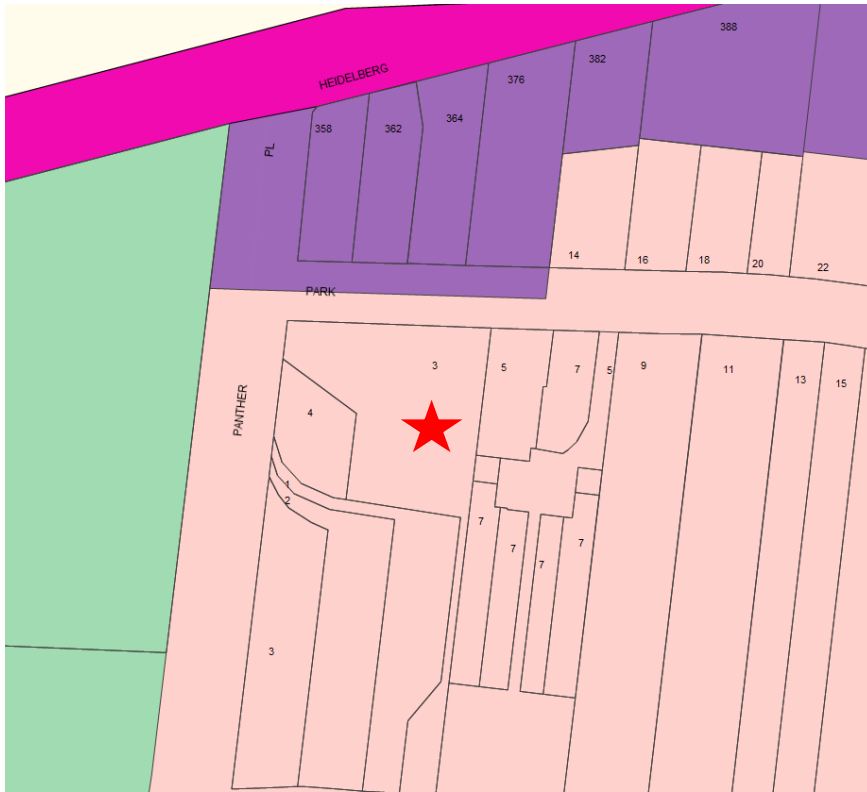
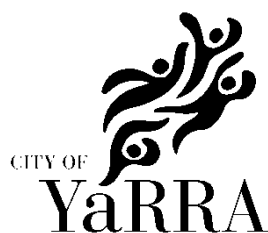


Attachment 1 - PLN17/0213 - 3 Park Crescent - ATTACHMENT 1 (Site Plan)

SUBJECT LAND: 3 Park Crescent Fairfield



Attachment 2 - PLN17/0213 - 3 Park Crescent Alphington - Engineering comments 1 of 2



MEMO

To: Michelle King
From: Artemis Bacani
Date: 25 January 2018
Subject: **Application No:** PLN17/0213
Description: Construction of a Second Dwelling and Works Associated with the Existing Dwelling
Site Address: 3 Park Crescent, Fairfield

I refer to the above Planning Application received on 19 December 2017 in relation to the proposed development at 3 Park Crescent, Fairfield. Council's Engineering Services unit provides the following information:

DEVELOPMENT LAYOUT DESIGN Layout Design Assessment

Item	Assessment
Access Arrangements – Park Crescent	
Carport Entrance	The entrance width of the carport is not dimensioned on the drawings.
Headroom Clearance	A headroom clearance of 2.1 metres has been provided which satisfies <i>Design standard 1 – Accessways</i> of Clause 52.06-9.
Vehicle Crossing	A site inspection revealed that the existing vehicle crossing is approximately 3.4 metres. The applicant proposes to widen the vehicle crossing to 5.5 metres.
Access Arrangements – Panther Place	
Vehicle Access off Panther Place	Vehicle access into the existing car spaces is via an easement which is used by residents to perform a U-turn.
Entrance Width of Open Car Space	The oblique width of the car space entrance is approximately 5.5 metres.
Car Parking Module	
Internal Dimensions of Carport	The unobstructed internal dimension of the carport must be dimensioned on the drawings.

**Attachment 2 - PLN17/0213 - 3 Park Crescent Alphington - Engineering comments 1 of 2
Layout Design Assessment**


Item	Assessment
Car Parking Module	
Internal Dimensions of Open Car Space	<p>The car space has an internal width of approximately 4.85 metres. The northern boundary of the car space has a length of approximately 7.57 metres and the southern boundary is approximately 5.95 metres.</p> <p>The width of the car space is suitable to accommodate one B85 design vehicle.</p> <div data-bbox="584 600 1307 1153" style="border: 1px solid #add8e6; padding: 10px; text-align: center;"> </div> <p style="text-align: center;"><i>Figure 1</i></p>

Design Items to be Addressed

Item	Details
Carport Entrance	The entrance width of the carport must be shown on the drawings.
Internal Dimensions of Carport	The internal dimension of the carport must be shown on the drawings.
Open Car Space	To be fully dimensioned on the drawings.
Street Tree – Park Crescent	The applicant must liaise with Council's Open Space unit regarding a street tree which appears to be in the area of the widened vehicle crossing. The applicant must obtain advice on the lateral clearance that is required for the new vehicle crossing. All costs associated with the relocation/removal of the tree will be the responsibility of the Permit Holder.

Design Items to be Addressed

Attachment 2 - PLN17/0213 - 3 Park Crescent Alphington - Engineering comments 1 of 2

Item	Details
Telecommunications Pit - Park Crescent	<p>The widening of the existing vehicle crossing would require the applicant to obtain advice and consent from the relevant service authority in relation to the position of the telecommunications pit. A copy of written advice/consent from the service authority must be submitted to Council as part of the planning application.</p> <div style="text-align: center;"> <p>Parking sign</p>  <p>Street tree Telecommunications pit</p> </div>

Capital Works Programme

A check of the Capital Works Programme for 2017/18 indicates that no infrastructure works have been approved or proposed within the area of the site at this time.

ENGINEERING CONDITIONS

Civil Works

Upon the completion of all building works and connections for underground utility services,

- The existing vehicle crossing located in Park Crescent must be demolished and reconstructed in accordance with Council’s Standard Drawings and Engineering requirements. The crossing must be able to accommodate the ground clearance for a B85 design vehicle.

Road Asset Protection

- Any damaged roads, footpaths and other road related infrastructure adjacent to the development site as a result of the construction works, including trenching and excavation for utility service connections, must be reconstructed to Council’s satisfaction and at the developer’s expense.

Impact of Assets on Proposed Development

Attachment 2 - PLN17/0213 - 3 Park Crescent Alphington - Engineering comments 1 of 2

- Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.
- Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, valves or meters on Council property will be accepted.

NON-PLANNING ADVICE FOR THE APPLICANT

Legal Point of Discharge

The applicant must apply for a Legal Point of Discharge under Regulation 610 – Stormwater Drainage of the *Building Regulations 2006* from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the *Local Government Act 1989* and Regulation 610.

Street Tree Protection – Park Crescent Road Frontage

The applicant must liaise with Council's Open Space unit regarding a street tree which appears to be in the area of the widened vehicle crossing. The applicant must obtain advice on the lateral clearance that is required for the new vehicle crossing. All costs associated with the relocation/removal of the tree will be the responsibility of the Permit Holder.

Removal, Adjustment, Changing or Relocation of Parking Restriction Signs

No parking restriction signs are to be removed, adjusted, changed or relocated without approval or authorisation from Council Parking Management unit and Construction Management branch.

Regards

Artemis Bacani
Civil Roads Engineer
Engineering Services Unit

Attachment 3 - PLN17/0213 - 3 Park Crescent Fairfield - Engineering Photographs

King, Michelle

From: Bacani, Artemis
Sent: Wednesday, 24 January 2018 3:49 PM
To: King, Michelle
Subject: 3 Park Cr, Alphington
Attachments: IMG_3543.jpg; IMG_3547.jpg; IMG_3545.jpg

Follow Up Flag: Follow up
Flag Status: Completed

Hi Michelle

I inspected the property today and note that the two car spaces off Panther Place already exists (see attached photos).

I initially thought from the drawings these were being proposed.

As these spaces are currently being used, I would have no objections to their continued use.

At the Park Crescent road frontage, the applicant failed to show the existing parking sign, street tree, and service pit that is near the vehicle crossing.

I will include all of my findings in the comments to you.

