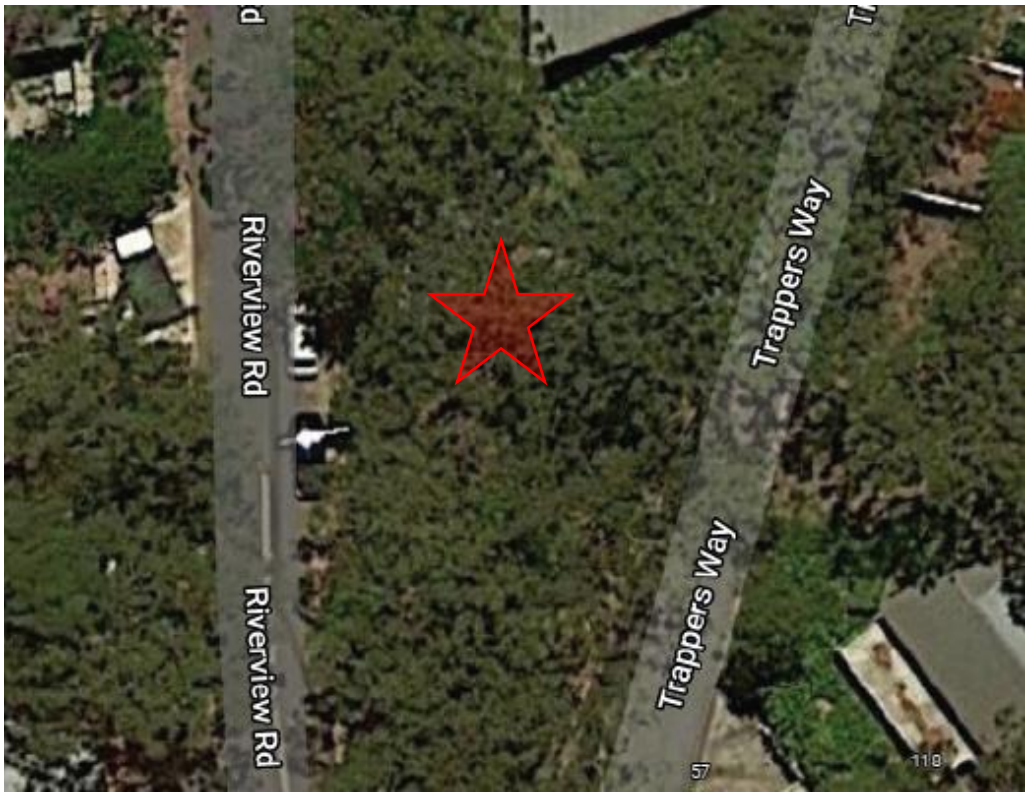
ARBORICULTURAL IMPACT REPORT

PROPOSED DWELLING
(PROPOSED) LOT 81 - 122 RIVERVIEW ROAD
AVALON BEACH NSW

PREPARED FOR TIM AND NIKKI HILL

REVISED REPORT
22ND DECEMBER 2021



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1. BACKGROUND

Landscape Matrix Pty Ltd has been engaged by Tim and Nikki Hill to prepare an Arboricultural report in respect to trees at or adjacent to 122 Riverview Road Avalon Beach and, in particular, those trees potentially affected by a proposed new dwelling at the site. This report has been prepared by Guy Paroissien a Director of Landscape Matrix.

The site was originally inspected on 15th November 2016 to collect data for the trees assessed for an earlier report. The trees were reviewed on 21st September 2021 to verify the previously collected data. The assessment of the trees was based upon a visual inspection of the trees from ground level using elements of the Visual Tree Assessment (VTA) approach developed by Mattheck & Breloer (1994). The visual inspection included examination of the trees' dimensions, foliage density and foliage health, form, structure, structural condition, overall health and vigour and landscape significance.

The inspection was limited to visual inspection of the trees without dissection, probing or coring. No aerial inspection of the trees was carried out and the assessment did not include any woody tissue testing or subterranean root investigation.

The tree heights and canopy spreads were estimated and expressed in metres and the tree diameters at breast height (DBH) were measured with a standard metal tape at approximately 1.4 metres above ground level and expressed in millimetres.

Measurements from the trees referred to in this report are to be taken as if measured from the centre of the trees' trunks. Trees on the adjoining property to the east were assessed from the nearest property boundary.

2. TREES ON SITE

22 trees on or adjoining the site have been assessed in preparing this report. A summary of these trees, their dimensions, condition, Useful Life Expectancy (ULE) and landscape significance is attached in Appendix B. The ULE categories identified in Appendix B follow those of Barrell (1996).

The tree numbers in Appendix B correspond with the tree numbers marked on the attached Survey Plan prepared by Byrne and Associates Pty Ltd dated 27/5/16 and identified as Plan Number A1 – 10760P2.

It is noted that the following 5 trees have already been approved for removal through the earlier Development Consent DA2017/1368:
Tree number 4 – Tristaniopsis *laurina* (Water Gum)
Tree number 5 – *Angophora costata* (Smooth Barked Apple, Sydney Red Gum)
Tree number 6 – *Corymbia maculata* (Spotted Gum)
Tree number 7 – Corymbia *maculata* (Spotted Gum)

Tree number 13 – *Corymbia maculata* (Spotted Gum)

The Demolition Site/Trees Plan prepared by Interlock Architects dated 3/12/2021 and identified as Drawing Number A050 identifies the trees already approved for removal together with the additional 4 trees proposed to be removed as part of the current application proposed to be removed – a copy of that plan is attached at Appendix C.

The site currently supports a mix of remnant and planted trees and shrubs.

This report has been revised and updated in October 2021 in respect to amended plans for a proposed dwelling at the site. The previous report was issued under the address of 55 Trappers Way Avalon Beach in respect to a proposed subdivision. T*his Report relates to proposed subdivision of Lot 81 and associated new dwelling.*

The trees that have been assessed on the site and adjoining property to the north are summarised in table 1 as follows:

Table 1: Summary of species assessed, number and height range.

SPECIES	**COMMON NAME**	**NUMBER PRESENT**	**HEIGHT RANGE (metres)**
Allocasuarina torulosa	Forest Oak	2	11 to 16
Angophora costata	Smooth Barked Apple, Sydney Red Gum	2	8 to 22
Callistemon viminalis	Weeping Bottlebrush	1	6
Corymbia maculata	Spotted Gum	11	8 to 24
Eucalyptus paniculata	Grey Ironbark	2	19 to 34
Eucalyptus saligna	Sydney Blue Gum	1	27
Pinus radiata	Monterey Pine, Radiata Pine	1	13
*Tristaniopsis laurina**	Water Gum	1	7
Unidentified tree (possibly *Angophora floribunda* - Rough Barked Apple)	Unidentified tree (possibly Rough Barked Apple)	1	15
	Total	**22**	**6 to 34 metres**

* This tree has been removed since the original assessment.

