0.63	0.00	0.00	0.00	within footprint	Remove and Replace
17	Black Butt <i>Eucalyptus pilularis</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Poor	M	20 to 25	8	6	6	6	3.69	12.00	1.30	1.00	0.00	0.00	0.00	within footprint	Remove and Replace
18	Spotted Gum <i>Corymbia maculata</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Good	Poor	M	10 to 15	1	5	3	4	2.00	3.00	0.30	0.00	0.25	0.00	0.00	within footprint	Remove and Replace
19	She Oak <i>Allocasuarina spp.</i>	Medium The tree is in average condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Average	Average	M	5 to 10	3	6	3	0	2.47	4.32	0.50	0.19	0.30	0.00	0.00	within footprint	Remove and Replace

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
20	Spotted Gum <i>Corymbia maculata</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Good	Poor	M	20 to 25	6	8	8	6	3.01	7.20	0.80	0.60	0.00	0.00	0.00	within footprint	Remove and Replace
21	<i>Callistemon salignus</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Good	M	5 to 10	1	1	3	4	2.05	3.24	0.32	0.19	0.19	0.00	0.00	within footprint	Remove and Replace
22	Syzygium species	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Good	Average	I	0 to 5	1	1	1	1	1.40	2.00	0.13	0.07	0.00	0.00	0.00	Damaged branches within footprint	Remove and Replace
23	Tallowwood <i>Eucalyptus microcorys</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Poor	M	10 to 15	5	0	5	5	2.23	3.84	0.39	0.32	0.00	0.00	0.00	Minor to no encroachment from services	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
24	<i>Callistemon salignus</i>	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	5 to 10	5	1	1	5	2.43	3.60	0.48	0.17	0.10	0.20	0.10	Minor to no encroachment from services	Retain Ongoing Management Protect
25	Brush Box <i>Lephostemon confertus</i>	Medium The tree is in good condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Average	M	5 to 10	4	4	4	4	2.05	3.24	0.32	0.27	0.00	0.00	0.00	Minor to no encroachment from services	Retain Ongoing Management Protect
26	Paper Bark <i>Melaleuca quinquenervia</i>	Medium The tree is in average condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Poor	M	10 to 15	2	2	2	2	1.82	2.28	0.24	0.19	0.00	0.00	0.00	Poor TR ratio due to suppression by other trees	Retain Ongoing Management Protect
27	Tallowwood <i>Eucalyptus microcorys</i>	Medium The tree is in fair condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Average	M	10 to 15	6	6	6	6	2.55	5.04	0.54	0.42	0.00	0.00	0.00	Minor to no encroachment from services	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
28	Blue Gum <i>Eucalyptus saligna</i>	Medium The tree is in fair condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Average	M	20 to 25	6	6	6	6	2.25	4.20	0.40	0.30	0.17	0.00	0.00	Minor to no encroachment from services	Retain Ongoing Management Protect
29	Bloodwood <i>Corymbia gummifera</i>	Medium The tree is in fair condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Poor	M	20 to 25	5	4	5	5	2.43	5.40	0.48	0.37	0.25	0.00	0.00	Borer activity in main stem Pathway major encroachment on TPZ and SRZ	Retain Ongoing Management Protect
30	Spotted Gum <i>Corymbia maculata</i>	Medium The tree is in good condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Average	M	20 to 25	7	7	7	8	2.73	5.88	0.63	0.49	0.00	0.00	0.00	Pathway major encroachment on TPZ and SRZ	Retain Ongoing Management Protect Non Invasive exploratory excavation to determine alternative path design. Porous pavement
31	Paper Bark <i>Melaleuca quinquenervia</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Good	M	10 to 15	4	4	6	4	2.20	4.08	0.38	0.34	0.00	0.00	0.00	Within footprint	Remove