Regards

Artemis Bacani
Roads Civil Engineer
Engineering Services

City of Yarra
P.O. Box 168 Richmond 3121
T 9205 5120 F 8417 6666
E artemis.bacani@yarracity.vic.gov.au
W www.yarracity.vic.gov.au







Attachment 3 - PLN17/0213 - 3 Park Crescent Fairfield - Engineering Photographs
Agenda Page 9

Attachment 5 - PLN17/0213 - 3 Park Cr Fairfield - Open Space Referral (2)



Memo

To: Carrie Lindsay

Cc: Craig Lupton, Glen Williames,

From: Paul Whitten

Date: 23 February 2018

Subject: PLN17/0213 – 3 Park Crescent Fairfield

diverse

vibrant

exciting

inclusive

Carrie,

Comments as follows:

The following information is required

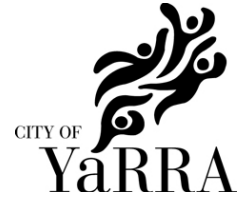
- Tree protection fencing/ zones shown on plans
- Tree management plan project inspection schedule
- Actual measurements of TPZ incursion by the development for all trees
- Management of TPZ where fencing does not/ cannot cover the whole TPZ
- Management of roots found during construction works
- Management of TPZ incursion by landscape works
- Build specifications for carport at Park Crescent frontage
- Presence of arborist where excavation works will happen within the TPZ

Overall the report is a tree assessment and does not properly address the tree management requirements for the site.

I also query the necessity for removal of Tree 3 as it does not appear to be in the way of development

As no overly large trees are proposed for removal, the replacement planting of 2 significant trees, at least one native, on site, capable of growing to 15m height will replace lost amenity.

Attachment 5 - PLN17/0213 - 3 Park Cr Fairfield - Open Space Referral (2)



Memo

To: Michelle King

Cc: Carrie Lindsay, Paul Whitten and Glen Willames

From: Craig Lupton

Date: 14 June 2018

Subject: Open Space Referral - PLN17/0213 - 3 Park Crescent, Fairfield

diverse

vibrant

exciting

inclusive

Dear Michelle

The Streetscapes and Natural Values Team provides the following comments in relation to PLN17/0213 - 3 Park Crescent, Fairfield:

- The removal of the *Brachychiton rupestris* (Queensland Bottle Tree) street tree is supported by Council provided the applicant agrees to pay the loss of amenity, removal, replacement and establish maintenance costs of \$1,411.99 (Including GST) before the proposed development commences. Council contractors will undertake all tree removal, replacement and maintenance works.
- The cost of \$1,411.99 (Including GST) is based on current schedule of rates and may change in line with contract specifications and annual CPI variations.
- Council reserves the right to plant a replacement of tree of its choice at a location within the general vicinity of 3 Park Crescent, Fairfield.

Item	Cost
Melbourne Valuation (Loss of Amenity Value)	\$ 590.00
Removal 0-4	\$ 71.24
Stump	\$ 20.00
Supply tree 100L	\$ 350.00
Planting cost	\$ 91.59
Maintenance 2 years	\$ 160.80
SUB TOTAL	\$ 1,283.63
GST	\$ 128.36
TOTAL	\$ 1,411.99

If you have any further questions, please do not hesitate to contact me on 0419 099 547.

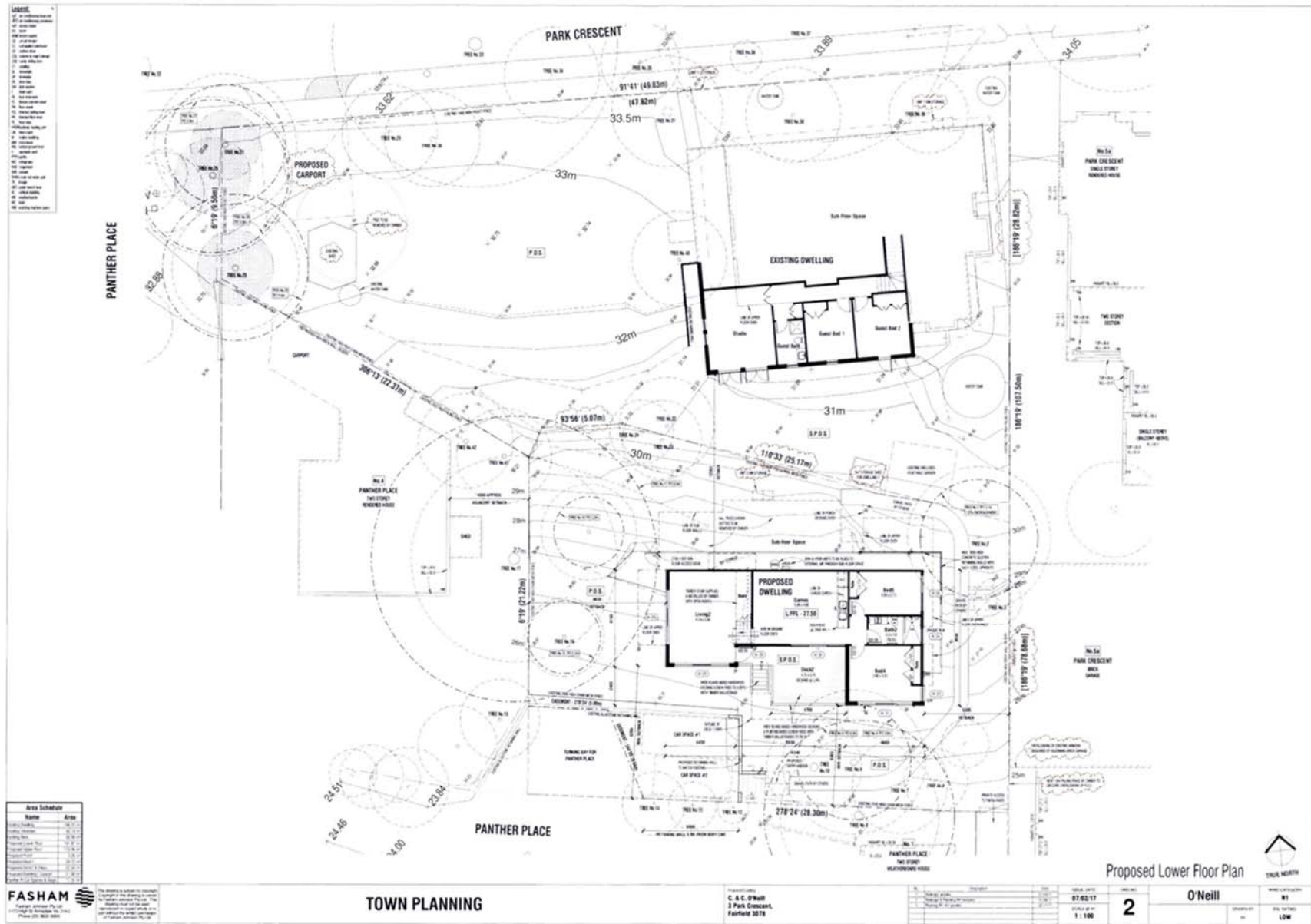
Kind Regards

Attachment 5 - PLN17/0213 - 3 Park Cr Fairfield - Open Space Referral (2)

Craig Lupton

Coordinator Streetscapes and Natural Values

Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



Area Schedule	Name	Area
1	Garage	10.0
2	Carport	15.0
3	Driveway	5.0
4	Pathway	2.0
5	Lawns	100.0
6	Plantings	10.0
7	Other	5.0
8	Total	147.0

