



JACKSONS NATURE WORKS

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ARBORICULTURAL IMPACT ASSESSMENT REPORT

At

**58 – 76 Stanmore Road
Stanmore**

Prepared for

The Cypress Club

1st December 2021

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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:
- Unauthorised use of this report in any form is prohibited and remains the intellectual property of Jacksons Nature Works until all costs are settled.

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 58 – 76 Stanmore Road Stanmore – The Site.
- 1.2 The report was commissioned by The Cypress Club to respond to Council's requirements 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 registered club, parking area and residential houses with gardens at Stanmore.
- 1.5 The trees were identified by ground level Visual Tree Assessment (VTA) ¹ only in the data collection, taken on 10.11.2021. 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.

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

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 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 To prepare this report we have reviewed the following documents:

- Detail survey by Stuart De Nutt dated 29.11.2021
- Architectural plans by PA Studio dated 1.12.2021, Issue D.
- Inner West Council Tree Management DCP Adopted 11.2.2020 (DCP); &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the days of inspection (10.11.2021)

2.1 Our tree observations can be found in Annexure A.

3. DISCUSSIONS

3.1 We have been commissioned by The Cypress Club, 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 mixed commercial and residential development 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 located on Site along Alma Avenue: Tree 1 & 2 *Jacaranda mimosifolia* (fair to good condition but with upper canopy being pruned to provide clearance for the overhead power lines in Alma Avenue [refer plate 3], resulting in their canopies being skewered to the east including old pruning wounds and their root plates are covered in asphalt on all sides), tree 4 & 5 *Ulmus parvifolia* (good condition but with upper canopy being pruned to provide clearance for the overhead power lines in Alma Avenue [refer plate 3], resulting in their canopies being skewered to the east, plus their root plates are covered in asphalt on all sides) – refer plate 1 & 2.

The construction and associated excavations will have a detrimental impact on all these trees resulting in a loss of root mass and with the need to prune their branches to provide clearance for the new building – resulting in poor form.

Plus, the Jacaranda is an undesirable species in a public open space where falls can occur on petals that rain down in spring – refer plate 1.

It is proposed to plant more appropriate species in and around the site to maintain the many benefits of trees in an urban setting.

Removal of these trees is recommended. Note these trees for removal in the Tree Management Plan (TMP).



Plate 1: Trees 1 & 2.



Plate 2: Trees 4 & 5.



Plate 3: Trees 1 – 5 pruned to provide power line clearance in Alma Avenue.

3. The following trees are classified as Exempt trees in Council’s DCP: Tree 3 & 20 *Cinnamomum camphora*, tree 13 *Murraya paniculata*, tree 19 *Celtis sinensis*, tree 24, 27 & 30 *Robinia pseudoacacia*, tree 26 *Camellia sasanqua*, tree 33 *Prunus sp.*, tree 34 *Ficus virens*, tree 35 *Olea europaea subsp. Cuspidata* and tree 36 *Ligustrum lucidum*.

Note these Exempt trees for removal in the TMP.

4. Trees 7, 9 & 11 *Corymbia citriodora* are showing good condition and are a prominent feature along the front of the site in Stanmore Road – refer plate 4.

The development works have been designed to have less than 10% encroachment within these trees TPZ to ensure their retention – refer Annexure C.

These trees will require trunk and protective fencing to be installed at the commencement of the development works.

The removal of the surrounding asphalt will improve the environment conditions for these trees which will improve their vitality.

Note these trees for retention in the TMP.



Plate 4: Trees 7, 9 & 11.

5. Tree 15 *Ulmus parvifolia* is showing good condition and is the highest retention value tree on site – refer plate 5.

The design of the development works has purposefully ensured minimal disturbance, level changes and soft landscaping around this tree.

It is acknowledged there is a new retain building to the east of this tree. However, these works are over the former Cypress Club footprint and thus will not have a detrimental impact on this tree's stability and longevity.

The removal of the surrounding asphalt will improve the environment conditions for this tree which will improve its vitality.

Note this tree for retention and protection in the TMP.



Plate 5: Tree 15

6. The following trees are scattered around the various properties to be developed: Tree 16 *Ulmus parvifolia* (good condition), tree 17 *Eucalyptus botryoides* (good condition with min or deadwood), tree 18 *Ficus rubiginosa* (good condition with recent branch failure & decay), tree 21 *Lagerstroemia indica* (good condition – low retention value), tree 22 *Eucalyptus scoparia* (declining vitality – low retention value) & tree 31 *Tibouchina sp.* (low retention value).

All of these trees are within the proposed buildings and will need to be removed.

It is acknowledged these trees are on the whole of low retention value.

It is also proposed to replant more appropriate trees in and around the site to maintain the benefit of trees in this urban development.

Removal of these trees is recommended with replacement trees. Note these trees for removal in the TMP.

