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ARBORICULTURAL IMPACT ASSESSMENT REPORT

At

77 Central Road, Avalon Beach

Prepared for

N Vatsalias & J Schuberg

1st April 2025

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DISCLAIMER

The Client acknowledges that this Report, and any opinions, advice or recommendations expressed or given in it, are the information supplied by the Client and on the data inspections, measurements and analysis carried out or obtained by Jacksons Nature Works (JNW) and referred to in the Report. The Client should rely on The Report, and on its contents, only to that extent.

Care has been taken to obtain all information from reliable sources. All data has been verified as far as possible. However, Ross Jackson – Consulting Arborist can neither guarantee nor be responsible for the accuracy of information provided by others. Unless stated otherwise:

- Information contained in this report covers only the trees examined and reflects the health and structure of the trees at the time of inspection. The documented, observations, results, recommendations, and conclusions given may vary after the site visit due to environmental conditions.
- The inspection was limited to visual examination from the base of the subject tree without dissection, probing or coring.
- There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future; &
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Ross Jackson

Consulting Arborist

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1. BACKGROUND and METHODOLOGY

1.1 The purpose of this Tree Report is to inform and accompany the development application works at 77 Central Road, Avalon Beach – The Site.

1.2 The report was commissioned by Mr J Schuberg to consider the development impacts on trees located on and around the Site.

1.3 This report outlines the health and condition of the subject trees, the remaining life expectancy of the trees, identifies any visible defects or other problems, describes which trees require pruning, removal, retention or represent a potential hazard and comments on the impact on these trees in relation to the works proposed. The report also provides recommended tree protection measures (Tree Management Plan) to ensure the long-term preservation of the trees to be retained where appropriate.

1.4 The Site is a residential site with gardens at Avalon Beach.

1.5 The trees were identified by ground level Visual Tree Assessment (VTA) [1] only in the data collection, taken on 27.9.2024. No aerial (climbing) was undertaken.

1.6 All site photographs were taken by the author at the site. All photographs were taken using a digital camera (Canon 7D) with no image enhancement either within the camera or on computer.

1.7 The subject trees were located on plans supplied. The trees have been plotted and can be found on Annexure B – Tree Location Plan.

1.8 The trees were identified and their genus species and common name used. The trees were identified by the use of data collected and compared to G Burnie, S Forrester et al (1997) **Botanica** Random House, Milsons Point, NSW, Australia.

1.9 DBH. The Trunk Diameter at Breast Height (1.4 metres above ground level) in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.10 DRB. The trunk Diameter above Root Buttress in centimetres was measured over bark using a metal tape which automatically converts to diameter and assumes a circular trunk cross section.

1.11 Height. Estimated overall height in metres.

1.12 Spread. Measured with a metal tape measure and shown in metres.

1.13 Useful Life Expectancy (ULE)[2].
A systematic pre-development tree assessment procedure developed by Jeremy Barrell, Hampshire, England. It gives a length of time that the Arborist feels a particular tree can be retained with an acceptable level of risk based on the

[1] Mattheck, Dr. Clause & Breloer, Helge (1994) – Sixth Edition (2001) **The Body Language of Trees – A Handbook for Failure Analysis** The Stationery Office, London, England
[2] Barrell, Jeremy (1996, 2001) **Pre-development Tree Assessment** Proceedings of the International Conference on Trees and Building Sites (Chicago) International Society of Arboriculture, Illinois, USA

information available at the time of the inspection. SULE ratings are Long (retainable for 40 years or more with an acceptable level of risk), Medium, (retainable for 16 – 39 years), Short (retainable for 5 – 15 years) and Removal (tree requiring immediate removal due to imminent hazard or absolute unsuitability).

1.14 The Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) have been calculated in terms of AS 4970 – 2009 Protection of trees on development site Section 3.

1.15 Retention value & landscape significance as described by ICAC – STARS © have been used for the trees in this report.

1.16 To prepare this report we have reviewed the following documents:

- Detail survey by Donovan Associates dated 17.8.2020.
- Architectural plans by Mathieson Architects dated 25.3.2025, Rev F.
- Landscape plans by Mathieson Architects dated 25.3.2025, Rev F.
- Drainage concept plan by Intrax dated 16.12.2024.
- Northern Beaches Council, B4.22 Preservation of Trees or Bushland Vegetation (TPO); &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.
- RFI from Northern Beaches Council dated 18.3.2025.

2. OBSERVATIONS as seen on the day of inspection (27.9.2024)

2.1 Our tree observations can be found in Annexure A. N.B. Tree 20 was not located on site during the site assessment.

3. DISCUSSIONS

3.1 We have been commissioned by Mr J Schuberg, to examine the health and condition of the trees on and around this development site.

It is proposed to demolish the existing and the construction of a new residence on Site (development works).

3.2 We have examined the trees on site and can suggest the following considerations for the development works:

1. The following trees are proposed for removal to allow the development to proceed: Tree 7 *Eucalyptus resinifera* (fair – average vitality with 90% epicormic regrowth [a sign of stress /decline] & located in Council's nature strip – refer plate 1), tree 8 *Duranta sp.* (exempt species), tree 9 *Camellia sasanqua* (exempt tree <5m) and trees 12 & 13 *Murraya paniculata* (Weed species by Department of Primary Industries).

It is acknowledged Tree 7 is in Council's nature strip, however there are four other canopy trees in front of this site that will maintain the benefit of trees in this location.

Tree 7 is now to be retained as per RFI – 2025 with the use of the existing crossing – refer Annexure C.

Removal of all these trees is supported except Tree 7 which will be retained.

Plate 1: Tree 7 with 8 behind.

2. The following trees are proposed for retention: Tree 1 & 2 *Lagerstroemia indica*, tree 6 *Eucalyptus resinifera* (driveway outside this tree's TPZ), tree 11 *Archontophoenix cunninghamiana* (driveway outside this tree's TPZ), tree 14 & 15 *Ulmus glabra* (next door and have 14% & 12% encroachment within their TPZ – i.e. just above the threshold of 10% as noted in AS 4970 – 2009), tree 16 *Eucalyptus botryoides* (next door with an encroachment of 19% which is in the moderate level of impact [Refer to Landscape Matrix below – used with permission] and being outside the SRZ [3.0] the stability of this tree will be maintained and no root mapping is required. The swimming pool has been moved to the east to reduce the level of encroachment within this tree's TPZ – refer Annexure C), tree 17 *Murraya paniculata* (Weed species by Department of Primary Industries but being retained, impact = nil), tree 18 *Viburnum tinus* (exempt species being retain with nil encroachment), tree 18A *Bambusa sp.* (exempt species being retain with nil encroachment), tree 19 *Archontophoenix cunninghamiana* (exempt species being retain with nil encroachment), tree 20 (removed), tree 21 *Magnolia grandiflora* (nil impact), tree 22 *Syzygium paniculatum* (nil impact), tree 25 *Ulmus glabra* (next door with <10% encroachment) and tree 42 *Syzygium luehmannii* (with nil encroachment).

It is proposed to retain all these trees as part of the development works.

