



JACKSONS NATURE WORKS

34 CALOOLA CRESCENT, BEVERLY HILLS 2209

9 150 4430
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ARBORICULTURAL IMPACT ASSESSMENT REPORT

At

**154 – 162 Stafford Street
Penrith**

Prepared for

Fresh Hope Penrith

30th April 2020

Prepared by: Ross Jackson

Graduate Certificate in Arboriculture (AQF L 8)

Dip. Horticulture (Arboriculture – AQF L 5)

Certificate III in Horticulture (Arboriculture)

Certificate in Horticulture (Landscape)

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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 154 – 162 Stafford Street, Penrith – The Site.
- 1.2 The report was commissioned by Fresh Hope Care 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 three sites: 2 houses and 1 church with gardens at Penrith .
- 1.5 The trees were identified by ground level Visual Tree Assessment (VTA) ¹ only in the data collection, taken on 30.3.2020. 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 Project Surveyors, dated 20.11.2018.
- Architectural plans by Smith & Tzannes, dated 3.4.2020.
- Stormwater concept plan by Tonkin, dated 28.4.2020, Rev B.
- Landscape plan by Paul Scrivener dated 29.4.2020 Issue A.
- Penrith Local Environmental Plan 2010, Part 5.9 (LEP); &
- Australian Standard AS 4970 – 2009 Protection of trees on development sites.

2. OBSERVATIONS as seen on the days of inspection (30.3.2020)

2.1 Our tree observations can be found in Annexure A.

3. DISCUSSIONS

3.1 We have been commissioned by Fresh Hope Care, to examine the health and condition of the trees on and around this development site.

It is proposed to demolish the existing and the construction of a new retirement village 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 in adjoining neighbour's properties: Tree 1 *Cupaniopsis anacardioides*, tree 15 *Syzygium paniculatum*, tree *Jacaranda mimosifolia*, tree 23, 24 & 25 *Cupressus sempervirens* and tree 26 *Photinia glabra*. The development works outside the TPZ of these trees, thus ensuring retention. Note for retention and protection in the Tree Management Plan (TMP).

2. Tree 12 *Lophostemon confertus* shows good vitality as a street tree – refer plate 1. The development works include a new boundary fence and associated landscape works within the TPZ of this tree, however, the existing concrete footpath and pavement opposite have limited root growth onto the Site. Therefore, the development works won't have any detrimental impact/s on this tree's stability and viability, thus ensuring retention. Note for retention and protection in the TMP.



Plate 1: tree 12

3. The following trees are located on site: Tree 2 *Callistemon viminalis* and tree 3 *Liquidambar styraciflua* – refer plate 2. The development works are outside the TPZ of these trees except for the proposed boundary fence – refer Annexure C. The fence can be built on isolated piers with beams at or just above grade to avoid damaging the root plates of these trees. By employing these design considerations, these trees can be retained. Note for retention and protection in the TMP.



Plate 2: trees 2, 3, 4 & 5

4. Tree 4 is a dead tree which is classified as an Exempt tree in Council's LEP and can be removed without the need for consent from Council. Note for removal in the TMP.

5. Tree 5 *Celtis australis* shows fair vitality with evidence of canopy modification following being topped at 3m with the entire canopy being epicormic regrowth – refer plate 2. The development works will not affect this tree. Note for retention in the TMP

6. Tree 6 *Plumaria rubra var. acutifolia* is a healthy specimen that is within the proposed building footprint – refer Annexure C & plate 3. Rather than merely cutting tree 6 it is proposed to transplant it on site as a feature specimen. Note for transplanting on site in the TMP.



Plate 3 – tree 6

7. The following trees are located within the proposed building footprint (refer Annexure C): Tree 7 & 8 *Lagerstroemia indica*, tree 9, 10, 11, 17, 18, 19, 20, 21 & 22 *Callistemon viminalis*, tree 13 & 14 *Acer negundo*, tree 27 & 28 *Cinnamomum camphora*. These trees are considered to be of low landscape significance (damage trunks and small form) and could be easily replaced on site by replanting more appropriate trees, shrubs and ground covers. Removal is supported. Note for removal in the TMP.