None of the trees assessed for this report is listed individually as a threatened species under the NSW *Biodiversity Conservation Act 2016* or the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*.

3. TREES IDENTIFIED AS A PRIORITY FOR RETENTION/PROTECTION.

The identification of trees as priorities for retention is based upon a number of factors including; species, dimensions, health, maturity, Useful Life Expectancy (ULE) and landscape significance.

Following assessment of the trees it is considered the following 2 trees are of high landscape value and medium to long ULE and warrant consideration as priorities for retention/protection if possible.

Table 2: Trees identified as a priority for consideration for retention/protection.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ*	SRZ*	COMMENTS
2	*Eucalyptus saligna* (Sydney Blue Gum)	8.6 metres	3 metres	A mature, single trunked specimen approximately 27 metres in height with a canopy spread of 16 metres and a diameter at breast height (DBH) of 720mm. In good health and of high landscape significance. Located on adjoining property.
8	*Eucalyptus paniculata* (Grey Ironbark)	10.3 metres	3.3 metres	A mature, single trunked specimen approximately 34 metres in height with a canopy spread of 19 metres and a DBH of 860mm. In good health and of high landscape significance. Slight canopy bias to north. There are moderate to high levels of termite mudding in lower trunk indicative of an internal termite nest in the lower trunk or root crown - further investigation and testing is required to determine the extent of damage (if any) and potential impacts on the tree's structural integrity (e.g. stability) - ULE rating subject to outcome of such investigations. There is evidence of past mechanical damage to lower trunk tissue consistent with vehicle impacts (located on edge of road access). At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.

*TPZ = Tree protection zone in accordance with AS4970-2009, SRZ = Structural root zone under AS4970-2009

It is noted that tree number 7 was also identified to be of high landscape significance but this tree was not identified as a priority for retention due to its short ULE.

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 is 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.

Harris et al (2004) provide formulae for calculating tree protection zones based on the above criteria and modified from the 1991 British Standard for protection of trees on construction sites (BS 5837:1991). The 2005 version of the British Standard (BS 5837:2005) recommends a radius of 12 times the tree's DBH. For multi trunked trees BS 5837:2005 recommends a setback of 10 times the basal trunk diameter.

The Australian Standard AS 4970-2009 Protection of Trees on Construction Sites also identifies a 'Tree Protection Zone' of 12 times the tree's DBH. The Australian Standard also provides a formula for calculating the "Structural Root Zone' of trees on development sites. 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)

The tree protection zones identified above have been calculated using the Australian Standard AS 4970 Protection of Trees on Construction Sites and are the optimum setback from the trees where disturbance (e.g. soil level changes, compaction, excavation etc.) should be minimised to reduce potential impacts on the long term health of the trees.

Preferably, no more than 10% of the tree protection zone should be disturbed with compensation made by extension of other areas of the TPZ to compensate for the area(s) disturbed. Where greater than 10% of the tree protection zone is potentially disturbed the tree's viability needs to be investigated and demonstrated by the project arborist.

The structural root zone is the area required for stability and where disturbance of any sort should be avoided.

4. TREES THAT SHOULD BE CONSIDERED FOR RETENTION/PROTECTION

The identification of trees for consideration (but not as a priority) for retention is based upon the same factors as those for priority for retention (species, dimensions, health, maturity, Useful Life Expectancy (ULE) and landscape significance).

Following assessment of the trees it is considered the following 11 trees are of moderate or moderate to high landscape significance and medium to long ULE and should be considered for protection:

Table 3: Tree identified for consideration for retention/protection.

TREE NUMBER	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS
1	*Pinus radiata* (Monterey Pine, Radiata Pine)	4.1 metres	2.2 metres	A semi mature, single trunked specimen approximately 13 metres in height with a canopy spread of 7 metres and a DBH of 340mm. In good health and of moderate landscape significance.
3	*Callistemon viminalis* (Weeping Bottlebrush)	3.5 metres	2 metres	A mature, multi trunked specimen approximately 6 metres in height with a canopy spread of 7 metres and DBH of up to 160mm (290mm above the root flare). In good health and of moderate landscape significance. The tree's past canopy development has been suppressed. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.
5	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	6.7 metres	2.6 metres	A mature, single trunked specimen approximately 22 metres in height with a canopy spread of 8 x 12 metres and a DBH of 560mm. In moderate health and of moderate to high landscape significance. The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback. Located on the high side of a past cut for the existing driveway - stability should be monitored.
9	*Allocasuarina torulosa* (Forest Oak)	2.3 metres	1.8 metres	A mature, single trunked specimen approximately 11 metres in height with a canopy spread of 6 metres and a DBH of 190mm. In good health and of moderate landscape significance. The tree's past canopy development has been suppressed. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback. Female specimen with cones.
12	*Corymbia maculata* (Spotted Gum)	4.6 metres	2.3 metres	A mature, single trunked specimen approximately 19 metres in height with a canopy spread of 9 metres and a DBH of 380mm. In moderate health and of moderate to high landscape significance. Slight canopy bias to south. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback.
16	*Corymbia maculata* (Spotted Gum)	4.8 metres	2.5 metres	A semi mature, single trunked specimen approximately 22 metres in height with a canopy spread of 12 metres and a DBH of ca. 400mm. In moderate health and of moderate to high landscape significance. The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and low to moderate levels of dieback.

17	*Corymbia maculata* (Spotted Gum)	5 metres	2.3 metres	A semi mature, single trunked specimen approximately 22 metres in height with a canopy spread of 9 metres and a DBH of 420mm. In good health and of moderate to high landscape significance. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.
19	*Corymbia maculata* (Spotted Gum)	3.5 metres	2 metres	A semi mature, single trunked specimen approximately 16 metres in height with a canopy spread of 6 x 12 metres and a DBH of 290mm. In good health and of moderate landscape significance. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
20	*Eucalyptus paniculata* (Grey Ironbark)	4.1 metres	2.3 metres	A mature, single trunked specimen approximately 17 metres in height with a canopy spread of 8 x 9 metres and a DBH of 340mm. In good health and of moderate landscape significance. The tree's past canopy development has been significantly suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of dieback and epicormic growth. Ivy growing on trunk should be removed to prevent impacts on tree in future. Located on the high side of a past cut for the existing driveway - stability should be monitored.
21	*Corymbia maculata* (Spotted Gum)	2.9 metres	1.9 metres	A semi mature, single trunked specimen approximately 14 metres in height with a canopy spread of 5 x 6 metres and a DBH of 240mm. In good health and of moderate landscape significance. The tree's past canopy development has been suppressed. Located on the high side of a past cut for the existing driveway - stability should be monitored. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
22	*Corymbia maculata* (Spotted Gum)	2.2 metres	1.7 metres	A semi mature, single trunked specimen approximately 14 metres in height with a canopy spread of 5 x 6 metres and a DBH of 180mm. In good health and of moderate landscape significance. Located on the high side of a past cut for the existing driveway - stability should be monitored. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.