FASHAM
 177 High Street, Fairfield, VIC 3078
 Phone: (03) 9487 9800

TOWN PLANNING

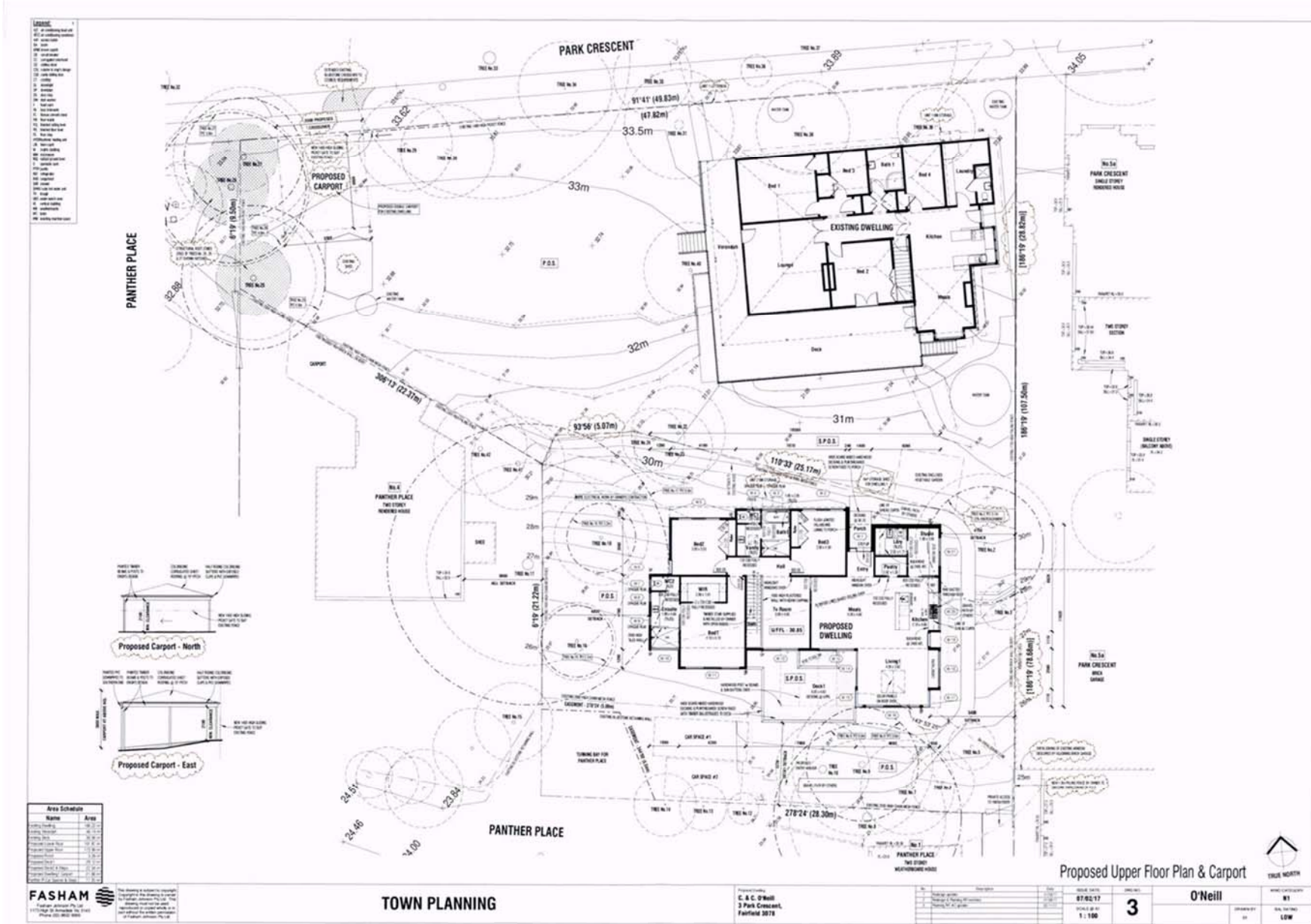
Prepared by:
C. A. C. O'Neill
 3 Park Crescent,
 Fairfield 3078

DATE	07.02.17
SCALE	1:100

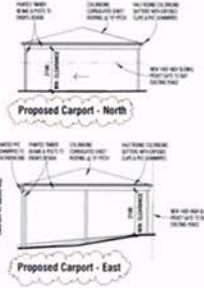
Proposed Lower Floor Plan

NO.	2
DESIGNER	O'Neill
DATE	07.02.17
SCALE	1:100
PROJECT	3 Park Crescent, Fairfield 3078
STATUS	FOR APPROVAL
LEVEL	LOW

Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



- LEGEND**
- 1. Existing Dwelling
 - 2. Proposed Dwelling
 - 3. Proposed Carport
 - 4. Proposed Deck
 - 5. Proposed Pool
 - 6. Proposed Fencing
 - 7. Proposed Driveway
 - 8. Proposed Pathway
 - 9. Proposed Garden
 - 10. Proposed Trees
 - 11. Proposed Retaining Wall
 - 12. Proposed Stormwater
 - 13. Proposed Sewer
 - 14. Proposed Gas
 - 15. Proposed Water
 - 16. Proposed Power
 - 17. Proposed Telephone
 - 18. Proposed Cable
 - 19. Proposed Air Conditioning
 - 20. Proposed Heating
 - 21. Proposed Cooling
 - 22. Proposed Lighting
 - 23. Proposed Security
 - 24. Proposed Signage
 - 25. Proposed Other



Area Schedule

Item	Area
Existing Dwelling	30.00
Proposed Dwelling	30.00
Proposed Carport	30.00
Proposed Deck	30.00
Proposed Pool	30.00
Proposed Fencing	30.00
Proposed Driveway	30.00
Proposed Pathway	30.00
Proposed Garden	30.00
Proposed Retaining Wall	30.00
Proposed Stormwater	30.00
Proposed Sewer	30.00
Proposed Gas	30.00
Proposed Water	30.00
Proposed Power	30.00
Proposed Telephone	30.00
Proposed Cable	30.00
Proposed Air Conditioning	30.00
Proposed Heating	30.00
Proposed Cooling	30.00
Proposed Lighting	30.00
Proposed Security	30.00
Proposed Signage	30.00
Proposed Other	30.00

FASHAM
 1177 High Street, Melbourne, VIC 3004
 Phone: (03) 9888 8888

TOWN PLANNING

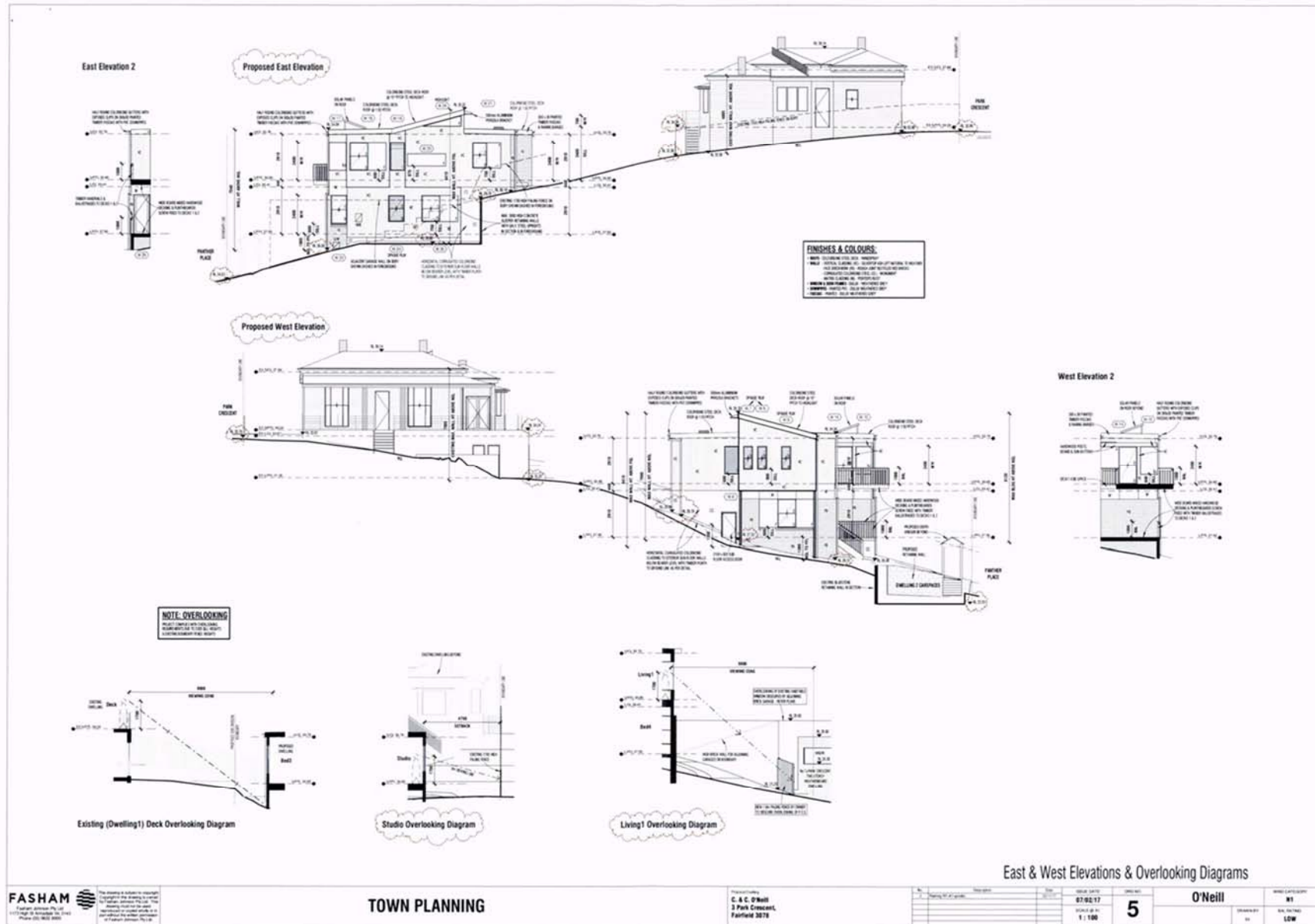
Project Details:
 C. A. C. O'Neill
 3 Park Crescent,
 Fairfield 3078