3.2 The proposed stormwater plan has been assessed and it is supported as the encroachment is less than 10% for all trees by the works to excavate and install the various pipes – refer Annexure C.

4. RECOMMENDATIONS

In consideration of the data collected recommendations are provided for the removal or retention of trees including specific tree protection measures required to reduce the

anticipated impacts from the proposed construction on those trees proposed to be retained.

The report specifically recommends:

1. Retain the following neighbour's trees: Tree 1, 15, 16, 23, 24, 25 & 26.
2. Retain the following trees on site: Tree 2, 3 & 5.
3. Remove the following trees on site: Tree 4, 7, 8, 9, 10, 11, 13, 14, 17, 18, 19, 20, 21, 22, 27, 28 & 29.
4. Transplant the following tree on site: Tree 6
5. Retain the following street tree: Tree 12.
6. 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)*.
7. Install the following Tree Protection Measures around the retained trees: Tree 2, 3 & 5 - tree protection measures shall be a temporary fence of chain wire panels 1.8 metres in height (or equivalent), supported by steel stakes or concrete blocks as required and fastened together and supported to prevent sideways movement. Existing boundary fences or walls are to be retained shall constitute part of the tree protection fence where appropriate. A sign is to be erected on the tree protection fences of the trees to be retained that the trees are covered by Council's tree preservation orders and that "No Access" is permitted into the tree protection zone – refer Annexure D.
8. Trunk protection shall consist of a padding material such as hessian or thick carpet underlay wrapped around the trunk. Hardwood 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 or to the maximum possible length permitted by the first branches – Annexure D, on the following trees: Tree 12 – refer Annexure D.
9. That a Tree Management Plan & Transplanting Methodology be prepared as part of the Construction Certificate by a consulting arborist who holds the Diploma in Horticulture (Arboriculture), Level 5 under the Australian Qualification Framework.
10. An AQF Level 5 Project Arborist shall be engaged to supervise the building works and certify compliance with all Tree Protection Measures.
11. The tree locations can be found in Annexure B; &
12. Tree impact plan can be found in Annexure C.



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Certificate III in Horticulture
Certificate in Horticulture (Landscape – Honours)

