APRIL 22, 2025

ARBORICULTURAL IMPACT ASSESSMENT

PREPARED FOR MR. R. MA DEE WHY PTY LTD
12 THE STRAND DEE WHY

PREAPRED BY LEE HANCOCK CONSULTING ARBORIST AQF LEVEL 5

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1. Introduction

At the request of Ryan Ma, VCross Dee Why Pty Ltd. Lee hancock Consulting Arborist AQF Level 5 was commissioned to prepare an Arboricultural Impact Assessment for the development of two basement car park in a three-storey residential building with ground floor retail. The site known as 12 The Strand Dee Why Lot 13 Section 8 DP 6953 is in the local government area (LGA) Northern Beaches Council.

1.1 Limitations

The tree assessment could only be done from the proposed site, no access was available.

2. Aim

The purpose of this assessment is to provide quantitative and qualitative information on the trees located onsite and offsite. The report will assess any potential impact on the subject trees, together with recommendations for amendments to the design or construction methodology where necessary to minimise any adverse impact.

2.1 Tree protection controls for Northern Beaches Council Local Government Area apply to any tree or palm, whether it is a native or an exotic species that:

- has a height equal to or exceeding four metres.
- any tree or mangrove vegetation located on public land, irrespective of size.
- forms part of a heritage item, or that is within a heritage conservation area.
- forms part of an Aboriginal object, or that is within an Aboriginal place of heritage significance.
- is listed on the NSW Heritage Register.

2.2 *Wildlife Habitat*

Some of the trees provide wildlife habitat.

2.3 *Noxious Plants and Environmental Weeds*

The trees assessed are scheduled as weeds by the Biosecurity Act 2015.

2.4 *Threatened species& Ecological Communities*

The subject tree is not listed as NSW Threatened Species Scientific Committee or form part of Endangered Ecological Communities (EEC's) under the provisions of the Biodiversity *Conservation Act 2016*.

2.5 Heritage Conservation Area

The site is not in a Heritage Conservation Area.

2.6 *Significant Tree Register*

The trees are not nominated on Northern Beaches Councils Register of Significant Trees.

2.7 The Author is aware of and will comply with the determining authorities. Warringah Council Development Control Plan and Local Environment Plan

Table 1 Documents Provided

PLAN/DOCUMENT	PREPARED BY	DWG/REF NO	DATED
Architect	Studio Johnston Architects	A110-002,003,004,005, 006,007.	Rev 04 17.04.2025
Surveyor	RVS Surveyors	6638	9.02.2024

2.8 All trees included in the site survey are numbered and assessed by the Author as the basis as to which trees are suitable for retention.

For each tree they have been assessed for.

a) Correct botanical identification and common name.
b) Health and vigour
c) Structure
d) Dimensions, height, crown spread and DBH.
e) Age class
f) Estimated life expectancy.
g) Heritage and /or cultural matters

h) Ecological and habitat matters.