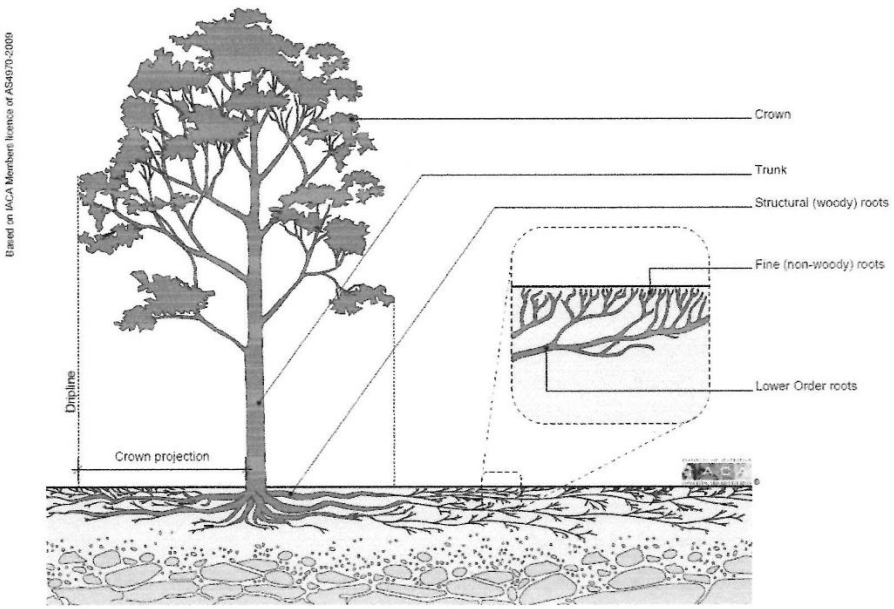
The previous suggestion that root mapping investigation is recommended, no long applies.

IMPACTS WITHIN TREE PROTECTION ZONES ON DEVELOPMENT SITES

1. Introduction

Construction works have the potential to impact on trees through damage to or removal of roots and branches in addition to damage to tree trunks.

The typical above and below ground structure of tree growing a in a normal, or uniform growing environment is illustrated in the following figure based on Figure B1 from *AS 4970-2009 Protection of Trees on Construction Sites*:



07 Structure of a Tree in a Typical Growing Environment Scale 1:200 @ A4

2. Tree root systems and their vulnerability to damage during development works

Damage to root systems from construction works commonly occurs through the following activities:

- Level or grade changes - cut and fill;
- Excavation for footings;
- Excavation for drainage and other services installation;
- Hazardous chemicals/materials spills; and
- Compaction through soil level build up, machinery access, storage of materials and installation of temporary structures such as site sheds.

AS4970-2009 identifies that the majority of non-woody, absorptive roots are particularly vulnerable to damage due their delicate nature and proximity to the soil surface. In favourable soil conditions, very high concentrations of these finer roots are usually present in the upper 100 to 150mm of the soil profile. (Craul 1992 and Perry 1982)

While most trees' roots grow in the top 300mm of the soil profile up to 90% can grow in the top 150mm of the profile as root growth is opportunistic and the finer feeding roots of trees occur in the leaf litter layer of the soil. The absorptive capacity of these roots significantly increased by the presence of Mycorrhizal fungi. (Craul 1992, Himelock 1986, Perry 1982)

Due to the proximity of roots to the soil surface compaction of soils during construction activities is also a significant issue potentially affecting root growth. Compacted soils can result in the following:

- Restriction of the rooting area of plants;
- Can slow or stop root penetration;
- Can result in increased branching and thickening of roots; and
- Can result in poor aeration with consequent reduction in moisture penetration, oxygen levels and gaseous exchange essential to root growth. (Day and Bassuk 1994)

3. Determining Tree Protection Zones

A number of methods to determine the likely extent of root zones and appropriate setbacks for tree root protection zones for trees on development sites have been developed in the past. The key criteria used in determining setbacks have been the tree's trunk diameter at breast height (DBH) in conjunction with other factors including the sensitivity of the species in question to environmental disturbance/change, the age of the tree and the tree's health and vigour at the time of assessment.

AS 4970-2009 Protection of Trees on Construction Sites identifies a 'Tree Protection Zone' of 12 times the tree's DBH. In regard to palms, other monocots, cycads and tree ferns the Standard identifies the Tree Protection Zone should not be less than 1 metre outside the crown projection. (Australian Standards Association 2009)

4. What is an acceptable Level of encroachment into a Tree Protection Zone?

AS4970-2009 identifies encroachments of up to 10% of the tree protection zone as a minor encroachment. Where greater than 10% of the tree protection zone is potentially disturbed the Standard identifies this as a major encroachment where the tree's viability needs to be investigated and demonstrated by the project arborist.

The extent of impacts to trees on development sites can be broadly rated using the following guideline/scale of impact:
0% of TPZ impacted – no impact of significance
0 to 10% of TPZ impacted – low level of impact
10 to 15% of TPZ impacted – low to moderate level of impact
15 to 20% of TPZ impacted – moderate level of impact
20 to 25% of TPZ impacted – moderate to high level of impact
25 to 35% of TPZ impacted – high level of impact
>35% of TPZ impacted – significant level of impact

As a general guide it is considered an encroachment of up to 20% of a tree's identified TPZ is within an acceptable threshold providing the tree is of good health and vigour and is not a particularly sensitive species.

A critical factor to consider in assessing encroachments is the actual nature of the encroachment proposed within the TPZ. For example, lightweight elevated structures supported by isolated piers (e.g. decks) will result in significantly less disturbance to a tree's root system than an excavation for a strip footing, retaining wall or basement carpark. When assessing impacts consideration also needs to be given to the need for 'over-excavation' for retaining walls and basement carpark areas to allow for access for water-proofing, drainage etc and mitigating factors such as existing structures.

Where actual soil profile disturbance is minimal and primarily in the form of an elevated lightweight structure 'shadowing' the tree's TPZ area it is considered encroachments of up to 30% to 35% may be acceptable in some instances. In these situations the project arborist should consider factors such as the species, age, health and vigour of the tree in addition to factors such as potential changes to drainage, provision of mulching and irrigation, alternate areas for the tree's root system to populate etc.

3.3 The landscape plans show the retention of the trees are suitable replanting to augment the benefit of trees in this location.

3.4 The concept drainage plan has been designed to avoid the retained trees.

4. RECOMMENDATIONS

The following recommendations are advised:

a) Retain the following council street tree: Tree 6 & 7.

b) Remove the following trees: Tree 8, 9, 12 & 13.
c) Retain the following trees: Tree 1, 2, 11, 14, 15, 16, 17, 18, 18A, 19, 21, 22, 25 & 42.
d) Tree removal work shall be carried out by an experienced tree surgeon in accordance with *Safe Work Australia Guide for Managing Risks of Tree Trimming and Removal (2016)*.
e) Install the following Tree Protection Measures around the retained street tree: Tree 6 & 7, tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. Existing boundary fences or walls are to be retained shall constitute part of the tree protection fence where appropriate. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone – Refer Annexure D.
f) Trunk protection shall consist of a padding material such as hessian or thick carpet underlay wrapped around the trunk. Timber planks (50mm x 100mm or similar) shall be placed over the padding and around the trunk of the tree at 150mm centres. The planks shall be secured with 8-gauge wire or hoop steel at 300mm spacing. Trunk protection shall extend a minimum height of 2 metres on tree 6 & 7 – refer Annexure D.
g) Install the following Tree Protection Measures around the retained trees: Tree 1, 2, 11, 14, 15, 16, 17, 18, 18A, 19, 21, 22, 25 & 42, tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone – refer Annexure D.
h) The Tree Protection Plan can be found on Annexure D.
i) An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures.
j) The tree location plan can be found on Annexure B;
k) The tree impact plan can be found on Annexure C.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Annexure A: Observations as seen on the day of inspection of trees 27.9.2024