Item	Value
Project No.	PLN17/0213
Issue No.	3
Issue Date	07.02.17
Scale	1:100

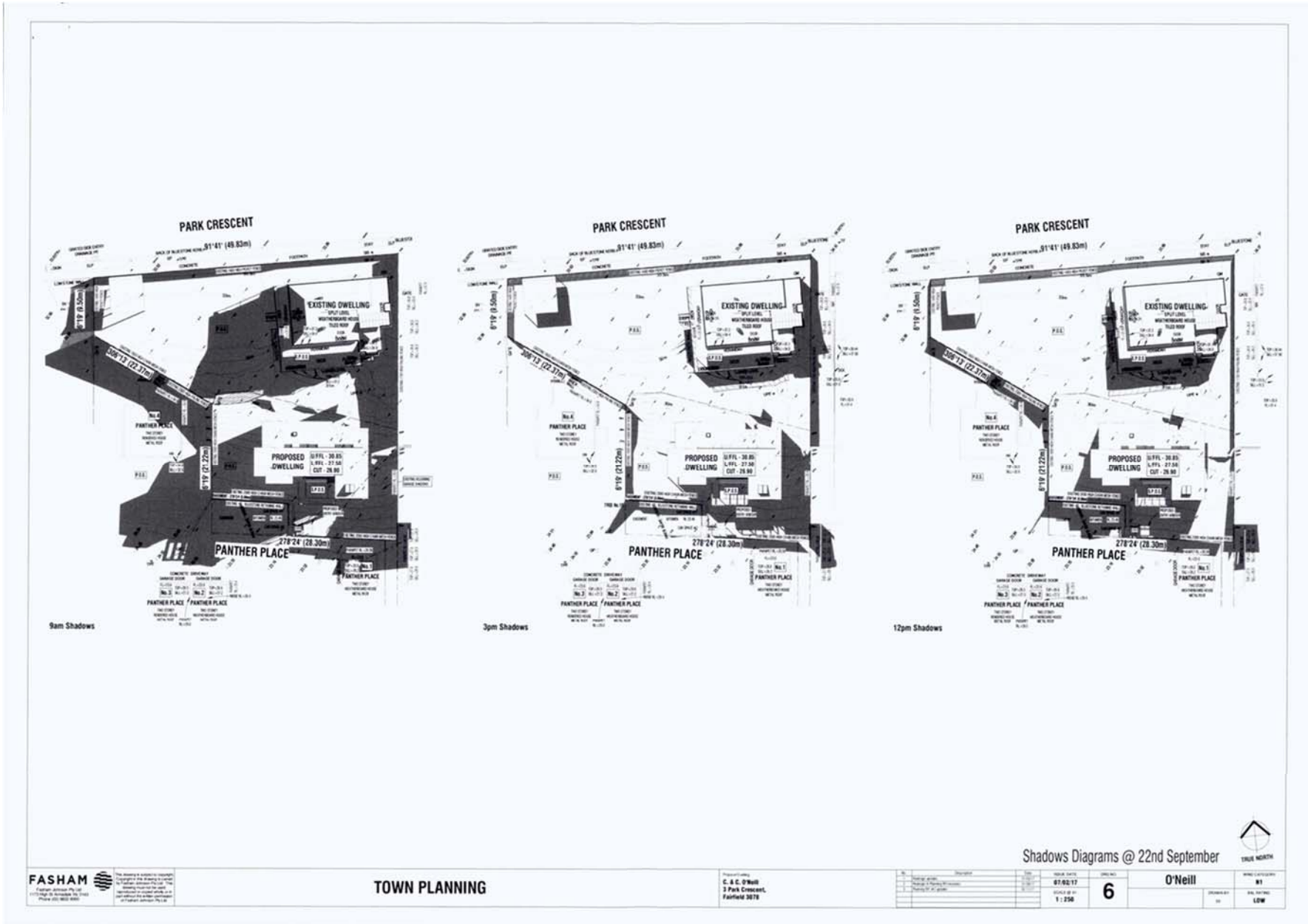
Proposed Upper Floor Plan & Carport

Item	Value
Author	O'Neill
Check	
Drawn	
Scale	1:100
Sheet No.	01
Total Sheets	01
Client	LEW

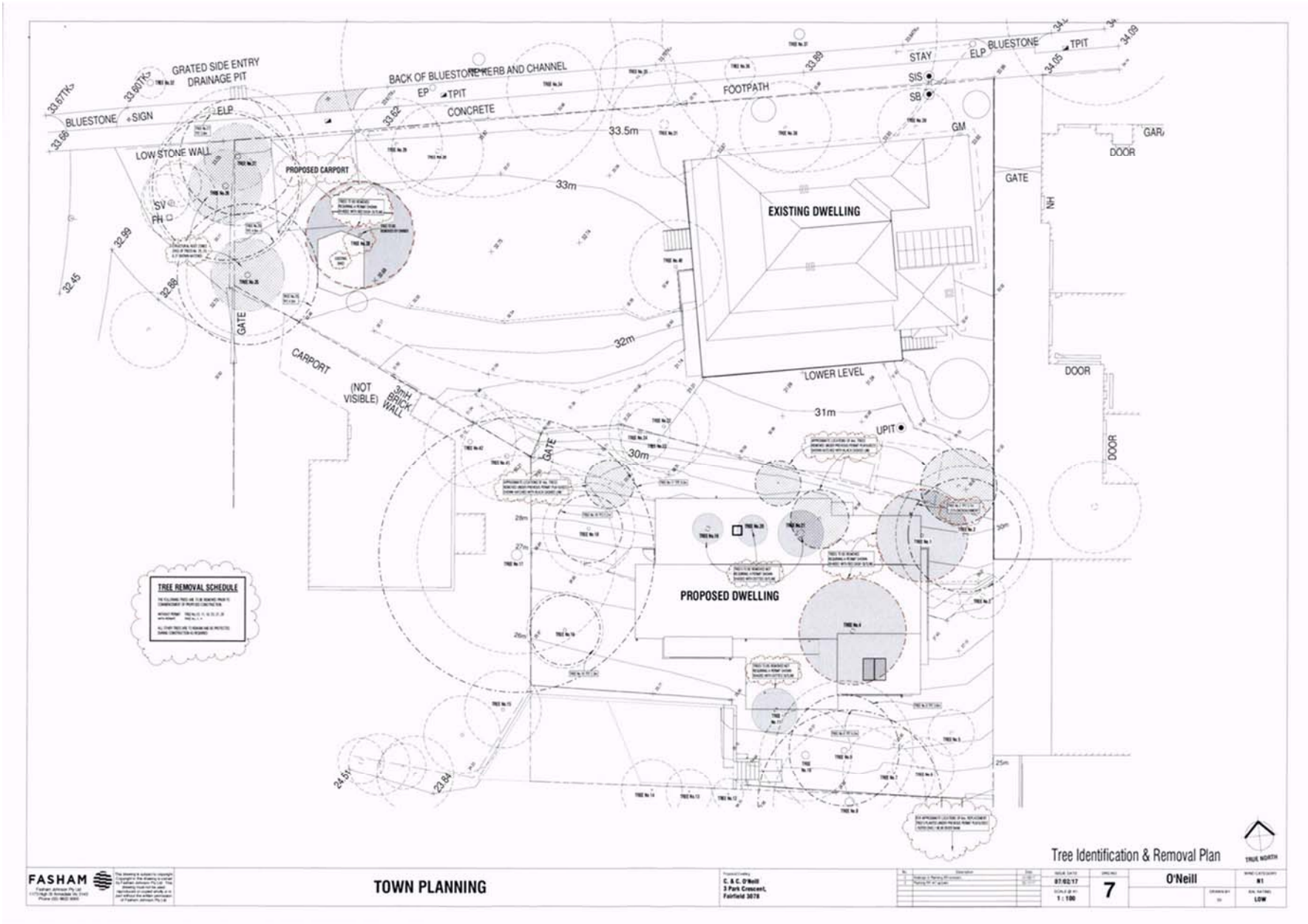
Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



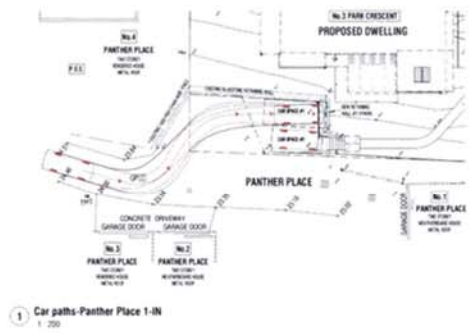
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Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



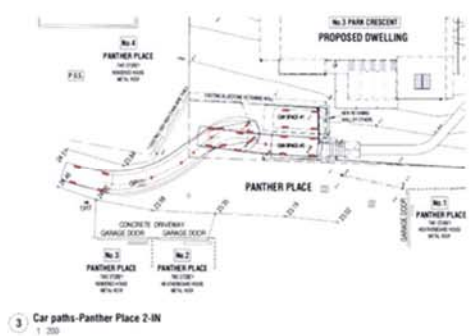
Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