The tree protection zones identified above have been calculated using the Australian Standard AS 4970 Protection of Trees on Construction Sites.

Preferably, no more than 10% of the tree protection zone should be disturbed with compensation made by extension of other areas of the TPZ to compensate for the area(s) disturbed. Where greater than 10% of the tree protection zone is potentially disturbed the tree's viability needs to be investigated and demonstrated by the project arborist. The structural root zone is the area required for stability and where disturbance of any sort should be avoided.

5. TREES THAT SHOULD BE CONSIDERED FOR REMOVAL

Following assessment of the trees on the site it is considered the following 16 trees of low to high landscape significance should be considered for removal and replacement from the site due to poor/declining health and/or structural condition and/or unsuitability to the site (e.g. weed species):

Table 4: Trees recommended for consideration for removal.

TREE NO.	SCIENTIFIC AND COMMON NAME	REASON
4	*Tristaniopsis laurina* (Water Gum)	The tree displays poor branch attachment with multiple, poorly attached epicormic shoots following severe past pruning (cut to 0.6 metre stump in past). **NB: This tree has been removed since the original assessment.**

6. TREES NOT IDENTIFIED FOR REMOVAL OR RETENTION

The following 8 trees have not been identified as being of moderate to high landscape value, medium to long ULE and worthy of retention/protection, or as priority for removal due to low landscape value, structural condition or unsuitability to the site:

- Tree numbers 6, 7, 10, 11, 13, 14, 15 and 18.

These trees are currently in moderate health and condition and do perform some landscape function of low to moderate significance but are not considered significant enough to warrant specific design consideration.

7. POTENTIAL IMPACTS ON TREES

The extent of impacts to the trees has been assessed using the following plans: dated 03/12/21

- Existing/Demolition Site Plan prepared by Interlock Design + Construct dated 3/12/2021 and identified as Drawing Number A 050, Issue PL01;
- Proposed Ground Floor Plan prepared by Interlock Design + Construct dated 3/12/2021 and identified as Drawing Number A 100, Issue PL01;
- Proposed Lower Ground Floor Plan prepared by Interlock Design + Construct dated 3/12/2021 and identified as Drawing Number A 101, Issue PL01.

Trees requiring removal or proposed to be removed to facilitate the proposed residential development
To facilitate the residential development the following 9 trees are proposed to be removed.

Table 5: Trees requiring removal to facilitate construction of the proposed residential development

TREE NO.	SCIENTIFIC AND COMMON NAME	COMMENTS
4	***Tristaniopsis laurina* (Water Gum)**	**Within the footprint of the proposed dwelling and nominated for removal. NB: This tree has been removed since the original assessment.**
5	***Angophora costata* (Smooth Barked Apple, Sydney Red Gum)**	**Immediately adjacent to the footprint of the proposed dwelling and will require removal.**
6	***Corymbia maculata* (Spotted Gum)**	**Immediately adjacent to the footprint of the proposed dwelling and will require removal.**
7	***Corymbia maculata* (Spotted Gum)**	**Immediately adjacent to the footprint of the proposed dwelling and will require removal.**
9	*Allocasuarina torulosa* (Forest Oak)	Within the footprint of the proposed dwelling and will require removal.
10	Unidentified tree (possibly *Angophora floribunda* - Rough Barked Apple)	Within the footprint of the proposed dwelling and will require removal.
11	*Corymbia maculata* (Spotted Gum)	Immediately adjacent to the footprint of the proposed dwelling and will require removal.
12	*Corymbia maculata* (Spotted Gum)	Immediately adjacent to the footprint of the proposed dwelling and will require removal.
13	***Corymbia maculata* (Spotted Gum)**	**Within the footprint of the proposed dwelling and will require removal.**

Tree numbers 4, 5, 6, 7 and 13 have been already approved for removal through the earlier Development Consent DA2017/1368.

Trees potentially impacted by the proposed residential development

A total of 6 trees are located in close proximity to the proposed residential development and have some impact within acceptable levels as identified in Table 6 below. The elevated structure and limited amount of ground excavation assists to limit the actual impacts to trees proposed for retention. A further 7 trees are located within the site but will not be impacted as they are remote for the proposed works.

Using the plans referred to in the preceding section of the report an analysis has been undertaken of the potential impacts to these trees.

The extent of impacts to the trees in table 6 has been rated using the following guideline:

0% of root zone 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

The root zone calculations referred to in this report were made using scale drawings of the trees' identified tree protection zones (TPZ) in a CAD program (TurboCAD®) with potentially affected areas added to the drawing. The area of potential impact was converted to a percentage of TPZ using a spreadsheet (Microsoft Excel®). The potential impacts to these 13 trees are identified in table 6 as follows:

Table 6: Trees potentially affected by the proposed residential development.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS*
1	*Pinus radiata* (Monterey Pine, Radiata Pine)	4.1 metres	2.2 metres	Lower ground floor The lower ground floor is 9.6 from the tree's and is outside the tree's identified TPZ – no impact of substance.

				Continued next page... <u>Ground floor</u> The proposed ground floor is located 6.7 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
2	*Eucalyptus saligna* (Sydney Blue Gum)	8.6 metres	3 metres	<u>Lower ground floor</u> The proposed deck area is located 4.85 metres from the tree at the closest point and is calculated to encroach within 8.91m^2 or 3.8% of the tree's identified TPZ – this is a low level of impact and within an acceptable threshold. In addition, the impacts will be minimised as it is an elevated structure supported by isolated piers. The proposed dwelling is located 5.48 metres from the tree at the closest point and is calculated to encroach within 9.69m^2 or 4.13% of the tree's identified TPZ – this is a low level of impact and within an acceptable threshold. <u>Ground floor</u> Within the footprint of the lower ground floor so no increase in encroachment.
3	*Callistemon viminalis* (Weeping Bottlebrush)	3.5 metres	2 metres	<u>Lower ground floor</u> The proposed deck area is located 2.9 metres from the tree at the closest point and is calculated to encroach within 1.05m^2 or 2.76% of the tree's identified TPZ – this is a low level of impact and within an acceptable threshold. In addition, the impacts will be minimised as it is an elevated structure supported by isolated piers. <u>Ground floor</u> Within the footprint of the lower ground floor so no increase in encroachment.
8	*Eucalyptus paniculata* (Grey Ironbark)	10.3 metres	3.3 metres	<u>Lower ground floor</u> The proposed dwelling is located 4.2 metres from the tree at the closest point and is calculated to encroach within 43.26m^2 or 12.94% of the tree's identified TPZ – this is a low to moderate level of impact and within an acceptable threshold. <u>Ground floor</u> The proposed dwelling at ground floor level is located 3.83 metres from the tree at the closest point (deck) with the garage 6.2 meters and the driveway 7.7 metres from the tree and is calculated to encroach within 102.49m^2 or 30.65% of the tree's identified TPZ – however, this includes the lower ground floor area – when the lower ground floor area is deducted the ground floor is calculated to encroach within 59.23m^2 or 17.71% of the tree's identified TPZ – this increases the cumulative encroachment to 30.65% - while