Tree No	Botanical Name	Age Class	Height (m)	Spread (m)	D.B.H. (cm)	D.R.B. (cm)	TPZ (radius m)	SRZ (radius m)	Condition comments as seen on site	ULE	Landscape significance	Retention value
1	*Lagerstroemia indica*	M	3	1	3 x 8	12	2.0	1.5	Exempt species	4	Low	Low
2	*Lagerstroemia indica*	M	3	1	2 x 10	15	2.0	1.5	Exempt species	4	Low	Low
6	*Eucalyptus resinifera*	M	7	3	15	20	2.0	1.7	F vitality, suppressed. ST	2	Medium	High
7	*Eucalyptus resinifera*	M	9	5	50	60	6.0	2.7	F - A vitality, 90% foliage is ER. ST	2	Medium	High
8	*Duranta sp.*	M	4	5	5 x 15	45	4.0	2.4	Exempt species <5m	4	Low	Low
9	*Camellia sasanqua*	M	4	3	5 x 10	20	2.7	1.7	Exempt species <5m	4	Low	Low
11	*Archontophoenix cunninghamiana*	M	7	3	-	-	2.5	1.5	Exempt species	4	Low	Low
12	*Murraya paniculata*	M	4	-	-	-	-	-	Weed species by NSW Dept Primary Industries	4	Low	Low
13	*Murraya paniculata*	M	3	-	-	-	-	-	Weed species by NSW Dept Primary Industries	4	Low	Low
14	*Ulmus glabra*	M	4	5	45, 35	65	6.8	2.8	G vitality, topped > poor form, ND	2	Low	Low
15	*Ulmus glabra*	M	8	6	2 x 30	50	5.1	2.5	F vitality, ND	2	Low	Low
16	*Eucalyptus botryoides*	M	16	8	70	80	8.4	3.0	G vitality, ND	1	High	High
17	*Murraya paniculata*	M	5	-	-	-	-	-	Weed species by NSW Dept Primary Industries	4	Low	Low
18	*Viburnum tinus*	M	4	3	6 x 10	35	2.9	2.1	Exempt species <5m	4	Low	Low
18A	*Bambusa sp. (clump)*	M	7	-	-	-	-	-	Weed species by NSW Dept Primary Industries	4	Low	Low
19	*Archontophoenix cunninghamiana*	M	4	3	-	-	2.5	1.5	Exempt species	4	Low	Low
20	*Removed*	-	-	-	-	-	-	-	-	-	-	-
21	*Magnolia grandiflora*	M	8	8	50	55	6.0	2.6	F vitality, lower branches pruned	2	Low	Medium
22	*Syzygium paniculatum*	M	8	8	25	30	3.0	2.0	G vitality, ND	2	Low	Medium

25	*Ulmus glabra*	M	9	7	35	40	4.2	2.3	G vitality, ND	1	Medium	Medium
42	*Syzygium luehmannii*	M	4	2	10, 8	12, 10	2.0	1.5	Exempt species <5m	4	Low	Low

Terms used in Tree Survey & Report:
Age Class
(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy
(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics. 1/3 to 2/3 life expectancy
(M)- Mature refers to a full-size tree with some capacity for future growth. Older than 2/3 life expectancy
(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.
Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor & (D) Dead.**
Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection;
Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline;
Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion;
Dead: Tree no longer capable of sustained growth.
Deadwood (DW) – deadwood found in canopy as a percentage.
Over Head Power Lines (OHPL) – upper canopy pruned to accommodate power lines at a given height.

Height expressed in metres refers to estimated overall height of tree.

Next Door tree (ND) – tree located in the neighbour's property.

Street Tree (ST) – tree located in Councils footpath reserve.

Spread expressed in metres refers to estimated spread of crown at the drip line.

(DBH) Diameter at Breast Height expressed in millimetres refers to the trunk diameter at 1.4 metres above ground level. Where there are multiple trunks the combined diameter has been calculated in terms of Appendix A – AS 4970 – 2009, shown in brackets.

(DRB) Diameter above Root Buttress expressed in millimetres refers to the trunk diameter above root buttress.

(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(ULE) The various ULE categories indicate the useful life anticipated for an individual tree or trees assessed as a group. Factors such as the location, age, condition and vitality of the tree are significant to the determination of this rating. Other influences such as the tree's effect on better specimens and the economics of managing the tree successfully in its location are also relevant to ULE (Barrell 1993, 1995, 2001).

ULE RATING (UPDATED 1/4/01) BARRELL

1.Long ULE: Trees that appear to be retainable at the time of assessment for more than 40 years with an acceptable level of risk.	**2.Medium ULE:** Trees that appear to be retainable at the time of assessment for more than 15-40 years with an acceptable level of risk.	**3.Short ULE:** Trees that appear to be retainable at the time of assessment for more than 5-15 years with an acceptable level of risk.	**4.Remove:** Trees that should be removed within the next 5 years.	**5.Small, young or regularly pruned:** Trees that can be reliably moved or replaced.
(A) Structurally sound trees located in positions that can accommodate future growth	**(A)** Trees that may only live between 15 and 40 more years.	**(A)** Trees that may only live between 5 and 15 more years.	**(A)** Dead, dying, suppressed or declining trees because of disease or inhospitable conditions.	**(A)** Small trees less than 5 Metres in height.
(B) Trees that could be made suitable for retention in the long term by remedial tree care.	**(B)** Trees that could live for more than 40 years but may be removed for safety or nuisance reasons.	**(B)** Trees that could live for more than 15 years but may be removed for safety or nuisance reasons.	**(B)** Dangerous trees because of instability or recent loss of adjacent trees.	**(B)** Young trees less than 15 years old but over 5 metres in height.
(C) Trees of special significance for historical, commemorative or rarity reasons that would warrant extraordinary efforts to secure their long term retention.	**(C)** Trees that could live for more than 40 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Trees that could live for more than 15 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	**(C)** Dangerous trees because of structural defects including cavities, decay, included bark, wounds or poor form.	**(C)** Formal hedges and trees intended for regular pruning to artificially control growth.
	(D) Trees that could be made suitable for retention in the medium term by remedial tree care.	**(D)** Trees that require substantial remedial tree care and are only suitable for retention in the short term.	**(D)** Damaged trees that are clearly not safe to retain.	
			(E) Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.	
			(F) Trees that are damaging or may cause damage to existing structures within 5 years.	
			(G) Trees that will become dangerous after removal of other trees for the reasons given in (A) to (F).	
			(H) Trees in categories (A) to (G) that have a high wildlife habitat value and, with appropriate treatment, could be retained subject to regular review.	

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.