1 Car paths-Panther Place 1-IN
1:200



2 Car paths-Panther Place 1-OUT
1:200



3 Car paths-Panther Place 2-IN
1:200



4 Car paths-Panther Place 2-OUT
1:200

FASHAM
Town Planning
100 High Street, Fairfield, VIC 3042
Phone: 03 9357 9999

TOWN PLANNING

Prepared by:
C. A. C. O'Neil
3 Park Crescent,
Fairfield 3078

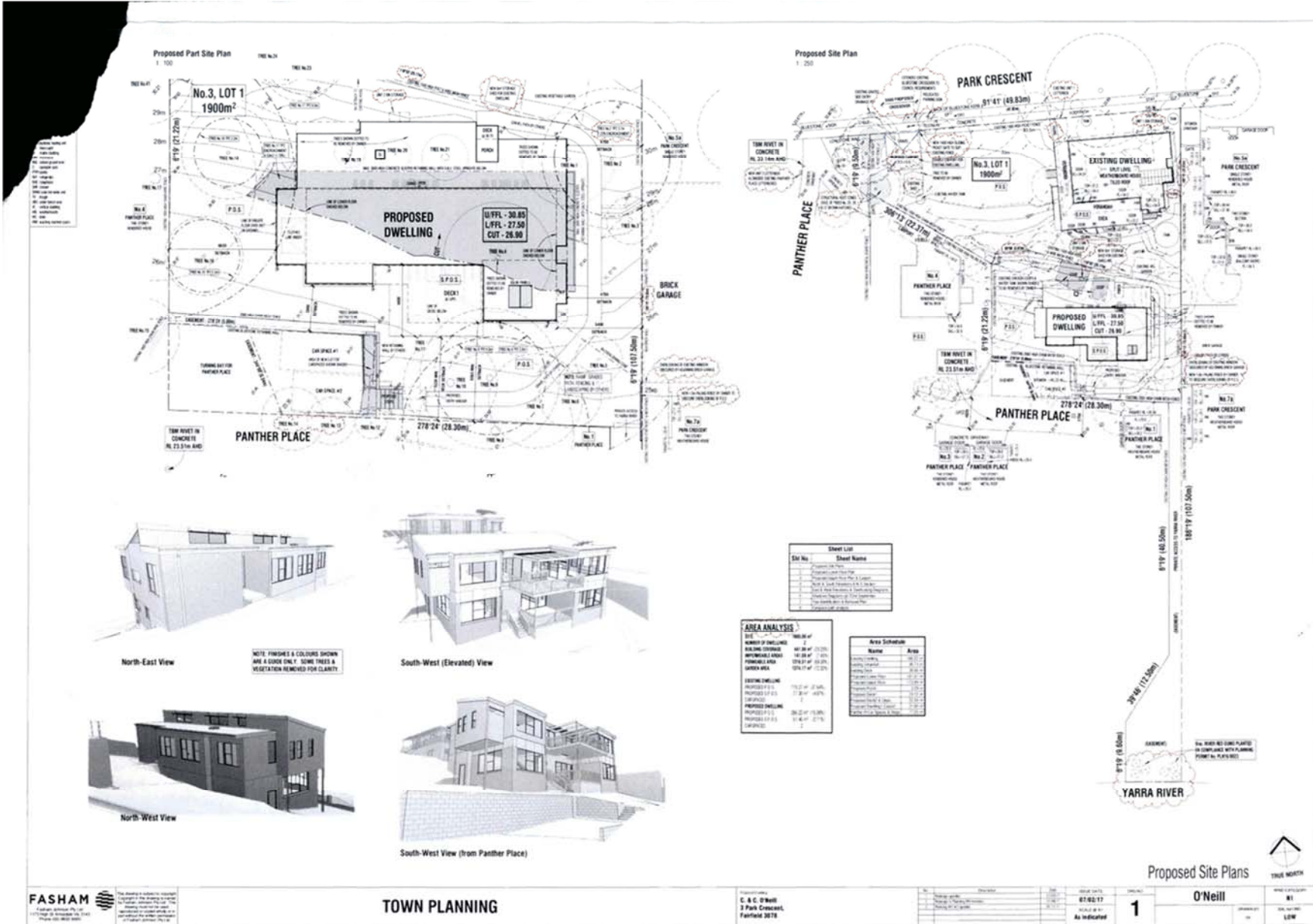
No.	Description of work	Date	Scale	Drawn by	Checked by
1					
2					
3					
4					
5					
6					
7					
8					

Carspace path analysis

8	O'Neil	WT
		LOW



Attachment 6 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Plans



Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan



Tree Consultants & Contractors

Tel : (03) 9888 5214

8 Nov 2017

Bruce Marshall
Fasham Johnson Pty. Ltd.

Dear Sir,

Re: 3 Park Crescent, Fairfield

Introduction

A twin storey dwelling is proposed to be constructed to the south of the existing dwelling at 3 Fairfield Crescent, Fairfield. Galbraith and Associates has been requested by Fasham Johnson Pty. Ltd. This includes the provision of information on species type, size, condition and comments where pertinent for each tree, or tree group where relatively homogeneous. It also provides tree protection and indicative structural root zones for all the neighbouring trees, as per the relevant Australian Standard, discusses the likely impact of the proposal and makes recommendations where relevant.

Each tree is numbered and located on the accompanying copy of the existing site conditions survey on page 2 and discussed on pages 3-5. The design drawings upon which I base my assumptions are plan numbers 1 – 8 issued 7 February 2017 Revision 3 dated 2 November 2017.

Among a number of planning overlays there is a schedule 1 to the Environmental Significance Overlay necessitating that a permit be sought to remove trees unless an environmental weed or a tree with a single trunk circumference of less than 0.35 meter at 1 meter above the ground and which is less than 6 metres high or has a branch spread of less than 4 metres.

The Trees - General

The trees on the site have all been planted within the last 30 years or are seriously invasive environmental weeds. Most are small fruit trees including Walnut, Pear, Quince, Sapote, Pineapple Feijoah, White Mulberry, European Fig and Quince. The largest planted trees are a Lemon Scented Gum of approximately 13m in height (tree 9), and a Queensland Silky Oak of approx. 16m height (tree 27). There are no examples of self-sown native vegetation although some planted Blackwoods are present, none of which are affected by the proposal.

Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan

3

TREE SURVEY

Tree No.	Species Indigenous (I) Victorian (V) Australian (A) Exotic (E) Weed (W)	DBH (cm)	HxS (m)	Comments, WOR, TPZ(m), SRZ(m)
1	Ulmus glabra 'Camperdown' Elm	E 19	4x6	Small spreading tree heavily lopsided to the south-east. WOR 4 TPZ 2.3 SRZ 1.8
2	Casimiroa edulis White Sapote	E 25, 18	7x9	Healthy mature fruit tree, heavily clad in Jasmine creeper. WOR 5 TPZ 3.7 SRZ 2.1
3	Callistemon 'Kings Park' Bottle brush	A 12	6x3	Small tree of little note. WOR 3 TPZ 2 SRZ 1.5
4	Juglans regia Walnut	E 17, 14	9x7	Leans north, fair-good health, canker at 4.5m. WOR 5 TPZ 2.7 TPZ 1.9
5	*Syringa vulgaris Lilac	E	3x3	Small tree of little note. WOR 3 TPZ 2 SRZ 1.5
6	*Pittosporum undulatum Sweet Pittosporum	VW 12	4x4	Serious weed. WOR 2
7	Eucalyptus botryoides Southern Mahogany	V multi stemmed	9x6	Sprouts from the stump of a cut down tree. Will get far too large for the position. WOR 2
8	Euc. botryoides	V 50	20x10	Neighbouring vigorous tree TPZ 6 SRZ 2.6
9	Corymbia citriodora Lemon Scented Gum	A 30	13x9	Healthy vigorous tree leaning west. TPZ 3.6 SRZ 2.2
10	*Pittosporum undulatum	VW 20, 16	7x6	Healthy serious weed. WOR 2
11	*Malus sp. Apple	E 10	3x2	Almost dead. WOR 1
12	*Callistemon 'Kings Park'	A 8, 8	6x2	Neighbouring small tree. TPZ 2 SRZ 1.5
13	*Callistemon 'Kings Park'	A 5, 5, 5, 4	5x3	Neighbouring small tree. TPZ 2 SRZ 1.5
14	Leptospermum petersonii Lemon Scented Tea-tree	A 10, 10	6x4	Neighbouring small tree. TPZ 2 SRZ 1.5
15	*Cope of Callistemon	A < 10	< 6m tall	Neighbouring small trees. TPZ 2 SRZ 1.5
16	Olea europea Olive	E 10, 10, 8, 10	7x5	Healthy small tree. WOR 4 TPZ 2.3 SRZ 1.8
17	Eucalyptus camaldulensis River Red Gum	I 75	19x13	Neighbouring naturally occurring mature tree centred 1.7m from the boundary. The top of the tree leans up to 7m over the site. TPZ 9 SRZ 3
18	Acacia melanoxylon Blackwood	I 20	8x6	Healthy young planted tree. TPZ 2.2 SRZ 1.7

Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan

4

Tree No.	Species Indigenous (I) Victorian (V) Australian (A) Exotic (E) Weed (W)	DBH (cm)	HxS (m)	Comments, WOR, TPZ(m), SRZ(m)
19	*Cydonia oblonga E Quince		2x2	Small fruit tree of little note. WOR 3
20	*Acca sellowiana E Pineapple Feijoa		3x2	As above. WOR 3
21	*Pyrus communis E Pear	10	3x3	As above. WOR 3
22	Pyrus communis E	17, 16, 12	6x6	Fruit tree in fair condition. WOR 4 TPZ 3.1 SRZ 2
23	Acacia melanoxylon I Blackwood	16	7x5	Healthy young tree. Readily replaceable. WOR 4 TPZ 2 SRZ 1.6
24	Acacia melanoxylon I	12	7x4	As above. WOR 3
25	Jacaranda mimosifolia E Jacaranda	31, 22	9x8	Small – medium tree in good condition. WOR 5 TPZ 4.6 SRZ 2.4
26	Ceratonia siliqua E Carob	45@ 400mm a.g.l.	9x10	Neighbouring tree leaning way from the site. Poor Verotch at 1m. TPZ 4.8 SRZ 2.4
27	Grevillea robusta A Queensland Silky Oak	32	16x9	Young mature tree in good condition. WOR 6 TPZ 3.8 SRZ 2.2
28	Morus alba E White Mulberry	12, 13, 10	5x7	Small tree of little note. WOR 4 TPZ 2.4 SRZ 1.8
29	Stenocarpus sinuatus A Firewheel Tree	15	7x6	Young healthy small tree. WOR 4 TPZ 2 SRZ 1.5
30	Brachychiton acerifolius A Illawarra Flame Tree	36	10x6	Healthy medium sized tree lopsided away from tree 33. WOR 5 TPZ 4.3 SRZ 2.3
31	Melaleuca linariifolia A Snow in Summer	49	8x7	Healthy small – medium tree. WOR 4 TPZ 5.9 SRZ 2.5
32	*Brachychiton rupestris A Bottle Tree	8	4x1	Young recently planted street tree. TPZ 2 SRZ 1.5
33	Platanus x acerifolia E Plane	76	18x18	Mature large healthy street tree. TPZ 9.1 SRZ 3
34	Ficus carica E European Fig.	13	4x6	Low suppressed small street tree. TPZ 2 SRZ 1.5
35	Hymenosporum flavum A Native Frangipanni	20	9x5	Slender street tree leaning over the road. TPZ 2.4 SRZ 1.8
36	*Callistemon 'Kings Park' A Bottle brush	6	5x2	Small suppressed street tree. TPZ 2 SRZ 1.5
37	Platanus x acerifolia E	71	18x18	Mature large street tree in good condition. TPZ 8.5 SRZ 3

Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan

5

Tree No.	Species Indigenous (I) Victorian (V) Australian (A) Exotic (E) Weed (W)	DBH (cm)	HxS (m)	Comments, WOR, TPZ(m), SRZ(m)
38	Acca sellowiana E Pineapple Feijoah	16, 13	5x6	Shrubby small fruit tree in good condition. WOR 4 TPZ 2.4 SRZ 1.8
39	*Cydonia oblonga E Quince	10	4x5	Healthy small fruit tree. WOR 3
40	Ficus carica E	13, 10, 9	4x6	Healthy fruit tree espaliered against the balcony of the existing building. WOR 4 TPZ 2 SRZ 1.5
41	*Ligustrum lucidum EW Large leaved Privet	18, 14, 10	6x6	Neighbouring seriously invasive weed. TPZ 3 SRZ 2
42	*Ligustrum lucidum EW	31	8x6	Neighbouring seriously invasive weed. TPZ 3.7 SRZ 2

*The asterisks denote the trees which do not require a permit to remove under the SLO.

Impact of the Proposal

Site Trees The trees proposed to be removed are numbers 1, 4, 10, 11, 19, 20, 21 and 28. Of these, a permit is not required to remove trees 10, 11, 19, 20 and 21. Thus trees 1, 4 and 28 will need a permit, each of which is exotic, has been planted and is less than 10m tall.

The proposed carport intrudes into the TPZ of tree 27, but not its SRZ. I recommend that the carport slab be constructed on grade and supported by pads or piers where necessary. Such a construction will have a minimal impact on the tree.

Neighbouring Trees The only neighbouring tree which has works proposed within its TPZ is tree 17, the mature River Red Gum in No. 4 Panther Place. The encroachment by site cut & one column footing for the ensuite above is 4.53m² or 1.78% of TPZ. This of course is substantially less than the 10% threshold which according to the Aust Std is major. One can be very confident there will be no impact on the tree's health or longevity.

Road Reserve Trees Only one road reserve tree has works proposed within its TPZ, namely tree 26. The tree leans away from the site and is at risk of splitting open. The encroachment of the proposed carport into the TPZ is substantially less than 10% and is well outside its SRZ, hence there will be no impact on the SULE of the tree.

Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan

6

General Protection Measures for the Trees to be Retained which are in Close Proximity to the Works

Tree protection fences at least 1.8m tall and of chain and mesh type must be constructed around those retained trees or groups of trees which are to be within close proximity to the proposed works. The fences must be constructed to the TPZs or to as large an area as possible around each tree, yet which still allows construction to proceed in a safe and efficient manner whilst protecting the trees. The fences must not be moved during the construction period unless after discussion with the consulting arborist. Mulch from the removed trees can be laid to a depth of some 75mm within the fences and beyond to the extent of the TPZs wherever possible on the subject site, so long as this is not thought prejudicial to the native ground flora.

No fill nor rubbish can enter the fences, nor excavation for any purpose within them or more than 10% of the TPZ areas (unless under arboricultural supervision and signed off by the consulting arborist as not being harmful to the SULEs of the trees). Examples are avoiding any excavation for drains and services within more than 10% of the TPZ areas, unless by non root destructive means such as horizontal boring at greater than 800mm depth or by pneumatic or hydraulic means under arboricultural supervision.

The soil around the trees in the close vicinity of the works must receive periodic irrigation over the summer and autumn periods of construction, such that the root zones are never allowed to dry out. A rule of thumb is 5 litre per cm of trunk diameter for each tree on approximately eight occasions over these periods. Any pruning must be undertaken according to the Australian Pruning Standard AS 4373:1996.

Avoid any excavation or compaction within more than 10% of the TPZ areas of the trees to be retained on the property unless it has been shown by non root destructive exploratory trenching under arboricultural supervision that it is very unlikely to adversely impact on the SULE of the tree to do so.

Explanations

In order to understand the column headings of the table of data, I have provided the following explanations:

DBH diameter of trunk over bark at breast height In a number of cases where the tree has forked into multiple trunks below breast height (1.3-1.5m) the diameter is measured below the fork and an estimate is made for the single trunk equivalent at breast height, or else figures for each of the individual stems can be given.

HxS This is the estimated height (H) of the tree and its average crown spread (S).

SULE Safe useful life expectancy in years. Taken in the context that the area is to be developed for residential use, and that sensible distances are maintained between the buildings and the trees, this is the estimate of time that the tree will continue to provide useful amenity without imposing an onerous financial burden in order to maintain relative safety, and avoid excessive nuisance.

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Condition This descriptor can be encapsulated by three terms, namely **Health (H), Structure (S) and Form (F)**.

Health is largely governed by the ease in which the metabolic functions are occurring throughout the tree. Symptoms of health include the amount, distribution, density, size and colour of the foliage.

Structure refers to the structural stability of the tree and its branches. A well structured tree is not likely to shed branches or stems, or snap in the trunk or blow over, whereas a poorly structured tree is more likely to.

Form basically refers to the symmetry of the tree. A tree with a straight trunk and symmetrical crown and evenly distributed branches is referred to as having good form, whilst a lopsided leaning tree may have fair – poor form.