7. The following trees are Street trees along Tupper Street: Tree 23, 25, 28, 32 *Callistemon viminalis* and tree 37 *Elaeocarpus reticulatus* are showing fair condition except for tree 37 that appears to be a recent street tree planting.

All of these trees have been topped to provide overhead clearance for the powerlines in Tupper Street (refer plate 6 – tree 23 as an example) except tree 37.

It is proposed to retain these tired street trees. N.B. It is an opportunity to place the power lines underground or use Aerial Bundling for the power lines.

Note these street trees for retention in the TMP.



Plate 6: Tree 23.

8. Tree 29 *Corymbia citriodora* shows good vitality with a strong secondary leader – refer plate 7.

It is proposed to retain this tree as the new buildings will be located over the existing building footprints, thus having little or no impact on this tree.

Minor lower branch pruning maybe required to provide clearance for the new dwellings. All pruning to be undertaken in compliance with AS 4373 – 2007 Pruning of amenity trees. N.B. The pruning is less than 10% of the live canopy ratio.

Note this tree for retention in the TMP.



Plate 7: Tree 29

4. RECOMMENDATIONS

The following recommendations are advised:

- a) Remove the following trees on site: Tree 1, 2, 4, 5, 16, 17, 18, 21, 22, 31.
- b) Remove the following Exempt trees on site: Trees 3, 13, 19, 20, 24, 26, 27, 30, 33, 34, 35 & 36.
- c) Retain the following trees on site: Tree 7, 9, 11, 15 & 29.
- d) Retain the following street trees: Tree 23, 25, 28, 32 & 37.
- e) Prune Tree 29 to provide clearance for the new buildings in conformity with AS 4373 – 2007 *Pruning of amenity trees* Section 2.40 & 7.2.4 Selective pruning.
- f) 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)*.
- g) 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 Trees 7, 9, 11, 15 & 29 – refer Annexure D.
- h) Install the following Tree Protection Measures around the retained trees on site: Trees 7, 9, 11, 15 & 29, 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.

- i) That a Tree Management Plan be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 or above under the Australian Qualification Framework.
- j) An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures.
- k) The tree location plan can be found on Annexure B; &
- l) 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

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
1	<i>Jacaranda mimosifolia</i>	M	7	8	45	50	5.4	2.5	F - G vitality, OHPL, previous pruning, branch tear out, trunk cavity @ 2m	3c
2	<i>Jacaranda mimosifolia</i>	M	8	8	30, 45	70	6.5	2.8	F - G vitality, OHPL, previous pruning, ER, distorted canopy	3c
3	<i>Cinnamomum camphora</i>	M	9	8	35, 25	55	5.2	2.6	Exempt species	-
4	<i>Ulmus parvifolia</i>	M	16	20	2 x 40, 50	90	9.1	3.2	G vitality, OHPL, previous pruning, asphalt over roots	3c
5	<i>Ulmus parvifolia</i>	M	8	7	35, 30	50	5.5	2.5	G vitality, OHPL, previous pruning, asphalt over roots	3c
7	<i>Corymbia citriodora</i>	M	16	8	40	50	4.8	2.5	G vitality, twin trunk @ 3m, suppressed by T9	2
9	<i>Corymbia citriodora</i>	M	21	9	75	90	9.0	3.2	G vitality, surface roots, DW	2
11	<i>Corymbia citriodora</i>	M	16	10	40	50	4.8	2.5	G vitality, suppressed by T9	2
13	<i>Murraya paniculata (hedge)</i>	M	4	2	20	25	2.4	1.8	Exempt species	-
15	<i>Ulmus parvifolia</i>	M	16	10	100	120	12.0	3.6	G vitality, twin trunk @ 2m, thin foliage density, growing in embankment. Minor DW. Canopy limited to E by Club. Bee nest in mid trunk.	2
16	<i>Ulmus parvifolia</i>	M	10	16	80	85	9.6	3.1	G vitality	2
17	<i>Eucalyptus botryoides</i>	M	16	10	60	70	7.2	2.8	G vitality, <10% DW, canopy over site	2
18	<i>Ficus rubiginosa</i>	M	14	12	60	80	7.2	3.0	G vitality, branch failure with decay, canopy over site	2
19	<i>Celtis sinensis</i>	M	12	12	80	90	9.6	3.2	Exempt species	-
20	<i>Cinnamomum camphora</i>	M	10	14	80	85	9.6	3.1	Exempt species	-
21	<i>Lagerstroemia indica</i>	M	7	9	2 x 20	40	3.4	2.3	G vitality	3 (4e)
22	<i>Eucalyptus scoparia</i>	M	8	6	25	30	3.0	2.0	F - A vitality, DW, DB, bamboo underneath	4c
23	<i>Callistemon viminalis</i>	M	7	6	45	50	5.4	2.5	G vitality, ST	3
24	<i>Robinia pseudoacacia</i>	M	7	5	20	25	2.4	1.8	Exempt species	-
25	<i>Callistemon viminalis</i>	M	5	4	2 x 20	35	3.4	2.1	F vitality, ST, OHPL	3