				this is in the high range the actual impacts will be significantly reduced as the majority of the encroachment is an elevated structure supported by isolated piers. Continued... The tree will need to be very carefully managed during construction with trunk and ground protection installed (Fig. 4 of AS4970-2009) prior to commencement of works and maintained in good working order through the entire construction period.
14	*Corymbia maculata* (Spotted Gum)	2.5 metres	1.8 metres	Lower ground floor The lower ground floor is located 11.6 metres from the tree and is outside the tree's identified TPZ – no impact of substance. Ground floor The proposed garage is located 1 metre form the tree at the closest point and is calculated to encroach within 4.74m^2 or 23.77% of the tree's identified TPZ – while this is a moderate to high level of encroachment the actual impact and will be minimised as it is an elevated structure supported by isolated piers.
15	*Allocasuarina torulosa* (Forest Oak)	4.2 metres	2.7 metres	Lower ground floor The lower ground floor is located 14.9 metres from the tree and is outside the tree's identified TPZ – no impact of substance. Ground floor The proposed driveway is located 3.5 metres form the tree at the closest point and is calculated to encroach within 1.91m^2 or 3.45 % of the tree's identified TPZ – this is a low level of impact and within an acceptable threshold. In addition, the impacts will be minimised as it is an elevated structure supported by isolated piers.
16	*Corymbia maculata* (Spotted Gum)	4.8 metres	2.5 metres	Lower ground floor The lower ground floor is located 14.9 metres from the tree and is outside the tree's identified TPZ – no impact of substance. Ground floor The proposed driveway is located 3.56 metres form the tree at the closest point and is calculated to encroach within 5.39% of the tree's identified TPZ – this is a low level of impact and within an acceptable threshold. In addition, the impacts will be minimised as it is an elevated structure supported by isolated piers.
Trees remote from the proposed works and not impacted				
17	*Corymbia maculata* (Spotted Gum)	5 metres 2.3 metres		Lower ground floor

				The lower ground floor is remote from the tree's identified TPZ – no impact of substance. Continued next page... <u>Ground floor</u> The proposed driveway is located 6.59 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
18	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	2.4 metres	1.8 metres	<u>Lower ground floor</u> The lower ground floor is remote from the tree's identified TPZ – no impact of substance. <u>Ground floor</u> The proposed driveway is located 7.1 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
19	*Corymbia maculata* (Spotted Gum)	3.5 metres	2 metres	<u>Lower ground floor</u> The lower ground floor is remote from the tree's identified TPZ – no impact of substance. <u>Ground floor</u> The proposed driveway is located 9.27 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
20	*Eucalyptus paniculata* (Grey Ironbark)	4.1 metres	2.3 metres	<u>Lower ground floor</u> The lower ground floor is remote from the tree's identified TPZ – no impact of substance. <u>Ground floor</u> The proposed garage is located 10.26 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
21	*Corymbia maculata* (Spotted Gum)	2.9 metres	1.9 metres	<u>Lower ground floor</u> The lower ground floor is remote from the tree's identified TPZ – no impact of substance. <u>Ground floor</u> The proposed garage is located 5.4 metres from the tree and is outside the tree's identified TPZ – no impact of substance.
22	*Corymbia maculata* (Spotted Gum)	2.2 metres	1.7 metres	<u>Lower ground floor</u>

				The lower ground floor is remote from the tree's identified TPZ – no impact of substance. Continued next page... <u>Ground floor</u> The proposed garage is located 5.35 metres from the tree and is outside the tree's identified TPZ – no impact of substance.

<u>The potential TPZ encroachments can be summarised as follows:</u>
0% of TPZ impacted – no impact of significance = 7 trees (tree #s 1, 17, 18, 19, 20, 21 and 22)
0 to 10% - low level of impact = 4 trees (tree #s 2, 3, 15 and 16)
10 to 15% - low to moderate level of impact = 0 trees
15 to 20% - moderate level of impact = 0 trees
20 to 25% of TPZ impacted – moderate to high level of impact = 1 tree (tree # 14)
25 to 35% of TPZ impacted – high level of impact = 1 tree (tree # 8)
>35% of TPZ impacted – significant level of impact = 0 trees

<u>In Summary:</u>

- The proposed works are outside the identified tree protection zone for tree numbers 1, 17, 18, 19, 20, 21 and 22 and no impact of substance is anticipated for these trees.
- The proposed works will impact on less than 10% of the identified TPZs of tree numbers 2, 3, 15 and 16 - this is a low level of impact and within an acceptable threshold.
- The proposed works will impact on 20 to 25% of the identified TPZ of tree number 14 – while this is a moderate to high level of encroachment the actual impact and will be minimised as it is an elevated structure supported by isolated piers. The tree will need to be very carefully managed during construction with trunk and ground protection installed (Fig. 4 of AS4970-2009) prior to commencement of works and maintained in good working order through the entire construction period.
- The proposed works will impact on 25 to 35% of the identified TPZ of tree number 8 – while this is in the high range the actual impacts will be significantly reduced as the majority of the encroachment is an elevated structure supported by isolated piers. The tree will need to be very carefully managed during construction with trunk and ground protection installed (Fig. 4 of AS4970-2009) prior to commencement of works and maintained in good working order through the entire construction period.

Generic protection measures are recommended in section 8 of this report to minimise potential impacts to the trees to be retained. As noted above, tree numbers 8 and 14 will need to be very carefully managed during construction with trunk and ground protection installed (in accordance with Fig. 4 of AS4970-2009) prior to commencement of works with this protection maintained in good working order through the entire construction period.