Worthiness of Retention (WOR):

The worth for retention of a tree is based on the assumption that the site is to be re-developed, and that there is the opportunity for new tree planting. It is based on a number of factors. These factors are:

1. structure, health, form and safe useful life expectancy,
2. size, prominence in the landscape,
3. species rarity,
4. whether indigenous,
5. whether an environmental weed.
6. importance for habitat of native wildlife
7. whether of historical or cultural interest

Any tree with a WOR rating of 3 or less should be seriously considered for removal before development begins because it is dead, nearly dead or dangerous, a weed, is causing or is likely to cause a severe nuisance in the near future, or just of very little significance and readily replaceable with new plantings. Trees rated 4-6 are of some significance. Some of these trees may respond to treatments such as formative pruning, removal of dead wood, weight reduction pruning etc. Trees rated 7 or higher are of high significance (the higher the ranking the more so), primarily because of their good health, structure, form, prominence in the landscape and SULE, although all they still may need substantial works done on them as already detailed, if they are to be retained.

Tree Protection Zone (TPZ) According to the Australian Standard AS 4970-2009 'Protection of Trees on Building Sites', the TPZ is the principal means of protecting trees on development sites. It is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable.' The radius of the TPZ is calculated by multiplying the DBH by 12. The radius is measured from the centre of the stem at ground level. An area of 10% of the TPZ is deemed acceptable to violate if 10% of the *area* of the TPZ is made up in other directions. *Thus if encroachment is from one side only, encroachment to as close as approximately 8 times the DBH (2/3 the listed TPZ radius) is permissible according to the Standard.*

The TPZs as calculated according to the AS 4970-2009 should only be construed as a rough guide. They are only used in this statement because various local authorities now demand it in their assessments of development applications. Many factors such as the type of encroachment on the TPZ, species tolerance, age, presence of spiral grain, soil type, soil depth, tree lean, the existence of onsite structures or root directional impediments, level of wind exposure, irrigation and ongoing tree care and maintenance are each highly influential on the size and success of the TPZ estimation, therefore the figures derived from the Standard and provided in this report must be treated as rough guides only.

Structural Root Zone

According to the Aus Std. AS 4970:2009, the structural root zone is the area of the root plate required for a tree's stability. In order to calculate the indicative radius of such a zone from the trunk centre, according to the Aus Std., one uses the following formula: SRZ radius is $(D \times 50)^{0.42} \times 0.64$, where D is the trunk diameter in metres taken from just above the root buttress. The minimum indicative SRZ

Attachment 7 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Arborist Report and Tree Removal Plan

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radius is 1.5m for any tree, irrespective of how small. A graph is provided in the Aust Std, with a curve depicted relating the SRZ to trunk diameter. Unfortunately, the calculated figures do not match those derived from the graph. The Aust Std. does not mention from where this formula is taken although acknowledges the publication 'Mattheck, C. & Breloer, H. (1994) *The Body Language of Trees* HMSO Publications' in the preface and bibliography. The figures derived from the graph for the indicative SRZs are far greater than those implied from the curve of 95% fit for the results from studies of upturned root plates of windblown and winched over German trees (see Mattheck, C. & Breloer, H. (1994). Furthermore the figures derived from the graph for the indicative SRZs are far greater than what one calculates them to be, using the formula provided by the Standard i.e. $(D \times 50)^{0.42} \times 0.64$. The calculated figures according to the Aust Std. are considerably greater for small and large trunks than those of Mattheck & Breloer.

In reality, the radii calculated whether by graph or using the formula, are much larger than necessary, except in cases such as where the soils are very shallow or where the structural root development is unidirectional or highly asymmetric for some reason, and the excavation is to be within the zone of the roots. The structural stability generally depends far more on what proportion of the circumference of the tree is to be excavated than the actual distance of excavation from a tree, and this is often not taken into account quite when using the SRZ.

Tree Origin Categories

Each tree has been classified as to whether it is indigenous (**I**), native to Victoria (**V**), native to Australia (**A**), exotic (**E**) or an environmental weed (**W**).

An indigenous species (**I**) is one that is known to grow naturally in the local area, even if the individual tree has been planted and is from a seed source or provenance foreign to the area.

A species classified **V** is one which has a part or all, even if very small, of its natural range within Victoria, although it may occur outside the state as well. It does not however occur naturally in the local area.

A species classified **A** is native elsewhere in Australia than Victoria. It does not occur naturally in the local area.

A species classified **E** has its natural range occurring outside Australia.

A species classified **W** is a seriously invasive environmental weed.

GALBRAITH & ASSOCIATES



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Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report

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STORM REPORT / DESIGN COMPUTATIONS

PROJECT: PROPOSED UNIT DEVELOPMENT

LOCATION: LOT 1, 3 PARK CRES
FAIRFIELD

DATE: 12-10-17

FOR: FASHAM

DESIGNED BY: *Patrick Laguda*

M.I.E.(AUST.) B.E.(CIVIL)

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Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report



STORM Rating Report

TransactionID: 525894
 Municipality: DAREBIN
 Rainfall Station: DAREBIN
 Address: Lot 1, 2 Park Cres

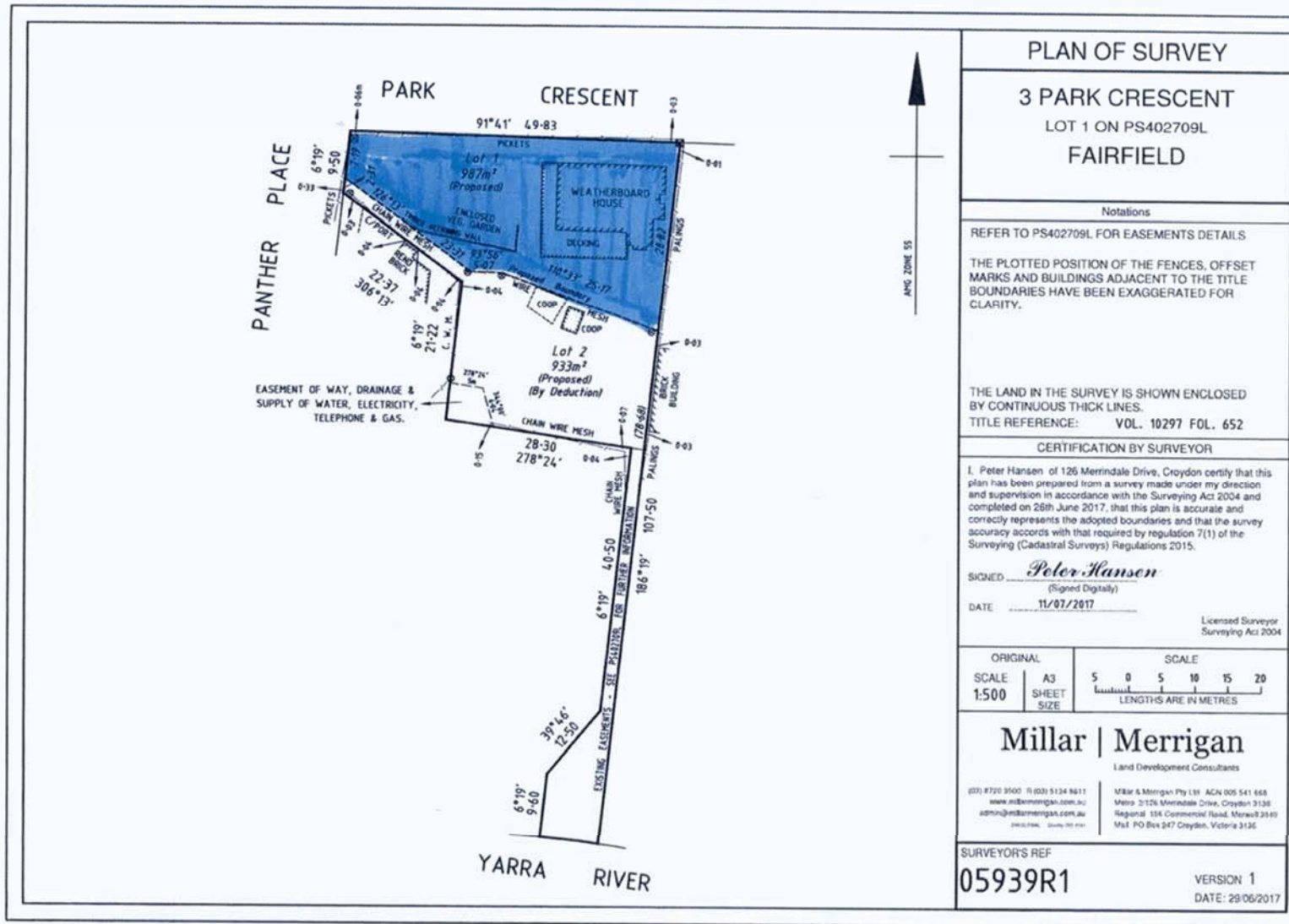
 Fairfield
 VIC 3078
 Assessor: PL
 Development Type: Residential - Dwelling
 Allotment Site (m2): 987.00
 STORM Rating %: 131

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof area	216.00	Rainwater Tank	40,000.00	6	131.00	94.90