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
32	Tuckeroo <i>Cupaniopsis anacardioides</i> x2	Low The trees are young specimens that are easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	2 Medium 15-40 years	Good	Good	I	0 to 5	2	2	2	2	1.53	1.80	0.16	0.05	0.10	0.08	0.06	Within Footprint	Remove
33	Paper Bark <i>Melaleuca quinquenervia</i> x2	Medium The tree is in fair condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Good	M	5 to 10	5	5	2	2	2.59	6.48	0.56	0.54	0.00	0.00	0.00	Within Footprint	Remove
34	Brush Box <i>Lephostemon confertus</i>	High The tree is appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Good	M	10 to 15	7	7	7	7	3.44	10.80	1.10	0.90	0.00	0.00	0.00	Pathway major encroachment on TPZ and SRZ	Retain Ongoing Management Protect Non Invasive exploratory excavation to determine alternative path design. Porous pavement
35	Calistemon viminalis ivory curl tree + unidentifiable	Medium The trees are in good condition with average vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Average	M	5 to 10	4	4	4	4	1.94	3.24	0.28	0.18	0.19	0.00	0.00	Potential major encroachment from services	Retain Ongoing Management Protect route services away from SRZ within concrete area

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
36	Tuckeroo <i>Cupaniopsis anacardioides</i> x5	Medium The trees are in average condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	1 Long >40years	Average	Good	M	5 to 10	4	4	4	4	2.10	3.60	0.34	0.28	0.08	0.00	0.00	Potential major encroachment from services	Retain Ongoing Management Protect route services away from SRZ within concrete area
37	Banksia integrifolia	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Good	M	5 to 10	3	5	6	6	2.25	5.76	0.40	0.48	0.00	0.00	0.00	Potential major encroachment from services on TPZ and SRZ	Retain Ongoing Management Protect route services away from SRZ within concrete area
38	<i>Cupressus spp.</i>	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Poor	Average	I	5 to 10	2	2	2	2	1.82	2.40	0.24	0.20	0.00	0.00	0.00	Heavily crown lifted	Remove

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
39	Blueberry Ash <i>Elaeocarpus reticulatus</i>	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area. The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Poor	M	5 to 10	4	4	3	3	2.15	3.00	0.36	0.25	0.00	0.00	0.00	Already removed	-
40	Brush Box <i>Lephostemon confertus</i>	High The tree is appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Average	M	15 to 20	8	8	8	8	3.56	9.84	1.19	0.50	0.40	0.40	0.30	Stand-alone tree in garden bed western side on the western ascending leader lower 1 st order branch Crown lifting (AS 4373 2007 Section 7.3.3)300mmØ final cut (AS 4373 2007 Section 5.4).	Retain Ongoing Management Protect
41	Spotted Gum <i>Corymbia maculata</i>	High The tree is appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Average	M	25 to 30	8	5	8	8	2.87	7.32	0.71	0.61	0.00	0.00	0.00	Minor die back and regrowth	Retain Ongoing Management Protect
42	Spotted Gum <i>Corymbia maculata</i>	High The tree is appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Average	M	20 to 25	9	9	9	9	3.17	14.40	0.90	1.20	0.00	0.00	0.00	eastern and northern side Crown lifting (AS 4373 2007 Section 7.3.3) of two branches up to 400mmØ final cut (AS 4373 2007 Section 5.4).	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
43	spp.,unidentifiable x2	Low The trees are young specimen that are easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	5 to 10	4	4	4	4	2.23	3.24	0.39	0.21	0.10	0.09	0.08	Small garden bed limited resources for long term est.	Remove and Replace
44	Acacia spp.	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Poor	Average	M	5 to 10	6	6	6	6	2.47	6.12	0.50	0.20	0.30	0.30	0.20	Removed since first inspection	-
45	Paper Bark <i>Melaleuca quinquenervia</i> x2	Medium The trees are in average condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Good	M	5 to 10	4	4	8	5	2.67	7.32	0.60	0.45	0.40	0.00	0.00		Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
46	Grevillea moonlight <i>Grevillea whiteana</i> x5	Low The trees are a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	5 to 10	3	3	3	3	2.00	2.40	0.30	0.20	0.00	0.00	0.00	Readily replaceable	Retain Ongoing Management Protect
47	Tuckeroo <i>Cupaniopsis anacardioides</i> x4	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	2 Medium 15-40 years	Average	Average	M	5 to 10	2	2	2	2	1.49	2.00	0.15	0.11	0.00	0.00	0.00	Readily replaceable	Retain Ongoing Management Protect
48	Tuckeroo, blending heart, grevillea x4	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	5 to 10	3	3	3	3	2.00	2.64	0.30	0.15	0.15	0.00	0.00	Readily replaceable	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
49	<i>Callistemon viminalis</i> , tibouchina x9	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	2 Medium 15-40 years	Average	Average		0 to 5	2	2	2	2	0.00	2.00	0.00	0.00	0.00	0.00	0.00	Readily replaceable	Retain Ongoing Management Protect
50	Nz Christmas bush, umbrella tree, Fried Egg Plant	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	0 to 5	2	2	2	2	2.00	2.40	0.30	0.20	0.00	0.00	0.00	Overplanted	Remove
51	Norfolk Pine x2 <i>Araucaria heterophylla</i>	High The tree is appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Good	M	35 +	7	7	7	7	4.43	19.20	2.00	1.60	0.00	0.00	0.00	Hanging dead branch	Dead wooding (AS 4373 2007 Section 7.2.2)