26	<i>Camellia sasanqua</i>	M	4	2	15	20	2.0	1.7	Exempt species	-
27	<i>Robinia pseudoacacia</i>	M	8	6	35	40	4.2	2.3	Exempt species	-
28	<i>Callistemon viminalis</i>	M	5	4	20	25	2.4	1.8	F vitality, ST, OHPL	3
29	<i>Corymbia citriodora</i>	M	12	10	45	55	5.4	2.6	G vitality, lost apical growth > secondary leader to north	2
30	<i>Robinia pseudoacacia</i> 'Frisia'	M	8	6	30	35	3.6	2.1	Exempt species	-
31	<i>Tibouchina sp.</i>	M	6	3	2 x 15	25	2.5	1.8	F vitality	4e
32	<i>Callistemon viminalis</i>	M	5	4	2 x 20	35	3.4	2.1	F vitality, ST, OHPL, trunk damage from cars	3
33	<i>Prunus sp.</i>	M	4	5	2 x 15	30	2.5	2.0	Exempt species	-
34	<i>Ficus virens</i>	M	4	3	15, 20	35	3.0	2.1	Exempt species	-
35	<i>Olea europaea</i> subsp. <i>Cupidata</i>	M	4	2	10	15	2.0	1.5	Exempt species	-
36	<i>Ligustrum lucidum</i>	M	6	3	20	25	2.4	1.8	Exempt species	-
37	<i>Elaeocarpus reticulatus</i>	M	4	3	10	15	2.0	1.5	G vitality, ST	3

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.

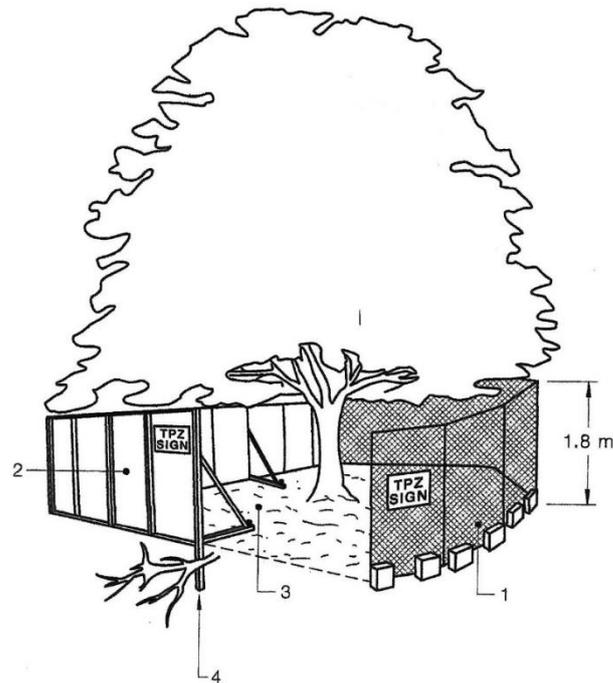
(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

(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

<p>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.</p>	<p>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.</p>	<p>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.</p>	<p>4.Remove: Trees that should be removed within the next 5 years.</p>	<p>5.Small, young or regularly pruned: Trees that can be reliably moved or replaced.</p>
(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.	

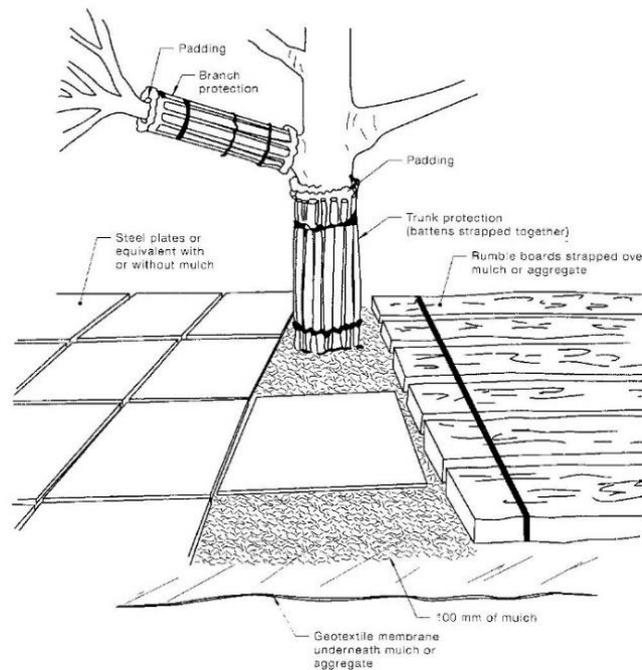
Annexure D: Tree protection details



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