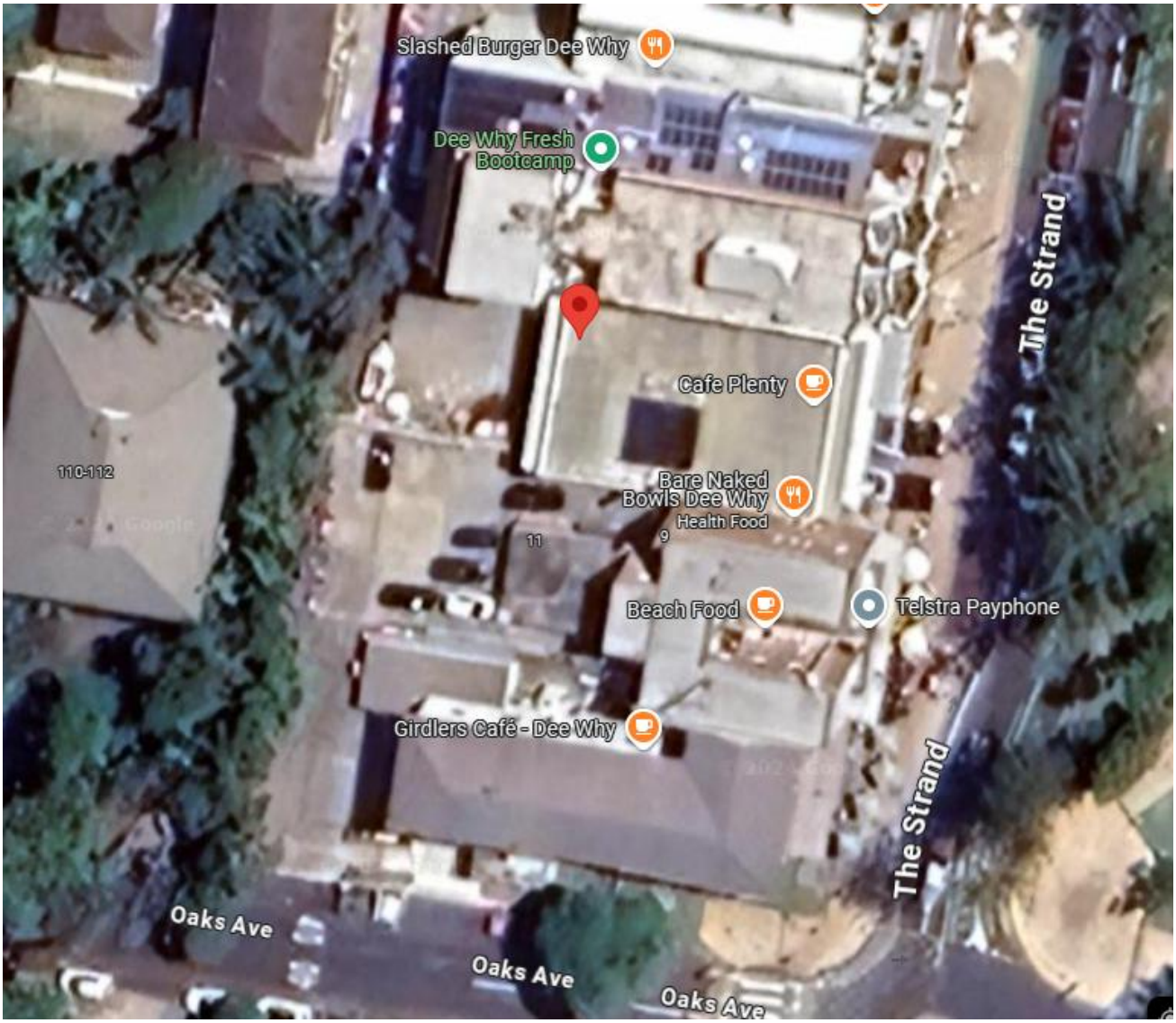
i) The location relative to existing site features

j) Other matters to the site

k) Retention value

3. Site Analysis

The site is a business located on 12 The Strand Dee Why, the existing vegetation is located offsite in the rear yard of three storey block of units, the vegetation consists of native trees, shrubs and weed species of Palms.



4. Discussion

An assessment of the trees was made using the Visual Tree Assessment (VTA) procedure. The subject trees were assessed from the ground. No aerial inspection has been undertaken as part of this assessment. The initial point of reference in assessing the impacts of the proposed removal of existing retaining wall is AS4970 (2009) *'Protection of Trees on Development Sites'.*

Tree 1. *Melaleuca quinquenervia* (Paper Bark)

Large mature tree located northern corner offsite, tree appears in good form and vigour, the supplied plans 6.095 setback from the subject tree, shall not adversely impact the tree, when tree sensitive protection measures are implemented. Rated as high landscape significance amenity and ecological value. High retention value.

Tree 2. *Syagrus romanzoffiana* (Cocos Palm)

Mature Palm located rear of Tree 1. classified as a Biosecurity weed. The supplied plans show tree will not be adversely impacted upon by the proposed development. . Rated as moderate landscape significance. High retention value.

Tree 3. *Syagrus romanzoffiana* (Cocos Palm)

Palm is located against the existing boundary fence, classified as a Biosecurity Weed, the supplied plans show the Palm will not be impacted upon by the proposed development. Rated as moderate landscape significance. High retention value.

Tree 4. *Eucalyptus gummifera* (Bloodwood)

Semi mature tree located 3m away from boundary fence, tree is in good form and vigour, the supplied plans show tree will not be impacted upon by the proposed development. Rated as high landscape significance amenity and ecological value. High retention value.