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
52	Casuarina spp.	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.										2.13	3.60	0.35	0.30	0.00	0.00	0.00	.4 from basketball court	Remove
53	Cheese Tree <i>Glochidion ferdinandi</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Good	M	5 to 10	5	5	5	5	2.65	4.68	0.59	0.20	0.20	0.21	0.15	Lopped since first inspection manage regrowth	Retain Ongoing Management Protect
54	Viburnum spp.	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	0 to 5	3	3	3	3	2.13	2.00	0.35	0.08	0.08	0.08	0.07	Lopped since first inspection manage regrowth	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
55	Bottle Brush <i>Callistemon viminalis</i> x 3	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	3 short <1-15 Years	Average	Average	M	5 to 10	1	1	4	4	2.25	3.00	0.40	0.20	0.15	0.00	0.00		Retain Ongoing Management Protect
56	Brush Box <i>Lephostemon confertus</i>	Medium The tree is in good condition with poor vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Poor	M	5 to 10	6	4	6	6	3.17	8.40	0.90	0.54	0.43	0.00	0.00	Alternative application process	-
57	Calistemon viminalis ivory curl tree + unidentifiable	Low The tree is a young specimen that is easily replaceable. The tree provides a minor contribution to the local area The tree is only partly visible from surrounding properties.	Dead	Average	Good	M	0 to 5	2	2	2	2	1.49	2.04	0.15	0.10	0.06	0.06	0.10	Alternative application process	-

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
58	Bangalo Palm <i>Archontophoenix spp. X5</i>	Medium The trees are in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Good	Good	M	5 to 10	2	2	2	2	2.25	2.40	0.40	0.20	0.00	0.00	0.00	Alternative application process	-
59	London Plane <i>Platanus × acerifolia</i>	Medium The tree is in good condition with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	10 to 15	6	6	6	6	2.67	6.60	0.60	0.37	0.40	0.00	0.00	The removal of the retaining wall to the north and the rounding of the corner will cut in on the TPZ however with AQF level 5 arborist supervision impacts on the tree can be minimal minor encroachment no digging in SRZ	Retain Ongoing Management Protect
60	Coastal Banksia <i>Banksia integrifolia</i>	Medium The tree is in good average with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	3 short <1-15 Years	Average	Good	M	5 to 10	4	4	5	5	3.01	6.00	0.80	0.40	0.30	0.00	0.00		-

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
61	London Plane <i>Platanus × acerifolia</i>	Medium The tree is in good condition with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	5 to 10	3	3	3	3	1.82	2.16	0.24	0.18	0.00	0.00	0.00		Retain Ongoing Management Protect
62	London Plane <i>Platanus × acerifolia</i>	Medium The tree is in good condition with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Good	M	10 to 15	5	5	5	5	2.67	6.60	0.60	0.45	0.30	0.00	0.00		Retain Ongoing Management Protect
63	Bottle Tree <i>Brachychiton rupestris</i>	Medium The tree is in average condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Good		5 to 10	5	3	2	5	3.17	8.76	0.90	0.44	0.58	0.00	0.00	Services need to run past tree. Electrical connection substation adjacent to tree. Non-invasive exploratory excavation. Tree sensitive installation. This species is tolerant of encroachment	Retain Ongoing Management Protect

Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
64	Bottle Tree <i>Brachychiton rupestris</i>	Medium The tree is in average condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Average	Good		5 to 10	2	2	2	2	2.00	3.00	0.30	0.25	0.00	0.00	0.00	Services just outside TPZ	Retain Ongoing Management Protect
65	Chinese pistache <i>Pistacia chinensis</i>	Medium The tree is in good condition with good vigour, the trees growth is moderately restricted, and the tree provides a fair contribution to the visual character of the local area.	2 Medium 15-40 years	Good	Good		5 to 10	4	5	5	5	2.37	4.32	0.45	0.36	0.00	0.00	0.00	Major encroachment from services	Remove and Replace
66	Paper Bark <i>Melaleuca quinquenervia</i> x4	Medium The trees are in average condition with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	1 Long >40years	Average	Good	M	5 to 10	5	5	5	5	2.67	6.00	0.60	0.50	0.00	0.00	0.00		Retain Ongoing Management Protect






Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
67	London Plane <i>Platanus × acerifolia</i> x2	Medium The trees are in average condition with good vigour, the tree has a form typical of its species, and the trees provides a fair contribution to the visual character of the local area.	1 Long >40years	Good	Poor	M	5 to 10	4	4	4	4	2.00	3.00	0.00	0.00	0.00	0.00	0.00		Retain Ongoing Management Protect
68	Norfolk Pine x14 <i>Araucaria heterophylla</i>	High The trees are appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Good	M	35 +	8	8	8	8	3.31	12.96	1.00	0.90	0.58	0.00	0.00		Retain Ongoing Management Protect
69	Norfolk Pine x11 <i>Araucaria heterophylla</i>	High The trees are appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Average	Good	M	20 to 25	6	6	6	6	3.17	8.40	0.90	0.70	0.00	0.00	0.00		Retain Ongoing Management Protect
70	Norfolk Pine x3 <i>Araucaria heterophylla</i>	High The trees are appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Good	M	10 to 15	3	3	3	3	2.13	4.80	0.35	0.40	0.00	0.00	0.00		Retain Ongoing Management Protect




Tree no.	Genus Species	STARS® RATING	STARS® Life Exp.	Structure	Health	Age Class	Height(M)	Canopy N (M)	Canopy E (M)	Canopy S (M)	Canopy W (M)	SRZ (M)	TPZ (M)	DAB (M)	DBH Stem1	DBH Stem2	DBH Stem3	DBH Stem4	Notes/Comments	Recommendations
71	Norfolk Pine x8 <i>Araucaria heterophylla</i>	High The trees are appropriate to site conditions, it has a form typical of its species, the tree is visually prominent and visible for a considerable distance.	1 Long >40years	Good	Good	M	35 +	6	6	6	6	3.01	8.40	0.80	0.70	0.00	0.00	0.00		Retain Ongoing Management Protect

Age Class	I = Immature M = Mature O = Over mature or senescence	Recommendations	Remove
Health	G = Good A= Average P= Poor	*All measurements in metres (M)	Prune
Structural Form	G = Good A= Average P= Poor		Protect

10 Appendix B Site Photos

1			
2			
3			

<p>4</p>  <p>Hard surfaces will need to be above great to avoid damage to read systems</p>		
<p>5</p> 		
<p>6</p> 		

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Entrance and signage in close proximity to



tree further investigation above grade
construction redesign with porous pavement

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Proposed entrance is within 1 m of tree
redesign about grade for the non-invasive
investigation required

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36



37

Previous branch failure to the south services will need to be located to the south within the existing hard surface



38



39



40

Crown lifting of western first order branch
300mm final cut



41



42

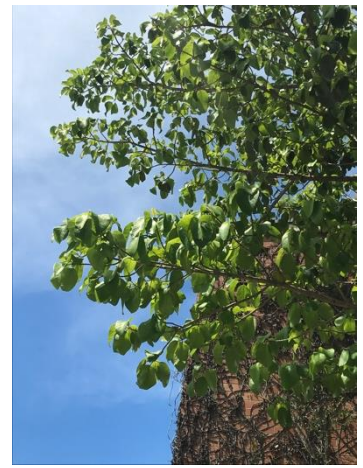
Crown lifting of northern and eastern
branches 400mm Final cut



Flexible final pier location for
shelter, grade adjustment cut at top
at top of ramp is outside of SRZ
however will need non-invasive
assessment.