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>Cupaniopsis anacardioides</i> | M | 6 | 4 | 4 x 10 | 34 | 2.4 | 2.1 | G vitality, ND | 2a |
| 2 | <i>Callistemon viminalis</i> | M | 5 | 4 | 2 x 20, 30 | 54 | 3.4 | 2.6 | F vitality, 1/2 topped > ER | 3a (4c) |
| 3 | <i>Liquidambar styraciflua</i> | M | 9 | 8 | 42 | 52 | 5.0 | 2.5 | F - G vitality | 3a |
| 4 | <i>Dead tree</i> | D | - | - | - | - | - | - | Dead tree | 4a |
| 5 | <i>Celtis australis</i> | M | 6 | 6 | 4 x 8 | 28 | 2.0 | 1.9 | F vitality, topped @ 3m > ER | 3b (4c) |
| 6 | <i>Plumeria rubra var. acutifolia</i> | M | 4 | 4 | 16, 14, 18 | 22 | 3.3 | 1.8 | G vitality | 2b |
| 7 | <i>Lagerstroemia indica</i> | M | 5 | 4 | 18, 16 | 20 | 2.9 | 1.7 | G vitality | 2a |
| 8 | <i>Lagerstroemia indica</i> | M | 5 | 5 | 3 x 14 | 20 | 2.9 | 1.7 | G vitality, storm damaged | 3a |
| 9 | <i>Callistemon viminalis</i> | M | 7 | 5 | 3 x 15 | 38 | 3.1 | 2.2 | F vitality, storm damage | 3a |
| 10 | <i>Callistemon viminalis</i> | M | 7 | 4 | 3 x 12 | 30 | 2.5 | 2.0 | F vitality, suppressed | 3a |
| 11 | <i>Callistemon viminalis</i> | M | 7 | 5 | 4 x 14 | 42 | 3.4 | 2.3 | F vitality, all foliage to the street | 3a |
| 12 | <i>Lophostemon confertus</i> | M | 7 | 6 | 42 | 44 | 5.0 | 2.3 | G vitality, ST | 2a |
| 13 | <i>Acer negundo</i> | M | 7 | 7 | 2 x 20 | 37 | 3.4 | 2.2 | P vitality, top 1/2 dead, decay in branch | 3b (4c) |
| 14 | <i>Acer negundo</i> | M | 8 | 6 | 31 | 38 | 3.7 | 2.2 | F vitality, trunk decay/ injury @ 1m | 3b (4c) |
| 15 | <i>Syzygium paniculatum</i> | M | 5 | 2 | 14 | 18 | 2.0 | 1.6 | G vitality, ND | 2a |
| 16 | <i>Jacaranda mimosifolia</i> | M | 8 | 10 | 26 | 34 | 3.1 | 2.1 | G vitality, ND | 2a |
| 17 | <i>Callistemon viminalis</i> | M | 4 | 3 | 20 | 26 | 2.4 | 1.9 | F vitality | 2a |
| 18 | <i>Callistemon viminalis</i> | M | 4 | 3 | 14 | 18 | 2.0 | 1.6 | G vitality | 2a |
| 19 | <i>Callistemon viminalis</i> | M | 4 | 2 | 15 | 19 | 2.0 | 1.6 | G vitality | 2a |
| 20 | <i>Callistemon viminalis</i> | M | 4 | 2 | 2 x 15 | 34 | 2.5 | 2.1 | G vitality | 2a |
| 21 | <i>Callistemon viminalis</i> | M | 4 | 2 | 2 x 14 | 28 | 2.4 | 1.9 | G vitality | 2a |
| 22 | <i>Callistemon viminalis</i> | M | 5 | 5 | 2 x 17, 2 x 20 | 54 | 4.5 | 2.6 | G vitality | 2a |
| 23 | <i>Cupressus sempervirens</i> | M | 4 | 2 | 16 | 18 | 2.0 | 1.6 | G vitality, ND | 2a |

| | | | | | | | | | | |
|----|-------------------------------|---|-----|---|--------|----|-----|-----|---|----|
| 24 | <i>Cupressus sempervirens</i> | M | 4 | 2 | 17 | 19 | 2.0 | 1.6 | G vitality, ND | 2a |
| 25 | <i>Cupressus sempervirens</i> | M | 3.5 | 2 | 15 | 17 | 2.0 | 1.6 | G vitality, ND | 2a |
| 26 | <i>Photinia glabra</i> | M | 3.5 | 2 | 2 x 10 | 14 | 2.0 | 1.5 | G vitality, ND | 2b |
| 27 | <i>Cinnamomum camphora</i> | M | 5 | 2 | 16 | 18 | 2.0 | 1.6 | F vitality – weed species | 2b |
| 28 | <i>Cinnamomum camphora</i> | M | 5 | 2 | 16 | 20 | 2.0 | 1.7 | F vitality – weed species | 2b |
| 29 | <i>Lagerstroemia indica</i> | M | 4 | 3 | 4 x 8 | 18 | 2.0 | 1.6 | G vitality, Privet entwined (Exempt noxious tree) | 2b |

Terms used in Tree Survey & Report:

Age Class

(Y) – Young refers to a well-established but juvenile tree. Less than 1/3 life expectancy

(SM) – Semi-mature refers to a tree at growth stages between immaturity and full size. A tree has reached First Adult Form i.e. displays adult characteristics. 1/3 to 2/3 life expectancy

(M)- Mature refers to a full size tree with some capacity for future growth. Older than 2/3 life expectancy

(OM) – Over-mature refers to a tree approaching decline or already declining. Older than 2/3 life expectancy and showing signs of irreversible decline.

Health refers to a tree's vigour, growth rate, disease and/or insects.