8. TREE PROTECTION MEASURES

The following generic tree protection measures are recommended to assist in minimising potential impacts to other trees that may be proposed for retention on the site.

A. Measures to be implemented prior to the commencement of any works on the site.

1. Trees to be retained are to be clearly identified by signage as protected trees.

2. The tree protection zones (TPZ) of trees to be retained are to be protected by fencing during the entire construction period except for specific areas directly required to achieve construction works.

3. The tree protection fence shall be constructed of galvanised pipe at 2.4 metre spacing and connected by securely attached chain mesh fencing to a minimum height of 1.8 metres and shall be installed prior to work commencing.

4. The tree protection fencing shall be installed as closely as possible to the alignment of the identified TPZ and shall be approved and certified by the site arborist prior to commencement of any construction or demolition works on the site.

B. Measures to be implemented and maintained during the life of construction works on the site.

5. Any excavation within the identified TPZ of trees to be retained shall be carried out by hand to minimize disturbance to tree roots. Roots greater than 25mm are not to be damaged or severed without prior assessment by an arborist to determine likely level of impact and the restorative actions required to minimise the impacts of root damage.

6. Tree roots between 10mm and 25mm diameter, severed during excavation, shall be cut cleanly by hand by an experienced Arborist/Horticulturist with a minimum qualification of the Horticulture Certificate or Tree Surgery Certificate.

7. The following activities/actions are prohibited from the tree protection zones:

- Soil cut or fill including excavation and trenching
- Soil cultivation, disturbance or compaction
- Stockpiling storage or mixing of materials
- The parking, storing, washing and repairing of tools, equipment and machinery
- The disposal of liquids and refueling
- The disposal of building materials
- The sitting of offices or sheds
- Any action leading to the impact on tree health or structure

8. Canopy pruning of trees identified for protection which is necessary to accommodate approved building works shall be undertaken in accordance with *Australian Standard 4373-2007 'Pruning of Amenity Trees'*.

9. USE OF TREES BY WILDLIFE

During the site inspections on 15th November 2016 and 21st September 2021 the trees on the site were checked for signs of use by wildlife.

A small number of the trees exhibited signs of usage by wildlife such as scratch marks on their trunks or scats under their canopies that were most likely made by a Common Brushtail Possum (*Trichosurus vulpecula*) or Common Ringtail Possum (*Pseudocheirus peregrinus*).

It is probable that a number of the trees would be used by native fauna at various times for food, shelter and roosting purposes and the retention and/or replacement of trees on the site will retain this opportunity.

The following bird species were noted on site during the inspections on 15th November 2016 and 21st September 2021: Noisy Miner (*Manorina melanocephala*), Grey Butcherbird (*Cracticus torquatus*), Common Koel (*Eudynamys scolopacea*), Sulphur Crested Cockatoo (*Cacatua galerita*) and Rainbow Lorikeet (*Trichoglossus haematodus*).

10. CONCLUSION

Of the 22 trees on the site that have been assessed 2 of the trees have been identified as having high or significant landscape value and as priorities for retention. An additional 11 trees have been identified as worthy of specific consideration for retention/protection if possible.

In addition to the above, tree number 4 has been removed since the original assessment (as recommended, due to structural issues, in the previous report).
The remaining 8 trees are identified in section 6 of the report as not requiring specific design consideration.

To facilitate construction of the proposed residential development the following 9 trees will require removal or are proposed to be removed as part of the works:
Tree # 4 *Tristaniopsis laurina* (Water Gum)*
Tree # 5 *Angophora costata* (Smooth Barked Apple, Sydney Red Gum)*
Tree # 6 *Corymbia maculata* (Spotted Gum)*
Tree # 7 *Corymbia maculata* (Spotted Gum)*
Tree # 9 *Allocasuarina torulosa* (Forest Oak)
Tree # 10 Unidentified tree (possibly *Angophora floribunda* - Rough Barked Apple)
Tree # 11 *Corymbia maculata* (Spotted Gum)
Tree # 12 *Corymbia maculata* (Spotted Gum)
Tree # 13 *Corymbia maculata* (Spotted Gum)*

***NB: Tree numbers 4, 5, 6, 7 and 13 have been already approved for removal through the earlier Development Consent DA2017/1368**

To facilitate construction of the proposed residential development the following 13 trees will be potentially affected:
Tree # 1 *Pinus radiata* (Monterey Pine, Radiata Pine)
Tree # 2 *Eucalyptus saligna* (Sydney Blue Gum)
Tree # 3 *Callistemon viminalis* (Weeping Bottlebrush)
Tree # 8 *Eucalyptus paniculata* (Grey Ironbark)
Tree # 14 *Corymbia maculata* (Spotted Gum)
Tree # 15 *Allocasuarina torulosa* (Forest Oak)
Tree # 16 *Corymbia maculata* (Spotted Gum)
Tree # 17 *Corymbia maculata* (Spotted Gum)*
Tree # 18 *Angophora costata* (Smooth Barked Apple, Sydney Red Gum) *
Tree # 19 *Corymbia maculata* (Spotted Gum) *
Tree # 20 *Eucalyptus paniculata* (Grey Ironbark) *
Tree # 21 *Corymbia maculata* (Spotted Gum) *
Tree # 22 *Corymbia maculata* (Spotted Gum) *
***These trees are remote from the works and will not be impacted**

The potential TPZ encroachments can be summarised as follows:
0% of TPZ impacted – no impact of significance = 7 trees (tree #s 1, 17, 18, 19, 20, 21 and 22)
0 to 10% - low level of impact = 4 trees (tree #s 2, 3, 15 and 16)
10 to 15% - low to moderate level of impact = 0 trees
15 to 20% - moderate level of impact = 0 trees
20 to 25% of TPZ impacted – moderate to high level of impact = 1 tree (tree # 14)
25 to 35% of TPZ impacted – high level of impact = 1 tree (tree # 8)
>35% of TPZ impacted – significant level of impact = 0 trees

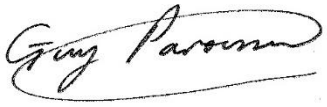
In Summary:

- The proposed works are outside the identified tree protection zone for tree numbers 1, 17, 18, 19, 20, 21 and 22 and no impact of substance is anticipated for these trees.
- The proposed works will impact on less than 10% of the identified TPZs of tree numbers 2, 3, 15 and 16 - this is a low level of impact and within an acceptable threshold.
- The proposed works will impact on 20 to 25% of the identified TPZ of tree number 14 – while this is a moderate to high level of encroachment the actual impact and will be minimised as it is an elevated structure supported by isolated piers. The tree will need to be very carefully managed during construction with trunk and ground protection installed (Fig. 4 of AS4970-2009) prior to commencement of works and maintained in good working order through the entire construction period.
- The proposed works will impact on 25 to 35% of the identified TPZ of tree number 8 – while this is in the high range the actual impacts will be significantly reduced as the majority of the encroachment is an elevated structure supported by isolated piers. The tree will need to be very carefully managed during

construction with trunk and ground protection installed (Fig. 4 of AS4970-2009) prior to commencement of works and maintained in good working order through the entire construction period.