Hazardous/Irreversible Decline

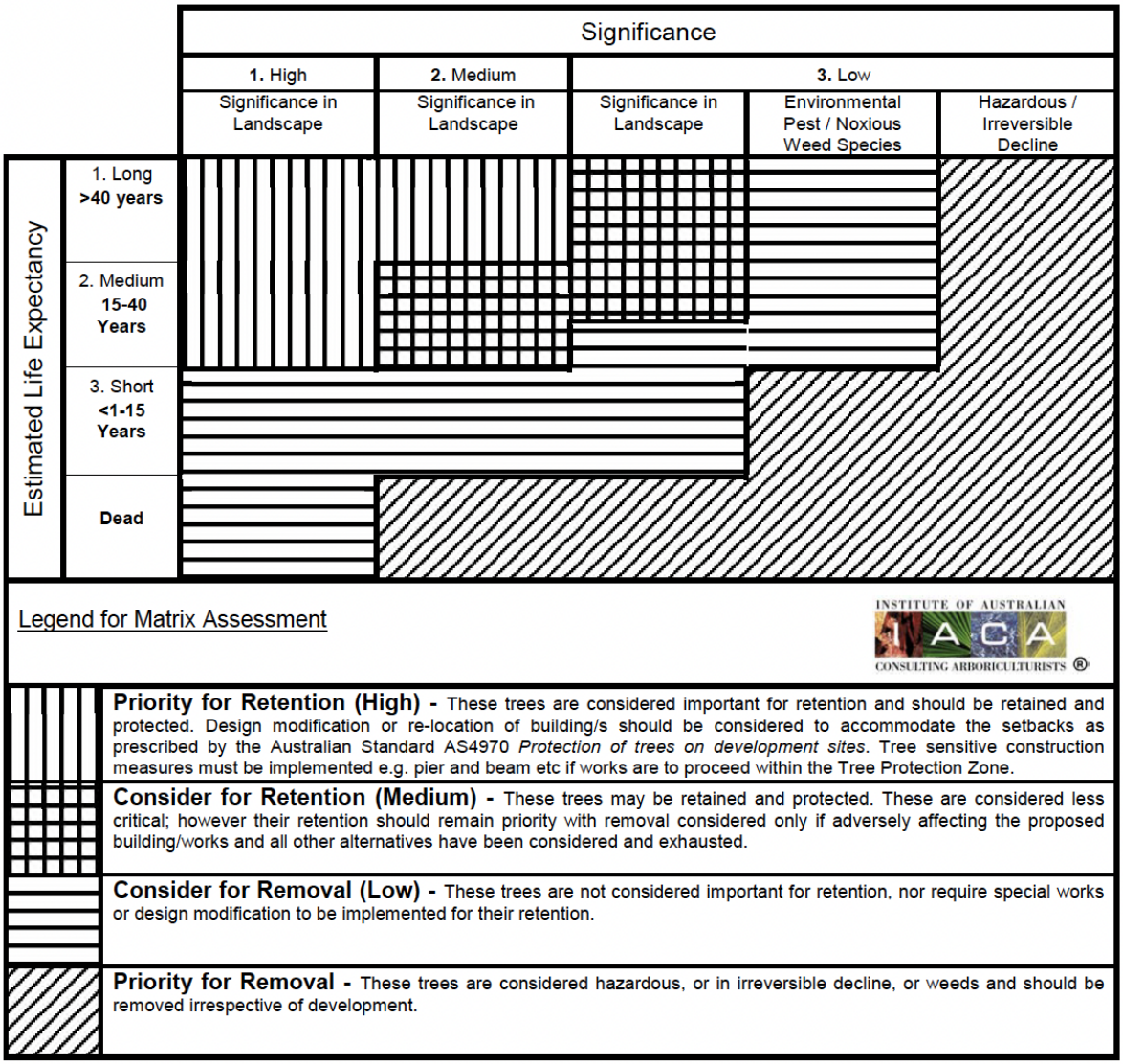
- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

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. hedge.

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

Table 1.0 Tree Retention Value - Priority Matrix.



USE OF THIS DOCUMENT AND REFERENCING

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

REFERENCES

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

Appendix A

The following example shows the IACA **Significance** of a **Tree, Assessment Rating System** (STARS) used in an Arboricultural report.

Tree Significance

Determined by using the Tree Significance - Assessment Criteria of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Trees 14, 16, 17/3, 19 and 20/4 are of high significance with the remaining majority of medium significance and a few of low significance. Tree 14 is significant as a prominent specimen and a food source for indigenous avian fauna. Tree 16 as a non-locally indigenous planting is of good from and prominent *in situ*; Tree 17/3 as a stand of 6 street trees along the Davey Street frontage screening views to and from the site and contiguous with trees in Victoria Park extending the aesthetic influence of the urban canopy to the site. Similarly for Trees 20/4 as street trees in Long Road and Tree 19 as an extant exotic planting as a senescent component of the original landscaping. The trees of low significance are recent plantings as fruit trees – Avocados, and 1 Cootamundra Wattle as a non-locally indigenous tree in irreversible decline and potentially structurally unsound.

Significance Scale

1 – High
2 – Medium
3 – Low

Significance Scale	1	2	3
Tree No. / Stand No.	14, 16, 17/3, 19, 20/4	1/1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12/2, 15, 18, 21/5	3, 13, 22

Tree Retention Value

Determined by using the Retention Value - Priority Matrix of the *IACA Significance of a Tree, Assessment Rating System* (STARS)© (IACA, 2010), Appendix B.

Retention Value

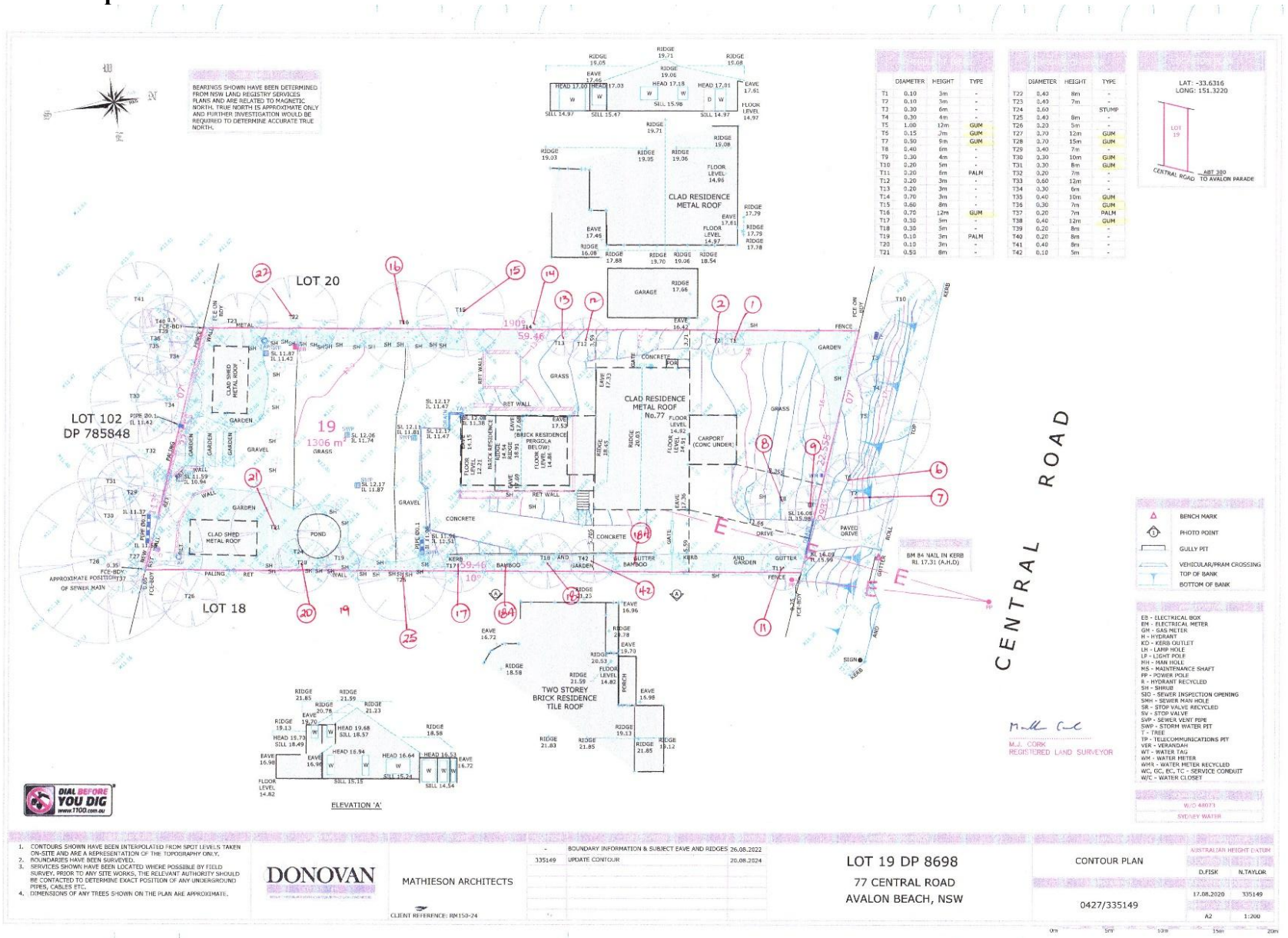
High – Priority for Retention
Medium – Consider for Retention
Low – Consider for Removal
Remove - Priority for Removal