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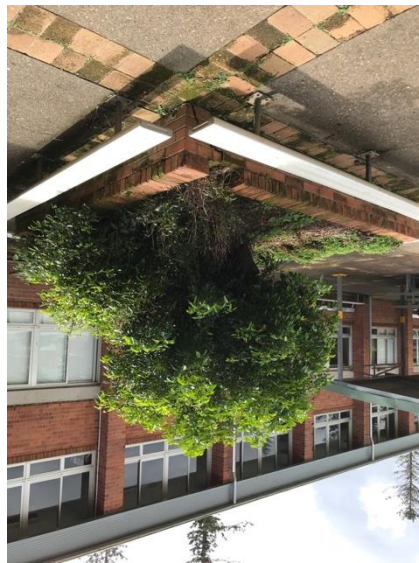
52



53



A lopped since first assessment



54



Lopped since first assessment



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Cutting towards tree of less than a meter of retaining wall rounding the corner

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63





Services are a major encroachment



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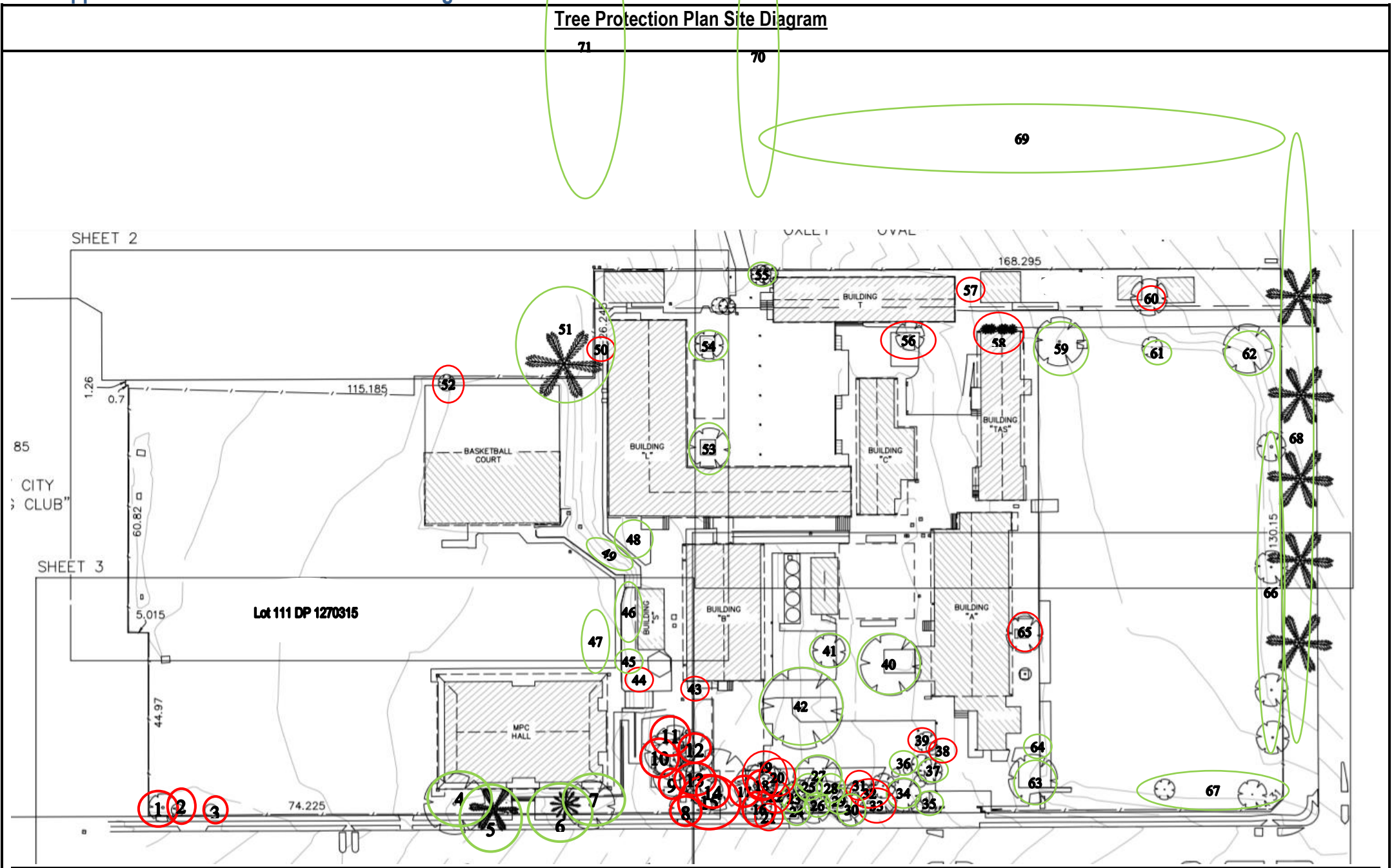
70