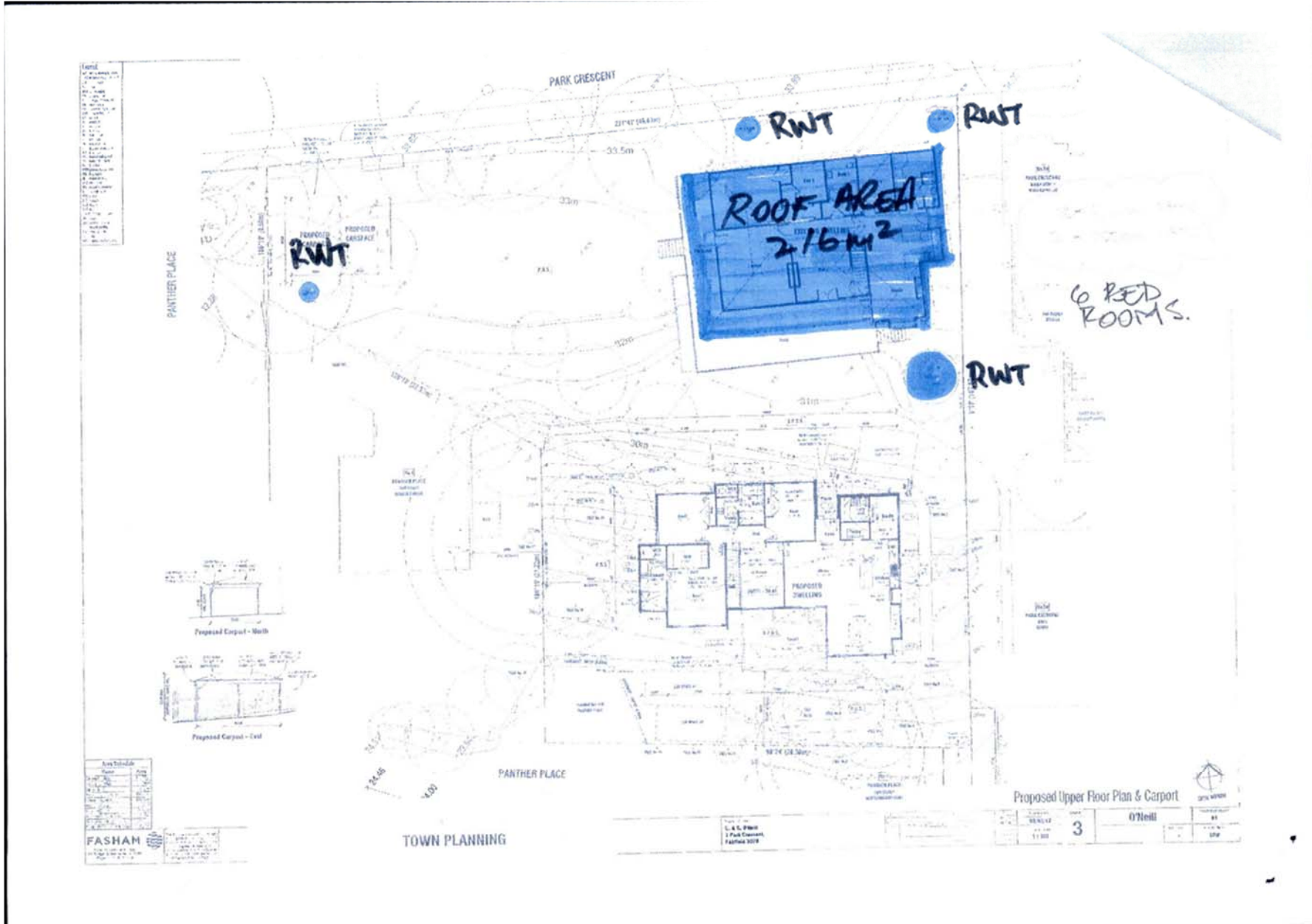
Date Generated: 12-Oct-2017

Program Version: 1.0.0

Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report



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Storm Report/Calculation

PROJECT: PROPOSED UNIT DEVELOPMENT

LOCATION: Lot 2, 3 Park Cres.
Fairfield

DATE: 14-08-17

FOR: Fasham

DESIGNED BY: *Patrick Laguda*

M.I.E.(AUST.) B.E.(CIVIL)

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Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report



STORM Rating Report

TransactionID: 503123
 Municipality: DAREBIN
 Rainfall Station: DAREBIN
 Address: Lot 2, 3 Park Crescent

Fairfield
 VIC 3078

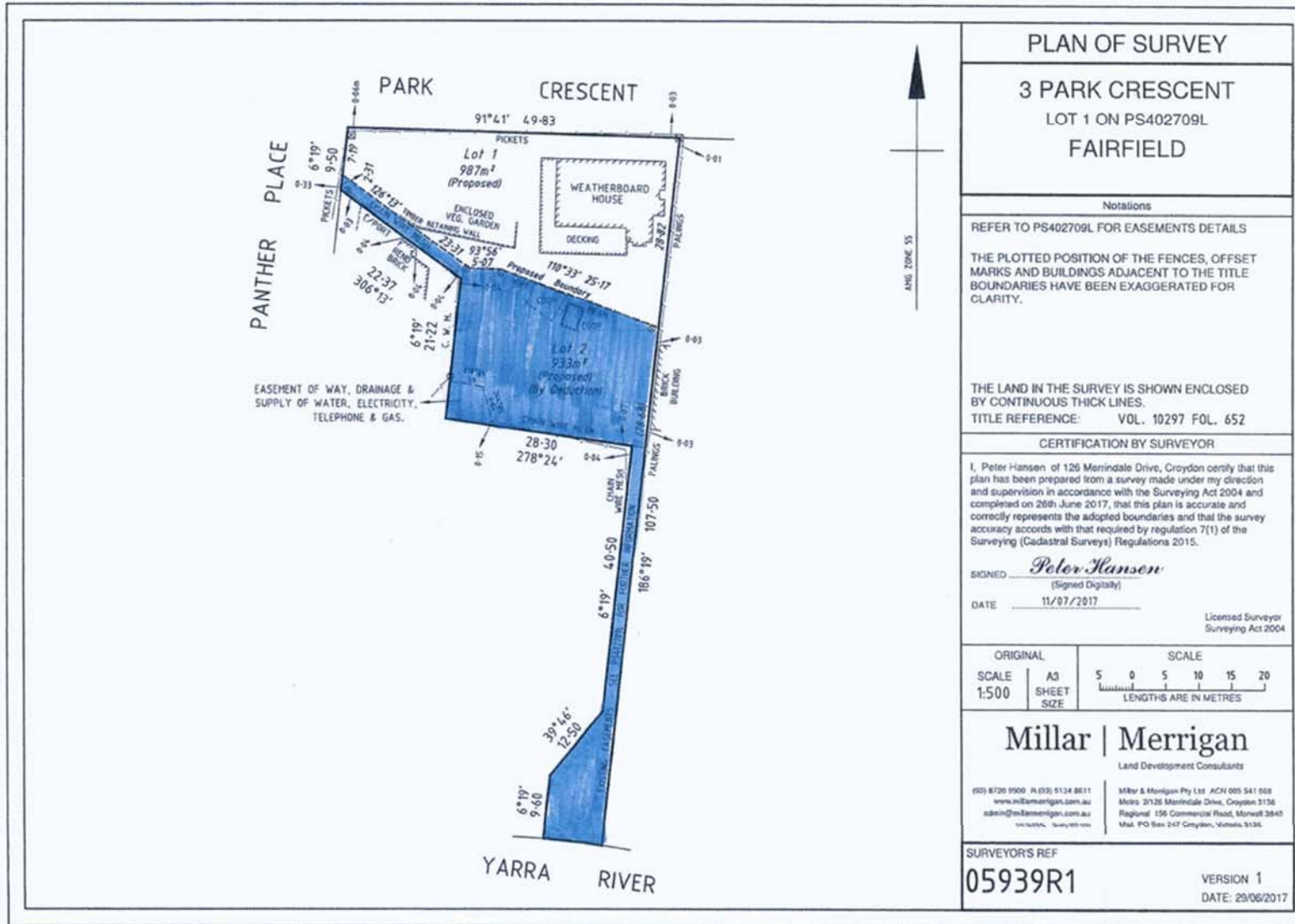
Assessor: P. LAGUDA
 Development Type: Residential - Dwelling
 Allotment Site (m2): 933.00
 STORM Rating %: 105

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof area	170.00	Rainwater Tank	2,000.00	5	105.40	78.00

Date Generated: 14-Aug-2017

Program Version: 1.0.0

Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report



Attachment 8 - PLN17/0213 - 3 Park Crescent Fairfield - Advertising S52 - Storm Rating Report