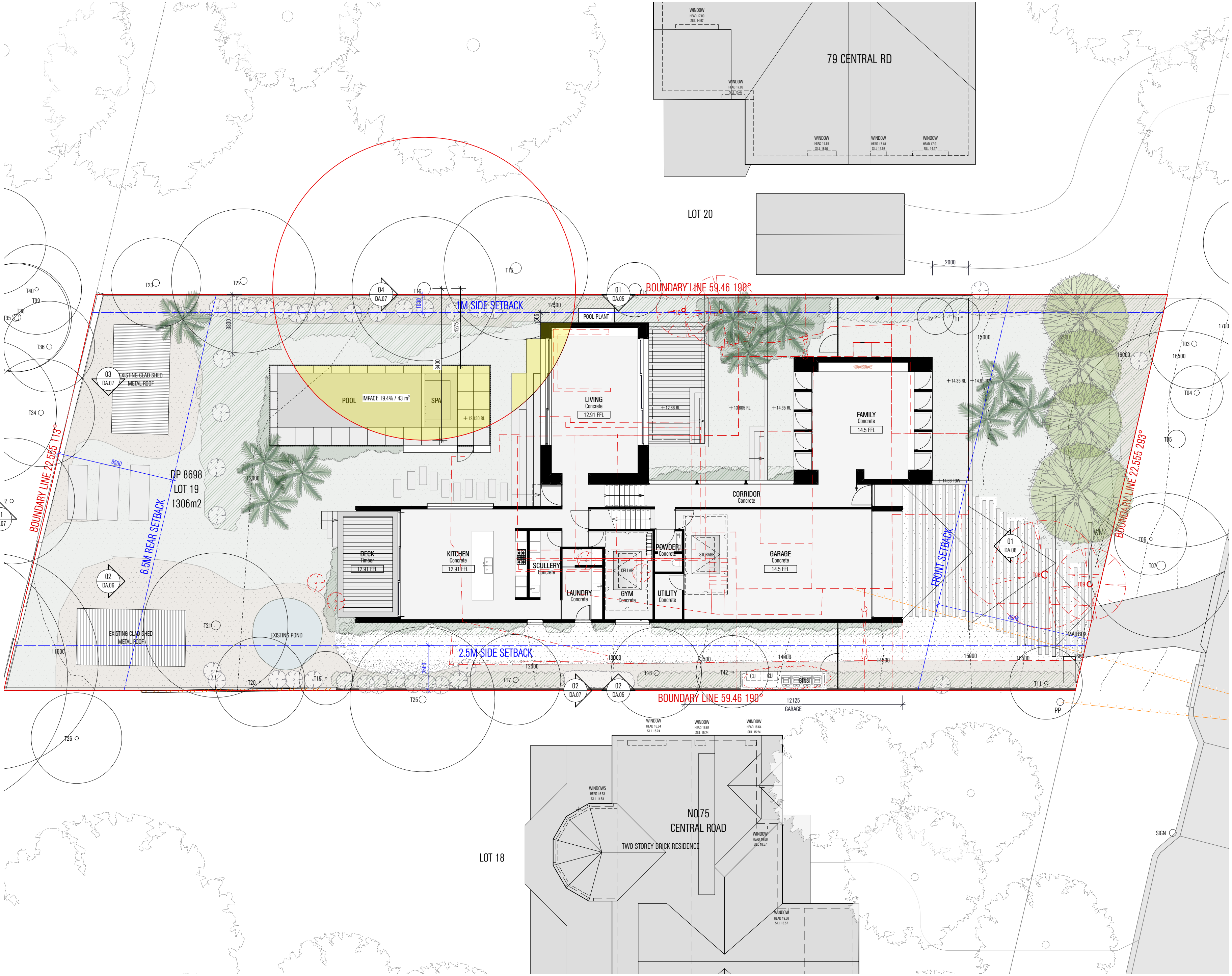
Retention Value	High Priority for Retention	Medium Consider for Retention	Low Consider for Removal	Remove Priority for Removal
Tree No. / Stand No.	1/1, 5, 17/3*, 19	2, 4, 6, 7, 8, 9, 10, 11, 14, 15, 16, 18, 20/4*, 21/5	3, 12/2, 13,	22

* Trees located within the neighbouring property and should be retained and protected.

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

Annexure B: Tree location plan





01 PLAN
Ground Floor Plan
Scale 1:100

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KEY:

TPZ

AREA OF IMPACT M^2

0 5m

NOTES

NOTE

REV NO.	DATE	REVISIONS	BY	CHK
A	25.03.25	COUNCIL RFI	LA	ES

PROJECT VATSELIAS SCHUBERG AVALON

ADDRESS 77 CENTRAL ROAD, AVALON BEACH NSW 2107

DOCUMENT DEVELOPMENT APPLICATION

DRAWING

TPZ SKETCH

DATE 31.03.25 SCALE 1:100 @ A1

DRAWN LA PROJECT NO. 23009

DRAWING NO. SK.15 REV NO. A

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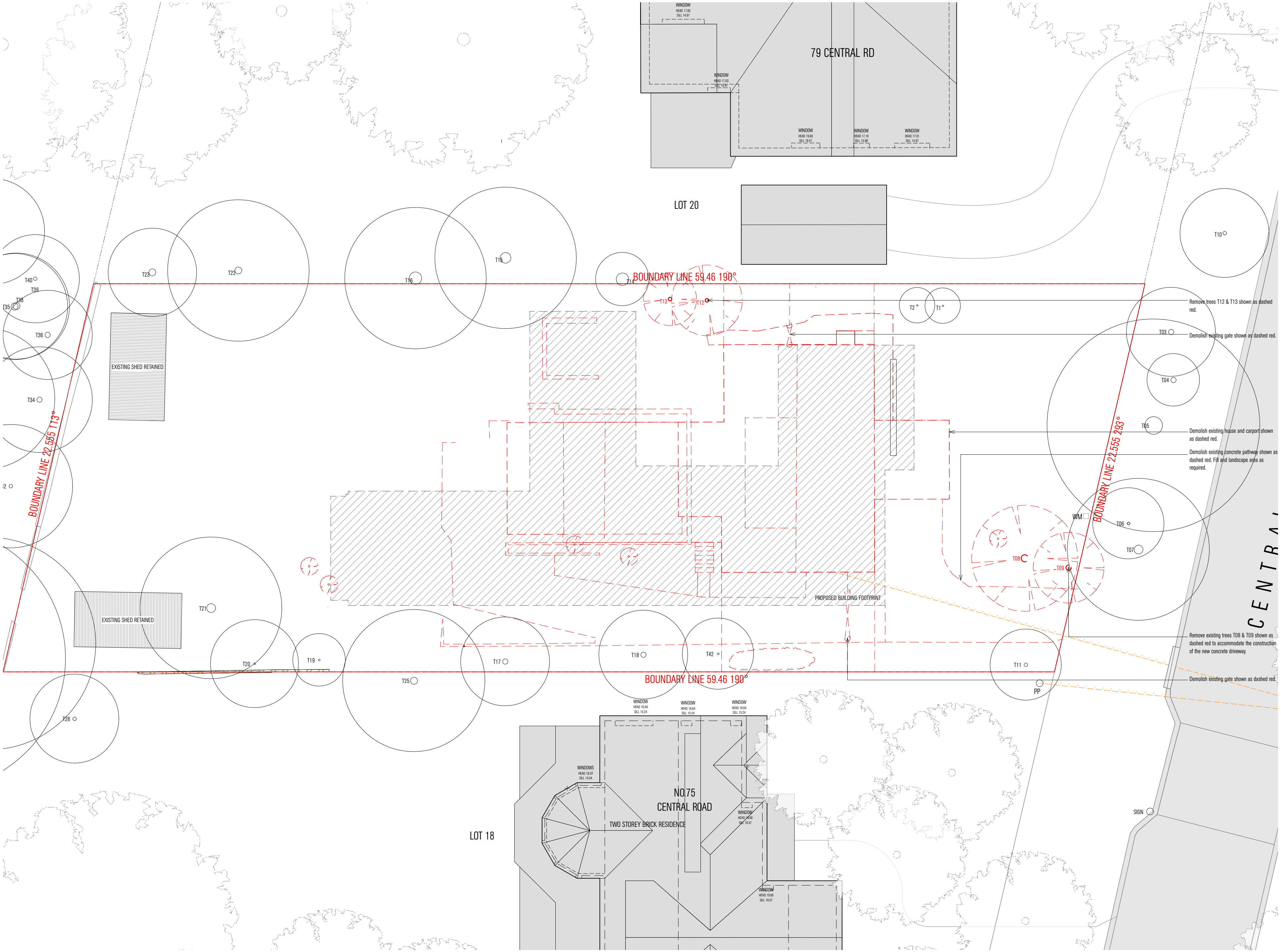