Tree 5. *Archontophoenix cunninghamiana* (Bangalow)

Semi mature palm in good form and vigour, located adjacent to Tree 3, the supplied plans show the palm will not be affected by the proposed development. Rated as high landscape significance amenity and ecological value. High retention value

Table 2. Tree Health and Retention Values

Tree	Genus & Species	Height	DBH/ DAGL	Crown Spread	Maturity	Health and Vigour	Landscape Significance Rating	Useful Life Expectancy	Retention Value
1	*Melaleuca quinquenervia* (Paper Bark)	14m	480/ 580mm	30m2	Mature	Good	High	Long greater than 40 years	High
2	*Syagrus romanzoffiana* (Cocos Palm)	11m	No access	10m2	Mature	Good	Moderate	Long greater than 40 years	High
3	*Syagrus romanzoffiana* (Cocos Palm)	9m	No access	10m2	Mature	Good	Moderate	Long greater than 40 years	High
4	*Eucalyptus gummifera* (Bloodwood)	11m	290/ 320mm	20m2	Semi mature	Good	High	Long greater than 40 years	High
5	*Archontophoenix cunninghamiana* (Bangalow)	9m	No access	10m2	Semi mature	Good	High	Long greater than 40 years	High

5. Conclusion

The Arboricultural Impact Assessment has collected all relevant data in assessing the condition of 5 trees offsite, relevant to the development. An assessment of their health and vigour, estimated life expectancy, significance in the landscape and amenity value has been recorded

6. Recommendation

All trees offsite are nominated for retention. The supplied plans show trees offsite will not be adversely impacted upon by the proposed development of basement parking and mixed-use development. The supplied plans show that all 5 trees offsite are to be retained as part of the proposed development.

Tree location plan and Tree Protection Plan (such as TPZ fencing, signage) are outlined in the Appendix B. Tree Protection Plan.

7. Images

Plate 1. Tree 1. *Melaleuca quinquenervia* (Paper Bark) Tree 2 *Syagrus romanzoffiana* (Cocos Palm) rear of tree 1.

Plate 2. **Tree 3. *Syagrus romanzoffiana* (Cocos Palm), Tree 4 *Eucalyptus gummifera* (Bloodwood)**

Tree 5. *Archontophoenix cunninghamiana* (Bangalow)

8. References

AS4970 *'Protection of Trees on Development Sites'.* (2009)

Harris, Clark & Matheny. *Arboriculture: Integrated Management of Landscape Trees, Shrubs and Vines*, (1999) Prentice Hall, New Jersey.

Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees.*

Morton, A. Earthscape Horticultural Services -Tree Retention Values

www.northernbeaches.nsw.gov.au

Disclaimer

The author, Lee Hancock Consulting Arborist takes no responsibility for actions taken and their consequences, contrary to those expert and professional instructions given as recommendations pertaining to safety by way of exercising our responsibility to our client and the public as our duty of care commitment to mitigate or prevent hazards from arising, from a failure moment in full or part, from a structurally deficient or unsound tree or a tree likely to be rendered thus by its retention and subsequent modifications to its growing environment either above or below ground contrary to our advice.

This report is a recommendation only. In no way does it guarantee any actions by the determining authorities.

9. Methodologies

9.1 Visual Tree Assessment (VTA)

A visual tree assessment technique developed by (Mattheck & Breloer) was conducted on the subject tree from the ground. The technique involves identification of the Genus and Species of trees on the site. The Diameter at Breast Height (DBH) 1.4m above ground level determined from the circumference of the trunk divided by *pi* (π).

Tree height (m) Diameter at Ground Level (DAGL), Canopy spread (m) in four cardinal points (north, south, east, west) Structural integrity, Amenity value, Indigenous/ Endemic value, Health, and vigor of trees.

9.2 Useful Life Expectancy (ULE)

An assessment procedure has been developed by (Barrell, J.D.) 1993 'by which trees on a site are accurately recorded and designated according to their suitability for retention in the short, medium or long term'. This methodology is a measure of the "sustainability" of the remaining contribution in years that the tree can provide in the context of the site.

9.3 Landscape Significance

The significance of trees in the landscape is assessed in determining their retention values in three categories. Heritage Value reflects Historical significance, Ecological Value maintains biodiversity values and Amenity values contributes to the character of the landscape.

9.4 Tree Retention Values

A rating was given to each tree on site; the information gathered was then processed by evaluating the health and vigour, the remaining useful life expectancy (ULE), plus their significance in the landscape. A retention value for each tree was then evaluated ranging from High, Moderate, Low and Very Low.