Vitality summarises observations about the health and structure of the tree on a scale of: **(G) Good, (F) Fair, (P) Poor & (D) Dead.**

Good: Tree is generally healthy and free from obvious signs of structural weaknesses or significant effects of pests and diseases or infection;

Fair: Tree is generally vigorous although has some indication of being adversely affected by the early effects of disease or infection or environmental or mechanical damage. Appropriate tree maintenance can usually improve overall health and halt decline;

Poor: Tree in decline and is not likely to improve with reasonable maintenance practices or has a structural fault such as bark inclusion;

Dead: Tree no longer capable of sustained growth.

Deadwood (DW) – deadwood found in canopy as a percentage.

Over Head Power Lines (OHPL) – upper canopy pruned to accommodate power lines at a given height.

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

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

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

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

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

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

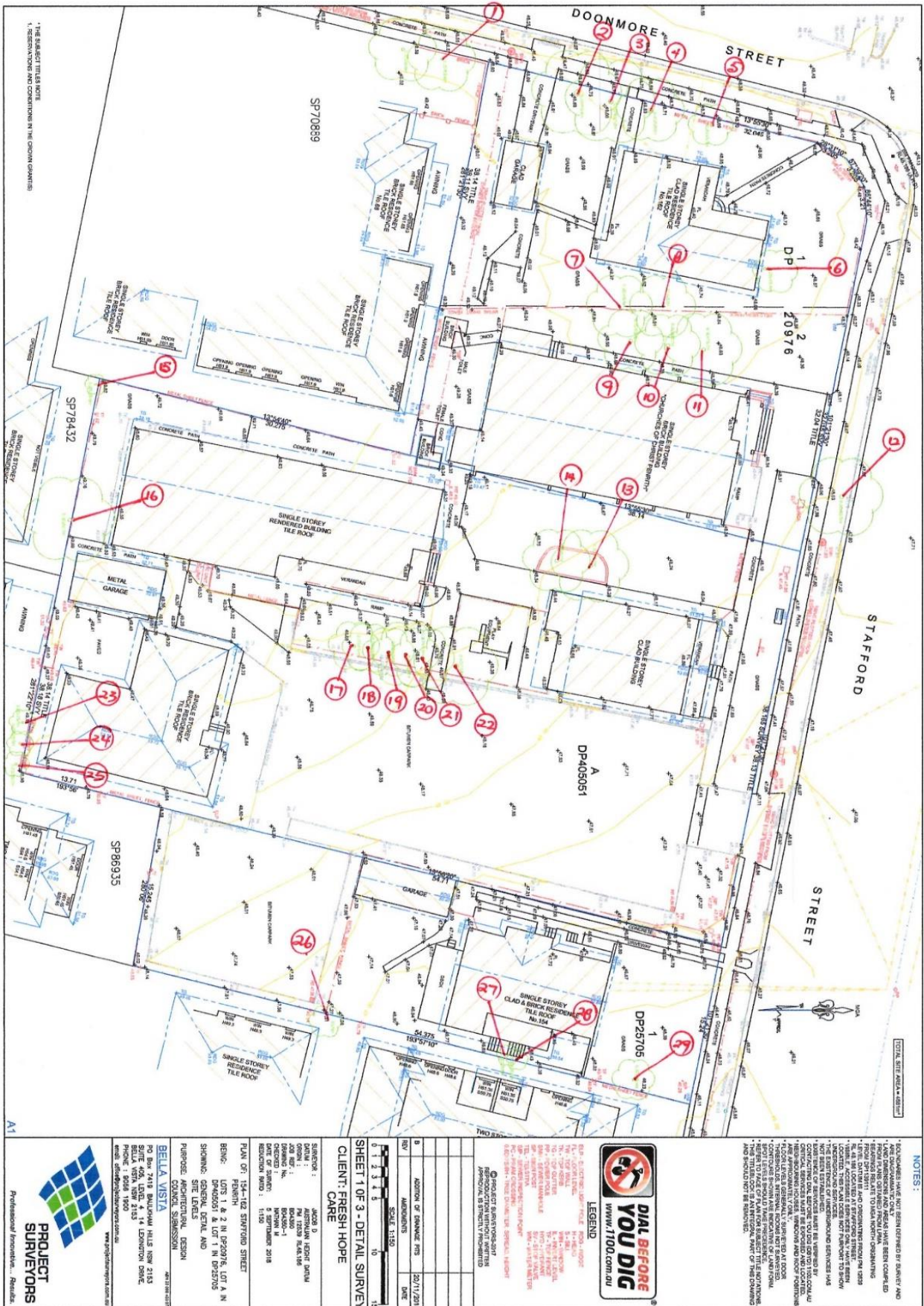
(TPZ) Tree Protection Zone & Structural Root Zone (SRZ) as defined by AS 4970 – 2009 Section 3