Generic protection measures are recommended in section 8 of this report to minimise potential impacts to the trees to be retained.

As noted above, tree numbers 8 and 14 will need to be very carefully managed during construction with trunk and ground protection installed (in accordance with Fig. 4 of AS4970-2009) prior to commencement of works with this protection maintained in good working order through the entire construction period.



Guy Paroissien, MAIH, MIACA, MISA
M Env. Mgt & Restor., Hort Cert., Tree Care Cert.
Director, Landscape Matrix Pty Ltd
22nd December 2021

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APPENDIX A

Photograph 1: Tree # 8 - Illustrating the past tissue loss and mechanical injury.

Photograph 2: Tree # 8 – Illustrating the termite mudding in the lower trunk.

Photograph 3: Tree # 5 – Illustrating the moderate levels of dieback.

Photograph 4: Tree # 10 – Illustrating the dieback.

Photograph 5: Tree # 12 – Illustrating the reduced foliage density and moderate dieback.

Photograph 6: Tree # 15 – Illustrating the high levels of English Ivy growth on the tree.

Photograph 7: Tree # 16 – Illustrating the reduced foliage density and low to moderate dieback.

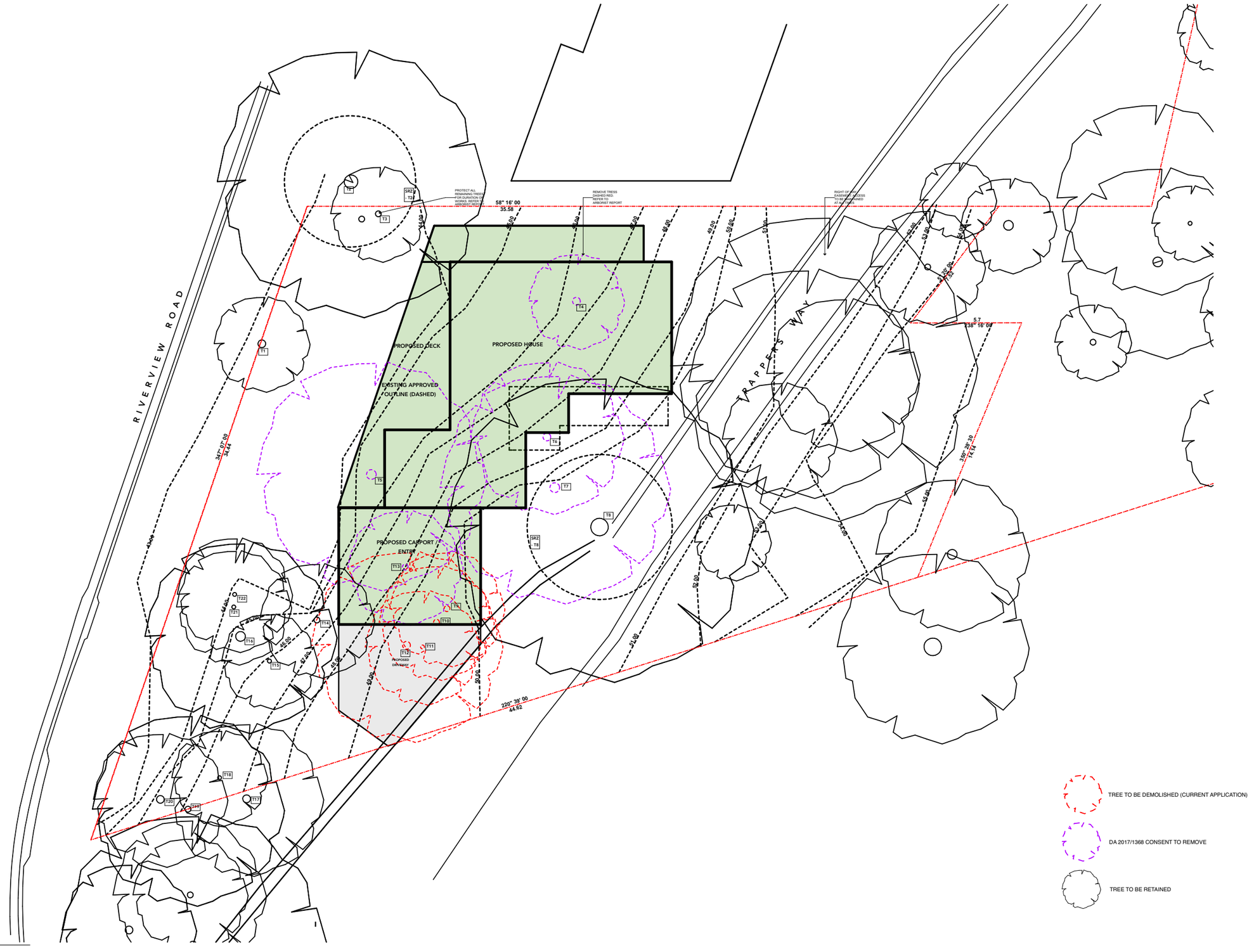
Photograph 8: Tree #s 21 and 22 – Illustrating their location on the edge of the past cut for the existing driveway access

