



NOTICE OF AN APPLICATION FOR PLANNING PERMIT

The land affected by the application is located at:

44 Turnham Avenue ROSANNA

(Insert the location of the land)

The application is for a permit for:

Use and development of the land for the construction of a supermarket, liquor licence (packaged liquor) and reduction in carparking.

(Insert the use, development, or other matter applied for)

The applicant for the permit is:

Woolworths Limited

(Insert name of applicant for the permit)

The application reference number is:

P1260/2015

(Insert reference number)

You may view the application and any documents that support the application at our office or on our website from **29 April 2016**

BANYULE CITY COUNCIL – ROSANNA OFFICE
44 Turnham Avenue, Rosanna VIC 3084
Monday to Friday, 8.30am to 5.00pm (Wednesdays to 7.00pm)
Website: www.banyule.vic.gov.au/planningpublicnotices

Any person who may be affected by the granting of the permit may object or make other submissions to the Responsible Authority via post or on Council's website.

Submission details

Banyule City Council
PO Box 51, Ivanhoe VIC 3079
Phone: (03) 9457 9808

Online: www.banyule.vic.gov.au/planningpublicnotices

An objection must:

- * be sent to the Responsible Authority in writing
- * include the reasons for your objection, and
- * state how the objector would be affected.

Please be aware that copies of objections/submissions received may be made available to any person for the purpose of consideration as part of the planning process.

The Responsible Authority will not decide on the application before:

13 May 2016

(Insert a date which is at least 14 days from the date the last notice under Section 52(1) of the Act is to be given)

If you object, the Responsible Authority will tell you its decision.

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Application for an Amendment to a current Planning Application

Use this form to make an amendment to an existing planning application.

This form is for the purpose of amending a proposal prior to Council's consideration of the application. This form can be used before or after an application has been notified, but not after Council has made a determination in respect of the application.

An application cannot be accepted without a completed application form, three copies of the amended plans and the relevant application fee. In most cases, there is no applicable fee, unless you are amending an application for a change of use or a subdivision, or where the total amount of works increases (other than a proposal for an alteration or construction of a single dwelling) to more than \$10,000, and you are applying to amend after notice of the application has been given. In each of the above mentioned scenarios, the application fee is \$102.

Please note that in the instance where an application is proposed to be amended following notification of the application, depending on the extent of the changes proposed, Council may consider that notification of the proposed change must be undertaken before the application will be determined.

The Land

Please provide the street address of the land.

Street No.: 44	Street Name: TURNHAM AVENUE
Suburb/Locality: ROSANNA	
Postcode: 3084	

The Planning Permit

Provide full details of the application being amended.

What is the reference number of the Planning Permit Application that is being amended?

What had you originally applied for?

Planning Permit Application No.: P1260/2015
What was the original proposal: USE OF SUPERMARKET (MU2), BUILDINGS AND WORKS, CAR PARKING, LIQUOR.

LIQUOR.

ADVERTISED PLAN
Application No. P1260/2015

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The Amendment Proposal

What changes are you seeking to make to the current application?

Detail any changes sought to the plans or any other documents previously submitted with the Planning Permit Application.

Attach a supplementary page if more space is required.

Eg.

1. Removal of 1 dwelling from the multi dwelling development proposal (was previously 6 dwellings, now proposing 5).
2. The provision of new acoustic fencing and trellis to the west, south and east boundaries.

IN ADDITION TO THE ABOVEMENTIONED
ITEMS, REMOVAL OF ONE TREE IN A
ROAD RESERVE PURSUANT TO THE VPO.
* SEE URBIS PLANNING REPORT AND
ARBORIST REPORT.

Why is the amendment to the current application required?

State the reasons for the change.

Attach a supplementary page if more space is required.

THE PROPOSAL AND ASSOCIATED LANDSCAPE
DESIGN INVOLVES NEW PLANTING TO
IMPROVE THE APPEARANCE OF THE
STREET, IN ACCORDANCE WITH DESIGNS
ATTACHED TO THE S173 AGREEMENT
DRAFTED BY COUNCIL.

Contact details

Contact

The person or organisation you want Council to correspond with regarding the amendment to the current application.

Name: GENEVIEVE POOL			
Organisation (if applicable): URBIS PTY LTD			
Postal Address: LVL 12, 120 COLLINS STREET			
MELBOURNE	VIC	Postcode:	3 0 0 0
Contact phone: 8663 4917		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 5px auto;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 5px auto;"></div>	Indicate preferred contact method by numbering in order of preference
Mobile phone:			
Email: gpool@urbis.com.au			
Fax:			

* NB. AFTER 4 APRIL, PLEASE LIAISE WITH MICHELLE BATEMAN OF URBIS - 8663 4960
 mbateman@urbis.com.au

ADVERTISED PLAN Application No. P1260/2015
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Applicant details

Applicant

The person or organisation who is seeking the Planning Permit.

Same as contact. If not, complete the details below.

Name: _____

Organisation (if applicable): **WOOLWORTHS LIMITED**

Postal Address: **522 WELLINGTON ROAD**

MULGRAVE VIC Postcode: **3170**

Owners Consent

Has the owner of the land consented to the proposed changes?

OWNER IS COUNCIL


Yes No

Declaration

Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.

I declare all the information in this application is true and correct; and the owner (if not myself) has been notified of the amendment application.

Name: **GENEVIEVE POOL**

Signature:  Date: **22 / 03 / 2016**

Lodgement

Lodge the completed and signed form and all documents with:

For help or more information:

Banyule City Council

By Post: PO Box 51, IVANHOE VIC 3079

Hand Deliver: 44 Turnham Avenue, ROSANNA VIC 3084 (Planning Department)
275 Upper Heidelberg Road, IVANHOE VIC 3079*
9-11 Flintoff Street, GREENSBOROUGH VIC 3088*

Email: devplan@banyule.vic.gov.au

Telephone: (03) 9457 9808

Fax: (03) 9499 9475

TTY: (03)9432 7211

DX: DX 97904 IVANHOE

* Please note that a delay of up to 1 day may occur where applications are not lodged directly with the Planning Department at the Rosanna Office

ADVERTISED PLAN
Application No. P1260/2015

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Register Search Statement - Volume 11562 Folio 074

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 11562 FOLIO 074

Security no : 124057936432V
Produced 20/11/2015 04:34 pm

LAND DESCRIPTION

Lot 3 on Plan of Subdivision 703973P.

PARENT TITLES :

Volume 08224 Folio 163 Volume 08251 Folio 231
Volume 08251 Folio 233 to Volume 08251 Folio 234
Volume 09862 Folio 097 Volume 10031 Folio 484 Volume 10091 Folio 755
Volume 11202 Folio 962 Volume 11313 Folio 739 Volume 11358 Folio 547
Created by instrument PS703973P 01/04/2015

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor

BANYULE CITY COUNCIL of 275 UPPER HEIDELBERG ROAD IVANHOE VIC 3079
PS703973P 01/04/2015

ENCUMBRANCES, CAVEATS AND NOTICES

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE PS703973P FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 44 TURNHAM AVENUE ROSANNA VIC 3084

DOCUMENT END

Delivered from the Landata @ System by SAI Global Property Division Pty Ltd
Delivered at 20/11/2015, for Order Number 33044660. Your reference: MA9779.

ADVERTISED PLAN
Application No. P1260/2015
8 DEC 2015

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Signed by Council: Banyule City Council, Council Ref: C156/13, Original Certification: 11/06/2014, S.O.C.: 11/06/2014

PLAN OF SUBDIVISION UNDER SECTION 35(8) OF THE SUBDIVISION ACT 1988		STAGE No. <hr/>	LRS USE ONLY EDITION 1	PLAN NUMBER PS 703973P
LOCATION OF LAND PARISH: KEELBUNDORA TOWNSHIP: _____ SECTION: _____ CROWN ALLOTMENT: _____ CROWN PORTION: 5 (PART) TITLE REFERENCES: C/T VOL.8251 FOL.231, C/T VOL.8251 FOL.234, C/T VOL.8251 FOL.233, C/T VOL.8224 FOL.163, C/T VOL.9862 FOL.097, C/T VOL.11202 FOL.962, C/T VOL.11313 FOL.739, C/T VOL.10091 FOL.755, C/T VOL.10031 FOL.484, C/T VOL.11358 FOL.547 LAST PLAN REFERENCE/S: LOT 1, LP.10693 LOT 2, LP.10693 LOT 3, LP.10693 TP.483828G TP.453267R LOT 1, TP.944389P LOT 1, TP.948782Q LOT 1, TP.649650B LOT 1 & 2, TP.601217L LOT 1, PS.640790V POSTAL ADDRESS: 44-72 TURNHAM AVENUE (At time of subdivision) ROSANNA 3084 M.G.A. Co-ordinates E 329 700 ZONE: 55 (of approx. centre of land N 5 820 930 in plan)		COUNCIL CERTIFICATION AND ENDORSEMENT COUNCIL NAME : BANYULE CITY COUNCIL REF: THIS IS A SPEAR PLAN NOTATIONS STAGING This is not a staged subdivision. Planning permit No. DEPTH LIMITATION DOES NOT APPLY BEARINGS SHOWN ARE ON M.G.A. DATUM SUBTRACT 6°39'40" FOR TITLE		
VESTING OF ROADS AND/OR RESERVES				
IDENTIFIER	COUNCIL/BODY/PERSON			
NIL	NIL	SURVEY. THIS PLAN IS BASED ON SURVEY THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No.(s) PM.893 IN PROCLAIMED SURVEY AREA No.		
EASEMENT INFORMATION				
LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)				
SECTION 12(2) OF THE SUBDIVISION ACT 1988 APPLIES TO ALL THE LAND IN THIS PLAN				
Easement Reference	Purpose	Width (Metres)	Origin	Land Benefited/In Favour Of
E-1	ANY EASEMENTS	SEE DIAG	C/T VOL.8224 FOL.163	UNSPECIFIED
E-7 & E-15	SEWERAGE	SEE DIAG	LP.8568	LOTS ON LP.8568
E-1, E-2, E-11, E-14, E-5, E-8, E-7 & E-15	DRAINAGE	SEE DIAG	LP.8568	LOTS ON LP.8568
E-1, E-2, E-12 & E-14	DRAINAGE	SEE DIAG	LP.10696	LOTS ON LP.10696
E-4, E-9, E-11 & E-13	AS PROVIDED FOR IN SECTION 528 (2) (e) LGA 1958	SEE DIAG	SEC. 528(2)(e) LGA 1958	M.M.B.W. & GAS AND FUEL CORP.
E-7, E-8 & E-15	SEWERAGE	SEE DIAG	PS.640790V	YARRA VALLEY WATER LIMITED
E-5, E-6 & E-8	GAS SUPPLY PURPOSES	SEE DIAG	PS.640790V	VIC GAS DISTRIBUTIONS PTY LTD
E-5 & E-8	DRAINAGE	SEE DIAG	PS.640790V	MELBOURNE WATER CORPORATION
E-5, E-7, E-8 & E-15	DRAINAGE	SEE DIAG	PS.640790V	BANYULE CITY COUNCIL
E-4, E-5, E-8 & E-11	CARRIAGEWAY	SEE DIAG	THIS PLAN	LOTS 1 AND 2 ON THIS PLAN
E-10	AS PROVIDED FOR IN SEC. 207(C) LGA 1989	SEE DIAG	SEC. 207(C) LGA 1989	YARRA VALLEY WATER LIMITED
E-3, E-4, E-11, E-13, E-14, E-15, E-18 & E-19	DRAINAGE	SEE DIAG	GG35, 1/9/2011, Pg2020	MELBOURNE WATER CORPORATION
E-3, E-4, E-11 E-14 & E-13	DRAINAGE	SEE DIAG	THIS PLAN	BANYULE CITY COUNCIL
E-4, E-11, E-13 & E-9	SEWERAGE	SEE DIAG	THIS PLAN	YARRA VALLEY WATER
E-17 & E-19	DRAINAGE	SEE DIAG	THIS PLAN	LOT 3 ON THIS PLAN
E-16 & E-18	DRAINAGE	SEE DIAG	THIS PLAN	LOT 1 ON THIS PLAN

LRS USE ONLY
STATEMENT OF COMPLIANCE/
EXEMPTION STATEMENT

RECEIVED

DATE 18 / 03 / 2015

LRS USE ONLY
PLAN REGISTERED
TIME 3:52 pm
DATE 18 / 03 / 2015
SHEET 1 OF 2 SHEETS

ADVERTISED PLAN
Application No. P1260/2015
Ian D Thomson
Assistant Registrar of Titles
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LAWLOR AND LOY PTY. LTD.
 SURVEYORS, PROPERTY MANAGEMENT & TOWN PLANNING CONSULTANTS
 SUITE 2, 122 PARA ROAD MONTMORENCY 3094
 P.O. BOX 242 GREENSBOROUGH 3088
 PH:9435 2422 FAX:9432 1256
 EMAIL: lawloy@netspace.net.au

LICENSED SURVEYOR : DEAN PAUL EDDY
 SIGNATURE DIGITALLY SIGNED
 REF 7259

VERSION 5

PLAN OF SUBDIVISION
 UNDER SECTION 35(8) OF THE SUBDIVISION ACT 1988

STAGE No.

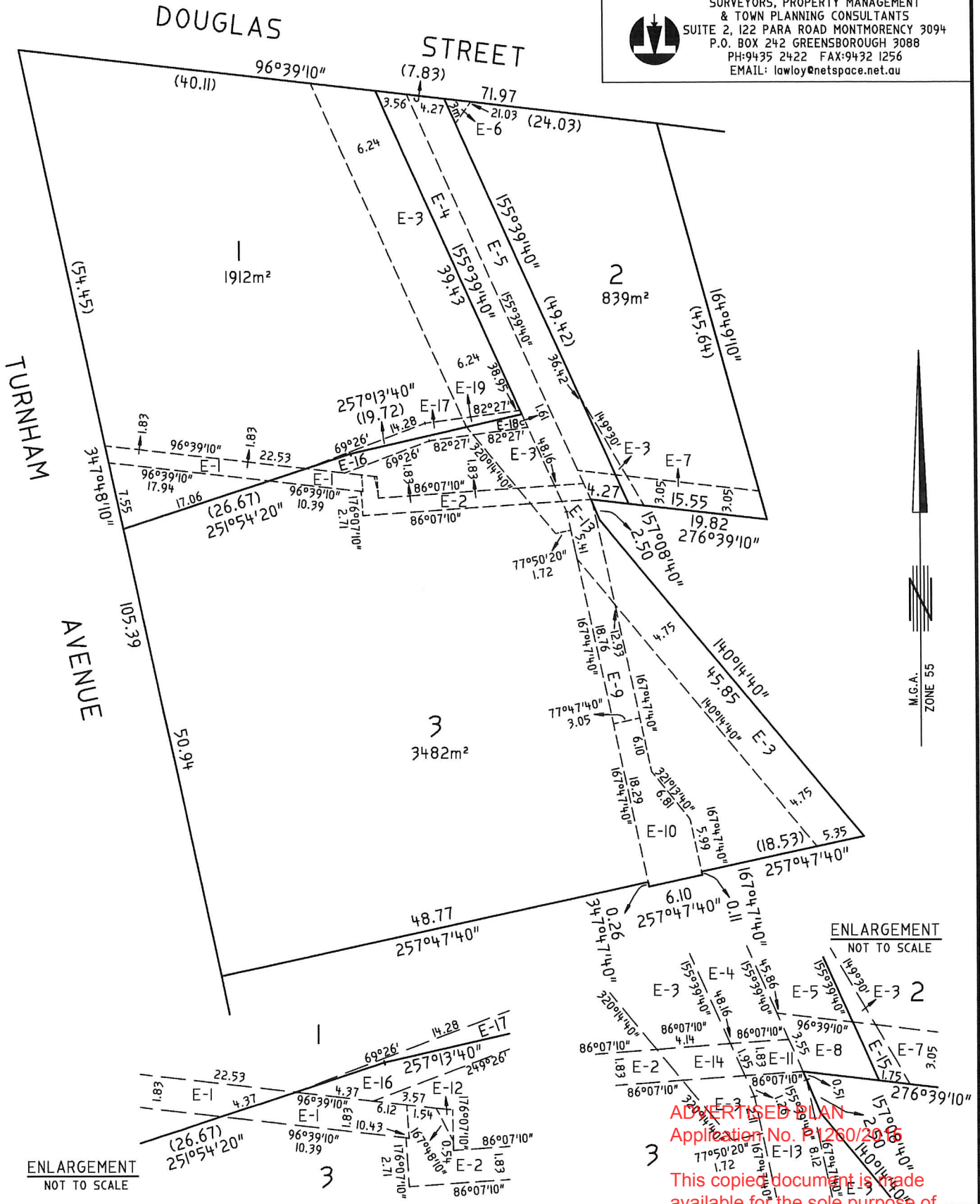
PLAN NUMBER

PS 703973P

LAWLOR AND LOY PTY. LTD.