9.5 Structural Root Zone (SRZ)

SRZ is the measurement of the area around the base of the tree. Measurements are taken at the centre of the trunk; a radial measurement is calculated in meters. This process determines the trees' structural stability. The formula is SRZ radius = (D x 50) x 0.64 D = trunk diameter, in meters.

9.5.1 Determining Structural Root Zones

As defined in AS 4970 Section 1.4.5 the SRZ is 'the area around the base of a tree required for the tree's stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright.' The SRZ area has been calculated as specified in Section 3.3.5 of AS 4970.

9.6 Tree Protection Zone (TPZ)

This area is specified above and below the ground at a given distance from the trunk to protect tree roots and canopy to protect the viability and stability of a tree retained on site where there is a potential for the tree to be damaged by development

9.6.1 Determining Tree Protection Zones

As defined in AS 4970 Section 1.4.7 the TPZ is 'A specified area above and below ground and at a given distance from the trunk set aside for the protection of a tree's roots and crown (canopy) to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development'. The TPZ is the root zone/canopy area required for vigour and long-term viability. The TPZ area has been calculated as specified in Section 3.2 of AS 4970.

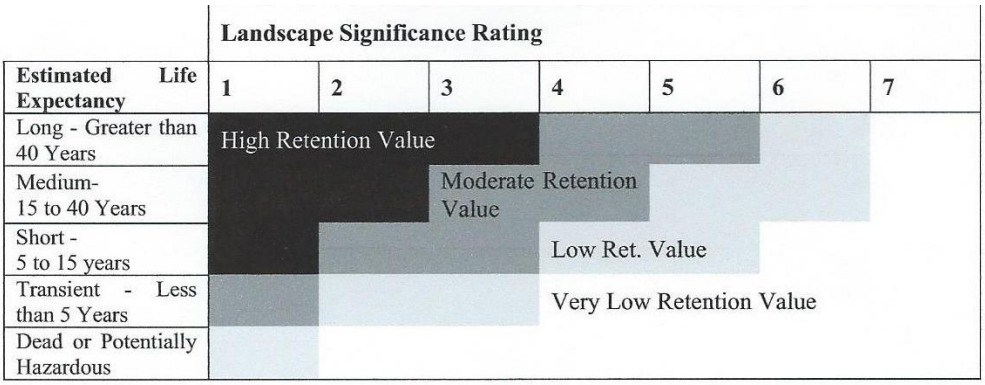
9.7 Variations to the TPZ – Minor

If there are no other options a minor encroachment (≤10%) into the TPZ area may be acceptable provided the incursion does not impact the SRZ. Examples of how minor encroachments can be configured are given in Appendix X. Refer to Section 3.3.2 of AS 4970 for additional details relating to minor encroachments. AS 4970 states that the area lost to the encroachment must be compensated for elsewhere and must be contiguous with the TPZ.

9.8 Variation to the TPZ – Major

Should major encroachments (> 10%) of the TPZ be proposed it must be demonstrated by The Project Arborist that the tree will remain viable into the long term. Demonstration of viability may include non - destructive methods of root investigation and should be made in consideration of the following factors as listed in Section 3.3.4 of AS 4970:

Retention Values.



Retention Value Methodology

"High"	1. These trees considered worthy of preservation as such careful consideration should be given to their retention as a priority. 2. Proposed site design and placement of buildings and infrastructure should consider lessening any mitigating issues in relation to trees. 3. In addition, the extent of the canopy (canopy dripline) should also be considered, particularly in relation to high rise developments. Significant pruning of the trees to accommodate the building envelope or temporary scaffolding is generally not acceptable.
"Moderate"	1. These trees should be retained as part of any potential development if possible however they trees are considered less critical for retention. 2. If these trees must be removed, replacement planting should be considered in accordance with Council's Tree Replacement Policy to compensate for loss of amenity.
"Low"	3. These trees are not considered to worthy of any special measures to ensure their preservation, due to current health, condition, or suitability. They do not have any special ecological, heritage or amenity value, or these values are substantially diminished due to their ULE. 4. These trees should not be considered as a constraint to the potential development of the site.
"Very Low"	1. These trees are considered potentially hazardous or very poor specimens or may be environmental or noxious weeds. 2. The removal of these trees is therefore recommended regardless of the implications of any proposed development.

10. Tree Protection Specifications

The tree protection measures included in this plan, are to be implemented prior to, during and after the construction phase, including landscape construction of the project to ensure the long - term survival of the tree. The project arborist will monitor the impacts of demolition, bulk earth works, installation of temporary infrastructure including bunding, sediment control and drainage works.