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

ULE RATING (UPDATED 1/4/01) BARRELL

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

Annexure B: Tree location plan



1. THE SUBJECT TRAIL NOTE
1. IDENTIFICATION AND COMMENTS IN THE DRAWING(S)

NOTES:

THE DRAWING HAS BEEN PREPARED BY SURVEY AND
LAYOUT DIMENSIONS AND AREAS HAVE BEEN CORRECTED
BASED ON THE DATA TO MATCH NORTH ORIENTATION
THE DATA IS ALSO ORIENTED TO MATCH THE
SITE PLAN AS SHOWN ON THE DRAWING. THE DATA
HAS BEEN OBTAINED FROM AERIAL PHOTOGRAPHS
AND FIELD SURVEY. THE DATA IS NOT TO BE
USED FOR ANY OTHER PURPOSES WITHOUT THE
WRITTEN PERMISSION OF THE SURVEYOR.
THE SURVEYOR IS NOT RESPONSIBLE FOR ANY
INACCURACIES OR OMISSIONS IN THE DRAWING
OR FOR ANY DAMAGE TO PROPERTY OR PERSONS
WHICH MAY BE CAUSED BY THE USE OF THE
DRAWING. THE SURVEYOR'S LIABILITY IS LIMITED
TO THE PROFESSIONAL SERVICES PROVIDED.
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DRAWING. THE SURVEYOR'S LIABILITY IS LIMITED
TO THE PROFESSIONAL SERVICES PROVIDED.



LEGEND

1. SINGLE STOREY BRICK BUILDING
2. SINGLE STOREY CLAD & BRICK BUILDING
3. SINGLE STOREY CLAD BUILDING
4. SINGLE STOREY CLAD & BRICK BUILDING
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27. SINGLE STOREY CLAD BUILDING
28. SINGLE STOREY CLAD BUILDING

