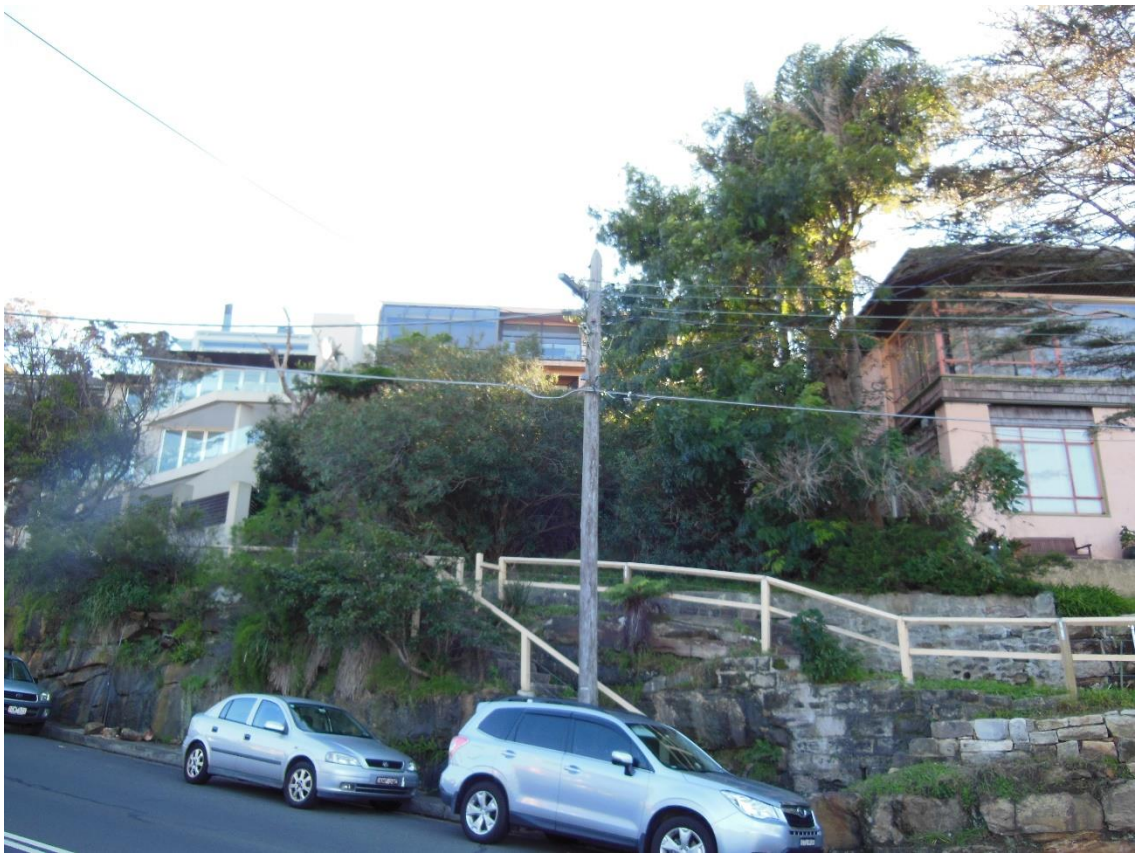
ARBORICULTURAL IMPACT REPORT

52 LAUDERDALE AVENUE
FAIRLIGHT NSW

15 JUNE 2015

PREPARED FOR PLATFORM ARCHITECTS



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1. BACKGROUND

Landscape Matrix Pty Ltd has been engaged by Platform Architects to prepare an Arboricultural Impact Report in respect to 22 trees at or adjacent to 52 Lauderdale Avenue Fairlight and, in particular, those trees potentially affected by a proposed residential development at the site.

The site was inspected on 10th June 2016 to collect data for 22 trees on and adjoining the site. This report has been prepared by Guy Paroissien, a Director of Landscape Matrix.

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 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.

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 site has been developed in the past with a detached dwelling and associated structures and comprises a mix of remnant canopy trees of the original vegetation of the site and locality and exotic trees and shrubs together with some weed species.

The tree numbers in Appendix B correspond with the tree numbers marked on the attached Survey Plan prepared by GeoSurv Pty Ltd dated 1/10/2015 and identified as Reference No. 150834_A, Revision 2. Tree number 2 has been added to the plan by Landscape Matrix and is an approximate location only – not to survey.