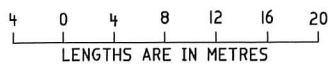


SURVEYORS, PROPERTY MANAGEMENT
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 PH:9435 2422 FAX:9432 1256
 EMAIL: lawloy@netspace.net.au



ENLARGEMENT
 NOT TO SCALE

ENLARGEMENT
 NOT TO SCALE



ORIGINAL
 SCALE SHEET SIZE
 1:400 A3

LICENSED SURVEYOR (PRINT)
 SIGNATURE DATE
 REF 7259 VERSION 5

ADVERTISED PLAN
 Application No. P1260/2014
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Plan of Subdivision PS703973P
Certification and Statement of Compliance of
Acquisition Plans (Form 4)

SUBDIVISION (PROCEDURES) REGULATIONS 2011

SPEAR Reference Number: S043043T
Plan Number: PS703973P
Responsible Authority Name: Banyule City Council
Responsible Authority Reference Number 1: C156/13
Surveyor's Plan Version: 5

This is a plan under section 35 of the **Subdivision Act 1988** which does not create any additional lots.

Certification

This plan is certified under section 6 of the Subdivision Act 1988

Statement of Compliance

This is a statement of compliance issued under section 21 of the Subdivision Act 1988

Digitally signed by Council Delegate: Georgia Robertson
Organisation: Banyule City Council
Date: 11/06/2014

ADVERTISED PLAN
Application No. P1260/2015

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Signed by: Georgia Coulson (Banyule City Council) 11/06/2014

Register Search Statement - Volume 11562 Folio 073

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REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 11562 FOLIO 073

Security no : 124057936431W
Produced 20/11/2015 04:33 pm

LAND DESCRIPTION

Lot 2 on Plan of Subdivision 703973P.

PARENT TITLES :

Volume 08224 Folio 163 Volume 08251 Folio 231
Volume 08251 Folio 233 to Volume 08251 Folio 234
Volume 09862 Folio 097 Volume 10031 Folio 484 Volume 10091 Folio 755
Volume 11202 Folio 962 Volume 11313 Folio 739 Volume 11358 Folio 547
Created by instrument PS703973P 01/04/2015

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor

BANYULE CITY COUNCIL of 275 UPPER HEIDELBERG ROAD IVANHOE VIC 3079
PS703973P 01/04/2015

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DIAGRAM LOCATION

SEE PS703973P FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

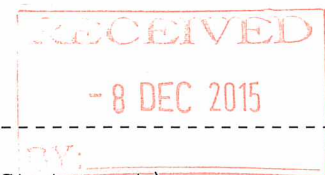
NIL

-----END OF REGISTER SEARCH STATEMENT-----

Additional information: (not part of the Register Search Statement)

Street Address: 44 TURNHAM AVENUE ROSANNA VIC 3084

DOCUMENT END



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Signed by Council: Banyule City Council, Council Ref: C156/13, Original Certification: 11/06/2014, S.O.C.: 11/06/2014

PLAN OF SUBDIVISION UNDER SECTION 35(8) OF THE SUBDIVISION ACT 1988	STAGE No. <hr/>	LRS USE ONLY EDITION 1	PLAN NUMBER PS 703973P
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<p style="text-align: center;">LOCATION OF LAND</p> <p>PARISH: KEELBUNDORA</p> <p>TOWNSHIP: _____</p> <p>SECTION: _____</p> <p>CROWN ALLOTMENT: _____</p> <p>CROWN PORTION: 5 (PART)</p> <p>TITLE REFERENCES: C/T VOL.8251 FOL.231, C/T VOL.8251 FOL.234, C/T VOL.8251 FOL.233, C/T VOL.8224 FOL.163, C/T VOL.9862 FOL.097, C/T VOL.11202 FOL.962, C/T VOL.11313 FOL.739, C/T VOL.10091 FOL.755, C/T VOL.10031 FOL.484, C/T VOL.11358 FOL.547</p> <p>LAST PLAN REFERENCE/S: LOT 1, LP.10693 LOT 2, LP.10693 LOT 3, LP.10693 TP.483828G TP.453267R LOT 1, TP.944389P LOT 1, TP.948782Q LOT 1, TP.649650B LOT 1 & 2, TP.601217L LOT 1, PS.640790V</p> <p>POSTAL ADDRESS: 44-72 TURNHAM AVENUE (At time of subdivision) ROSANNA 3084</p> <p>M.G.A. Co-ordinates E 329 700 ZONE: 55 (of approx. centre of land N 5 820 930 in plan)</p>	<p style="text-align: center;">COUNCIL CERTIFICATION AND ENDORSEMENT</p> <p>COUNCIL NAME : BANYULE CITY COUNCIL REF:</p> <p style="text-align: center;">THIS IS A SPEAR PLAN</p> <hr/> <p style="text-align: center;">NOTATIONS</p> <p>STAGING This is not a staged subdivision. Planning permit No.</p> <p>DEPTH LIMITATION DOES NOT APPLY BEARINGS SHOWN ARE ON M.G.A. DATUM SUBTRACT 6°39'40" FOR TITLE</p>
VESTING OF ROADS AND/OR RESERVES	
IDENTIFIER	COUNCIL/BODY/PERSON
NIL	NIL
<p>SURVEY. THIS PLAN IS BASED ON SURVEY THIS SURVEY HAS BEEN CONNECTED TO PERMANENT MARKS No.(s) PM.893 IN PROCLAIMED SURVEY AREA No.</p>	

EASEMENT INFORMATION				
LEGEND A - Appurtenant Easement E - Encumbering Easement R - Encumbering Easement (Road)				
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E-7 & E-15	SEWERAGE	SEE DIAG	LP.8568	LOTS ON LP.8568
E-1, E-2, E-11, E-14, E-5, E-8, E-7 & E-15	DRAINAGE	SEE DIAG	LP.8568	LOTS ON LP.8568
E-1, E-2, E-12 & E-14	DRAINAGE	SEE DIAG	LP.10696	LOTS ON LP.10696
E-4, E-9, E-11 & E-13	AS PROVIDED FOR IN SECTION 528 (2) (e) LGA 1958	SEE DIAG	SEC. 528(2)(e) LGA 1958	M.M.B.W. & GAS AND FUEL CORP.
E-7, E-8 & E-15	SEWERAGE	SEE DIAG	PS.640790V	YARRA VALLEY WATER LIMITED
E-5, E-6 & E-8	GAS SUPPLY PURPOSES	SEE DIAG	PS.640790V	VIC GAS DISTRIBUTIONS PTY LTD
E-5 & E-8	DRAINAGE	SEE DIAG	PS.640790V	MELBOURNE WATER CORPORATION
E-5, E-7, E-8 & E-15	DRAINAGE	SEE DIAG	PS.640790V	BANYULE CITY COUNCIL
E-4, E-5, E-8 & E-11	CARRIAGEWAY	SEE DIAG	THIS PLAN	LOTS 1 AND 2 ON THIS PLAN
E-10	AS PROVIDED FOR IN SEC. 207(C) LGA 1989	SEE DIAG	SEC. 207(C) LGA 1989	YARRA VALLEY WATER LIMITED
E-3, E-4, E-11, E-13, E-14, E-15, E-18 & E-19	DRAINAGE	SEE DIAG	GG35, 1/9/2011, Pg2020	MELBOURNE WATER CORPORATION
E-3, E-4, E-11 E-14 & E-13	DRAINAGE	SEE DIAG	THIS PLAN	BANYULE CITY COUNCIL
E-4, E-11, E-13 & E-9	SEWERAGE	SEE DIAG	THIS PLAN	YARRA VALLEY WATER
E-17 & E-19	DRAINAGE	SEE DIAG	THIS PLAN	LOT 3 ON THIS PLAN
E-16 & E-18	DRAINAGE	SEE DIAG	THIS PLAN	LOT 1 ON THIS PLAN

LRS USE ONLY

STATEMENT OF COMPLIANCE/
EXEMPTION STATEMENT

RECEIVED

DATE 18 / 03 / 2015

LRS USE ONLY

PLAN REGISTERED
TIME 3:52 pm

DATE 18 / 03 / 2015

SHEET 1 OF 2 SHEETS

ADVERTISED PLAN
 Application No. P1260/2015
 lan D Thomson
 This copy of the plan is made available for the sole purpose of enabling its consideration and review as part of a planning process under the Planning and Environment Act 1987. The document must not be used for any purpose which may breach any copyright.

<p>LAWLOR AND LOY PTY. LTD. SURVEYORS, PROPERTY MANAGEMENT & TOWN PLANNING CONSULTANTS SUITE 2, 122 PARA ROAD MONTMORENCY 3094 P.O. BOX 242 GREENSBOROUGH 3088 PH:9435 2422 FAX:9432 1256 EMAIL: lawloy@netspace.net.au</p>	<p>LICENSED SURVEYOR : DEAN PAUL EDDY</p> <p>SIGNATURE DIGITALLY SIGNED</p> <p>REF 7259</p> <p>VERSION 5</p>	<p>Assistant Registrar of Titles lan D Thomson COUNCIL DELEGATE SIGNATURE ORIGINAL SHEET SIZE A3</p>
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PLAN OF SUBDIVISION
 UNDER SECTION 35(8) OF THE SUBDIVISION ACT 1988

STAGE No.

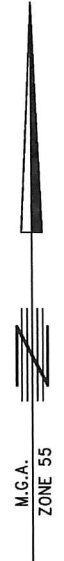
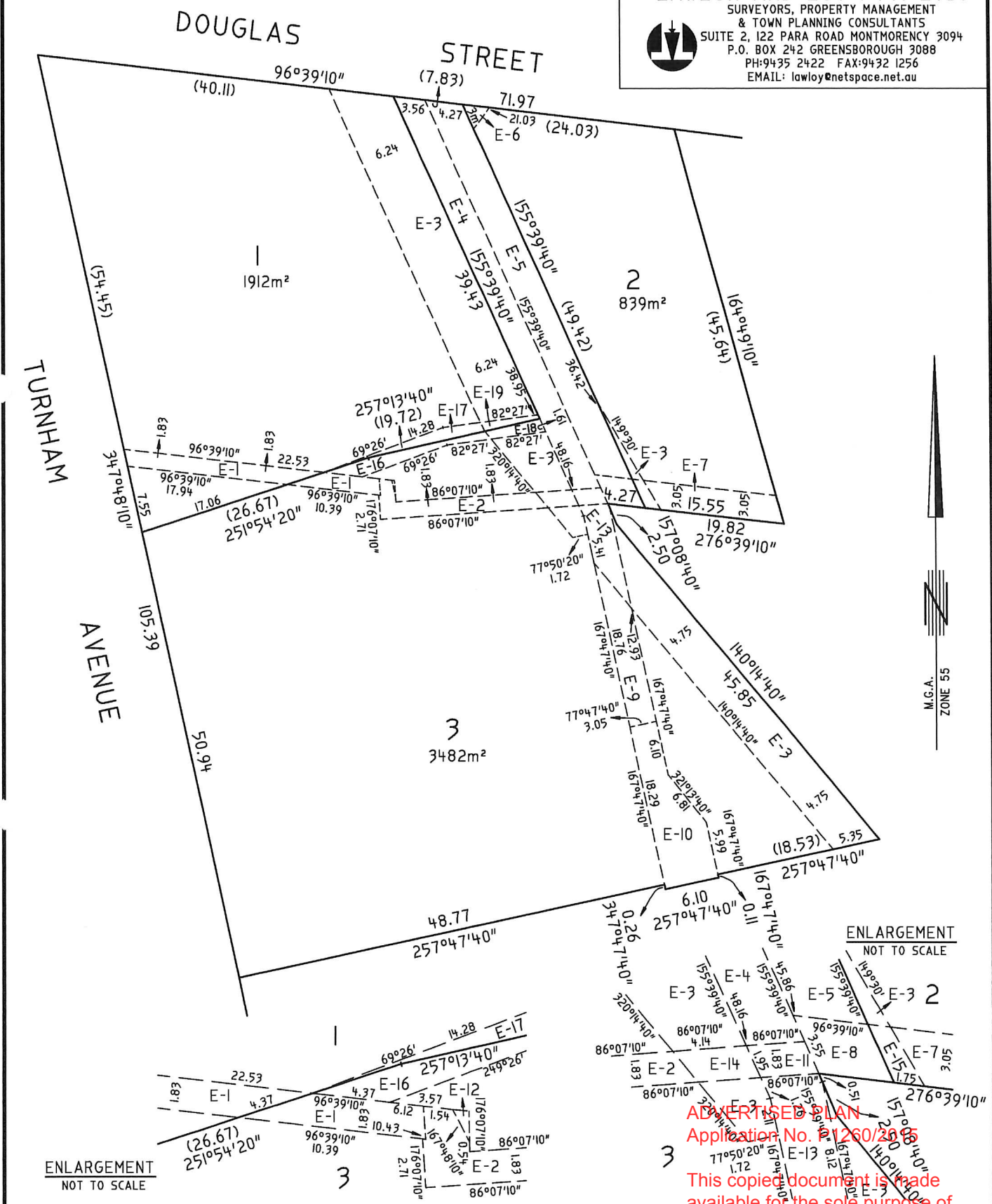
PLAN NUMBER

PS 703973P

LAWLOR AND LOY PTY. LTD.



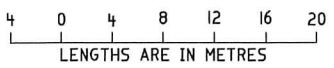
SURVEYORS, PROPERTY MANAGEMENT
 & TOWN PLANNING CONSULTANTS
 SUITE 2, 122 PARA ROAD MONTMORENCY 3094
 P.O. BOX 242 GREENSBOROUGH 3088
 PH:9435 2422 FAX:9432 1256
 EMAIL: lawloy@netspace.net.au



ENLARGEMENT
 NOT TO SCALE

ENLARGEMENT
 NOT TO SCALE

ADVERTISED PLAN
 Application No. P1260/2015
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ORIGINAL SCALE 1:400
 SHEET SIZE A3

LICENSED SURVEYOR (PRINT)
 SIGNATURE DATE
 REF 7259 VERSION 5

SHEET 2 OF 2 SHEETS
 DATE
 COUNCIL DELEGATE SIGNATURE



Plan of Subdivision PS703973P
Certification and Statement of Compliance of
Acquisition Plans (Form 4)

SUBDIVISION (PROCEDURES) REGULATIONS 2011

SPEAR Reference Number: S043043T
Plan Number: PS703973P
Responsible Authority Name: Banyule City Council
Responsible Authority Reference Number 1: C156/13
Surveyor's Plan Version: 5

This is a plan under section 35 of the **Subdivision Act 1988** which does not create any additional lots.

Certification

This plan is certified under section 6 of the Subdivision Act 1988

Statement of Compliance

This is a statement of compliance issued under section 21 of the Subdivision Act 1988

Digitally signed by Council Delegate: Georgia Robertson
Organisation: Banyule City Council
Date: 11/06/2014

ADVERTISED PLAN
Application No. P1260/2015

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Signed by: Georgia Coulson (Banyule City Council) 11/06/2014

23 March 2016

Andy Wilson
Development Planning, Team Leader
Banyule City Council
44 Turnham Avenue
ROSANNA VIC 3084

Dear Andy,

Planning Application – Response to Further Information Request P1260/2015 - 44 Turnham Avenue, Rosanna

Introduction

Urbis continues to act on behalf of Fabcot Pty Ltd and Woolworths Limited in relation to the abovementioned planning application. We refer to Council's letter dated 4 January 2016 requesting further information and are pleased to provide this letter in response, together with the following documents:

- Revised architectural plans prepared by McCabe Architects
- Landscape plan prepared by Urbis dated 1 March 2016 (Rev A)
- Green Travel Plan prepared by Sustainability House dated 2 March 2016
- Sustainable Management Plan prepared by Sustainability House dated 9 March 2016
- Arborist report prepared by Greenwood Consulting dated 22 March 2016

This letter seeks to address the further information request in the order listed in Council's letter.