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Tree Protection Plan Site Diagram



12 Appendix D Glossary

Visual Tree Assessment (VTA)	A systematic method of tree assessment (developed by Claus Mattheck & Helge Breloer) using biological and biomechanical indicators to evaluate overall vitality and structural integrity of a tree.
AQF Level 5 Arborist	An Arborist with a AQF level 5 qualification such as a Diploma in Arboriculture ¹³ This with relevant experience enables the person to perform the tasks required by the standard AS 4373 2007 and legislative bodies
Arborist ¹⁴	An Arborist with a AQF level 3 qualification or above of equivalent recognised and relevant experience that enables the person to perform the tasks required by the standard AS 4373 2007 and legislative bodies
Tree	A woody, perennial and long lived plant that has a self-supporting trunk (or trunks) with lateral branching initiating at some distance from the ground and supporting a definitely formed canopy.
Non-invasive excavation (Root Mapping)	Exploratory excavation by an AQF level 5 arborist that does not damage root systems and is often carried out with hand tools or less invasive machinery
Selective pruning	The removal of target branches
Crown thinning	The selective removal of branches that does not alter the overall size of the tree.
Dead wooding	The removal of dead branches
Tree Feature	An area of a tree that can have compensating growth.
Tree Protection Zone (TPZ) Or Modified Tree Protection Zone	A specified area at a given distance from the trunk set aside for the protection of a trees root system and canopy during land development works to ensure the long term viability and stability of a tree, calculated in accordance with AS 4970:2009.
Canopy	The crown of a tree, comprising all of the foliage and branches
Pruning	The selective removal of branches, severed at the branch collar near the junction with another branch in accordance with Natural Target Pruning techniques as specified in AS4373:2007.
Structural Root Zone (SRZ)	The Structural Root Zone provides the bulk of mechanical support and anchorage for the tree.

13 Appendix E –IACA Significance of a Tree Assessment (Stars)



IACA Significance of a Tree, Assessment Rating System (STARS)©

(IACA 2010)©

In the development of this document IACA acknowledges the contribution and original concept of the Footprint Green Tree Significance & 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.

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 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. An example of its use in an Arboricultural report is shown as Appendix A.

Tree Significance - Assessment Criteria

1. High 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
- tree is appropriate to the site conditions.

2. Medium Significance in landscape

- 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.

3. Low Significance in landscape

- 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 which 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
- 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 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.


4. 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, can be applied to a monocultural stand in its entirety e.g.

Table 1.0 Tree Retention Value - Priority Matrix

		Significance				
		1. High	2. Medium	3. Low		
		Significance in Landscape	Significance in Landscape	Significance in Landscape	Environmental Pest / Noxious Weed Species	Hazardous / Irreversible Decline
Estimated Life Expectancy	1. Long >40 years					
	2. Medium 15-40 Years					
	3. Short <1-15 Years					
	Dead					
<p>Legend for Matrix Assessment</p> 						
		Priority for Retention (High) - These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard 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 Tree Protection Zone.				
		Consider for Retention (Medium) - These trees may be retained and protected. These are considered less critical; however their retention should remain 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.				

USE OF THIS DOCUMENT AND REFERENCING

The IACA Significance of a Tree, Assessment Rating System (STARS) is free to use, but only in its entirety and must be cited as follows:

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

14 Appendix F Tree Protection Plan

The employment of a Site/Project Arborist is required to oversee tree protection measures prior to any work. The Site/Project Arborist is to perform site inspections monthly as well as site inspections at the completion of each stage of the development. These inspections are to monitor tree health, the impact on the trees and to assess the TPP is implemented, the site arborist may implement further protective measures or remove measures that are no longer required.