The trees that have been assessed on the site 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)
Acacia elata	Cedar Wattle	1	9
Cinnamomum camphora	Camphor laurel	2	3 to 4
Coprosma repens	Mirror Bush	1	2
Cupressus spp.	Cypress)	1	7
Cyathea australis	Rough Tree Fern	3	3 to 6
Dead tree	Dead tree	2	1.6 to 6
Ligustrum sinense	Small Leaved Privet	2	2.5 to 3.5
Melaleuca linariifolia	Flax Leaved Paperbark	1	2.5
Nerium oleander	Oleander	1	4.5
Pittosporum undulatum	Native Daphne, Sweet Pittosporum	1	5
Syagrus romanzoffiana	Cocos Palm, Queen Palm	7	8 to 11
	Total	**22**	**1.6 to 11 metres**

None of the trees assessed for this report is listed individually as a threatened species on the Schedules of the NSW *Threatened Species Conservation Act 1995* 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 that none of the trees assessed for this report are of high landscape value and medium to long ULE and warrant consideration as priorities for retention/protection if possible.

4. TREES IDENTIFIED FOR CONSIDERATION 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 17 trees are of moderate or moderate to high landscape significance and medium to long ULE and could be considered for protection:

Table 2: Trees identified for consideration for retention/protection.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS
14	*Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)	3.1 metres	2 metres	A mature, single trunked specimen approximately 5 metres in height with a canopy spread of 7 metres and a diameter at breast height (DBH) of 260mm. 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 reduced foliage size and density and low levels of dieback.

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' (TPZ) of 12 times the tree's DBH. AS 4790-2009 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.

5. TREES THAT SHOULD BE CONSIDERED FOR REMOVAL

Following assessment of the trees on the site it is considered that 17 of the trees assessed for this report should be considered for removal and replacement due to declining health, structural issues and/or unsuitability to the site – these trees are identified in table 3 as follows:

Table 3: Trees recommended for consideration for removal.

TREE NO.	SCIENTIFIC AND COMMON NAME	REASON
2	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
3	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
4	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
5	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species. Canopy conflict with T6.

6	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species. Canopy conflict with T5.
7	*Cupressus spp.* (Cypress)	The tree is dead.
8	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
9	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
10	*Nerium oleander* (Oleander)	Poisonous species. At the time of inspection the tree was of fair vigour and exhibited reduced foliage density and low levels of dieback.
12	*Cinnamomum camphora* (Camphor laurel)	Environmental pest species.
13	Dead tree (Possibly *Angophora costata* - Sydney Red Gum)	The tree is dead.
15	*Cinnamomum camphora* (Camphor laurel)	Environmental pest species.
17	*Cyathea australis* (Rough Tree Fern)	The tree is dead.
18	*Coprosma repens* (Mirror Bush)	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. The tree has high levels of Creeping Fig growing on it and evidence of high levels of decay in the basal trunk.
19	*Ligustrum sinense* (Small Leaved Privet)	Environmental pest species.
20	Dead tree	The tree is dead.
21	*Ligustrum sinense* (Small Leaved Privet)	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. Low levels of dieback. Environmental pest species.

6. TREES NOT IDENTIFIED FOR REMOVAL OR RETENTION

The following 4 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 declining health:

- Tree numbers 1,11, 16 and 22.

These trees are currently in moderate to good health and do perform some landscape function of low to high significance. However these trees are not considered significant enough to warrant specific design consideration due to either their low landscape significance or their short predicted life expectancy.

7. POTENTIAL IMPACTS ON TREES

The potential impacts of the proposal have been assessed using the following plans:

- Basement Plan prepared by Platform Architects dated 24/02/2016 and identified as Drawing number DA02, Revision A.
- Ground Floor Plan prepared by Platform Architects dated 24/02/2016 and identified as Drawing number DA04, Revision A.
- Survey Plan prepared by GeoSurv Pty Ltd dated 1/10/2015 and identified as Reference No. 150834_A, Revision 2.

7.1 Trees requiring removal or proposed to be removed to facilitate the proposed residential development

It is proposed to remove the following 21 trees to facilitate construction of the proposed residential development.

Table 4: Trees proposed for removal to facilitate construction of the proposed residential development.

TREE NO.	SCIENTIFIC AND COMMON NAME	COMMENTS*
2	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
3	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
4	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
5	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species. Canopy conflict with T6.
6	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species. Canopy conflict with T5.
7	*Cupressus spp.* (Cypress)	The tree is dead.
8	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Environmental pest species.
9	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	Within the footprint of works and will require removal.