Response to further information request

FLOODING

Council's letter queries the potential flood risks to the site. The applicant engaged Kerry Wilkinson of Spiire to liaise with Melbourne Water in relation to this matter and to undertake hydraulic modelling. The results of these discussions and modelling were positive and the proposal is considered to be appropriate in relation to flooding. Melbourne Water has no objection to the proposal on the following conditions:

- Lift area and lift pits should be protected from flooding. Therefore this location should be set at least 300mm above the 100-year ARI flood levels.
- All new building finished floor levels should be at least 300mm above the 100-year flood levels.

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Please see the correspondence between Kerry Wilkinson (Spiire) and Aijaz Memon (Melbourne Water).

The revised plans provided include a minor change to the level of the scissor lift to ensure compliance with Melbourne Water's requirements. The email correspondence between Melbourne Water and Spiire confirm that this level is acceptable.

EXTERNAL AMENITY ISSUES

The hours of operation are:

Supermarket hours: 7am to midnight, 7 days per week.

Bottle shop hours: 9am and midnight, 7 days per week.

Loading hours:

- 7am to 10pm Monday to Friday
- 7am to 7pm Saturday and Sunday

These hours are considered to be reasonable given the surrounding context which involves Commercial 1 Zoning and position opposite a railway station. Loading will not occur after 10pm which will ensure an appropriate arrangement in relation to the residential interface.

ESD

Sustainability House has prepared a SMP in response to the further information request. This report is dated 9 March 2016 and seeks to address Clause 22.05 of the planning scheme. BESS and STORM have been used for the assessment and the proposal is considered to perform well in both assessments. The plans have been updated to include a 22.5 square metre rain garden at the eastern end of the supermarket.

Please refer to the SMP prepared by Sustainability House for full details of the assessment.

IMPACT ON EXISTING VEGETATION

Council's letter requests information regarding the impact on existing significant vegetation. An arborist report has been prepared by Greenwood Consulting Pty Ltd to assess the retention value of trees on and adjacent to the development and where trees are proposed to be retained, their likelihood of success in the context of the development. The report also identifies trees that are located within the Vegetation Protection Overlay (VPO). There are 3 trees located within the VPO that were of a size making them worthy of assessing in the report. All three of these are located offsite and only 1 is to be removed (Tree 2 located within the Turnham Avenue road reserve).

The arborist report states that of the 43 trees assessed, 16 of the trees are located offsite. Of the trees assessed offsite, 7 are listed as being proposed to be removed. However, three of these (38-40) are not proposed to be removed as part of this application. The removal of these is shown indicatively to illustrate and examine the potential for Council to realign its library car parking spaces to better integrate the supermarket within the block, for better access. This would be undertaken separately by Council if at all. These works are not required for the Woolworths proposal but would ultimately be preferable.

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The arborist report states there are 23 trees to be removed onsite and four are to be retained. The trees proposed to be retained are considered to have a good likelihood of survival in the context of the development. Of the 23 trees to be removed, the arborist report states that 9 of the trees are of a high to very high retention value. The report states that 6 of the trees to be removed should be removed on the basis of poor health or structure. These are Trees 19, 27, 32, 35, 36, 37. Two other trees to be removed are considered to be environmental weeds (Trees 1 and 6). The remaining 6 trees to be removed from the site are of moderate to low retention value.

Of the 9 trees offsite that are to be retained, the arborist suggests that more investigation into the root systems of 7 trees may be required and that two of the trees are unlikely to be retained (Tree 41 on the library site and Tree 21 to the south of the site). It is noted that the library site is not subject to this application. It is considered however, that the works to be undertaken around the site boundaries will be resurfacing or replacement of paling fencing.

The arborist report includes advice regarding creating a height clearance for delivery vehicles from Douglas Street to the loading dock. The arborist confirms that the Trees 24 and 29 can be effectively pruned by an arborist without damaging the health of the trees.

The arborist recommends the preparation of a Tree Management Plan with tree protection zones.

ADVERTISING SIGNAGE

No advertising signage is proposed as part of this application. However, in order to demonstrate the likely locations envisaged for signage in the future and that this has been considered in the design of the building, signage zones are indicatively shown on the plans. A separate application would be submitted for signage once planning approval for the development is obtained. The dotted lines on the proposed plans are indicative only. A note has been added to the plans stating that signage is subject to a separate application.

ADDITIONAL ITEMS REQUESTED AND PROVIDED

The following items are provided in response to Council's request:

- Materials schedule (included with revised plan package by McCabe Architects)
- Green Travel Plan prepared by Sustainability House dated 2 March 2016
- Planning report outlining how the proposal addresses the State and Local Planning Policy Frameworks.

Amendments to plans

The proposed plans have been updated with the following changes:

SHEET NO.	DESCRIPTION	JUSTIFICATION
Cover page	Artists impression of the Turnham Avenue streetscape added.	For additional information.
Existing Site Conditions TP.002	The existing conditions plan has been updated to show more of the surrounding context and to show the	To provide a better contextual analysis of the surrounding area.

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	existing number of car spaces within the Mixed Use Zone area (21).	
Proposed Lower Ground Floor TP.100	Rain garden added to the east of the supermarket car park.	In response to ESD consultant's advice, to filter water before discharge into sewerage.
	Scissor lift level revised from FL33.03 to FL33.16.	In response to flood modelling conducted by Spiire.
Proposed Upper Ground Floor Plan TP.101	Minor relocation of row of car parking spaces adjacent to the eastern boundary.	For consistency across plans.
	The proposed licensed area is now clearly identified as being 135 square metres on the upper ground floor plan.	The application includes packaged liquor sales.
	Additional detail is provided in relation to the suggested pedestrian crossing on Turnham Avenue.	For additional detail.
Proposed First Floor Plan TP.102	Minor relocation of row of car parking spaces adjacent to the eastern boundary.	For consistency across plans.
South and west elevations TP.200	Shadow line removed from signage zones.	Unnecessary detail.
	Minor amendments to materials list and a material references on the elevation.	Correction.
	New 2.2 metre high acoustic fence shown on elevation.	Correction.
North and east elevations TP.201	Shadow line removed from signage zones.	Unnecessary detail.
	More accurate outline of adjacent building to north elevation.	Correction.

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Correction
 Application No. P1260/2015

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	RL of library roof and theatre roof confirmed	Correction.
	Minor amendments to materials list and a material reference on the elevation.	Correction.
Streetscape elevations TP.201	No changes.	
Materials Schedule TP.203	Materials schedule sheet added.	In response to Council's letter.
Sections TP.300	No changes.	
Context Sections - Proposed TP.301	New sections included.	To illustrate the proposal in context.
Context Sections - Existing TP.302	Existing sections showing surrounding context.	For comparison with proposed sections.

Removal of one tree within the VPO

One of the street trees in the Turnham Avenue road reserve is proposed to be removed. This tree and others in the road reserve are subject to the Vegetation Protection Overlay. Accordingly, enclosed is a form which seeks to include this within the current application. The accompanying planning report addresses this aspect of the proposal.

Melbourne Water Land

Woolworths is currently discussing with Melbourne Water either an access agreement or purchase of some Melbourne Water land outside of the site adjacent to the proposed loading dock. This is to facilitate the swept paths proposed by the Cardno traffic report. It is suggested that should a permit be issued prior to an agreement being reached with Melbourne Water, the permit could include a condition that prior to the commencement of the use, the permit holder must demonstrate access to the land for the purpose of loading, or submit an alternative swept path diagram.

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Conclusion

It is considered that all matters raised by Council have been explored and addressed in this submission. However, Should you require any further information, please do not hesitate to contact the undersigned on 8663 4917. Should this submission not constitute a satisfactory response to Council's letter, we kindly request further time to respond. We look forward to discussing the proposal further with Council.

Yours sincerely,

A handwritten signature in purple ink, appearing to read 'Genevieve Pool', is positioned above the printed name.

Genevieve Pool
Consultant, Planning and Design

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44 Turnham Avenue, Rosanna

Town Planning Report

March 2016

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urbis

URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:

Director	Jamie Govenlock
Consultant	Genevieve Pool
Job Code	MA9779
Report Number	Rep01

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Introduction

This report has been prepared by Urbis on behalf of Fabcot Pty Ltd in support of a supermarket development at 44 Turnham Avenue, Rosanna. This site is currently occupied by one of Banyule City Council's offices and customer service centres and a library.

This report concludes that the proposed supermarket development is highly consistent with the relevant policies of the Banyule Planning Scheme and will result in an attractive and functional building which will benefit the local community without unreasonably impacting on the amenity of the surrounding residential area.

This report should be read in conjunction with the following items:

- Architectural Plans Prepared by McCabe Architects dated March 2016 (Rev A)
- Landscape plan prepared by Urbis dated 1 March 2016 (enclosed with response to further information request)
- Traffic and Transport Assessment prepared by Cardno dated 8 December (original submission)
- Green Travel Plan prepared by Sustainability House dated 2 March 2016 (enclosed with response to further information request)
- Sustainable Management Plan prepared by Sustainability House dated 9 March 2016 (enclosed with response to further information request)
- Arborist report prepared by Greenwood Consulting dated 22 March 2016 (enclosed with response to further information request)

Specifically, the proposal seeks the following permission:

- Use of Supermarket over 150 square metres pursuant to Clause 32.04-2 (Mixed Use Zone) to enable use of the car park in association with the supermarket.
- Buildings and works pursuant to Clause 34.01-4 (Commercial 1 Zone).
- Buildings and works associated with a Section 2 use pursuant to Clause 32.04-8 (Mixed Use Zone) in relation to works to the rear car park. These are generally landscaping and kerbing etc.
- Tree removal (of one tree) under the provisions of the Vegetation Protection Overlay (tree within the Turnham road reserve)
- Reduction of the statutory car parking requirement by 49 spaces pursuant to Clause 52.06-3

The proposed building will facilitate 2,135 square metres of supermarket floor area, onsite loading facilities, 64 undercroft car spaces and 22 spaces in the existing rear car park area. To the street, the proposed building will present as a well-integrated single storey form using materials consistent with the surrounding area. The proposal is accompanied by a landscape plan which is consistent with the proposed plan to be included in the s173 agreement in relation to street planting.

It is considered that all potential amenity issues are appropriately addressed by the proposed design and that the proposal is worthy of approval.

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1 Proposal

The proposal involves the demolition of all buildings onsite and clearing of the site to enable the development of a building which will facilitate 2,135 square metres of supermarket floor area (including 135 square metres of ancillary bottle shop), onsite loading facilities, 64 undercroft car spaces and 22 spaces in the existing rear car park area. The design of the proposed building considers the surrounding architecture and building materials and involves a single storey form when viewed from Turnham Avenue. Due to the sloping topography, the undercroft car park will not add to the perceived height of the building from the public realm. An upper floor for storage of stock and offices is proposed to be setback from Turnham Avenue by 13.5 metres and will not increase the appearance of height. The façade incorporates a range of materials and finishes which will help it to integrate with the buildings in the surrounding area. The proposal is accompanied by a landscape plan which is consistent with the proposed plan to be included in the s173 agreement in relation to street planting and also includes a zebra crossing to better facilitate pedestrian movement to and from the railway station and its car park.

The proposed building incorporates the following selection of materials and finishes which draw on the designs in the immediate area:

- Generally low rise form
- Stone cladding
- Corrugated, smooth and patterned precast concrete
- Galvanised steel
- Aluminium window frames
- Reclaimed timber

Specifically, the proposal seeks the following permission:

- Use of Supermarket over 150 square metres pursuant to Clause 32.04-2 (Mixed Use Zone) to enable use of the car park in association with the supermarket use on the Commercial 1 Zone land.
- Buildings and works pursuant to Clause 34.01-4 (Commercial 1 Zone).
- Buildings and works associated with a Section 2 use pursuant to Clause 32.04-8 (Mixed Use Zone) in relation to works to the rear car park.
- Tree removal (of one tree) under the provisions of the Vegetation Protection Overlay (tree within the Turnham road reserve)
- Reduction of the statutory car parking requirement by 49 spaces pursuant to Clause 52.06-3.
- Waiver of shower and change room facilities associated with bicycle spaces pursuant to Clause 52.34-3.
- Sale of packaged liquor pursuant to Clause 52.27.

The proposed hours of operation are:

Supermarket hours: 7am to midnight, 7 days per week.

Bottle shop hours: 9am and midnight, 7 days per week.

Loading hours:

- 7am to 10pm Monday to Friday

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- 7am to 7pm Saturday and Sunday

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2 Site and Surrounds

The subject site at 44 Turnham Avenue, otherwise known as Lots 1, 2 and 3 on Plan of Subdivision 703973 is located on the eastern side of Turnham Avenue in Rosanna, directly opposite Rosanna Railway Station. The site is located on the fringe of the Rosanna Neighbourhood Centre which offers a small supermarket, a range of specialty retail and offices. The site has an area of 6,233 square metres and is an irregular shape. The site is located within three zones, these being Public Use Zone, Commercial 1 Zone and mixed Use Zone. The Commercial 1 Zone land and the Mixed Use Zone land (Lots 2 and 3) are in the process of being acquired by Fabcot Pty Ltd from Council. The remaining Public Use Zone land at the corner of Douglas Street will for the time being, continue to be occupied by the local library.

This application applies to Lots 2 and 3 which have a combined site area of 4,320 square metres. There is one tree located on Lot 1 which will require removal to enable the proposed development on Lots 2 and 3.

The topography of the site slopes downward from south-west to north-east towards the rear of the site, but the very rear of the site at the north-east slopes back upwards.

Lot 1 is currently occupied by the local library at the corner of Douglas Street. A Council building occupies the Commercial 1 Zone land (Lot 3). An existing public car park exists at the rear of the site on the Mixed Use Zone land (Lot 2) which provides car parking for 21 cars.

There are currently 2 vehicle crossovers at the site along Turnham Avenue which serve the car parking within the front setback of the Council building. A third crossover is located off Douglas Street providing access to a car parking area under the library and a fourth vehicle crossover is provided on Douglas Street providing access to the rear car park and to 12 library parking spaces.

A number of drainage easements run through the site and other easements on the site include a carriageway easement to facilitate access to the car parking.

There are a number of mature trees onsite which will need to be removed to enable the development to proceed. These are not considered to be located within the Vegetation Protection Overlay. However, one street tree on Turnham Avenue within the VPO is proposed to be replaced as part of the associated landscape plan which is consistent with the s173 agreement which Council has prepared. Two trees onsite are identified in a s173 agreement which is proposed to be in the process of being attached to the certificate of title. The draft agreement states that the tree identified as tree 59 can be removed if the street planting suggested by the s173 agreement is completed. The proposed landscape plan seeks to achieve this, as Tree 59 will need to be removed to facilitate the development. The tree identified in the agreement as Tree 29, located in the rear car park is to be retained.

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PICTURE 1 – PART OF THE SUBJECT SITE VIEWED FROM TURNHAM AVENUE – 44 TURNHAM AVENUE (COUNCIL BUILDING)



PICTURE 2 – REAR OF EXISTING BUILDINGS AT THE SUBJECT SITE. COUNCIL BUILDING TO THE LEFT. LIBRARY TO THE RIGHT



PICTURE 3 –STONE LIBRARY BUILDING AT THE SUBJECT SITE AND BUS STOPS ON TURNHAM AVENUE

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PICTURE 4 – VEHICLE ACCESSWAY THROUGH THE SUBJECT SITE FROM DOUGLAS STREET



PICTURE 5 – FOOTPATH ALONG TURNHAM AVENUE ADJACENT TO THE SUBJECT SITE



PICTURE 6 – THREE STOREY OFFICE BUILDING ON THE CORNER OF TURNHAM AND DOUGLAS STREET (STONE FINISH)



PICTURE 7 – RAILWAY STATION AND CAR PARK OPPOSITE THE SUBJECT SITE ON TURNHAM AVENUE

The surrounding area is generally an established residential area which is well serviced by both fixed rail and road public transport. The immediately adjacent land is occupied as follows:

- **North-** To the north, the site adjoins Douglas Street. There is a library building located at the northern end of the subject site which will be subdivided from the land subject to this proposal. This building is a single storey bluestone building accessed from the street via a ramp and stairs and has undercover car parking accessed from Douglas Street.

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- South- To the south is the Heidelberg Theatre on Turnham Avenue which is also a bluestone building.
- East- To the east is a residential area located within General Residential Zone 1. The immediate interfaces are to a driveway and rear private open space.
- West- To the west of the site is Turnham Avenue and beyond this is Rosanna Railway Station.

Turnham Avenue has bus stops on either side of the road almost opposite the site. Routes 513 – Eltham to Glenroy and 517 – Northland Shopping Centre to St Helena are accessed from these stops. There is a car park on the opposite side of Turnham Avenue for the railway station which has approximately 150 parking spaces. There are five existing kerbside car parking spaces along Turnham Avenue adjacent to the subject site.