SHEET 1 OF 3 - DETAIL SURVEY
CLIENT: FRESH HOPE CARE

SCALE 1:100

0 1 2 3 4 5 6 7 8 9 10 15

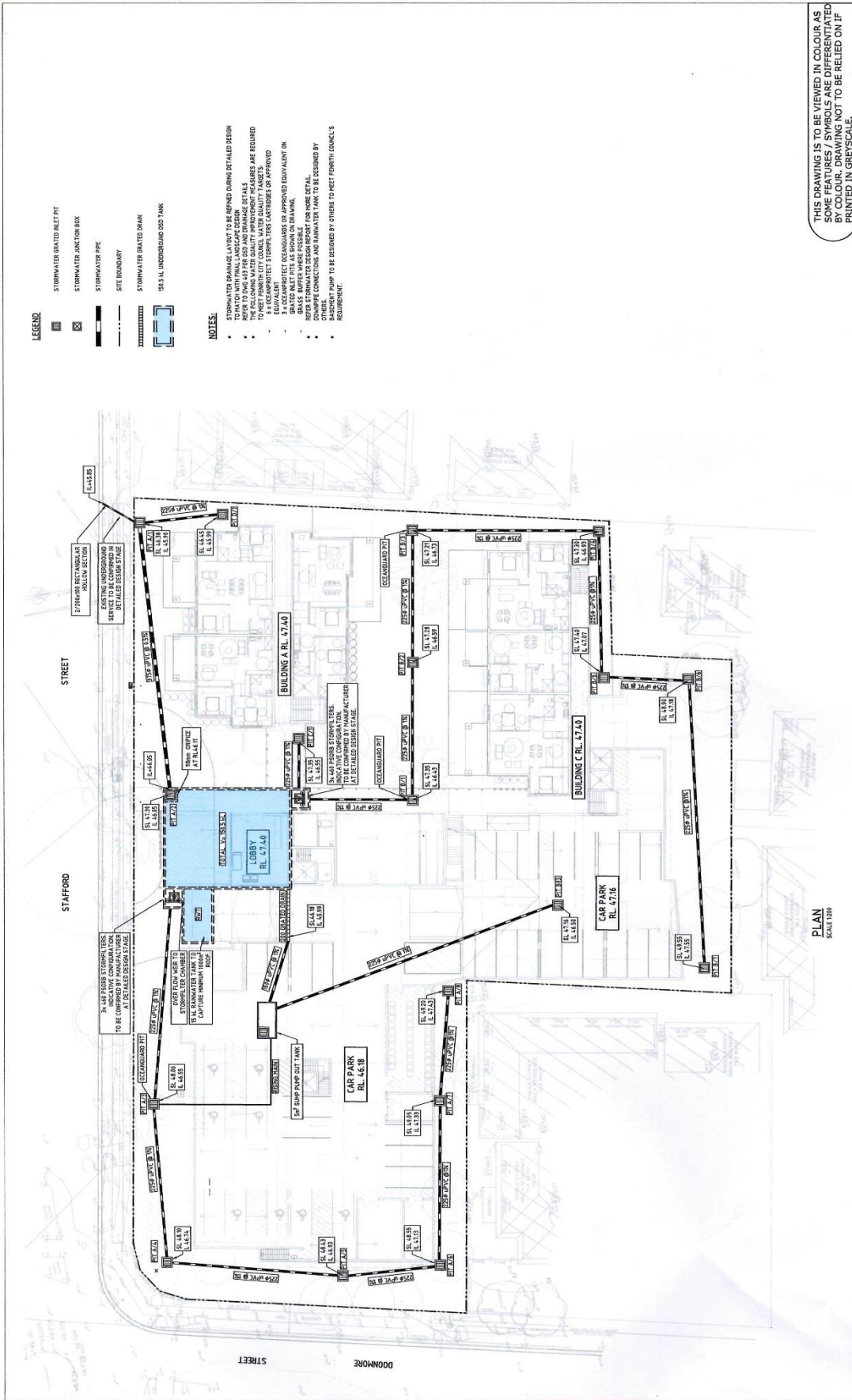
DATE: 20/11/2018
BY: JACOB D
APPROVED: JACOB D
DATE OF SURVEY: 5 SEPTEMBER 2018
REVISION NO: 11150

CLIENT: FRESH HOPE CARE
SURVEYOR: JACOB D
AGENCY: PROJECT SURVEYORS
ADDRESS: 11150
PHONE: 0888 1900
WWW: www.projectsurveyors.com.au

PROJECT SURVEYORS
Professional Services... Results

Annexure C: Tree impact plans





THIS DRAWING IS TO BE VIEWED IN COLOUR AS PER THE ORIGINAL DRAWING. PRINTED IN GREYSCALE.

tonkin
tonkin.com.au

FRESH HOPE CARE
PENRITH RETIREMENT LIVING
154-162 STAFFORD STREET, PENRITH NSW
STORMWATER LAYOUT

FILENAME: 201814-02-SWP-DWG

| NO. | DATE | BY | REVISION |
|-----|------------|----|----------|
| 1 | 2018/04/20 | NZ | B. AMES |
| 2 | 15/04/20 | NZ | B. AMES |
| 3 | 04/05/20 | NZ | B. AMES |

PUBLIC UTILITIES:
THE SERVICES SHOWN ARE DERIVED FROM PLANS OBTAINED FROM THE RELEVANT SERVICE AUTHORITIES. IT IS THE RESPONSIBILITY OF THE CLIENT TO CONFIRM THE LOCATION OF SERVICES AND THEIR LOCATION BEFORE EXCAVATION WORK COMMENCES.