10	*Nerium oleander* (Oleander)	Within the footprint of works and will require removal.
11	*Cyathea australis* (Rough Tree Fern)	Within the footprint of works and will require removal.
12	*Cinnamomum camphora* (Camphor laurel)	Within the footprint of works and will require removal.
13	Dead tree (Possibly *Angophora costata* - Sydney Red Gum)	Within the footprint of works and will require removal.
14	*Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)	Within the footprint of works and will require removal.
15	*Cinnamomum camphora* (Camphor laurel)	Within the footprint of works and will require removal.
16	*Cyathea australis* (Rough Tree Fern)	Within the footprint of works and will require removal.
17	*Cyathea australis* (Rough Tree Fern)	Within the footprint of works and will require removal.
18	*Coprosma repens* (Mirror Bush)	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. The tree has high levels of Creeping Fig growing on it and evidence of high levels of decay in the basal trunk.
19	*Ligustrum sinense* (Small Leaved Privet)	Environmental pest species.
20	Dead tree	The tree is dead.
21	*Ligustrum sinense* (Small Leaved Privet)	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. Low levels of dieback. Environmental pest species.
22	*Melaleuca linariifolia (*Flax Leaved Paperbark)	The tree is of low landscape significance, moderate health and poor vigour and exhibits reduced foliage density and moderate to high levels of dieback.

17 of the 21 trees proposed to be removed are recommended for removal, regardless of the proposal.

7.2 Trees potentially impacted by the proposed residential development

To facilitate construction of the proposed residential development 1 tree is being proposed for retention on the site and may be potentially impacted. The potential impacts are summarised in table 5.

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 extent of impacts to the trees in table 5 has been rated using the following guideline:
0% of root zone impacted – no impact of significance
0 to 10% of root zone impacted – low level of impact

10 to 15% of root zone impacted – low to moderate level of impact
15 to 20% of root zone impacted – moderate level of impact
20 to 25% of root zone impacted – moderate to high level of impact
25 to 35% of root zone impacted – high level of impact
>35% of root zone impacted – significant level of impact

Table 5: Trees potentially affected by the proposed residential development.

TREE NO.	SCIENTIFIC AND COMMON NAME	TPZ	SRZ	COMMENTS*
1	*Acacia elata* (Cedar Wattle)	5.2 metres	2.4 metres	The basement access ramp is approx. 9.2 metres from the tree at the closest point and is outside the tree's identified TPZ – no impact of substance.

The TPZ encroachments to the trees in the vicinity of the proposed works can be summarised as follows:

0% of root zone impacted – no impact of significance = 1 tree (# 1)

In summary:

- The proposed works are outside the identified TPZ of tree number 1 - it is not considered there will be any impact of substance on this trees and, with appropriate protection and management, it can be retained at its existing level of health.

8. TREE PROTECTION MEASURES

The following generic tree protection measures are recommended to assist in minimising potential impacts that may arise during the demolition and construction works (including the implementation of landscape works on the site).

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

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

2. The tree protection zones 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 tree protection zone 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 root protection zones 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 latest site inspection on 10th June 2016 the trees on the site were checked for signs of use by wildlife. None of the trees exhibited signs of usage by wildlife such as scratch marks on their trunks or scats under their canopies that were likely to be 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 replacement of trees on the site will retain this opportunity.

The following bird species was noted on the site (or heard calling in the immediate vicinity) during the inspection on 10th June 2016: Noisy Miner (*Manorina melanocephala*) and Rainbow Lorikeet (*Trichoglossus haematodus*).

10. CONCLUSION

Of the 22 trees on or adjoining the site that has been assessed none of the trees has been identified as having high landscape value and as a priority for retention. One of the trees has been identified as worthy of specific consideration for retention/protection if possible.

In addition to the above, 17 of the trees assessed for the report have been identified as recommended for removal, regardless of the proposal, due to identified health or structural issues or suitability for retention (e.g. weed species).

The remaining 4 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 21 trees are proposed for removal:
Tree # 2 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 3 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 4 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 5 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 6 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 7 *Cupressus spp.* (Cypress)
Tree # 8 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 9 *Syagrus romanzoffiana* (Cocos Palm, Queen Palm)
Tree # 10 *Nerium oleander* (Oleander)

Tree # 11 *Cyathea australis* (Rough Tree Fern)
Tree # 12 *Cinnamomum camphora* (Camphor laurel)
Tree # 13 Dead tree (Possibly *Angophora costata* - Sydney Red Gum)
Tree # 14 *Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)
Tree # 15 *Cinnamomum camphora* (Camphor laurel)
Tree # 16 *Cyathea australis* (Rough Tree Fern)
Tree # 17 *Cyathea australis* (Rough Tree Fern)
Tree # 18 *Coprosma repens* (Mirror Bush)
Tree # 19 *Ligustrum sinense* (Small Leaved Privet)
Tree # 20 Dead tree
Tree # 21 *Ligustrum sinense* (Small Leaved Privet)
Tree # 22 *Melaleuca linariifolia (*Flax Leaved Paperbark)

17 of the 21 trees proposed to be removed are recommended for removal, regardless of the proposal.