PICTURE 8 – INTERFACE TO DOUGLAS STREET LOOKING WEST



PICTURE 9 – INTERFACE TO THEATRE TO THE SOUTH OF THE SITE (RIGHT OF IMAGE)



PICTURE 10 – EXISTING CAR PARK TO REAR AND DWELLINGS BEYOND TO THE EAST OF THE SITE

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PICTURE 11 – INTERFACE TO TURNHAM AVENUE



PICTURE 12 – INTERFACE TO TURNHAM AVENUE



PICTURE 13 – TREE PROPOSED TO BE REMOVED FROM LIBRARY LOT



PICTURE 14 – TREE TO BE RETAINED IN REAR CAR PARK

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3 Planning Considerations

We consider the following to be the key planning considerations for this application:

- Appropriateness of using the Mixed Use Zone land for supermarket car parking;
- Whether car parking and loading facilities are appropriately addressed;
- Whether the proposed design responds to the Commercial 1 Zone and the surrounding character; and
- Whether the proposal addresses any offsite amenity impacts.
- Whether the removal of Tree 2 (as defined in the arborist report and landscape plan) is appropriate in the context of VPO5

APPROPRIATENESS OF USING THE MIXED USE ZONE LAND FOR SUPERMARKET CAR PARKING

The Mixed Use Zone land (Lot 2) is currently used as a Council car park for 21 cars. It is proposed to use this car park in association with the supermarket use for 22 cars. As the use of shop over 150 square metres requires a planning permit pursuant to the Mixed Use Zone, it is considered that the use of this car park in association with the supermarket requires a permit.

Considering the car park already exists, it is considered that the proposal will not lead to a noticeable change in terms of the use of the car park. However, it is acknowledged that there will be an increased number of vehicle movements to and from the site from Douglas Street. The Traffic and Transport report prepared by Cardno suggests that the expected traffic generation is not unreasonable for the surrounding area. There is considered to be capacity in both Douglas Street (which is considered to be a connector street) and Turnham Avenue for the additional 296 vehicle movements (including in and out) at peak hour. Please refer to the Traffic and Transport Assessment prepared by Cardno.

The Mixed Use Zone does not include decision guidelines relating to uses other than industry and warehouse. However, it is considered that the use of supermarket car park on this lot is appropriate, given that shops up to 150 square metres are as-of-right in a Mixed Use Zone and the supermarket is not proposed to be located on the Mixed Use Zone land. The lot proposed for the car park has residential interfaces that are buffered by fencing, a driveway and by private open space. Therefore, the proposed car park will not be visible directly from the nearest dwellings, will not facilitate overlooking into the surrounding residential sites and will not create noise that will disrupt the amenity of the residential area. The proposed supermarket car park use will not be a considerable change from the existing use of this lot. The proposal therefore responds positively to **Clause 11** in relation to land use conflict and **Clause 32.04 – Mixed Use Zone**, which encourages a range of residential, commercial, industrial and other uses which complement the mixed use function of the area.

The proposed supermarket car park responds positively to the relevant ResCode objectives. Particularly as the proposed building is not to be located on the Mixed Use Zone Land. The proposal responds to these objectives and standards, as follows:

Standard B17 – Side and Rear Setbacks Objective - No buildings are to be constructed within several metres of the Mixed Use Zone boundaries with the General Residential Zone. The proposal therefore meets the standard.

Standard B18 – Walls on Boundaries Objective - No walls are proposed to be constructed adjacent to the boundaries between the Mixed Use Zone and the General Residential Zone. The proposal therefore meets the standard. A 2.2 metre high fence will be placed at this boundary, replacing the existing fence.

Standard B19 – Daylight to existing Windows Objective - The proposed building is not located on the Mixed Use Zone land or adjacent to any existing habitable room windows. The proposal therefore meets the standard.

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Standard B22 – Overlooking Objective - The proposed building is not located on the Mixed Use Zone land and does not have any balconies or decks from which to overlook nearby private open space. The proposal therefore meets the standard.

WHETHER CAR PARKING AND LOADING FACILITIES ARE APPROPRIATELY ADDRESSED

The proposal seeks a reduction in the required number of onsite car parking spaces in the order of 49 spaces. It is considered that based on empirical research and additionally, the site's location which is well serviced by public transport that the 86 parking spaces to be provided onsite will meet the expected demand with the assistance of a small number of available on-street parking spaces. The report provided by Cardno cites studies indicating that a realistic car parking demand for the proposed development would be between 89 - 97 spaces. Therefore, the development would rely on between 3 and 11 on-street spaces. It is considered that based on the car parking survey completed in November 2015, these spaces are available in the surrounding area. The proposal is considered to appropriately respond to the decision guidelines of **Clause 52.06-6** in relation to reducing the car parking requirement, as the site is located opposite a railway station, has good access to the principal bicycle network, the available case studies on parking demand for small supermarkets and the availability of on-street car parking in close proximity to the site. Additionally, the design of the car parking areas meets the requirements of **Clause 52.06**. Please refer to the report prepared by Cardno.

The proposal meets and exceeds the loading requirement of **Clause 52.07**. The proposed floor area generates a requirement for 54.8 square metres of loading area and the proposal provides for 169 square metres of loading area. In relation to the design of the loading area, swept paths indicate that there is an appropriate provision for manoeuvring in and out of the loading area. Please note that the bins as they are shown on the Cardno swept path diagrams have been relocated on the architectural plans to ensure the swept paths are unobstructed. Please refer to the Traffic and Transport assessment prepared by Cardno.

WHETHER THE PROPOSED DESIGN RESPONDS TO THE COMMERCIAL 1 ZONE AND THE SURROUNDING CHARACTER OF THE AREA

The proposed building will integrate exceptionally well within its low-rise context and the position of the site at the fringe of the activity centre and therefore responds positively to **Clause 15, Clause 21.06 – Built Environment** and **Clause 34.01 – Commercial 1 Zone**. The site is not affected by any overlays relating to design. Council's letter requests information in regards to how the proposal responds to Council's Residential Neighbourhood Character Policy. The policy (Clause 22.02) states that the policy only relates to development in the Neighbourhood Residential Zone, General Residential Zone, Rural Conservation Zone, Low Density Residential Zone, and Precinct 5 of Schedule 1 to the Activity Centre Zone. Therefore, this policy does not apply to the site which is located within the Commercial 1 Zone and Mixed Use Zone. However, it is considered that the proposed design will integrate well within the surrounding context and responds to the neighbourhood character statement for Garden Suburban 2 as outlined in Clause 22.02. This is explored in the following paragraphs.

The Commercial 1 Zone seeks to create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses. The design of the new supermarket will add to the vitality of Turnham Avenue using an active frontage at the street boundary. Additionally, the design will consist of a range of forms and materials to provide visual interest in the streetscape. Specifically, the proposal responds to the decision guidelines of the Commercial 1 Zone as follows:

- The proposed development will have a positive impact on the movement of pedestrians along Turnham Avenue, as it will remove two vehicle crossovers and not add any new crossovers. All loading and waste collection will occur to the rear of the site, via an existing vehicle crossover which is currently used for this purpose.

- The car parking to be provided is considered to be appropriate based on the available studies on small supermarkets and the availability of car parking in the area. Although the proposal generates a requirement for 135 spaces, the expected demand generated is only between 89 and 97 spaces.

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- An active frontage is to be introduced to the site by this proposal. At present, there are no active frontages to this site or either of the adjacent sites.
- Garbage storage is to be provided to the rear of the supermarket.
- Responsibility for the maintenance of buildings, landscaping and paving onsite will be taken by Woolworths.
- No overlooking or overshadowing will result from this development.
- Adequate access to services is available.
- It will not be necessary to provide for extensive solar access. Rather, the refrigeration required within the supermarket will require that particular areas do not receive direct sunlight. The west facing frontage will be largely glazed and will allow for natural light to enter the building at this end.
- The proposal, which is for a supermarket rather than a dwelling responds appropriately to the objectives of Clauses 54 and 55. The proposed building is low-rise and is separated appropriately from nearby dwellings and private open space. All residential interfaces are appropriately designed and the site's southern interface is with a non-residential building that is built to the property boundary with the subject site.

The proposal responds appropriately to the various aspects of its physical context. The physical context and neighbourhood character of the area consists of the following features:

- The topography of the area is undulating and generally low rise.
- Majority of buildings are single or double storey and there is a three storey office building opposite the site at the corner of Turnham Avenue and Douglas Street.
- Undercroft car parking already exists at the site at the adjacent library.
- The dominant building material in this part of Turnham Avenue is stone and the dominant building materials in the surrounding streets are brick and render.
- Mature trees and plantings play a significant role in the presentation of the area.

The proposal responds to the topography of the land and the prevailing low-rise built form in the area with a single storey presentation to the street (Turnham Avenue), a recessed upper floor and undercroft car park which is fully concealed from the street. The existing building at the site presents as a single storey building to the street and a double storey building to the rear. This arrangement is adopted in the proposed design. The maximum street wall height viewed from Turnham Avenue is 8.4 metres and an entry feature has a maximum height of 10.1 metres. The maximum proposed building height viewed from the rear of the site (above natural ground level) is 12.2 metres, or 16.10 metres taking the undercroft parking into account.

The use of stone for the façade of the building references the materials and finishes used in surrounding developments and the patterned precast concrete and other materials together with horizontal lines and angled entry feature will introduce a contemporary theme to the site. Importantly, the proposed façade is designed to facilitate views into and out of the building. The proposed signage zones are sized and positioned to be appropriately visible without creating visual clutter and will not obstruct any views. It is considered that signage should be applied for separately but that the envisaged signage zones are shown indicatively on the proposed plans for the development to demonstrate that the architecture has considered signage.

It is necessary to remove the existing trees on Lot 3 of the site and some on Lot 2 (car park) to facilitate the development. Acknowledging that landscaping plays an important role in the neighbourhood character, the proposal involves a landscape plan which has been guided by Council in relation to street planting. The proposed street planting involves a garden bed planted with 2 large native evergreen canopy trees (Red Box) and 2 native evergreen trees (Swamp Paperbark). The rear car park is also to be landscaped including the retention of 5 trees and the addition of 3 native evergreen trees.

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It is considered that the proposed development responds appropriately to the Neighbourhood Character Statement for Garden Suburban 2 in the following ways:

- The building is of an appropriate scale and architectural style, with generally one storey with undercroft car parking and recessed upper floor.
- Design variation is provided through a series of timber posts to provide vertical articulation along the front façade, an angled canopy and variation in building materials.
- Car parking is behind/under the building
- Landscaping of the streetscape has been designed as per the expectations communicated by Council for this site.

For these reasons, the proposal will integrate well within its setting and will introduce a building of a high design standard into the streetscape. Therefore, it is considered to respond positively to **Clauses 15** and **21.06** relating to the built environment.

WHETHER THE PROPOSAL ADDRESSES ANY OFFSITE AMENITY IMPACTS

The proposed design addresses all possible off-site amenity impacts appropriately. In relation to visual bulk and overshadowing, the proposed development is appropriately separated from surrounding dwellings by a minimum of approximately 25 metres and the maximum height viewed from the rear above natural ground level is 12.2 metres. The low-rise form of the building therefore will ensure no amenity impact results from the development and consistency with the relevant **Clause 54** objectives. The proposed supermarket is a small supermarket with a floor area of 2,135 square metres and is therefore not considered to have the potential to generate traffic volumes able to create safety or congestion issues around the vehicle crossover or unreasonable noise in relation to loading. Ample loading area is proposed, exceeding the requirements of **Clause 52.07** and the loading area is located at the rear of the building and not adjacent to any dwellings. An area of private open space is located adjacent to the loading area to the east, however, it is considered that the number of large vehicles making deliveries to the site will be low and this will not impact on the amenity of the neighbouring area of private open space.

The proposed development will facilitate an appropriate waste management arrangement. It is suggested that a waste management plan is required by a condition of permit. A private contractor is to collect waste stored in the loading area.

As previously mentioned, the proposed car parking will meet the expected demand based on empirical studies and the site's excellent access to public transport.

The proposal for a liquor license to sell packaged liquor is to facilitate a bottle shop of 135 square metres within the supermarket building. It is proposed to operate this use between the hours of 9am and midnight, 7 days per week. It is considered that in association with a supermarket and as there are not any other licensed premises within Turnham Avenue, this will not contribute noticeably to the concentration of licensed premises in the area or noticeably to a cumulative impact. Following is an analysis of the proposed licensed premises' response to **Clause 52.27 – Licensed Premises**:

- As the proposed licensed premises is proposed only to sell packaged liquor and this is expected to largely be done in conjunction with grocery shopping, it is considered that the proposed licensed premises will not impinge on the amenity of the surrounding area.
- The hours of operation are to coincide with the hours of operation of the supermarket (9am - midnight) and as previously mentioned, liquor sales are expected to largely be associated with grocery shopping.
- There will be no liquor consumed onsite and therefore, no maximum number of patrons.
- There are three shops licenced for packaged liquor in the Rosanna neighbourhood centre on the opposite side of the railway line on Lower Plenty Road. As these shops only provide packaged liquor, they are not considered to contribute to adverse amenity impacts in the surrounding area in relation to alcohol.

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It is considered that for the above reasons, the proposed licensed premises will not contribute to cumulative impacts in relation to alcohol consumption.

WHETHER THE REMOVAL OF TREE 2 (AS DEFINED IN THE ARBORIST REPORT AND LANDSCAPE PLAN) IS APPROPRIATE IN THE CONTEXT OF VPO5

Schedule 5 to the VPO states:

A permit is required to remove, destroy or lop those trees which meet either of the following:

- *Has a height of 12 metres or more, or*
- *Has a trunk or stems that collectively are more than 400mm in diameter, measured at 1400mm above the base of the tree.*

In the context of this application, one tree within VPO5 fits this description and is identified as Tree 2 on the landscape plan and arborist report as being proposed for removal. This is one of two trees within the Turnham Avenue road reserve that is proposed to be removed. The other tree, Tree 7 is under the size threshold for the permit requirement of the overlay.

It is considered that as the removal of Tree 2 is to occur in conjunction with a landscape plan which will involve the planting of 4 new trees along the street adjacent to the site, the removal of the tree is warranted and acceptable. Planting involves 2 large native evergreen trees and two mid-size native evergreen trees. The proposed landscaping within the road reserve has been designed in response to the plan attached to the s173 agreement which Council has prepared. The proposed landscape design will result in an attractive and well-integrated length of the Turnham Avenue streetscape.

The arborist report rates Tree 2 as having a high retention value, but also states that its structure is poor.

The objectives of Schedule 5 include the promotion of new plantings and protection of vegetation of special significance. Given that Tree 2 has poor structure and isn't considered to be of special significance and considering the proposed new planting, the removal of this tree is considered appropriate in the context of the objectives of the VPO. Additionally, the area is not affected by a heritage overlay.

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4 Conclusion

The proposed small supermarket at 44 Turnham Avenue, Rosanna is considered to respond positively to all relevant policies of the Banyule Planning Scheme and will integrate seamlessly within the surrounding context. Off-site amenity has been appropriately considered in the design in relation to car parking, loading, cycling, noise and overlooking to ensure the current level of residential amenity enjoyed in the area will continue in the context of the proposed development.

The development will introduce to the streetscape an active façade and an improved appearance in relation to architecture and street planting and will therefore improve the amenity and presentation of the area. This is achieved through architecture which is considered to be of a high standard, incorporating contemporary forms, traditional materials and finishes and a low rise form to integrate with surrounding buildings.

The layout of the building and the site will facilitate a high level of functionality and safety for staff and customers.

For these reasons, it is encouraged that the City of Banyule support this planning application

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This report is dated December 2015 and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Pty Ltd's (**Urbis**) opinion in this report. Urbis prepared this report on the instructions, and for the benefit only, of Fabcot Pty Ltd (**Instructing Party**) for the purpose of planning application (**Purpose**) and not for any other purpose or use. To the extent permitted by applicable law, Urbis expressly disclaims all liability, whether direct or indirect, to the Instructing Party which relies or purports to rely on this report for any purpose other than the Purpose, and to any other person which relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

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Appendix A

Planning Policy Frameworks

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STATE PLANNING POLICY FRAMEWORK

The following policies of the State Planning Policy Framework are relevant to the proposed redevelopment:

- Clause 11 states that planning is to anticipate and respond to the needs of the community for land for a variety of purposes and to avoid siting of uses which conflict.
- Clause 15 seeks to ensure that all new land use and development responds to its landscape, valued built form and cultural context and to protect places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.
- Clause 15 states that land use and development planning must support the development and maintenance of communities with adequate and safe physical and social environments for their residents, through the appropriate location of uses and development and quality of urban design.
- Urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity are encouraged by Clause 15.
- Clause 17 states that planning is to provide for a strong and innovative economy, where all sectors of the economy are critical to economic prosperity.
- Clause 17 encourages development which meets the communities' needs for retail, entertainment, office and other commercial services. Strategies for achieving this include locating commercial facilities in existing or planned activity centres.