If any noncompliance is identified with the TPP it is to be documented by the Site/Project Arborist and will require compliance and rectification. All non-compliances are to be reported to the site supervisor, owner and certifying body.

These site visits may incorporate remedial activities such as but not limited to the rectification of noncompliance, watering, pest monitoring and pest treatment. The site arborist may be required on site to oversee additional works when working in the Tree protection Zones.

There is to be a site diary established and kept on site where all site visits are documented by the site arborist and any work within the tree protection zone recorded. A duplicated copy is to be sent to the certifier and site supervisor. Any deviation from the site plan should also be recorded.

Pre-Construction

A pre-construction meeting should be attended by the Site Manager, Site Arborist and all contractors and employees that access the site to introduce the Tree Protection Plan. Consultations with the companies that are carrying out the demolition in proximity to the Tree Protection Zones will need to be carried out to ensure this is completed in a manner that does not harm the trees for retention.

The Site/Project Arborist is to confirm the location of the trees and identify the pruning works or protection measures that council has permitted following council consent. This is as per council decision which may vary from this report. The trees will need to be pruned without damage to any tree that is to be retained. Preliminary non-invasive excavation (root mapping) by an AQF level 5 arborist will need to be undertaken as per recommendations provided within the Woodvale Tree Report dated 8th April 2021. A Root Mapping report will need to be submitted to allow for design adjustments. Design adjustments will require AQF level 5 arborist consultation and are subject to approval or decline by the arborist and governing or certifying body. An addendum will be required to show that the adjusted plans will not adversely impact trees for retention.

The erecting of a 1.8m high steel mesh fencing around the Tree Protection Zones of retained trees with a geotechnical fabric attached to the fencing as per Australian Standard Protection of trees on development sites AS 4970 2009.

A modified Tree protection Zone maybe implemented with measures undertaken at the Site Arborist discretion. These measures will be required to allow for access in a closer vicinity to the trees to be retained without causing damage to the trees. This will require maintaining the restrictions that would be implemented within the Tree Protection Zone. The modified TPZ's will incorporate the use of load sharing boards and limit machinery. This can be adjusted by the site arborist. Each activity that requires access within the Tree Protection Zone will require a Work Methodology Statement that will be subject to approval or decline by the site arborist and or governing body.

There is to be signage visible from the worksite stating - "Caution Modified Tree Protection Zone" The Signage should comply with Australian Standard As 1319. There is to be additional signage that has the site arborist contact details that include a contact number and specifying these prohibited activities-

- No Machinery
- No storage of any kind
- No disposal of waste
- No Chemicals
- No excavation without Site Arborist supervision
- No Pruning to the tree canopy or root system without Site Arborists supervision
- No Site Facilities

Site Establishment

The project site arborist is to monitor and report the impacts of temporary infrastructure. Tree health and signs and symptoms are to be recorded, with the Site Arborist to modifying any protection methods as necessary and documenting these measures within the site diary.

The laying of a geotechnical fabric and mulch layer to approximately 75mm thickness. The allocation of weight displacement boarding is to be laid throughout the Tree Protection Zone where it is not fenced off or where access is required. The use of trunk protection may be preferred to allow for closer access to trees however this should be at the Site Arborist discretion following discussions with the Site Manager.

The Construction or Site Management Plan should be checked for compliance with the TPP, the site shed stockpiling, sediment control maybe possible concerns.

Construction Work

The project arborist is to monitor the impacts on the trees from construction; the protection measures shall remain in place with any deviation noted in the site diary. Assessment for compliance or noncompliance with the TPP is to be maintained. Tree health signs and symptoms should be recorded.

Sediment control is to be implemented to reduce the potential for contamination to the lower trees within and adjacent to the site.

Landscape works

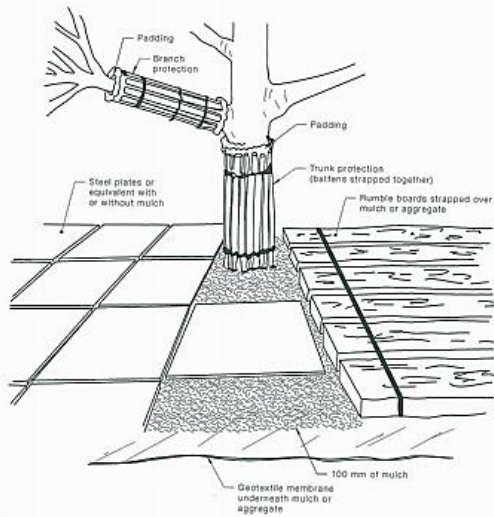
Landscape work in the Tree Protection Zones is to be assessed and subject to approval or decline by the Site Arborist, any below grade excavation within Tree Protection Zones needs to be overseen by the Site Arborist. All plantings are to have flexible locations to avoid significant root systems.