01 **PLAN**

Demolition Plan

Scale 1:100

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Proposed building footprint

Demolished

NOTES

NOTE

REV NO.	DATE	REVISIONS	BY	CHK
A	13.09.24	ISSUE FOR CONSULTANT REVIEW	LA	ES
B	04.12.24	ISSUE FOR DA	LA	ES
C	09.01.25	DA SUBMISSION	LA	ES
D	05.02.25	ISSUE FOR DA	LA	ES
E	31.03.25	DA REVISION	LA	

PROJECT VATSELIAS SCHUBERG AVALON

ADDRESS 77 CENTRAL ROAD, AVALON BEACH NSW 2107

DOCUMENT DEVELOPMENT APPLICATION

DRAWING

DEMOLITION PLAN

DATE 31.03.25 SCALE 1:100 @ A1

DRAWN LA PROJECT NO. 23009

DRAWING NO. DA.02 REV NO. E

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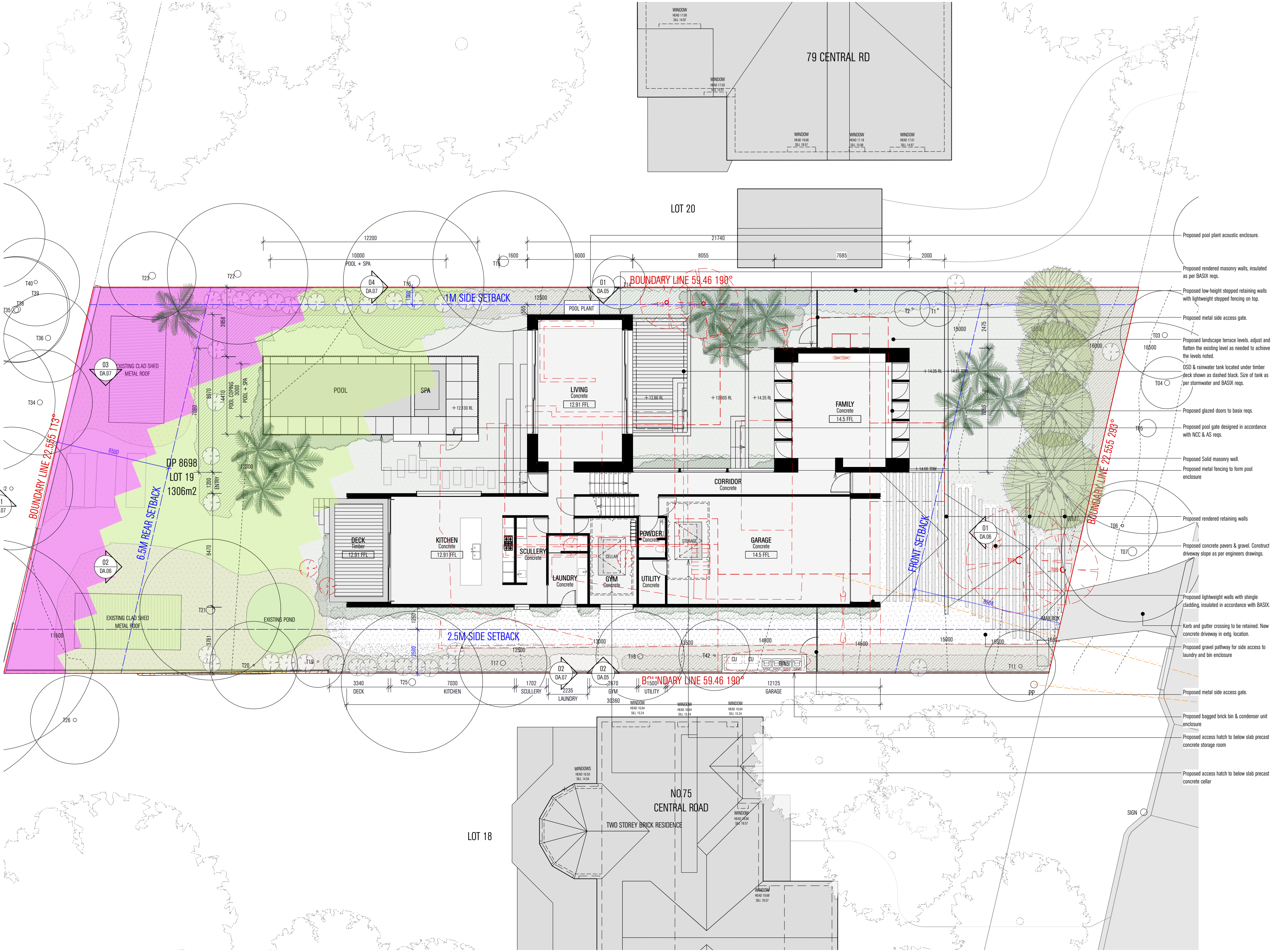

01 PLAN
Ground Floor Plan
Scale 1:100

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ABBREVIATIONS:

RL: Reduced Levels
TOF: Top of fence RL
TOW: Top of wall RL
PV: Photovoltaic
SK: Skylights
CU: Condenser Unit

0 5m

NOTES

NOTE

REV NO.	DATE	REVISIONS	BY	CHK
A	13.09.24	ISSUE FOR CONSULTANT REVIEW	LA	ES
B	10.10.24	ISSUE FOR BASIX	LA	ES
C	04.12.24	ISSUE FOR DA	LA	ES
D	09.01.25	DA SUBMISSION	LA	ES
E	05.02.25	ISSUE FOR DA	LA	
F	31.03.25	DA REVISION	LA	

PROJECT	VATSELIAS SCHUBERG AVALON
ADDRESS	77 CENTRAL ROAD, AVALON BEACH NSW 2107
DOCUMENT	DEVELOPMENT APPLICATION
DRAWING	GROUND PLAN
DATE	31.03.25
SCALE	1:100 @ A1
DRAWN	LA
PROJECT NO.	23009
DRAWING NO.	DA.03
REV NO.	F