LOCAL PLANNING POLICY FRAMEWORK

The following clauses of the Local Planning Policy Framework are relevant to this proposal:

Clause 21.01 – Municipal Profile places the City of Banyule between 7 and 22 kilometres north-east of central Melbourne and has an area of 63 square kilometres. Banyule is in the Yarra River catchment and contributes to the regional open space networks associated with the Yarra and Plenty River valleys. Banyule provides a significant number of and range of jobs including industrial, retail and jobs in the public sector. There is also a significant number of educational and health institutions. Employment in manufacturing, utilities, construction and transport is declining, while employment in wholesale, retail, community services, finance, property and business services, recreation and personal services is increasing. The municipality is primarily residential and has an ageing population. The average household size is declining.

Clause 21.02 – Vision and Strategic Framework establishes a vision for Banyule:

Banyule will be regarded as a city offering a range of quality lifestyles in an urban setting enhanced by natural environment, and served by an efficient and committed Council.

This vision is to be achieved having regard to managing the natural and built environments, supporting economic development, fostering community spirit and social health and well-being for future generations.

The values of diversity, amenity, accessibility, community, sustainability and quality will also contribute to delivering the vision.

Rosanna is shown as one of ten neighbourhood centres in the municipality.

Clause 21.04 – Land Use establishes objectives for the uses of housing, commercial, industrial, community facilities and recreation and cultural facilities.

In relation to commercial land use, the policy includes objectives and strategies to support diverse, viable and high quality activity centres and appropriate out-of-centre commercial activities. Strategies include:

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- Reinforce the existing hierarchy of retail and commercial centres in Banyule by allowing the development of existing centres to provide an improved and competitive level of service wherever this is supportable in terms of market demand and commercial viability.
- Facilitate projects that will support business growth, employment and service delivery

Clause 21.06 – Built Environment identifies the City’s key issues in relation to the built environment. These include:

- The provision of a safe, attractive and high quality built environment
- The significant contribution that vegetation makes to the environmental quality and character of neighbourhoods is often overlooked or misunderstood
- Significant trees, substantial trees and other vegetation make a contribution to the desired future character of residential neighbourhoods, identity of Activity Centres, landscape character, streetscapes, habitat links and biodiversity
- Poorly designed development, including subdivision, can erode the desired future neighbourhood character and a community’s sense of place.

Objectives and strategies include:

Objective 1 - To provide a safe, attractive and high-quality built environment.

- Encourage uniform signage and shop frontage, particularly within strip shopping centres.
- Encourage high standards of design for buildings, works, signage and landscaping.
- Encourage high quality architecture and urban design.
- Encourage development to have active frontages and direct pedestrian access to abutting parklands.
- Ensure that off-site stormwater discharges are controlled.
- Ensure that off-site waste water discharges are eliminated.

Objective 2 - To ensure that development respects and contributes to the desired future character of residential neighbourhoods and the identity of Activity Centres, in a manner that supports varying degrees of housing change.

- Encourage the retention and planting of significant trees, substantial trees and other vegetation to protect and improve the landscape character, streetscapes, habitat links and biodiversity of the area.

Clause 22.05 – Environmentally Sustainable Development applies to all development within the City of Banyule that requires a planning permit and meets the thresholds in Table 1 of the policy. The policy seeks to encourage best practice in environmentally sustainable design in new development. The policy is concerned with energy performance, water resources, indoor environment quality, stormwater management, transport, waste management and urban ecology. It is policy to require applications to be accompanied by information which demonstrates how relevant policy objectives will be achieved.

For non-residential development with a gross floor area greater than 1000 square metres, a Sustainability Management Plan and Green Travel Plan are required.

ZONES AND OVERLAYS

Clause 34.01 – Commercial 1 Zone seeks to:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

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- *To create vibrant mixed use commercial centres for retail, office, business, entertainment and community uses.*
- *To provide for residential uses at densities complementary to the role and scale of the commercial centre.*

The use of shop is an as-of-right use under the provisions of the Commercial 1 Zone. There are no retail floor area restrictions.

A permit is required to construct a building or construct or carry out works. The Responsible Authority must consider the following in relation to the assessment of buildings and works proposals within the Commercial 1 Zone:

- *The movement of pedestrians and cyclists, and vehicles providing for supplies, waste removal, emergency services and public transport.*
- *The provision of car parking.*
- *The streetscape, including the conservation of buildings, the design of verandahs, access from the street front, protecting active frontages to pedestrian areas, the treatment of the fronts and backs of buildings and their appurtenances, illumination of buildings or their immediate spaces and the landscaping of land adjoining a road.*
- *The storage of rubbish and materials for recycling.*
- *Defining the responsibility for the maintenance of buildings, landscaping and paved areas.*
- *Consideration of the overlooking and overshadowing as a result of building or works affecting adjoining land in a General Residential Zone, Neighbourhood Residential Zone, Residential Growth Zone or Township Zone.*
- *The availability of and connection to services.*
- *The design of buildings to provide for solar access.*
- *The objectives, standards and decision guidelines of Clause 54 and Clause 55. This does not apply to a development of five or more storeys, excluding a basement.*

Clause 32.04 – Mixed Use Zone seeks:

- *To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *To provide for a range of residential, commercial, industrial and other uses which complement the mixed-use function of the locality.*
- *To provide for housing at higher densities.*
- *To encourage development that responds to the existing or preferred neighbourhood character of the area.*
- *To facilitate the use, development and redevelopment of land in accordance with the objectives specified in a schedule to this zone.*

The use of shop with a floor area greater than 150 square metres requires a permit under the provisions of the Mixed Use Zone.

Buildings and works associated with a section 2 use require a permit under the provisions of the Mixed Use Zone.

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Buildings and works adjacent to a residential zone must meet the requirements of Clauses 55.04-1, 55.04-2, 55.04-3, 55.04-5 and 55.04-6.

There are no decision guidelines relating to land uses other than industry or warehouse and no decision guidelines for non-residential development. The decision guidelines refer to Clause 65.

Clause 42.02 – Vegetation Protection Overlay

- *To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *To protect areas of significant vegetation.*
- *To ensure that development minimises loss of vegetation.*
- *To preserve existing trees and other vegetation.*
- *To recognise vegetation protection areas as locations of special significance, natural beauty, interest and importance.*
- *To maintain and enhance habitat and habitat corridors for indigenous fauna.*
- *To encourage the regeneration of native vegetation.*

A permit is required to remove, destroy or lop any vegetation specified in a schedule to this overlay. Specifically, Schedule 5 includes the following permit requirement:

A permit is required to remove, destroy or lop those trees which meet either of the following:

- *Has a height of 12 metres or more, or*
- *Has a trunk or stems that collectively are more than 400mm in diameter, measured at 1400mm above the base of the tree.*

Schedule 5 to the VPO states that:

The significance of Substantial Trees and their incremental removal affects the City in a number of ways. Tree protection and management, together with new and replacement tree planting on properties in Garden Court and Garden Suburban neighbourhoods, can help to safeguard and offset any incremental loss and improve the range of benefits Substantial Trees provide.

The objectives of Schedule 5 are:

- *To retain and protect existing trees, and to promote further planting of new trees as a significant component of local identity and neighbourhood character.*
- *To protect vegetation of special significance, natural beauty, interest and importance.*
- *To retain vegetation that represents the cultural and/or natural history of the City.*
- *To retain and protect existing trees, and to promote further planting of new trees to enhance streetscapes, ridgelines and backdrops in residential areas.*
- *To ensure that, where tree removal is permitted, appropriate replacement planting is provided and located appropriately on site.*
- *To retain, protect and promote further planting of trees in residential areas to provide habitat links and movement corridors for fauna.*
- *To retain trees which contain hollows as habitat for local fauna.*

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- *To retain trees that buffer waterways.*
- *To maintain remnant and/or indigenous overstorey vegetation to provide biodiversity and a source of genetic material for the re-establishment of the natural heritage of the City.*
- *To retain indigenous native vegetation which is rare, threatened or of local, regional or State significance.*
- *To retain exotic trees and non-indigenous native trees, unless identified as an environmental weed.*
- *To manage the long term viability of significant avenue plantings and heritage trees.*
- *To retain, protect and promote further planting of trees for their contribution to stabilising local environmental processes including shading and cooling effects, sequestration of pollutants and management of storm water.*

PARTICULAR PROVISIONS

Clause 52.06 – Car Parking seeks:

- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated, the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

This policy applies to new uses.

A permit is required to reduce (including reduce to zero) the number of car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay.

A requirement of 5 parking spaces for every 100 square metres of floor area applies for supermarket use.

Clause 52.07 – Loading and Unloading of Vehicles seeks:

- *To set aside land for loading and unloading commercial vehicles to prevent loss of amenity and adverse effect on traffic flow and road safety.*

This policy requires that for developments for the manufacture, servicing, storage or sale of goods or materials a loading area with an area of 27.4 square metres (for premises of 2,6000 square metres or less plus 18 square metres for every additional 1,800 square metres with a driveway at least 3.6 metres wide is required.

Clause 52.27 – Licensed Premises seeks:

- *To ensure that licensed premises are situated in appropriate locations.*
- *To ensure that the impact of the licensed premises on the amenity of the surrounding area is considered.*

A permit is required if a license is required under the Liquor Control Reform Act 1998. This does not apply if a license to sell packaged liquor only which was issued before 8 April 2011.

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The Responsible Authority must consider as appropriate the following decision guidelines in relation to licensed premises:

- *The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *The impact of the sale or consumption of liquor permitted by the liquor licence on the amenity of the surrounding area.*
- *The impact of the hours of operation on the amenity of the surrounding area.*
- *The impact of the number of patrons on the amenity of the surrounding area.*
- *The cumulative impact of any existing licensed premises and the proposed licensed premises on the amenity of the surrounding area.*

Clause 52.34 – Bicycle Facilities seeks:

- *To encourage cycling as a mode of transport.*
- *To provide secure, accessible and convenient bicycle parking spaces and associated shower and change facilities.*

Supermarket is considered to be a shop use which attracts a requirement for 1 bicycle space for every 600 square metres for employees and 1 bicycle space to each 500 square metres of leasable floor area for shoppers. This policy also requires 1 shower and change room per 5 staff bicycle parking spaces and 1 for every 10 spaces thereafter.

GENERAL PROVISIONS

Clause 65 – Decision Guidelines establishes the decision guidelines which must be taken into account in the assessment of planning applications. In relation to proposals other than subdivision, the following decision guidelines apply:

- *The matters set out in Section 60 of the Act.*
- *The State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *The purpose of the zone, overlay or other provision.*
- *Any matter required to be considered in the zone, overlay or other provision.*
- *The orderly planning of the area.*
- *The effect on the amenity of the area.*
- *The proximity of the land to any public land.*
- *Factors likely to cause or contribute to land degradation, salinity or reduce water quality.*
- *Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site.*
- *The extent and character of native vegetation and the likelihood of its destruction.*
- *Whether native vegetation is to be or can be protected, planted or allowed to regenerate.*
- *The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.*

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STRATEGIC DOCUMENTS

PLAN MELBOURNE

Plan Melbourne provides broad strategic planning guidance for land use and development across metropolitan Melbourne. The subject site is located within the Northern subregion as defined by Plan Melbourne. Plan Melbourne supports a 20 minute neighbourhood experience for residents by providing a wide range of goods, services and employment near housing. No specific guidance in relation to Rosanna is provided by Plan Melbourne. However, Plan Melbourne supports the general principle of supporting the economic growth of activity centres.

CITY OF BANYULE SIGNIFICANT TREE REGISTER

Council's significant tree register does not identify any significant trees on the subject site.

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Project:

**Woolworths Super Market
44 Turnham Avenue
Rosanna**

Client:

**Fabcot Pty Ltd.
522 Wellington road
Mulgrave**

Revision:

Rev V3_FINAL

Date:

9 March 2016

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Application No. P1260/2015**

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1.0 Executive Summary

Sustainability House has been engaged by **Fabcot Pty Ltd** to prepare a Sustainable Management Plan (SMP) for the proposed Woolworths Supermarket located at Turnham Avenue, Rosanna.

The development is within the jurisdiction of the City of Banyule and for a development of this size, the council requires an SMP to be produced as part of its planning approval process. This SMP has been prepared in accordance with Banyule City Council's ESD guidelines and the planning application RFI no. P1260/2015 dated 4th January 2016.

The BESS (Built Environment Sustainability Scorecard) has been used to quantify all sustainable design criteria, with the exception of building materials. BESS is a new online sustainability assessment tool purpose built for sustainable design assessment in the planning process. This SMP summarises the sustainable design initiatives being incorporated in the proposed development and benchmarks them against industry best practice. The following table provides a summary of the BESS assessment targets and results for this project.

Categories	Minimum required	Category score	Overall Weighting	Compliance Achieved?
Management	-	80%	6%	YES
Energy	50%	50%	11%	YES
Water	50%	50%	2%	YES
Stormwater	100%	100%	14%	YES
Indoor Environment Quality (IEQ)	50%	66%	12%	YES
Transport	-	0%	0%	YES
Waste Management	-	42%	2%	YES
Urban Ecology	-	12%	0%	YES
Innovation	-	0%	0%	YES
Overall BESS Score	50%	-	50%	YES

Based on the above results, the proposed development achieves a minimum passing score for all categories under the BESS assessment.

The BESS tool is based on the Banyule City Council's ESD policy outlined in Clause 22.05 of Banyule Planning Scheme. The above BESS output score shows that the proposed project has addressed all objectives listed under the Clause 22.05. As such this SMP satisfies the condition no. 3 listed in the planning application RFI no.. P1260/2015 dated 4th January 2016.

Key sustainable design strategies considered in the development include:

- High performance building fabric with good levels of insulation
- Minimum 10% improvement over NCC 2015 Section J compliance for energy consumption
- Energy efficient LED lighting design
- Gas instantaneous water heaters for domestic hot water
- Installing efficient water fittings and fixtures to minimise water consumption
- 22.5m² of in ground 300mm deep rain gardens for stormwater treatment
- Target 60% construction & demolition waste recycling
- High degree of natural light penetration and effective shading to reduce summer solar radiation
- Low VOC paints, sealants and adhesives

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2.0 The Project

The proposed retail supermarket (Class 6) located at Turnham Avenue, Rosanna covered by this SMP consists of approximately 2305m² of nominated floor area on 4320m² of site. The following image indicates the location of the site.



Fig 1. – Site aerial photograph

2.1 Assessment and Documentation

The responsible local authority of the proposed development is City of Banyule. In addition to the BESS online tool we have used Melbourne STORM calculator to support the assessment. The report is based on the following items.

- Drawings set and landscape plan issued to our office on 25th February 2016.
- Discussions and email correspondences with the Woolworths, McCabe architects and City of Banyule.
- Town planning RFI no P1260/2015 dated 4th January 2016.

2.2 Planning permit expectations and our approach

There is an expectation from City of Banyule that an SMP should be submitted for town planning proposals of more than 500m² of construction on single site. The Council RFI condition no. 3 also mention about the Banyule City Council's ESD policy outlined in Clause 22.05 of Banyule Planning Scheme.

To quantify the project's sustainability performance against an industry benchmark, this report uses the Built Environment Sustainability Scorecard (BESS), recently released by CASBE to support the Sustainable Design Assessment in the Planning Process (SDAPP) program. The BESS tool is based on the Banyule City Council's ESD policy outlined in Clause 22.05 of Banyule Planning Scheme and it address all objectives listed in the policy.

BESS assesses overall environmental sustainability performance of building projects. It was created to assist builders and developers to demonstrate that they meet sustainability best practice standards as part of planning permit applications. BESS replaces the old SDS tool for non-residential buildings, originally developed by Port Phillip City Council.

As part of the BESS assessment, we have used Design Builder software to carry out the JV3 assessment and Melbourne Water's STORM calculator to assess storm water impact. Results from both Design Builder and STORM were entered into BESS to support the assessment.