Practical Completion

Upon the completion all tree protection measures are to be documented and removed. The documentation of the trees condition is to be recorded.

Final Certification

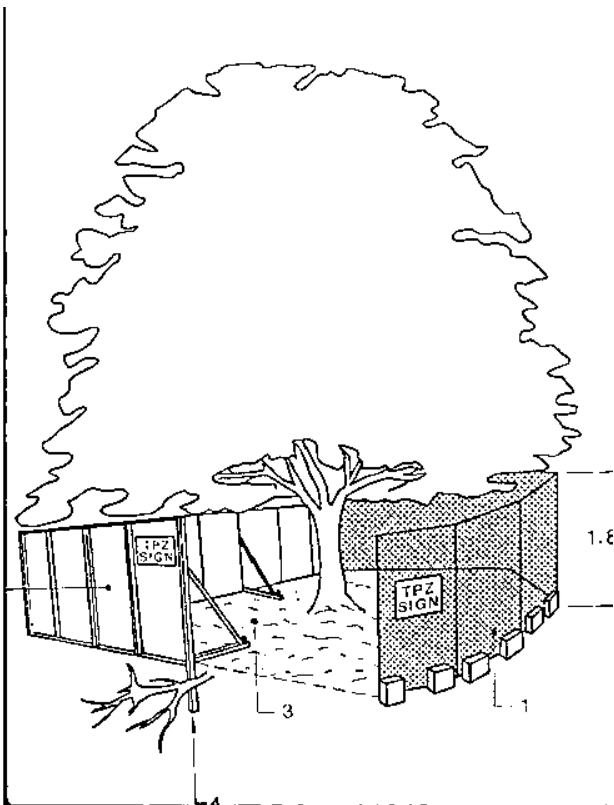
The project arborist is to assess the tree and environment with recommendations given for any remedial action. Following any remedial action an inspection is to be carried out where the project arborist is to certify the compliance with the approved TPP and tree protection measures. The certification is to state the condition of the trees as well as any deviations from the tree protection measures and their impact on the trees.



NOTES:

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

FIGURE 4 EXAMPLES OF TRUNK, BRANCH AND GROUND PROTECTION



Australian Standard Protection of trees on development sites AS 4970 2009

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- ⁵ Northrop Stormwater Management Report SINNSW Hastings Secondary College- Port Macquarie Campus Revision 2 dated 14/04/21
- ⁶ YSco Geomatics land and engineering surveying project management survey plans Hastings Secondary College Port Macquarie Campus reference 5819/2 sheets 1-5 date 09/12/19
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- ⁸ Port Macquarie Local Environmental Plan – Port Macquarie. 2011. *Port Macquarie Local Environmental Plan – port Macquarie Shire Council*. [ONLINE] Available at <http://www.legislation.nsw.gov.au/#/view/EPI/2011/84/id110> [Accessed 06th March 2020].
- ⁹ Port Macquarie Development Control Plan – Port Macquarie Council. 2013. *Port Macquarie Development Control Plan – Port Macquarie Shire Council*. [ONLINE] Available at: <http://www.pmhc.nsw.gov.au/Building-Planning/Planning-Development-Controls/Development-Control-Plans-DCPs> [Accessed 06th March 2020].
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- ¹¹ Australian Standard Protection of trees on development sites AS 4970 2009
- ¹² Australian Standard Protection of trees on development sites As 4970 2009
- ¹³ Australian Standard Pruning of Amenity Trees AS 4373 2007
- ¹⁴ . 2017. *Home - WorkCover portal*. [ONLINE] Available at [Accessed 06th March 2020].
- ¹⁵ IACA Significance of a Tree, Assessment Rating System (STARS), Institute of Australian Consulting Arboriculturists, Australia, WW.iaca.org.au