APPENDIX B - TREE DATA SUMMARY - 122 RIVERVIEW ROAD AVALON BEACH

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
1	*Pinus radiata* (Monterey Pine, Radiata Pine)	13	7	340	340	380	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	Mid canopy branches pruned for OH wires on west	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	
2	*Eucalyptus saligna* (Sydney Blue Gum)	27	16	720	720	780	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	High landscape significance	1	Located on adjoining property.
3	*Callistemon viminalis* (Weeping Bottlebrush)	6	7	Up to 160 (290 above root flare)	290	290	Good foliage condition	Mature	Multi trunked	Upright trunk	Majority of canopy to the north	Lower limbs pruned in past to 2.5 metres for clearance from garage	Appears stable	Fair branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.
4	*Tristaniopsis laurina* (Water Gum)	7	4	Up to 90 (480 above root flare)	480	480	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Tree previously cut to 0.6 metre stump	Appears stable	Poor branch attachment	Good health	Good vigour	<5%	Minor decay in pruning wounds	3 Short (5 to 15 years)	Low landscape significance	4	The tree displays poor branch attachment with multiple, poorly attached epicormic shoots following severe past pruning (cut to 0.6 metre stump in past). **NB: Tree has been removed since the original assessment.**
5	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	22	8 x 12	560	560	580	Fair foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate levels of dieback. Located on the high side of a past cut for the existing driveway - stability should be monitored.
6	*Corymbia maculata* (Spotted Gum)	13	9	380	380	390	Poor foliage condition	Mature	Single trunk	Upright trunk	All canopy to the NW	No evidence of significant past pruning	Appears stable	Fair branch attachment	Poor health	Poor vigour	15 to 20%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Moderate landscape significance	3	The tree's past canopy development has been significantly suppressed. At the time of inspection the tree was of poor health and poor vigour and exhibited very high levels of dieback and epicormic growth - short ULE
7	*Corymbia maculata* (Spotted Gum)	24	15	680	680	740	Good foliage condition	Mature	Single trunk	Slight trunk lean to the west	Majority of canopy to the SW	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10 to 15%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	High landscape significance	3	The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of dieback and epicormic growth - short ULE
8	*Eucalyptus paniculata* (Grey Ironbark)	34	19	860	860	980	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the north	No evidence of significant past pruning	Displays signs of instability	Fair branch attachment	Good health	Fair vigour	5%	Moderate to high levels of termite mudding in lower trunk	2 Medium (15 to 40 years)	High landscape significance	1	Slight canopy bias to north. There are moderate to high levels of termite mudding in lower trunk indicative of an internal termite nest in the lower trunk or root crown - further investigation and testing is required to determine the extent of damage (if any) and potential impacts on the tree's structural integrity (e.g. stability) - ULE rating subject to outcome of such investigations. There is evidence of past mechanical damage to lower trunk tissue consistent with vehicle impacts (located on edge of road access). At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.
9	*Allocasuarina torulosa* (Forest Oak)	11	6	190	190	240	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the north	Lower limbs pruned in past to 2.5 metres	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. At the time of inspection the tree was of fair vigour and exhibited low levels of dieback. Female specimen with cones.
10	Unidentified tree (possibly *Angophora floribunda* - Rough Barked Apple)	15	8	260	260	310	Poor foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the south	No evidence of significant past pruning	Appears stable	Fair branch attachment	Poor health	Poor vigour	15%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Moderate landscape significance	3	The tree's past canopy development has been suppressed. At the time of inspection the tree was of poor health and poor vigour and exhibited very high levels of dieback and epicormic growth - short ULE. Unidentified - bark typical of *Angophora floribunda* , foliage typical of *Eucalyptus umbra* - no fruit observed to assist identification.
11	*Corymbia maculata* (Spotted Gum)	8	4	190	190	210	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the SE	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	10 to 15%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	3	The tree's past canopy development has been suppressed. At the time of inspection the tree was of fair vigour and exhibited moderate levels of dieback.

Tree No.	*Genus, Species (Common Name)*	Height (m)	Canopy (m)	DBH (mm)	DBH for TPZ	DGL for SRZ	Foliage Condition	Age Class	Trunk	Trunk Lean	Crown balance	Past Pruning	Stability	Branch Attachment	Health	Vigour	Dead Wood	Pest or disease	ULE	Landscape Significance	Retention Value*	Comments
12	*Corymbia maculata* (Spotted Gum)	19	9	380	380	420	Fair foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the south	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	Slight canopy bias to south. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and moderate levels of dieback.
13	*Corymbia maculata* (Spotted Gum)	14	5 x 7	ca. 250	250	300	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	All canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Poor health	Poor vigour	35%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been suppressed. At the time of inspection the tree was of poor health and poor vigour and exhibited very high levels of dieback and epicormic growth - short ULE.
14	*Corymbia maculata* (Spotted Gum)	17	4 x 5	ca. 210	210	250	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Poor health	Poor vigour	25%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Low to moderate landscape significance	3	The tree's past canopy development has been suppressed. At the time of inspection the tree was of poor health and poor vigour and exhibited very high levels of dieback and epicormic growth - short ULE.
15	*Allocasuarina torulosa* (Forest Oak)	16	5	ca. 350	350	600	Fair foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Displays signs of instability	Sound branch attachment	Moderate health	Poor vigour	10 to 15%	High levels of English Ivy growing on and over the tree	3 Short (5 to 15 years)	Moderate landscape significance	3	At the time of inspection the tree was of moderate health and poor vigour with moderate to high levels of dieback and high levels of English Ivy growing on and over the tree - short ULE. In addition, there is high levels of reaction wood in the basal trunk possibly indicative of decay - if present this will increase the risk of tree failure when combined with the ivy growth.
16	*Corymbia maculata* (Spotted Gum)	22	12	ca. 400	400	500	Fair foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the west	No evidence of significant past pruning	Appears stable	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate to high landscape significance	2	The tree's past canopy development has been suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited reduced foliage density and low to moderate levels of dieback.
17	*Corymbia maculata* (Spotted Gum)	22	9	420	420	430	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate to high landscape significance	2	At the time of inspection the tree was of fair vigour and exhibited low levels of dieback.
18	*Angophora costata* (Smooth Barked Apple, Sydney Red Gum)	8	6	ca. 200	200	240	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the north	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	10%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Low to moderate landscape significance	3	At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
19	*Corymbia maculata* (Spotted Gum)	16	6 x 12	290	290	310	Fair foliage condition	Semi Mature	Single trunk	Upright trunk	Majority of canopy to the NW	No evidence of significant past pruning	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Moderate landscape significance	2	At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
20	*Eucalyptus paniculata* (Grey Ironbark)	19	8 x 9	340	340	400	Good foliage condition	Mature	Single trunk	Upright trunk	All canopy to the north	No evidence of significant past pruning	Displays signs of instability	Sound branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree's past canopy development has been significantly suppressed. At the time of inspection the tree was of moderate health and fair vigour and exhibited moderate to high levels of dieback and epicormic growth. Ivy growing on trunk should be removed to prevent impacts on tree in future. Located on the high side of a past cut for the existing driveway - stability should be monitored.
21	*Corymbia maculata* (Spotted Gum)	14	5 x 6	240	240	260	Fair foliage condition	Semi Mature	Single trunk	Slight trunk lean to the west	Majority of canopy to the west	No evidence of significant past pruning	Displays signs of instability	Fair branch attachment	Good health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	The tree's past canopy development has been suppressed. Located on the high side of a past cut for the existing driveway - stability should be monitored. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
22	*Corymbia maculata* (Spotted Gum)	14	5 x 6	180	180	210	Fair foliage condition	Semi Mature	Single trunk	Slight trunk lean to the north	Majority of canopy to the NW	No evidence of significant past pruning	Displays signs of instability	Fair branch attachment	Moderate health	Fair vigour	10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Moderate landscape significance	2	Located on the high side of a past cut for the existing driveway - stability should be monitored. At the time of inspection the tree was of fair vigour and exhibited low to moderate levels of dieback.
ca = approximate diameter at breast height (DBH) estimated from nearest property boundary or fence where trees were located on adjoining properties																						
* Retention Values: 1 - High (Priority for retention); 2 - Moderate (Consider for retention); 3 - Low or short ULE (Not warranting specific design consideration) and 4 - Remove (very short ULE, structurally unsound, weed species etc.)																						