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2.3 Sustainability Categories

This SMP addresses the 10 sustainability categories in line with the requirements of the Sustainable Design Assessment in the Planning Process (SDAPP) scheme, noted in the table below.

	SDAPP ESD Categories	Benchmark
1	Energy Efficiency	BESS (mandatory 50%)
2	Water Efficiency	BESS (mandatory 50%)
3	Stormwater Management	BESS (mandatory 100%)
4	Indoor Environment Quality (IEQ)	BESS (mandatory 50%)
5	Waste Management	BESS
6	Transport	BESS
7	Innovation	BESS
8	Construction & Building Management	BESS
9	Urban Ecology	BESS
10	Building Materials	Industry best practice

For this assessment, categories 1 to 9 have been assessed using BESS tool while the 10th category, building material, has been assessed against industry best practice standards. The above SDAPP categories are also in line with the Banyule Planning Scheme and BESS addresses ESD categories above and beyond the Banyule Planning Scheme.

As noted above, the BESS tool sets out minimum standards to achieve compliance for the four major categories:

- Energy
- Water
- Stormwater (100%)
- Indoor Environment Quality (IEQ)

To comply, the building must achieve a minimum score of 50% in each above listed category.



Management



Energy



Water



Stormwater



IEQ



Transport



Waste



Urban Ecology



Innovation

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3.0 Sustainable Design Assessment

3.1 Management

The following items describe relating to building management that this project has committed to. These are recognized by the BESS tool as leading to improved environmental sustainability outcomes.

BESS Credit	Management Initiatives	Responsibility
2.1	An ESD professional has been engaged to provide sustainability advice from schematic design to construction. The ESD professional has been in contact with the council for ESD related issues.	ESD Consultant
2.4	Preliminary Section J – JV3 assessment has been carried out to estimate the energy consumption of the building.	
Final Management Score		80%

3.2 Energy Efficiency

Below is a summary of the energy efficiency features & specification for the building. Generally, the strategy includes high efficiency building services and passive design features that contribute to low energy consumption for thermal comfort. Additionally building fabric and glazing exceeds minimum NCC 2015 Section J compliance by 10%.

BESS Credit	Energy Efficiency Features	Responsibility
1.2	Maximum illumination power density (W/m2) in at least 90% of the shop area at least 20% lower than required by table J6.2a of the NCC BCA (2013) Volume 1 Section J. Motion sensors installed to control external lighting and Carbon Monoxide monitoring sensor to basement carparks to control operation and speed of ventilation fans. Gas instantaneous hot water system servicing shop and staff room.	Builder
	Preliminary energy modelling were completed for the proposed building. The following material thermal specification for the building envelope was used: - Min R2.0 insulation to external walls - Sealed exhaust fans with self-closing damper - Sealed and capped downlights to allow closely fitting insulation - Min R1.8 insulation to roof facing down wards. Metal roof colour solar absorptance to be 0.7 - Standard Aluminium clear double glazed windows: Total U value = 4.2 and System SHGC = 0.6 +10%	ESD Consultant Builder
Final Energy Score		50%

Preliminary Energy Modelling:

The proposed supermarket has achieved a 29% improvement over the NCC 2015 Section J compliance for building fabric, external glazing and building sealing via JV3 alternative compliance path. We have carried out the preliminary energy consumption using Design Builder and the findings are as per below.

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Annual modelled energy consumption	Reference Building	Proposed Building
	(kWh per annum)	(kWh per annum)
Unitary Cooling	4,210	4,645
Unitary Heating	32,383	28,337
Lighting	44,486.5	24,912.44
Total energy consumption	81,079	57,894
Energy consumption reduction from Reference Building		29 % reduction in energy consumption

3.3 Water Efficiency

The BESS result for mains water use is 50%, which meets the minimum required score in this category. The following is a summary of the water efficiency features that lead to this result.

BESS Credit	Water Efficiency Features	Responsibility
1.1	To ensure the efficient use of water and thereby reduce total operating potable water use, fixtures & fittings will have high efficiency WELS ratings for staff usage:	Builder
	- 3 star rated WELS shower (7.5 - 9.0 L/min)	
	- 4 star rated WELS toilets	
4.1	- 5 star rated WELS kitchen & bathroom taps	
	Fire system testing water to be recycled or treated.	
Final Water Score		50%

3.4 Stormwater Management

Melbourne water has developed the STORM calculator to provide an assessment of the rainwater/stormwater treatment methods and design score in %. This calculator assesses quality and quantity of the stormwater runoff from the development. In this instance, an onsite stormwater retention system will be installed to reduce the impact on the local council's stormwater pit. The (STORM) calculator was used to confirm compliance with the BESS protocol with results being entered into the BESS calculator.

Based on the assumptions in this report, the project achieves a 100% STORM score in this category through the use of the 22.5m² of 300 mm deep raingardens at the lowest point of the site (see below image). The following information was entered into the STORM calculator:

Surface	Area [m ²]	Stormwater Treatment	Responsibility
Roof area draining to raingarden	2470.00	22.5m ² of 300mm deep raingarden	Builder
Hard surface (car park)	1376.00		
Final STORM rating:		100%	

Raingarden can be Enviss Pits™ – permeable pavers. Enviss Pits™ will act as a 300mm deep raingarden. More information can be find here - <http://www.enviss.com.au/sentinel-pits/>

Rain garden system maintenance plan

1. Filter media should be inspected every 3 months and after significant storm events for sediment build up at inflow and outlet points. Holes that appear in the filter media (or other signs of erosion in preferential flow paths) should be filled.

2. Plants should be assessed for diseases, pest infection and overall health. Between 6 and 10 plants per square meter is recommended. Weeds should be identified and removed. Pruning and watering of plants (especially during establishment phase) may also be required.

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3. Full inspection should be carried out one year after construction and then annually. As part of a full inspection a flow test should be undertaken to check that the underdrain of the garden is functioning correctly.

Please note that the below is only a proposal and will be subject to the final drainage/civil/hydraulic design and location of the legal point of stormwater discharge. The full civil and hydraulic design and drainage plan will be carried out by the Engineering Consultants at the design development phase.

The result of the stormwater assessment and location of 22.5m² of raingarden is as per below:

Melbourne Water STORM Rating Report

TransactionID: 313367
 Municipality: BANYULE
 Rainfall Station: BANYULE
 Address: Turnham Avn
 Rosanna
 VIC 3084
 Assessor:
 Development Type: Commercial/Retail
 Allotment Site (m2): 4,320.00
 STORM Rating %: 100

Description	Impervious Area (m2)	Treatment Type	Treatment Area/Volume (m2 or L)	Occupants / Number Of Bedrooms	Treatment %	Tank Water Supply Reliability (%)
Roof	2,470.00	Raingarden 300mm	12.50	0	95.00	0.00
Open Car Park Area 2	1,376.00	Raingarden 300mm	10.00	0	109.00	0.00

Fig 2. STORM assessment calculator

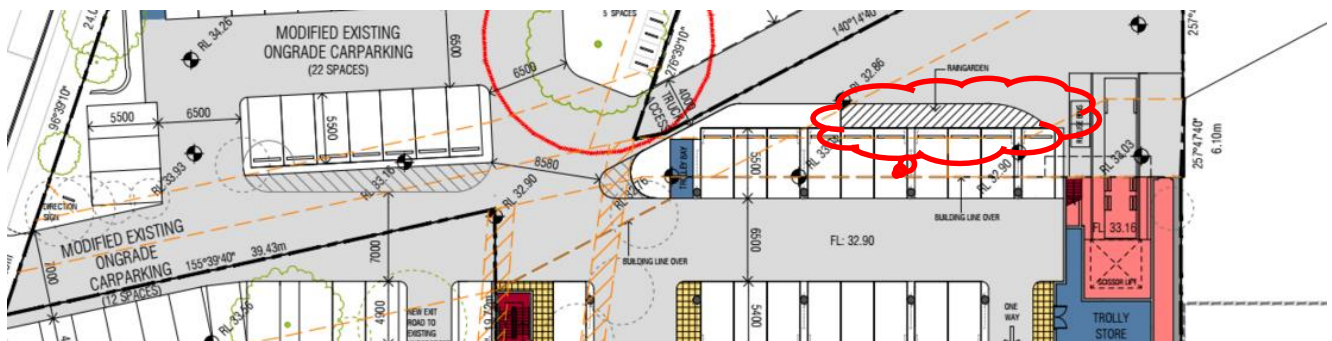


Fig 3. Raingardens

3.5 Indoor Environment Quality

This credit assess the degree of health and amenity will be provided for the continued wellbeing of the occupants. The above credit requires a mandatory minimum score of 50% in order to comply with the BESS tool. To achieve the required 50% score for non-commercial developments there is a single, stringent requirement of achieving a daylight factor of 2% for at least 60% of the net floor area of the building. As per our daylight calculations, only 20% of the floor area currently achieves a daylight factor of 2.

In order to comply with BESS requirements and achieve a minimum daylight factor of 2 for an additional 40% of the floor area, changes to the building would be needed. Either a large amount of skylights have to be installed (approx. 38m²), or curtain glazing would be needed to additional facades. Both of these options will drastically increase the heating/cooling loads and plant size. These options will led to a reduced performance against

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minimum NCC Section J energy efficiency requirements, and therefore reduce the BESS energy score. We consider this is contrary to the aims of the BESS tool.

We note that the requirement to achieve a 2% daylight factor for 60% of net floor would achieve maximum points under Green Star for an office, and therefore should not be considered a practical minimum standard for a supermarket. Hence, we suggest to consider the following IEQ initiatives which are equivalent to bringing an additional 40% of the floor areas with a minimum daylight factor of 2.

- 6m of floor to ceiling height for super market and 5m for office/staff room.
- High performance single glazing or standard clear double glazing for the thermal comfort
- 20% of floor area receive at least 3 hours of direct sunlight between 9am and 3pm in mid-winter.
- Volatile Organic Compounds (VOC) and formaldehyde emissions from selected internal materials and products will affect indoor air quality. The following VOC level shall be specified in during the tender documents
 - a) Paints – Interior < 30g/L VOC and Exterior < 90g/L VOC
 - b) MDF, Particleboard and Plywood shall be minimum E1 boards
 - c) Adhesives and sealants with maximum of VOC content of 5%
- All feature timber to be recycled or from plantations or FSE certified
- Use of durable and non-toxic materials for external façade

These initiatives are not specifically considered within the BESS tool however we consider they would contribute significantly to the IEQ of the proposed building. We therefore request the above items be considered to meet the intent of the IEQ component of councils SDAPP framework. As such, we have entered 60% of the nominated area as achieving at least 2% daylight factor to demonstrate meeting the intent of the minimum IEQ score requirement.

Final IEQ Score: 66%

3.6 Transport

The project includes bicycle parking for visitors and staff to the level required by the planning scheme. Details of the number of bicycle parking spaces required are shown below.

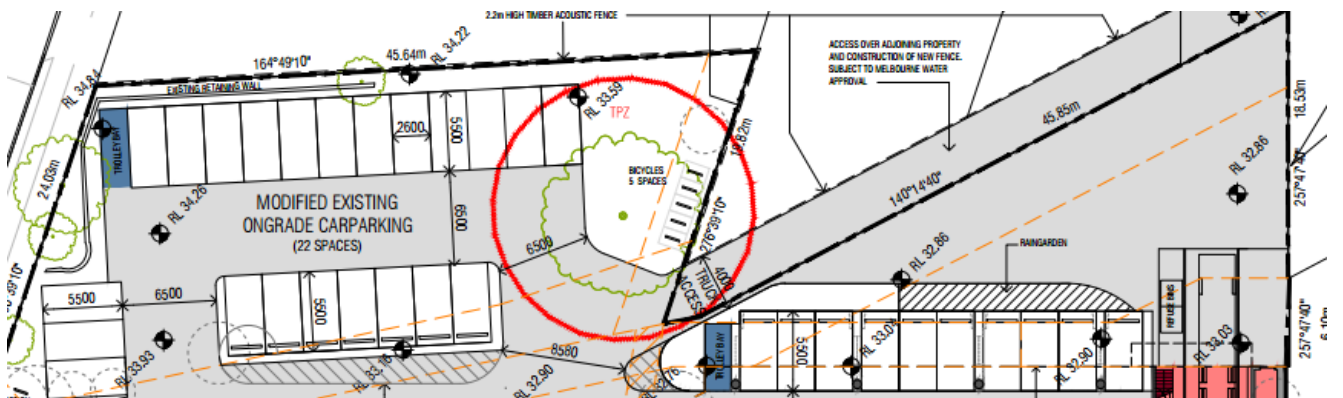


Fig 4. Bicycle parking details

As transport is not a mandatory item in the BESS assessment, on this occasion due to the nature of the development and the demographic of the residents, no best practice credits were targeted.

BESS Credit	Transport Items	Responsibility
1.1	Bicycle parking will be provided to the level stipulated in the planning scheme. However given the nature of the development and demographic of the visitors, additional bicycle parking is not practical.	Builder

Final Transport Score

0%

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3.7 Waste

The project provides a bin space for the supermarket. The bin area is located on the ground floor. The table below outlines the items that contribute to the BESS score of 42%.

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BESS Credit	Waste Management Features	Responsibility
1	60% of construction & demolition waste to be diverted from landfill to recycling. Main waste contractor to be signed on to this target as a contractual requirement.	Builder and Waste Contractor.
2.2	To minimise the avoidance of using recycling, and ensure a reduction in waste to landfill, the project has provided operational recycling facilities that are as convenient as the waste facilities provided. This along with appropriate signage will encourage users to use the recycling stream when appropriate.	Builder
Final Waste Management Score		42%

3.8 Urban Ecology

BESS Credit	Urban Ecology Items	Responsibility
2.1	Approximately 10% of the ground area will be covered with vegetation as per the proposed landscaping plan.	Builder
Final Urban Ecology Score		12%

3.9 Innovation

No innovation items have been included in the proposed development.

3.10 Building Materials

BESS does not include a category dealing with sustainable building materials. As such, the project has reverted to the previous benchmark which was the STEPS tool. The following material specification achieves the minimum score under STEPS:

- Highly durable concrete floor slabs
- Highly durable and low maintenance tilt-concrete wall construction
- Steel framed partition & parti walls
- Aluminium framed windows
- Metal deck roof