The intention is to ensure that construction related issues and conflicts (with tree retention) are resolved prior to the commencement of this project. The aim is to ensure that specifications site specific and that the whole Tree Management Plan can be required to be implemented as part of the conditions of consent.

10.1 Certification Reporting

Following each stage, Site establishment, Construction Stage and Landscape Construction. The Project Arborist shall prepare a statement of compliance certifying whether the works have been completed in compliance with this plan and the conditions of development consent Warringah Council relating to Tree Protection. If conditions have been breached, remedial action shall be recommended to minimise any further adverse effect on the tree's health.

10.2 Appointment of a Project Arborist

An Arborist with an AQF Level 5 Diploma in Arboriculture with experience in tree protection on construction sites should be engaged prior to the commencement of work on the site. If conditions have been breached, remedial action shall be recommended to minimise any further adverse effect on the tree's health.

Hold Point: PRE-CONSTRUCTION - Prior to Site Clearance
Project Arborist to inspect Tree Protection Measures are compliant with *AS4970 Protection of Trees on Development Sites*.

Compliance certificate will then be issued to the Principal Certifier by the Project Arborist

10.3 Signage - Tree Protection Zone

To be displayed around the edge of all TPZ fenced off areas and visible within the development site. To remind construction workers and sub-contractors Tree Protection Zone area is out of bonds.

10.4 Mulch

To be applied in TPZ minimum 75 -100mm using material that complies with Australian Standard® 4454-2003 *Composts, soil conditioners and mulches.*

Table 3. Impact Assessment Schedule

Tree	Genus /species	SRZ	TPZ	Incursion to root zone / canopy	Recommendations
1	*Melaleuca quinquenervia* (Paper Bark)	2.7mR	5.7mR	Trees TPZ within the 6.095 set back for basement.	Install 2m offset from Boundary for tree protection fence.
2	*Syagrus romanzoffiana* (Cocos Palm)	1mR	2.0mR	Remote from proposed works	Install 2m offset from Boundary for tree protection fence.
3	*Syagrus romanzoffiana* (Cocos Palm)	1mR	2.0mR	Remote from proposed works	Install 2m offset from Boundary for tree protection fence.
4	*Eucalyptus gummifera* (Bloodwood)	2.1mR	3.4mR	Remote from proposed works	Install 2m offset from Boundary for tree protection fence.
5	*Archontophoenix cunninghamiana* (Bangalow)	1mR	2.0mR	Remote from proposed works	Install 2m offset from Boundary for tree protection fence.

Clause 3.2 The TPZ of Palms and other monocots, cycads and tree ferns should not be less than 1m outside crown projection.

10.5 Tree Protection Plan Construction Phase.

The following Tree protection measures are to be implemented during the construction phase of development.

10.5.1 Temporary Infrastructure

Site sheds, Waste disposal and Stock piling areas to be placed as outside the Tree Protection Zone.

10.5.2 Haul Route vehicles accessing site.

Haul route usage entry from rear of site.

10.5.3 Plant and Equipment

Light weight plant equipment such as small rubber tracked excavators and the demolition material for excavations removed to stockpiling area using small tipper trucks (2-3 tonne maximum), within 2 metres of a retained tree trunk.

10.7 Landscape Construction

The landscape plan to be checked for compliance with the tree protection plan. Project Arborist to approve the staged removal of protection measures required to allow for landscape works. This includes the installation of paving, irrigation, installing and planting.