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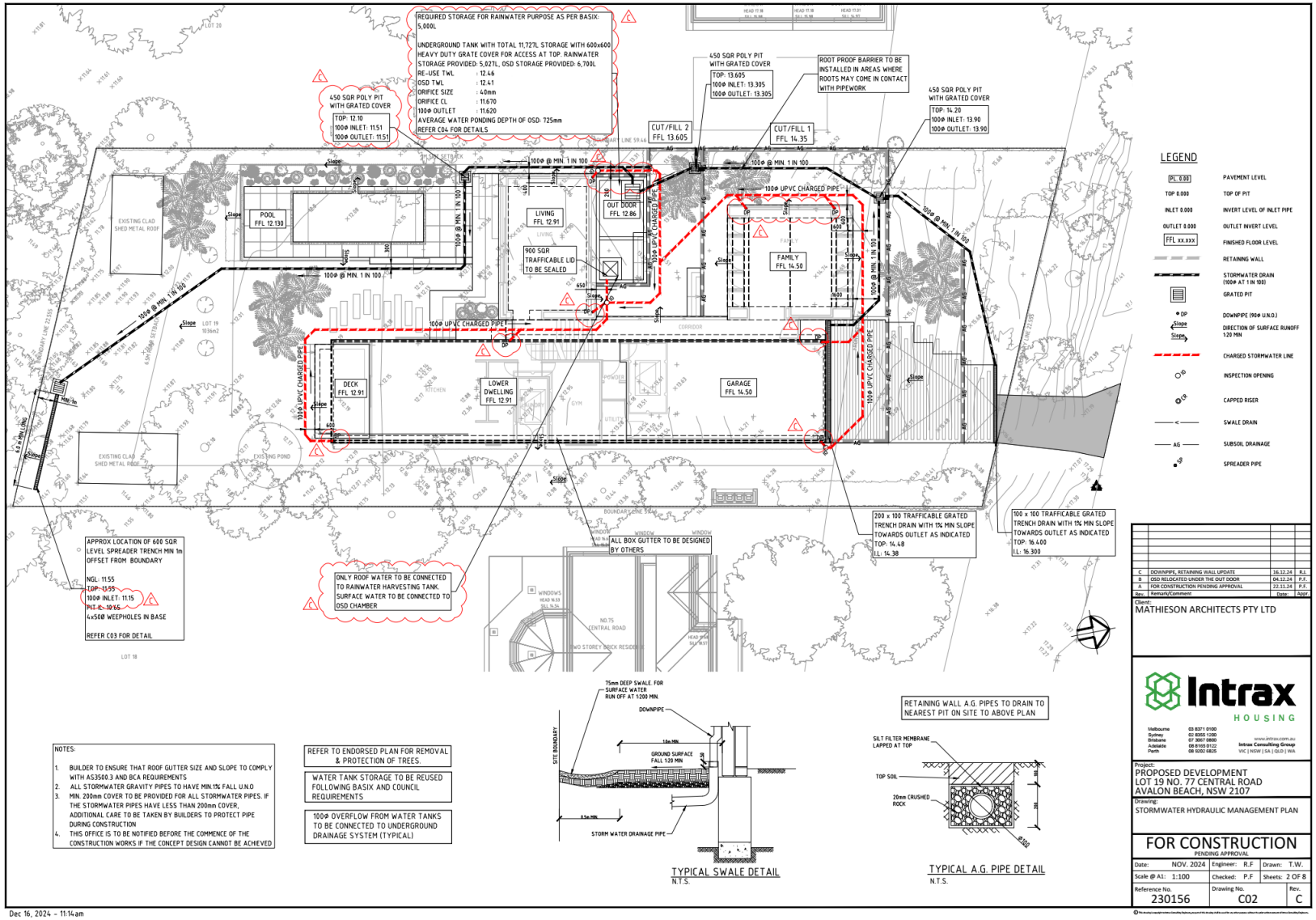

Dec 16, 2024 - 11:14am

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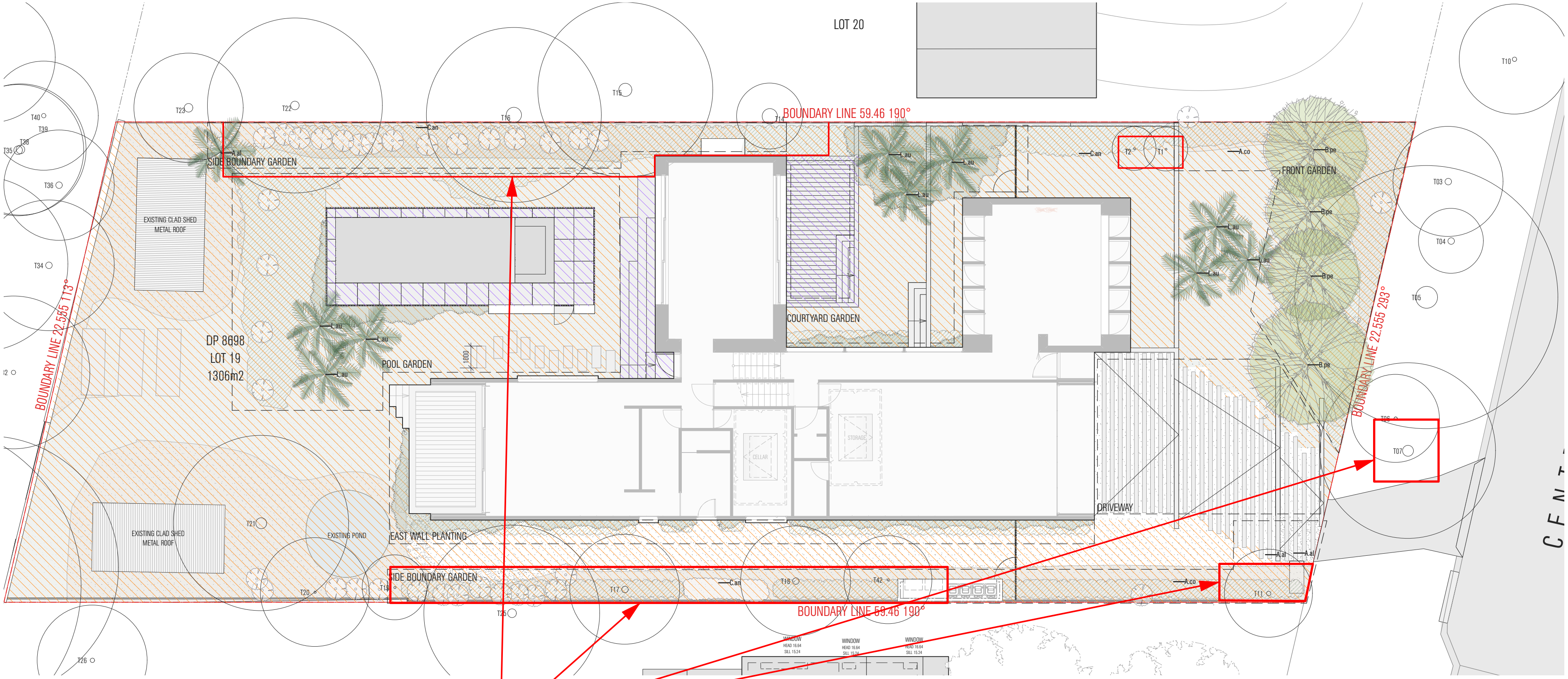

01 PLAN
LANDSCAPE PLAN
Scale 1:100

TEMPORARY FENCING

TREE PROTECTION PLAN BY JNW WITH TEMPORARY FENCING AND TRUNK PROTECTION

Landscaped Area

- Soft planting
- Impervious Landscape Treatments / Outdoor Recreational Areas

Landscaped Area

Site area: 1306m²

Required Landscaped Area: 60% (including 6% Impervious Landscape Treatments)

Proposed: 62% / 807m2 (including 6% impervious landscape treatment)

Complies: **Yes**

0 — 5m

NOTES

NOTE

KEY

- EXISTING GARDEN BED
- LAWN
- PROPOSED GRAVEL
- PROPOSED PAVERS
- PROPOSED RENDERED RETAINING WALLS
- PROPOSED FENCING
- EXISTING TREES
- PROPOSED TREES
- PROPOSED PALMS
- EXISTING SHRUBS
- PROPOSED SHRUBS
- PROPOSED GROUND COVER