APPENDIX C



NOT FOR CONSTRUCTION

01 Existing/Demolition - Site
1:100@ A3

FOR DA ISSUE

BE DENOTES PROPOSED BUILDING ENVELOPE (AREA ABT. 210m²)

PROP. LOT 81
AREA 964.2m²
PROP. LOT 82
AREA 816.9m²
RIVERVIEW ROAD
No.225 D.P. 1065329
No.24 D.P. 24563
D.P. 24563 No.54
D.P. 24563 No.56
D.P. 603393 No.53

PLEASE NOTE:
ALL DIMENSIONS AREAS AND THE POSITION OF THE SUBDIVISION BOUNDARY IS SUBJECT TO THE FINAL SURVEY.

SITE COVERAGE

PROP LOT	LOT AREA	AREA OF R.O.C.	ADJUSTED AREA	SITE COVERAGE	% SITE COVERAGE
81	964.2m²	242.3m²	721.9m²	213m²	29.5%
82	816.9m²	54.3m²	762.6m²	264m²	34.6%

NOTE:

1. LEVELS SHOWN THUS +48.31 ARE BASED ON AUSTRALIAN HEIGHT DATUM
2. ORIGIN OF LEVELS – PM 60565 R.L. 37.15 A.H.D. LOCATED NEAR THE COMMON BOUNDARY OF Nos.161 & 163 RIVERVIEW ROAD
3. LEVELS SHOWN THUS ABT.69.5 HAVE BEEN DETERMINED BY REMOTE METHODS AND ARE ACCURATE TO +/– 100mm
4. NO BOUNDARY INVESTIGATION HAS BEEN CARRIED OUT AND THEREFORE THIS PLAN DOES NOT DEFINE BOUNDARIES. TITLE DIMENSIONS ONLY SHOWN.
5. DO NOT SCALE – USE FIGURED BEARINGS & DISTANCES ONLY
6. BASIC LEVEL AND DETAIL SURVEY ONLY – UNLESS OTHERWISE SHOWN, THE POSITION OF IMPROVEMENTS ARE APPROXIMATE. THE INFORMATION SHOWN HEREON IS ONLY TO BE USED AT AN ACCURACY OF 1:200
7. THE DIAMETER, SPREAD AND HEIGHT OF ALL TREES ARE ESTIMATES ONLY. IF THEY ARE CRITICAL TO DESIGN THEN A MORE ACCURATE SURVEY WOULD BE REQUIRED.
8. FEATURES & LEVELS CRITICAL TO DESIGN SHOULD BE LOCATED BY A MORE ACCURATE SURVEY
9. ALL SET OUT WITH REGARD TO LEVELS SHOULD BE REFERRED TO THE BENCH MARK
10. NO SERVICES SEARCH HAS BEEN CARRIED OUT FOR THIS SURVEY
11. EXISTING SERVICES MAY IMPACT ON DESIGN/CONSTRUCTION – IT IS ADVISED THAT A COMPREHENSIVE SERVICES SEARCH BE CARRIED OUT PRIOR TO COMMENCEMENT OF DESIGN/CONSTRUCTION REFER "DIAL BEFORE YOU DIG" DETAILS ON THIS PLAN
12. ORIGIN OF THE NORTH POINT IS D.P. 24563 THE POSITION OF TRUE NORTH IS APPROXIMATE ONLY. A MORE ACCURATE SURVEY WOULD BE REQUIRED TO DETERMINE ITS EXACT POSITION.
13. THE SUBJECT LAND IS AFFECTED BY A COVENANT CREATED BY THE REGISTRATION OF TRANSFER No.G181759.

BM DRILL HOLE & WING IN CONCRETE EDGE ▲ STRIP R.L.40.18 A.H.D.

DRAINAGE LEGEND

GP DENOTES GULLEY PIT
KI DENOTES KERB INLET LENGTH
GI DENOTES INVERT OF GRATE AT GUTTER
PI DENOTES PIT INVERT

GP KI 2.0 GI 41.38 PI 40.79

LEGEND

EFL DENOTES ENTRANCE FLOOR LEVEL
GFL DENOTES GARAGE FLOOR LEVEL
H DENOTES WINDOW HEAD
PP DENOTES POWER POLE
RFT DENOTES TOP OF ROOF
RW DENOTES RENDERED WALL
S DENOTES WINDOW SILL
SIP DENOTES SEWER INSPECTION PIT
TOG DENOTES TOP OF GUTTER
TP DENOTES TELSTRA PIT
W DENOTES WINDOW

(A) EXISTING RIGHT OF CARRIAGE WAY 7.62 WIDE
(B) EXISTING RIGHT OF CARRIAGE WAY 3.81 WIDE

ONE & TWO STOREY BRICK & TIMBER RESIDENCE WITH METAL ROOF No.56

ONE & TWO STOREY RENDERED BRICK & TIMBER RESIDENCE WITH METAL ROOF No.55

No.126 TWO STOREY BRICK RESIDENCE WITH METAL ROOF

No.126 TIMBER SHINGLE RESIDENCE WITH FIBRO ROOF

DIAL 1100 BEFORE YOU DIG

ISSUE	DESCRIPTION	DATE
B	BUILDING ENVELOPE ADDED TO PLAN	4/10/16
A	INITIAL	27/05/16

ISSUES

BYRNE & ASSOCIATES PTY LIMITED
CONSULTING SURVEYORS & ENGINEERS
63 WATERLOO STREET
NARRABEEN 2101
Ph: (02) 9913 7110 A.C.N. 002 109 207 Fax: (02) 9913 1583
Email: survey@byrneandassociates.com.au

PLAN OF PROPOSED SUBDIVISION OF LOT 55 IN D.P. 24563 No.55 TRAPPERS WAY, AVALON

Date of Survey	Prepared by	Date	Approved by	Date	R.R.
16/05/16	PBB	27/05/16			1:200

File Name 10760P2.DWG | Sheet 1 of 1 Sheets | Plan No. A1 - 10760P2