To facilitate construction of the proposed residential development the following tree is proposed to be retained and may be potentially affected:
Tree # 1 *Acacia elata* (Cedar Wattle)

<u>The TPZ encroachments to the trees in the vicinity of the proposed works can be summarised as follows:</u>

0% of root zone impacted – no impact of significance = 1 tree (# 1)

<u>In summary:</u>

- The proposed works are outside the identified TPZ of tree number 1 - it is not considered there will be any impact of substance on this trees and, with appropriate protection and management, it can be retained at its existing level of health.

Protection measures are recommended in section 8 of this report to minimise potential impacts to the trees to be retained on and adjoining the site.

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15th June 2016

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Platform Architects (2016) – Ground Floor Plan prepared by Platform Architects dated 24/02/2016 and identified as Drawing number DA04, Revision A.

APPENDIX A

Photograph 1: Tree # 1 – Illustrating the location and context.

Photograph 2: Illustrating the location and context of tree #s 1 to 8.

Photograph 3: Tree # 10 – Illustrating the location and context.


Photograph 4: Illustrating the location and context of tree #s 11 to 17.

Photograph 5: Illustrating the location and context of tree #s 18 to 20.

Photograph 6: Tree # 21 – Illustrating the location and context.

APPENDIX B - TREE DATA SUMMARY - 52 LAUDERDALE AVENUE FAIRLIGHT

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	*Acacia elata* (Cedar Wattle)	9	7	430	430	480	Good foliage condition	Mature	Single trunk	Upright trunk	Majority of canopy to the SW	Mid canopy branches pruned for OH wires on SW	Appears stable	Sound branch attachment	Good health	Good vigour	5%	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.
2	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	11	6	250	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
3	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	11	6	220	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
4	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	11	6	250	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
5	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	11	6	270	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species. Canopy conflict with T6.
6	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	10	6	220	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species. Canopy conflict with T5.
7	*Cupressus spp.* (Cypress)	7	3	310 x 440	375	360	Dead														4	The tree is dead.
8	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	9	6	240	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
9	*Syagrus romanzoffiana* (Cocos Palm, Queen Palm)	8	6	270	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
10	*Nerium oleander* (Oleander)	4.5	7	Up to 70 (650 above root flare)	650	650	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 2 metres for pedestrian access	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Low to moderate landscape significance	4	Poisonous species. At the time of inspection the tree was of fair vigour and exhibited reduced foliage density and low levels of dieback.
11	*Cyathea australis* (Rough Tree Fern)	3	3	200	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Low landscape significance	3	
12	*Cinnamomum camphora* (Camphor laurel)	3	2	Up to 120 (160 x 300 above root flare)	230	230	Good foliage condition	Semi Mature	Multi trunked	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.
13	Dead tree (Possibly *Angophora costata* - Sydney Red Gum)	6	2	290	N/A	N/A	Dead										<5%				4	The tree is dead.
14	*Pittosporum undulatum* (Native Daphne, Sweet Pittosporum)	5	7	260	260	300	Fair foliage condition	Mature	Single trunk	Slight trunk lean to the SE	Majority of canopy to the east	Lower limbs pruned in past to 1.8 metres for pedestrian access	Appears stable	Sound branch attachment	Good health	Fair vigour	5%	Leaf miner present	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 reduced foliage size and density and low levels of dieback.
15	*Cinnamomum camphora* (Camphor laurel)	4	2	110	110	130	Good foliage condition	Semi Mature	Single trunk	Upright trunk	Balanced canopy area	No evidence of significant past pruning	Appears stable	Sound branch attachment	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Environmental pest species	4	Environmental pest species.