EXISTING TREE SCHEDULE

TREE NO.	BOTANICAL NAME	ACTION
1	LAGERSTROEMIA INDICA	RETAINED
2	LAGERSTROEMIA INDICA	RETAINED
6	EUCALYPTUS RESINIFERA	RETAINED
7	EUCALYPTUS RESINIFERA	RETAINED
8	DURANTA SP.	REMOVED
9	CAMELLIA SASANQUA	REMOVED
11	ARCHONTOPHOENIX CUNNINGHAMIANA	RETAINED
12	MURRAYA PANICULATA	RETAINED
13	MURRAYA PANICULATA	REMOVED
14	ULUMUS GLABRA	REMOVED
15	ULUMUS GLABRA	RETAINED
16	EUCALYPTUS BOTRYOIDES	RETAINED
17	MURRAYA PANICULATA	RETAINED
18	VIBURNUM TINUS	RETAINED
18A	BAMBYS SP. (CLUMP)	RETAINED
19	ARCHONTOPHOENIX CUNNINGHAMIANA	RETAINED
20	REMOVED	RETAINED
21	MAGNOLIA GRANDIFLORA	RETAINED
22	SYZYGIUM PANICULATUM	RETAINED
25	ULMUS GLABRA	RETAINED
42	SYZYGIUM LUEHMANNI	RETAINED

INDICATIVE PLANT SCHEDULE

ID	BOTANICAL NAME	COMMON NAME	MATURE HEIGHT	MATURE SPREAD	POT SIZE	QUANTITY
TREES						
B.pe	BETULA PENDULA	SILVER BIRCH	12m	4-6m	300mm POT	4
L.au	LIVISTONA AUSTRALIA	CABBAGE TREE PALM	up to 30m	up to 3m	200mm POT	10
SHRUBS						
A.ae	ADIANTUM AETHIOPICUM	COMMON MAIDENHEAD FERN	0.3-1m	0.3-0.6m	100mm POT	60
A.ma	ALOCASIA MACRORRIZAH	ELEPHANT EAR	0.3-1m	1-2m	300mm POT	20
A.mo	ACABTHUS MOLIS	BEAR BREECHES	1-1.5m	1.5m	140mm POT	20
A.ni	ASPLENIUM NIDUS	BIRD'S NEST FERN	1-2m	2m	200mm POT	25
A.ze	ALPINA ZERUMBET 'VARIEGATA'	VARIEGATED SHELL GINGER	1-5m	0.6m	200mm POT	15
E.aa	ERIOSTEMON AUSTRALASIUS	PINK WAX FLOWER	2.5m	2m	130mm POT	40
F.no	FICINIA NODOSA	KNOBBY CLUB-RUSH	0.1m	0.4m	140mm POT	55
P.la	PLATYSACE LANCEOLATA	NATIVE PARSNIP	0.5m	0.5m	200mm POT	25
O.di	OZOTHAMNUS DIOSMIFOLIUM	EVERLASTING PAPER DAISY	0.6m	0.3m	50mm POT	30
V.ju	VIMINARIA JUNCEA	NATIVE BROOM	5m	2m	50mm POT	15
GROUNDCOVER						
D.re	DICHONDRA REPENS	NATIVE KIDNEY WEED	0.05 - 0.15m	2m	140mm POT	50
G.cl	GLYCINE CLANDESTINA	LOVE CREEPER	0.05 - 0.15m	2m	140mm POT	50
Z.te	ZOYSIA TENUFOLIA	VELVET GRASS	0.1m	0.4m	140mm POT	50
TOTAL [OVERALL]						469
TOTAL [PITTWATTER NATIVES]						287 / 61%
COMPLIES:						**YES**

PLANTING SCHEDULE BY AREA

AREA	TYPE	ID
FRONT GARDEN	TREES	B.pe
		L.au
	SHRUBS	A.ae
		P.la
		F.no
		O.di
		V.ju
SIDE BOUNDARY GARDENS	SHRUBS	A.ae
		A.mo
		A.ze
		E.aa
		F.no
		G.cl
EAST-WALL GARDEN	SHRUBS	A.el
		A.mo
		F.no
	GROUNDCOVER	D.re

PLANTING SCHEDULE BY AREA

AREA	TYPE	ID
COURTYARD GARDEN	TREES	L.au
	SHRUBS	A.mo
		A.ni
	GROUNDCOVER	D.re
		Z.te
POOL GARDEN	TREES	L.au
	SHRUBS	A.ma
		P.la
		F.no
	GROUNCOVER	D.re
		Z.te
DRIVEWAY	GROUNCOVER	D.re
		Z.te

REV NO.	DATE	REVISIONS	BY	CHK
A	09.01.25	DA SUBMISSION	LA	ES
B	05.02.25	ISSUE FOR DA	LA	ES
C	31.03.25	DA REVISION	LA	ES

PROJECT	VATSELIAS SCHUBERG AVALON		
ADDRESS	77 CENTRAL ROAD, AVALON BEACH NSW 2107		
DOCUMENT	DEVELOPMENT APPLICATION		
DRAWING	LANDSCAPE PLAN		
DATE	31.03.25	SCALE	1:100 @ A1
DRAWN	LA	PROJECT NO.	23009
DRAWING NO.	DA.12	REV NO.	C

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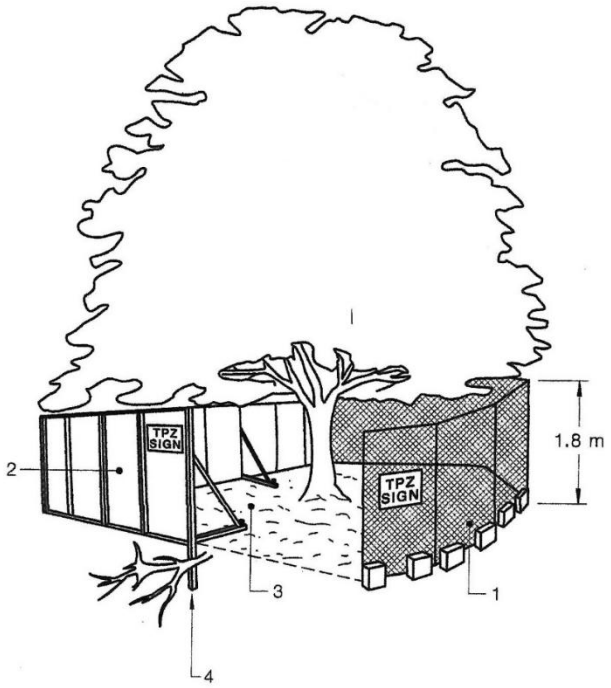
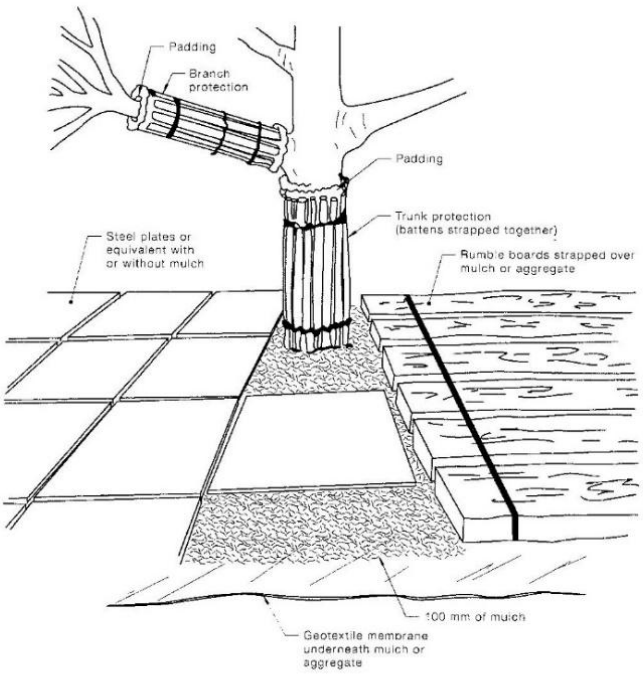


LEGEND:

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

FIGURE 3 PROTECTIVE FENCING



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


ROBBOS