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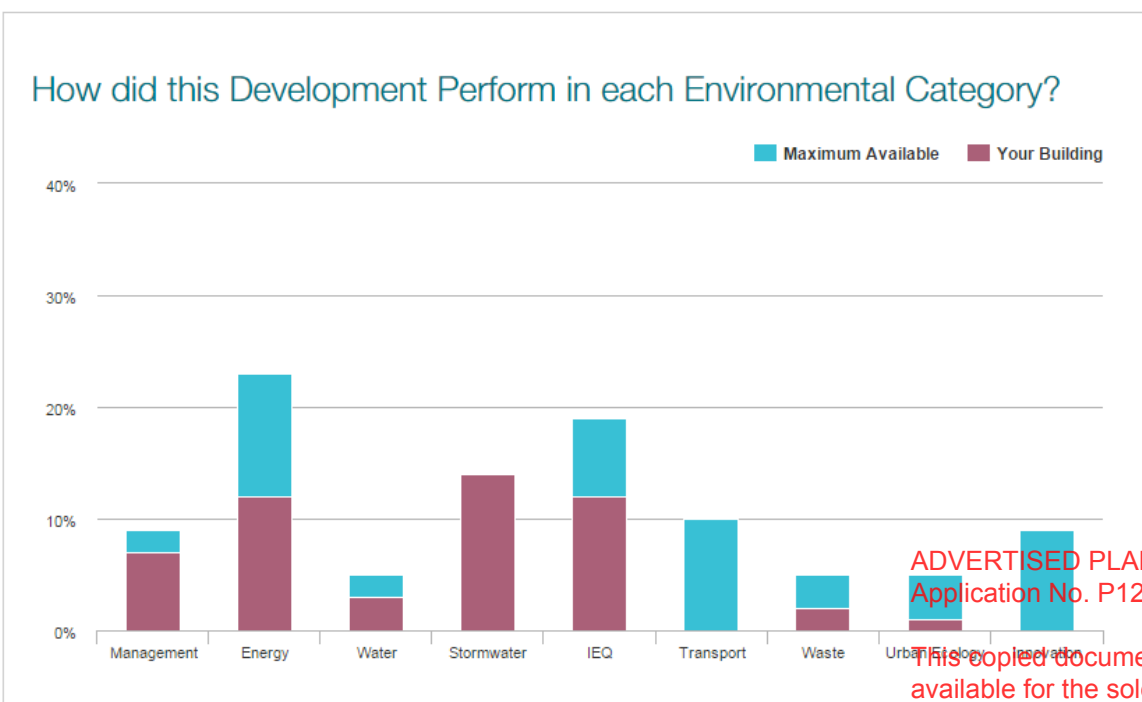
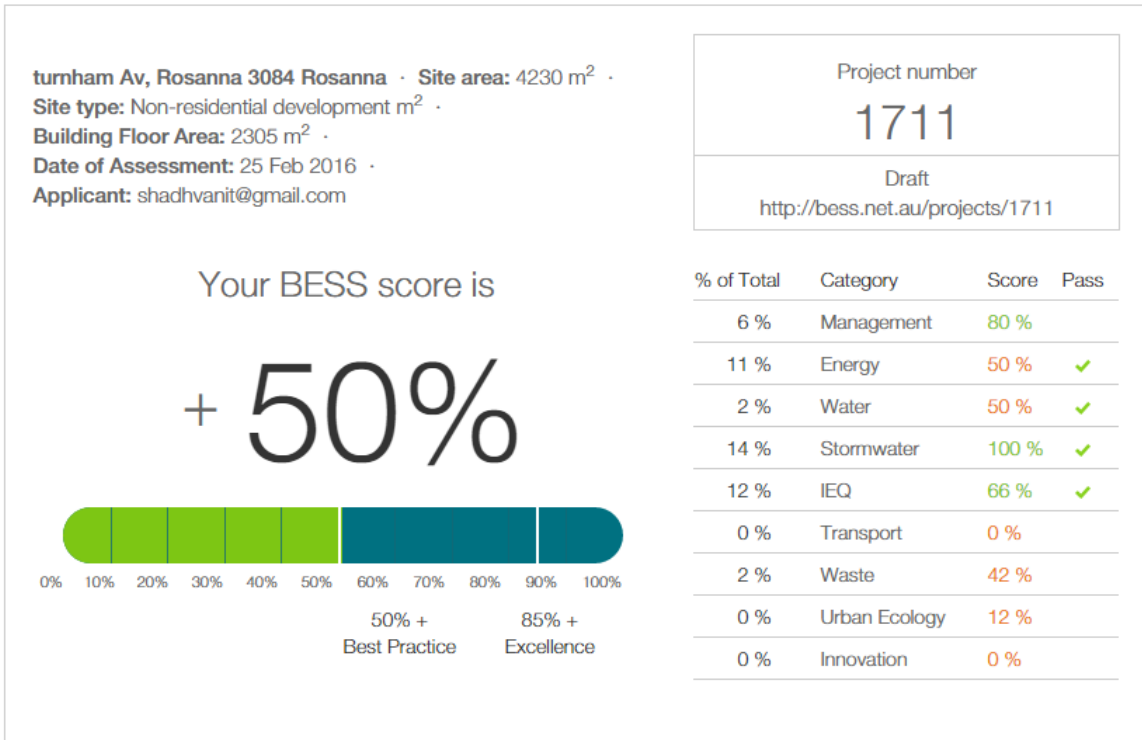
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4.0 Conclusion

The proposed development achieves all the minimum requirements under BESS, the new industry ESD best practice benchmark, achieving a rating of 50%. For items not covered by BESS, performance was shown to be in line with industry best practice.

The below BESS output score shows that the proposed project has addressed all objectives listed under the Clause 22.05 of Banyule Planning Scheme. As such this SMP satisfies the condition no. 3 listed in the planning application RFI no. P1260/2015 dated 4th January 2016.

The BESS score has been summarised below:



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Green Travel Plan

Reference: SH75839

Date: 2 March 2016

Assessment of:

Woolworths Development
Turnham Avenue
Rosanna, Victoria 3084

Responsible authority:

Banyule City Council

Report commissioned by:

Fabcot Pty Ltd

Contact:

Jeremy Miller

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Job title	Woolworths Turnham Avenue		SH reference: 75839	
Document title	Green Travel Plan		File reference: R:\...\75839\reports	
File Name	GTP_Woolworths Turnham Avenue_SH75839			
Revision	Date	Description:	First draft	
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2 (Final)	02/03/2016	Prepared by JM	Checked by NL	Approved by DS

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Executive Summary

Sustainability House was engaged by Fabcot Pty Ltd to produce a Green Travel Plan (GTP) for the development of a Woolworths Supermarket to be located at Woolworths Development Turnham Avenue, Rosanna. The redevelopment is located in Banyule City Council, and for developments of this nature a GTP is required to demonstrate a commitment to encouraging sustainable transport initiatives.

In preparing this GTP, the subject site and its immediate environment have been examined and the locality surveyed to take account of green travel options available to staff and visitors to the site.



Aerial of site

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Aim of the Green Travel Plan

The objective of this GTP is to reduce carbon emission, reduce the impact of noise and air pollution and encourage healthy lifestyle choice through the provision of transport alternatives for both workers and visitors to the site.

The Woolworths supermarket should be designed and managed to encourage cycling, walking, car share, and public transport access by offering incentives and providing greater ease of use for those accessing the site by these transport modes.

Targets, Actions and Monitoring are included to further inform the on-going implementation and adoption of sustainable transport initiatives.

Targets

The target of this GTP is to reduce reliance on the private automobile for transport to and from the redeveloped supermarket site.

The target commuters are:

- Staff employed at the site
- Visitors to the site (shoppers)

Actions

Each of the sections in this Green Travel Plan has accompanying actions. Consideration will need to be given as to how these actions are implemented and outcomes tracked in order to measure the success and impact of the Green Travel Plan on travel behaviors.

The work sheet in Appendix 1 is designed to allow project developers, facility managers and site staff to understand actions that can be initiated to progress outcomes associated with this Green Travel Plan.

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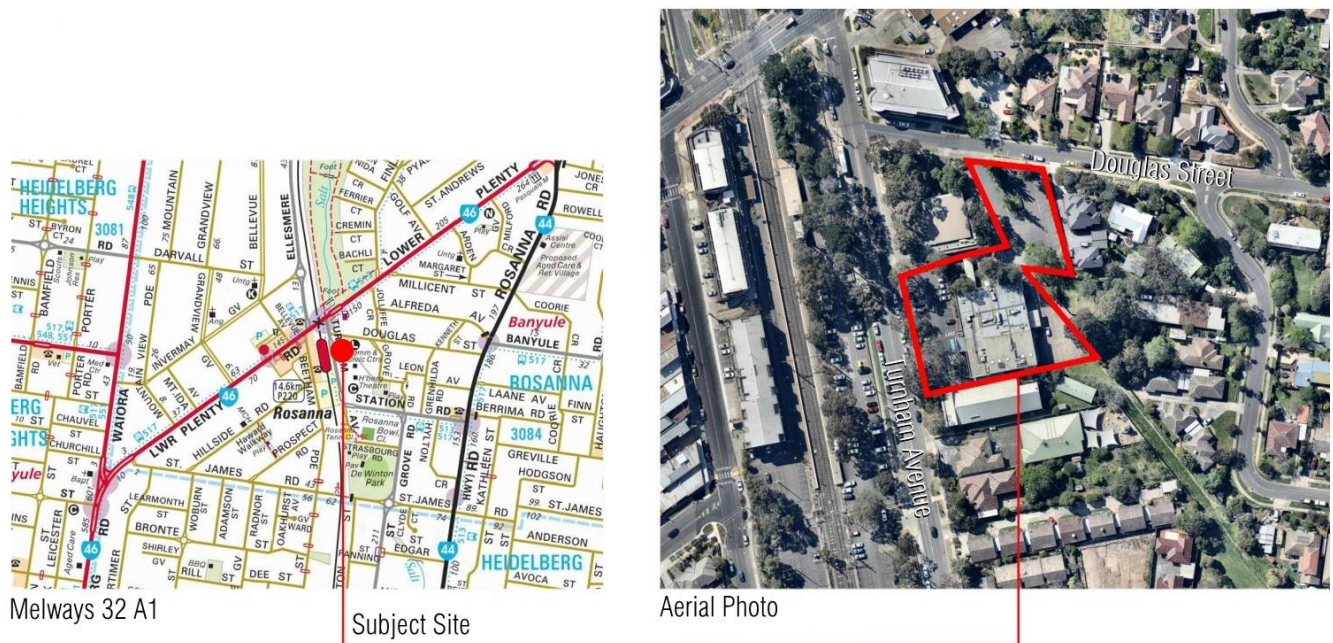
Background and Existing Conditions

Location and Land Use

The site is located at Turnham Avenue, Rosanna. It is a large, odd shaped parcel of land (site area ~ 4320m²) bounded by Turnham Avenue and Douglas Street.

Most notable in relation to this Green Travel Plan is the proximity of the Rosanna Station only 50m from the site. The area around Rosanna Station, particularly Beetham Parade, has developed as a mixed-use commercial and residential zone and the inclusion of the supermarket has the potential to further enhance this activity centre providing opportunity for local residents and rail commuters to undertake their shopping without necessarily resorting to using a motor car.

Figure 1 – Subject site from architects plans



Proposed Transport Initiatives to Site

The redevelopment will include:

- undercroft car parking for 64 vehicles,
- at grade parking for a further 34 vehicles,
- at grade bicycle lock up rails for 9 bicycles in total

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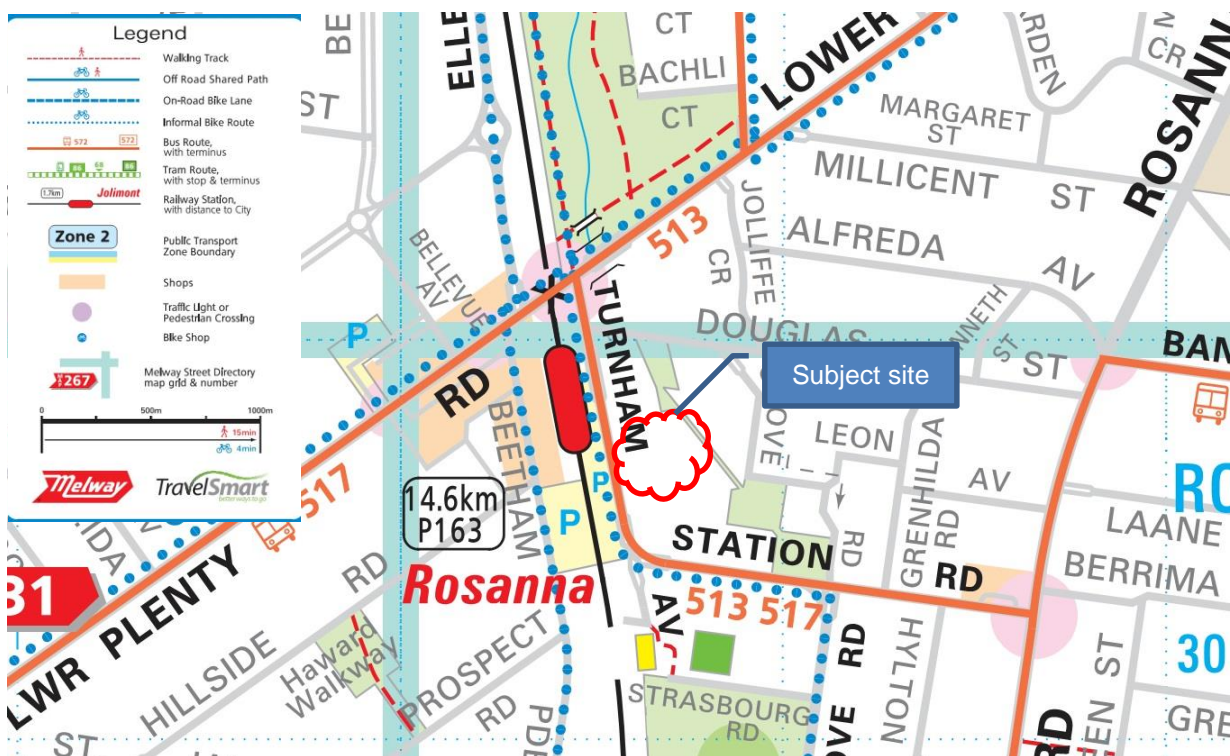
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The site location exhibits good pedestrian access with a relatively high 'Walk score' achieved (see below). The site development will need to capitalize on this by providing high quality paths and cross overs from the public realm to provide easy pedestrian traffic access and connectivity to the greater neighborhood.

Travel Smart

The Banyule Travel Smart map illustrates access to multi-modal transport choice with bus, train and bicycle networks all in close proximity.

Figure 2 - Banyule Travel Smart Map (excerpt) showing site location



Walking

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The site's location has been assessed using the "Walkscore" locational performance tool <https://www.walkscore.com/about.shtml>. This tool takes into account the number of facilities within close proximity and provides a numerical score between 0 and 100. A development with a score 0 would be heavily car dependent and 100 would indicate that numerous facilities are easily accessible. This development achieved a "Very Walkable" rating of 83 out of 100.

Walkability – Turnham Avenue, Rosanna

Walkscore = 83 Very Walkable

This equates to:

Turnham Avenue has a Walk Score of 83 out of 100. This location is Very Walkable so most errands can be accomplished on foot.

This location is in the Rosanna neighbourhood in Melbourne. Nearby parks include Rosanna Parklands, Shelley Reserve and Remembrance Park

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Figure 3 - Walk score result

Turnham Avenue

Rosanna, Melbourne, 3084

Commute to **Downtown Melbourne**

29 min 57 min 60+ min [View Routes](#)

Favorite Map Nearby Apartments

Walk Score
83

Very Walkable
Most errands can be accomplished on foot.

[About your score](#)

[Add scores to your site](#)

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Figure 4 - Walk score details



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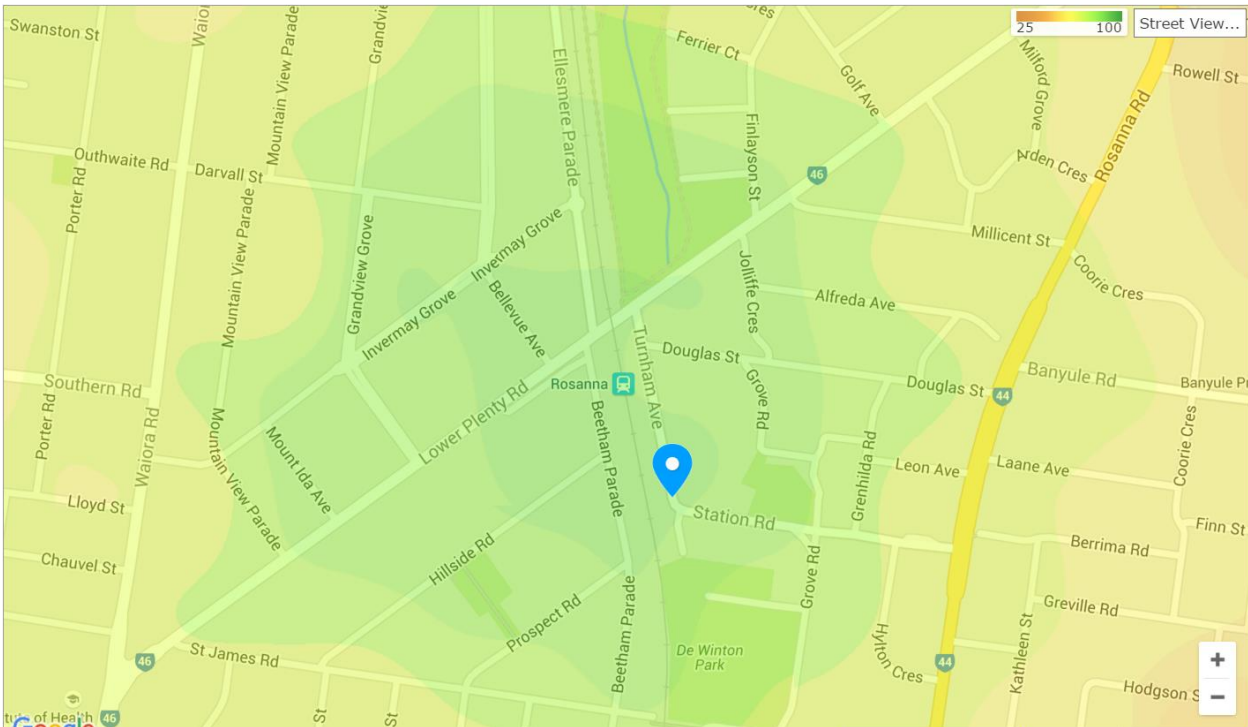
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Walkscore heat map

Walkscore produces a 'heat map' showing the walkability score overlaid on Google Maps (25 being least walkable and 100 being most walkable). The development can be seen to sit within an area of highly walkability – a factor that contributes to the overall score.