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
16	*Cyathea australis* (Rough Tree Fern)	6	3	140	N/A	N/A	Good foliage condition	Mature	Single trunk	Upright trunk	n	No evidence of significant past pruning	Appears stable	N/A	Good health	Good vigour	<5%	No visual evidence of significant pest or disease	1 Long (> 40 years)	Low to moderate landscape significance	3	
17	*Cyathea australis* (Rough Tree Fern)	4	0	130	N/A	N/A	Dead										<5%				4	The tree is dead.
18	*Coprosma repens* (Mirror Bush)	2	2.5	Up to 90 (430 above root flare)	430	430	Fair foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 1 metre, central leader removed at 1.2 metres	Appears stable	Fair to poor branch attachment	Moderate health	Fair vigour	10%	High levels of decay in basal trunk	3 Short (5 to 15 years)	Low landscape significance	4	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. The tree has high levels of Creeping Fig growing on it and evidence of high levels of decay in the basal trunk.
19	*Ligustrum sinense* (Small Leaved Privet)	2.5	3	Up to 90 (220 above root flare)	220	220	Good foliage condition	Mature	Multi trunked	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	2 Medium (15 to 40 years)	Environmental pest species.	4	Environmental pest species.
20	Dead tree	1.6	0	180	N/A	N/A	Dead										<5%				4	The tree is dead.
21	*Ligustrum sinense* (Small Leaved Privet)	3.5	4	Up to 140 (490 above root flare)	490	490	Good foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 1.7 metres	Appears stable	Fair branch attachment	Good health	Fair vigour	5 to 10%	No visual evidence of significant pest or disease	2 Medium (15 to 40 years)	Environmental pest species.	4	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. Low levels of dieback. Environmental pest species.
22	*Melaleuca linariifolia* (Flax Leaved Paperbark)	2.5	1.5 x 3	Up to 130 (210 above root flare)	210	210	Fair foliage condition	Mature	Multi trunked	Upright trunk	Balanced canopy area	Lower limbs pruned in past to 1.6 metres, upper branches pruned at 1.8 metres	Appears stable	Poor branch attachment	Moderate health	Poor vigour	10 to 15%	No visual evidence of significant pest or disease	3 Short (5 to 15 years)	Low landscape significance	3	The tree displays poor branch attachment with multiple poorly attached regrowth following severe past pruning. At the time of inspection the tree was of moderate health and poor vigour and exhibited reduced foliage density and moderate to high 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.)																						

RIDGE LEVEL 57.00

RIDGE 56.57

SP 78806

SP 58109

NO 54
5-STOREY
RENDERED BUILDING
TILE ROOF

BALCONY

PARAPET 55.40

BALCONY

NO 52
2 STOREY
BRICK/CLAD BUILDING
TILE ROOF

CHIMNEY 54.15

CHIMNEY 53.08

LOT 1
DP 172127

PARAPET 52.60

PARAPET 52.62

FFL R.L.46.674

CONCRETE EDGE

FENCE

METAL SHED

TIMBER PALING FENCE

TIMBER (.2, 3, 4)

PALING

PAVED AREA

GARDEN

ROCK

EXPOSED

PAVED

AREA

TOG 52.00

TOG 52.18

STAIRS

STEP

FFL R.L.49.424

CHIMNEY 53.00

BRICK BLOCK WALL

PAVED AREA

PRIVACY SCREEN

TOG 52.25

TOG 52.46

PATH

VERANDAH

TIMBER STAIRCASE

TIMBER PALING FENCE

UNIDENTIFIED PVC PIPE 0.2DIA

TOG 46.58

TOG 46.59

TIMBER CLAD SHED

FENCE ON CONC WALL

LOT 1
DP 305993

NO ACCESS. NATURAL SURFACE
LEVELS NOT RECORDED

GM

CONCRETE

NATURAL ROCK

GRP 37.25

GRP 37.23

BM NAIL PLACED
IN ROCK RL 37.88

PAVED AREA

TIMBER STRUCTURE

LOW ROCK EDGING

BANK TOP

FORMATIONS

BANK BOTTOM

ALONG

KERB

ROCKS

LAUDERDALE AVENUE

NO 50
DOUBLE STOREY
BRICK HOUSE
TILE ROOF

RIDGE RL 47.99

RIDGE RL 45.84

WH 43.08

WH 43.10
WS 41.98

WH 43.02
WS 41.80

WH 43.15
WS 41.18

22 (.2, 3, 4)
21 (.5, 7, 3)
20 (.2, 3, 3)
19 (.2, 3, 3)
18 (.2, 3, 3)
17 (.2, 4, 10)
16 (.2, 4, 10)
15 (.2, 4, 5)
14 (.3, 8, 9)
13 (.5, 6, 10)
12 (.2, 3, 3)
11 (.2, 5, 5)
10 (.6, 8, 7)
9 (.4, 6, 12)
8 (.4, 8, 12)
7 (.5, 6, 12)
6 (.4, 6, 15)
5 (.4, 6, 15)
4 (.4, 6, 15)
3 (.4, 6, 15)
2
1 (.5, 7, 13)