PLAN
SCALE 1:500

| | | |
|------------------|------------------------|------------|
| SCALES SHOWN | COORDS & DATUM | SHEET SIZE |
| SURVEYED | MGA94, ZONE 56 | A1 |
| DATE | ALL LEVELS TO A.M.S.L. | |
| DATE DES. | | |
| REASON FOR ISSUE | | |
| AMENDMENT / | | |



Legend

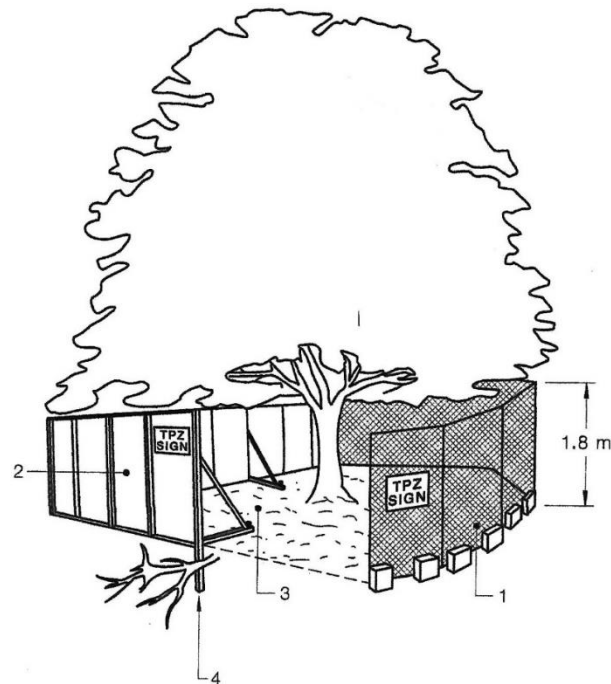
- Existing trees to be removed (See sheet 2)
- Building trees as per Architect report
- Proposed evergreen trees
- Deciduous trees
- Tall Palm
- Small Palms
- Tree ferns
- Low shrubs / ornamental grasses
- Screen plants
- Shrub up
- Private open space
- Private open space paving
- Gravel areas
- Lawn areas
- Thinner seating
- Thinner decking
- Subsidiary/office
- Site lighting poles
- Walls
- Proposed walls
- Sewer lines under

Drawing schedule

- Sheet 1: Ground floor masterplan
- Sheet 2: First floor masterplan
- Sheet 3: First floor masterplan
- Sheet 4: First floor masterplan
- Sheet 5: Calculations plan

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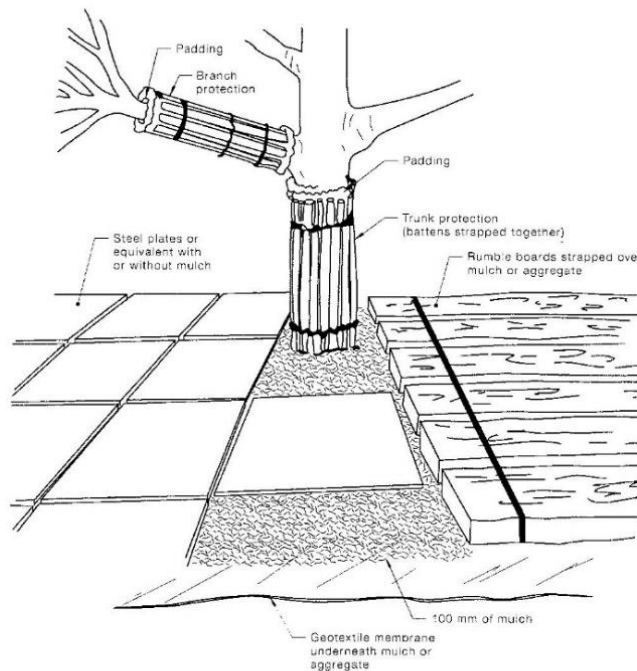
Annexure D: Tree protection detail



LEGEND:

- 1 Chain wire mesh panels with shade cloth (if required) attached, held in place with concrete feet.
- 2 Alternative plywood or wooden piling 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