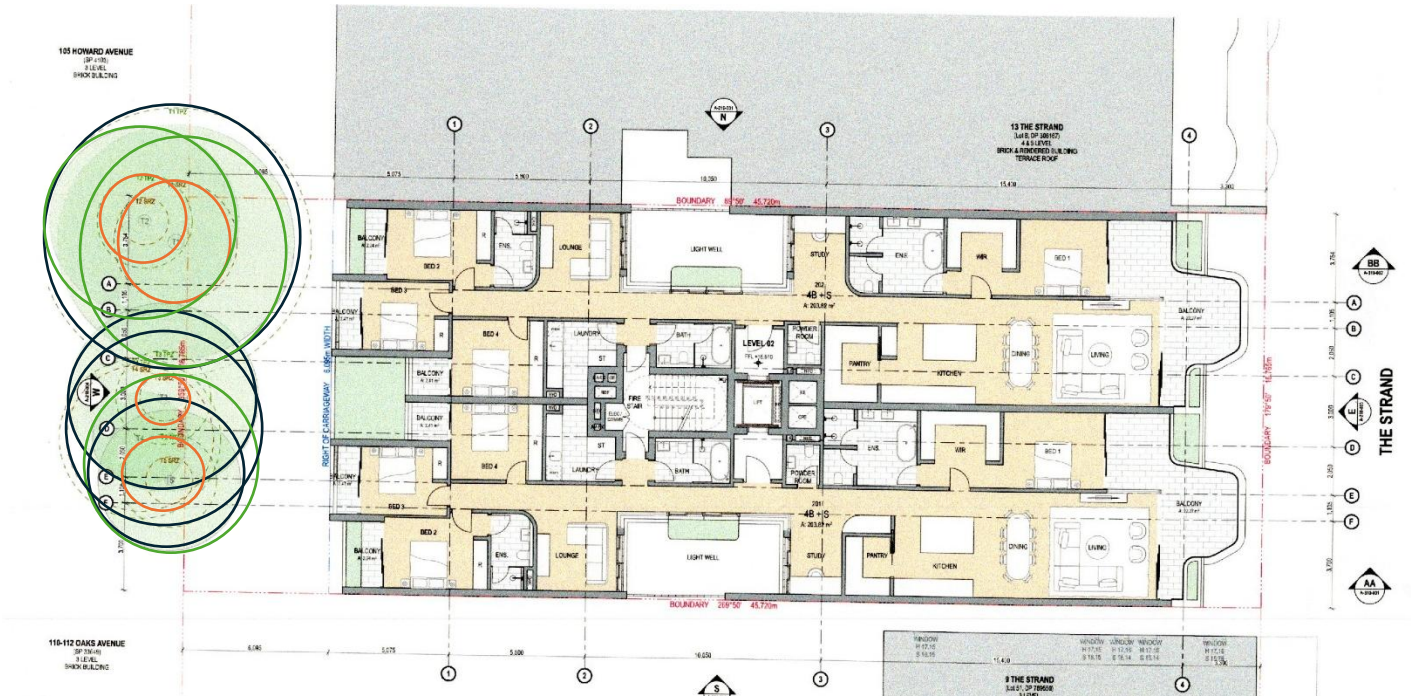
10.7.1 Irrigation

Landscape Contractor to install above ground dripline system during prolonged dry periods or where excavation is nearby, especially up slope, leads to drying out of a soil profile, deep watering at least twice a week is to be undertaken.

10.8

On completion of construction and landscaping works. Project Arborist to assess tree condition and provide certification of tree protection. Following final inspection Project Arborist should certify that the completed works have been carried out in compliance with the approved plans and specifications.

Appendix A. Tree Location Plan



LEGEND:

Retain

Tree Protection Fence

SRZ

TPZ

Signage

Appendix B. Tree Protection Plan

The Tree Protection Plan outlines and provides guidance on the principles of tree protection measures, to assist in protecting Trees onsite and offsite throughout all stages of the development. This information follows the Standards Australia AS4970-2009 *Protection of Trees on Development Sites*.

HOLD POINT: Tree Protection Fencing

Prior to the commencement of any works Tree protection fence tree protection fencing shall be constructed of galvanised pipe at 2.4 metres spacing and connected by securely attached chain mesh fencing to a minimum of 1.8 metres, shall be installed the width of the site Eastern boundary 2m setback of the listed trees below to prevent any activities or material within fenced area.

Signage

Prior to commencement of any works, tree protection signage is to be attached to the tree protection fencing, displayed in a prominent position.

HOLD POINT: Demolition Phase

Demolition of existing walls, kerbs and other structures within the Tree Protection Zone of trees to be retained shall be undertaken under the supervision of the Site arborist. The structures shall be demolished using equipment or stationed outside the TPZ where possible or within the footprint of existing hardstand areas. Care shall be taken to avoid root systems, trunks and lower branches of trees in the vicinity of the structures

during demolition works with special attention required during demolition of the footings and other sub-surface members to avoid damage to woody roots.

HOLD POINT: Construction Supervision of Eastern boundary wall Trees offsite

1. Project Arborist to supervise the removal of the existing hard stand areas for basement excavations.
2. The Project Arborist is to supervise excavations within the development basement line for any woody roots, or removal of any roots less than 30mm in diameter, any roots greater than 30mm in diameter or greater advice shall be sought from Project Arborist