LEGEND:

▲	BENCHMARK		WALL
TEL	TELSTRA PIT	WM	WATER METER
LP	LIGHT POLE	GM	GAS METER
PP	POWER POLE	GRP	GRATED INLET PIT
EPIT	ELECTRICITY PIT		ROCK WALL
MH	MANHOLE	(0.4, 4, 5)	TREE (Dia, Spread, Height)
SV	STOP VALVE		GUARDRAIL

NOTES:

1. RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY.

2. BEARINGS AND DISTANCES OF BOUNDARIES ARE BY TITLE AND/OR DEED ONLY.

3. CONSTRUCTION WORKS MUST BE RELATED TO THE BENCHMARK AND NOT LEVELS OF STRUCTURES SHOWN ON THE PLAN.

4. LIMITED BOUNDARY SURVEY MADE. IF CONSTRUCTION OR DESIGN OF ANY NEW STRUCTURE IS INTENDED WITHIN PROXIMITY OF THE BOUNDARIES OR LOCAL GOVERNMENT REQUIREMENTS, A FURTHER SURVEY SHOULD BE REQUESTED TO MARK BOUNDARIES AND/OR DIMENSION WALL TO BOUNDARY DISTANCES.

5. THE TREE TRUNKS SHOWN ARE DIAGRAMMATIC ONLY. THE TRUE TRUNK RADIUS ARE STATED IN THE PLAN. TREE SPREADS & TRUNK RADIUS SHOWN ARE DIAGRAMMATIC ONLY AND TREE HEIGHTS ARE ESTIMATED. IF ANY OF THESE ELEMENTS ARE CRITICAL TO DESIGN (IN PARTICULAR DRIP LINES) MORE SPECIFIC DETAILS SHOULD BE REQUESTED FOR ACCURATE LOCATION.

6. CONTOURS ARE APPROXIMATE ONLY. SPOT LEVELS SHOULD BE USED IN REFERENCE TO CONTOUR LEVELS. FEATURES AND LEVELS CRITICAL TO DESIGN SHOULD BE LOCATED BY A MORE ACCURATE SURVEY. ALL SET OUT WITH REGARD TO LEVELS SHOULD REFER TO THE BENCHMARK.

7. NO SERVICES SEARCH HAS BEEN CARRIED OUT FOR THIS SURVEY. SERVICES SHOWN ARE INDICATIVE ONLY. POSITIONS ARE BASED ON SURFACE INDICATORS LOCATED DURING SURVEY. APPROPRIATE DIAL BEFORE YOU DIG SEARCHES SHOULD BE CARRIED OUT PRIOR TO ANY CONSTRUCTION TAKING PLACE. SEE DIAL BEFORE YOU DIG CONTACT INFORMATION ON THIS PLAN.

8. THIS SURVEY IS FOR CONTOUR AND DETAIL PURPOSES ONLY AND SHOULD NOT BE USED FOR ANY OTHER PURPOSE

PREPARED BY:

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PREPARED FOR:

CON TZIOMAKIS

REV.	DATE	AMENDMENTS
2	1/10/2015	ADDED RIDGE HIEGHT FOR ADJ.

PLAN SCALE ON A1 SHEET 1:75

PLAN SCALE ON A3 SHEET 1:150

PLAN SHOWING:

DETAIL SURVEY OF
52 LAUDERDALE AVE
FAIRLIGHT, NSW

NORTH

LOT NUMBER:	1	SECTION NUMBER :	N/A
LOCALITY:	FAIRLIGHT	LGA:	MANLY
AREA BY DP:	531m²	DEPOSITED PLAN:	172127
AZIMUTH :	MGA	CONTOUR INTERVAL	0.25m
DATUM:	AHD	ORIGIN OF DATUM:	SSM2905
SURVEY BY:	CZ	DATE OF SURVEY:	18/08/15
DRAWN BY:	AP	DATE OF PLAN:	04/09/15
CHECKED BY:	MJC	DATE OF CHECKING:	04/09/15
APPROVED BY:	MJC	DATE OF APPROVAL:	04/09/15
PLAN REF:	150834_A	SHEET No 01 OF 01 SHEETS	

Cad File No: 150834 AP.dwg

Plot Date: 1 October 2015 - 8:39 AM