Figure 5 - Walk score Heat Map showing Walkability Index for greater site



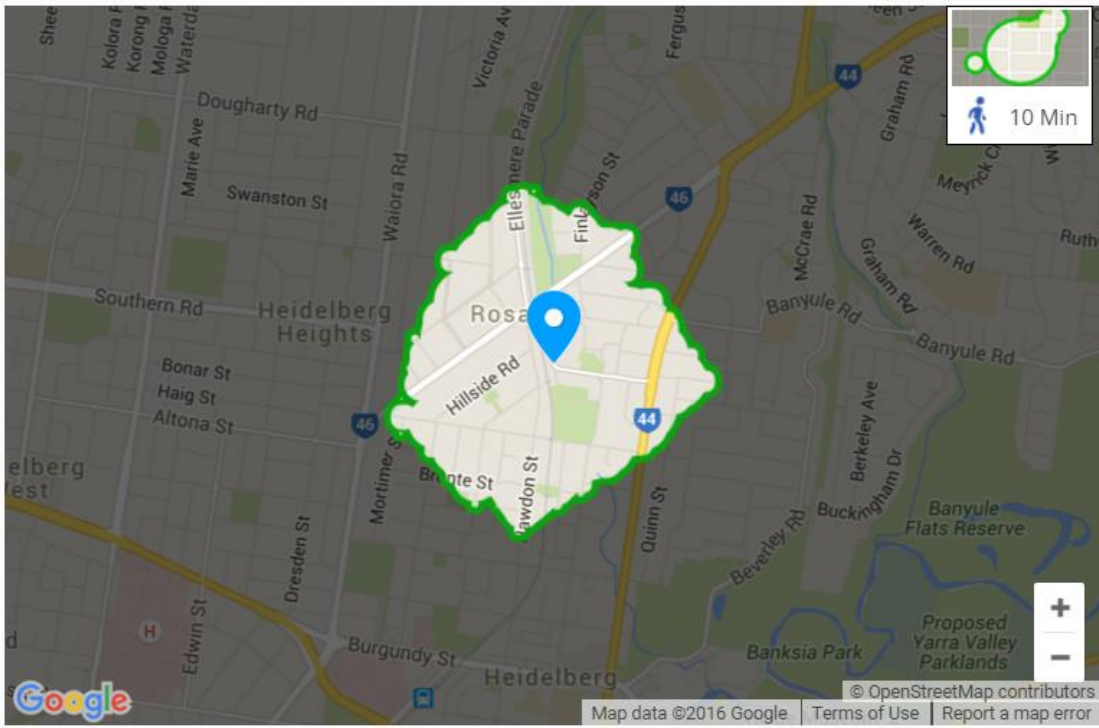
Walkscore was also used to produce a travel time map which shows the distance that an average person could cover in 10 minutes to access the site. It is recommended that this information is used to publicize walking to site for both employees and visitors to the site.

Figure 6 – Walking travel time - Walk score 10 min travel time by foot

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Bicycle Network Access

A number of informal bicycle routes run adjacent to site, recommended by the Banyule Travel Smart map. These provide access and connectivity to the site:

- Turnham Avenue (providing connectivity to north and south of the site and connecting up with Station Road, Grove Road to the south and Lower Plenty Road, Ellesmere Parade and the Salt Creek trail to the north)
- Lower Plenty Road (providing connectivity east / west to Upper Heidelberg / Waiora Road, and the Creekbend Reserve trail network which provides further connectivity to dedicated off-road paths.)

End of Trip facilities

The development has bicycle end of trip facilities.

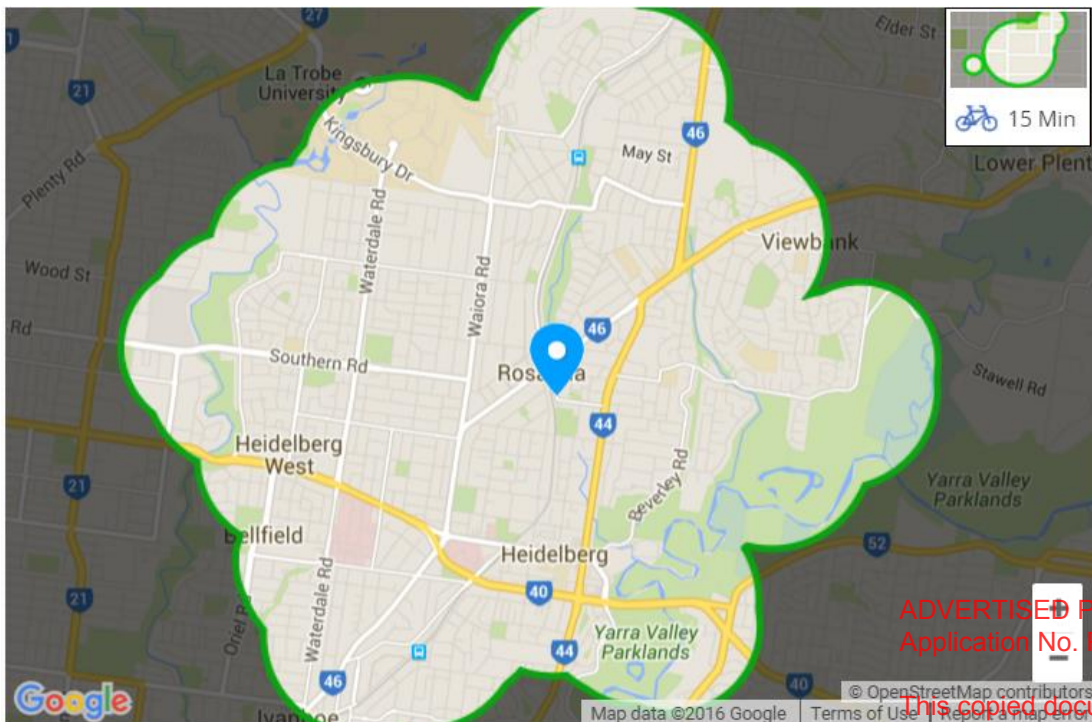
For Customers

- 9 currently provided as per the planning scheme

Bicycle travel time using the 'Walk score' tool was also assessed. <https://www.walkscore.com/about.shtml> .

Walkscore was also used to produce a travel time map which shows the distance that an average person could cover in 15 minutes to access the site. It is recommended that this information is used to publicize cycling to site for both employees and customers to the site.

Figure 8 – Bicycle travel time - Walk score cycling travel time map



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Figure 9 - Walk score Bike Score details

Scores for Turnham Avenue



Walk Score	Transit Score	Bike Score
Bike Score measures whether an area is good for biking based on bike lanes and trails, hills, road connectivity, and destinations.		
90-100	Biker's Paradise	Daily errands can be accomplished on a bike
70-89	Very Bikeable	Biking is convenient for most trips
50-69	Bikeable	Some bike infrastructure
0-49	Somewhat Bikeable	Minimal bike infrastructure

Public Transport

The site has very good access to public transport with two bus routes passing the site via Turnham Avenue and the Rosanna railway station immediately adjacent to the site.

Further information on public transport access and timetables and route maps can be found at the Public Transport Victoria website.

<http://ptv.vic.gov.au/>

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Figure 10 - Summary of public transport servicing the site

Service	Route No's	Route Description	Nearest Stop
Train	Hurstbridge line	City to Hurstbridge	Rosanna
Bus	513	Eltham – Glenroy via Lower Plenty	Rosanna Railway Station/Turnham Ave
	517	Northland – St Helena via Viewbank, Greensborough	Rosanna Railway Station/Turnham Ave

Figure 11 – Transit Score - Walk score result - Transit

Scores for Turnham Avenue



Walk Score	Transit Score	Bike Score
<p>Transit Score measures how well a location is served by public transit based on the distance and type of nearby transit lines.</p> <ul style="list-style-type: none"> 90–100 Rider's Paradise World-class public transportation 70–89 Excellent Transit Transit is convenient for most trips 50–69 Good Transit Many nearby public transportation options 25–49 Some Transit A few nearby public transportation options 0–24 Minimal Transit It is possible to get on a bus 		

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Appendix 1: Green Travel Plan actions worksheet

Use this worksheet to allocate tasks and responsibilities against the actions in this Green Travel Plan. It is important that records are maintained so that reporting on the success of the initiatives outlined below can be accounted for.

Walking

Action	Timeline	By Whom
Ensure that cross over from site to public realm is clear and legible		
Negotiate with local council to ensure access is clear and high quality		
Upgrade foot paths where necessary		
Ensure that during construction phase pedestrian access is not compromised by site works		

Cycling

Action	Timeline	By Whom
Encourage commitment to cycling to work days / work place cycling challenge programs		
Publicise existing 'Travel Smart' map showing safe cycling routes to site		
Investigate establishing workplace Bicycle User Group (BUG)		

End of Trip Facilities

Action	Timeline	By Whom
Ensure that lock-up facility has lockers for storing clothes etc and that showers are provided for staff only		
Encourage staff to cycle to work by promoting workplace bicycle lock-up facility		
Have prominent and convenient end-of-trip facilities for shoppers		

Car Parking

Action	Timeline	By Whom
Ensure that priority users are identified and appropriate parking allocated, eg: disabled parking spaces, prams, etc		

Management

Action	Timeline	By Whom
Include information on Green Travel in induction manuals for new staff where possible		

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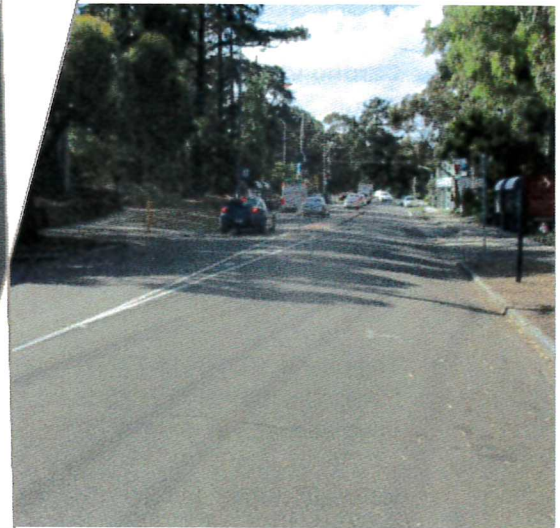
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Traffic and Transport Assessment

Rosanna Woolworths

CG150969



Prepared for
Woolworths Limited

8 December 2015



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Document Control

Version	Date	Author	Author Initials	Reviewer	Reviewer Initials
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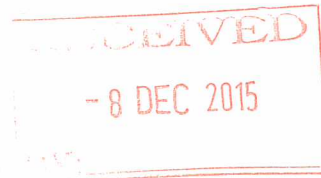
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1 Introduction

Cardno was retained by Woolworths Limited to undertake a traffic and transport assessment of the proposed supermarket development at 44 Turnham Avenue, Rosanna.

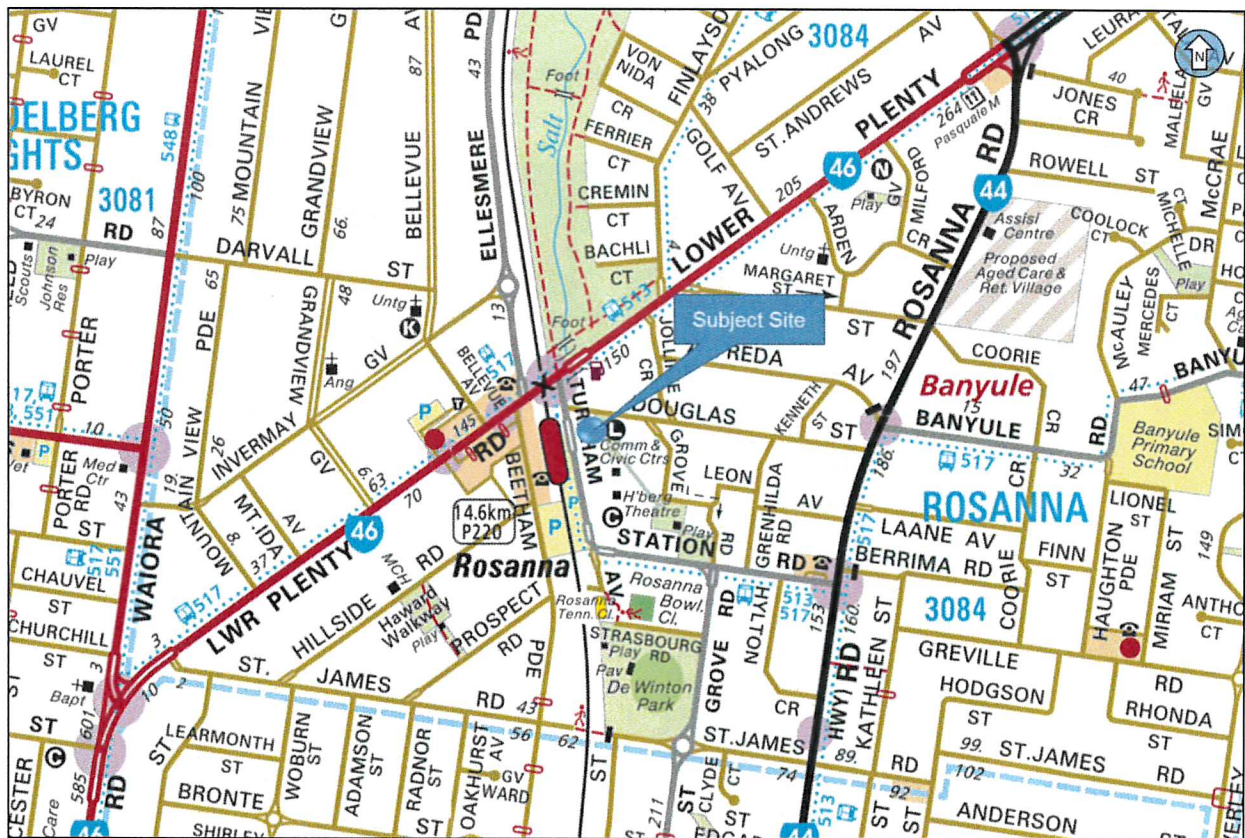
In the course of preparing this assessment, the subject site and its environs have been inspected, plans of the development examined, and all relevant traffic and parking data collected and analysed.

2 Background and Existing Conditions

2.1 Location and Land Use

The subject site makes up part of the site at 44 Turnham Avenue, Rosanna, near the intersection of Turnham Avenue and Douglas Street, as shown in Figure 2-1.

Figure 2-1 Site Location



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The subject site is irregular in shape with frontages to Douglas Street and Turnham Avenue of approximately 70m and 100m, respectively.

The overall site comprises the Rosanna Library in the north-west corner and an office building in the south, which is tenanted by the City of Banyule. At-grade car parks are provided on the site in the north-east corner, the south-west corner and also gravel parking area in the south-east corner.

The subject area of the site to be redeveloped includes the office building and south-west corner car park, and does not include the library.

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Land use surrounding the site is generally a mix of commercial premises and residential dwellings. The Heidelberg Theatre Company abuts the site to the south, and a childcare centre is further south. Of particular note, Rosanna Train Station is located on the opposite side of Turnham Avenue to the subject site.

2.2 Existing Parking and Access

The north-east parking area and crushed rock parking area in the south-east corner of the site are accessed via a crossover to Douglas Street, approximately midway along the frontage of the overall site. The north-east car park provides for 38 parking spaces (plus four unmarked spaces) which are restricted as 'No Standing 8am-5pm, Monday-Friday, Permit holders excepted'. The gravel car park at the rear of the Council office building provides for approximately 17 parking spaces which are restricted as 'No Standing 8am-5pm, Monday-Friday, Council vehicles excepted'. There is also a loading area within the gravel car park at the rear of the Council office building.

The at-grade car park in the south-west corner of the site, at the frontage of the Council office building, is accessed via two crossovers to Turnham Avenue, the northern one providing for inbound movements and the southern one providing for outbound movements. This car parking area provides for 27 spaces which is comprised of 23 spaces restricted as 2P (8am-5pm, Monday-Friday), two spaces restricted as 1/4P and two spaces for people with disabilities.

There is also an undercover parking area provided for the library which is accessed via a separate crossover to Douglas Street. This area provides for 17 parking spaces which are for 'Permit Vehicles Only' and have access restricted via a sliding gate and card reader.

The on-site parking areas, access points and nearby uses are shown in Figure 2-2.

Figure 2-2 Subject Site with Parking Areas

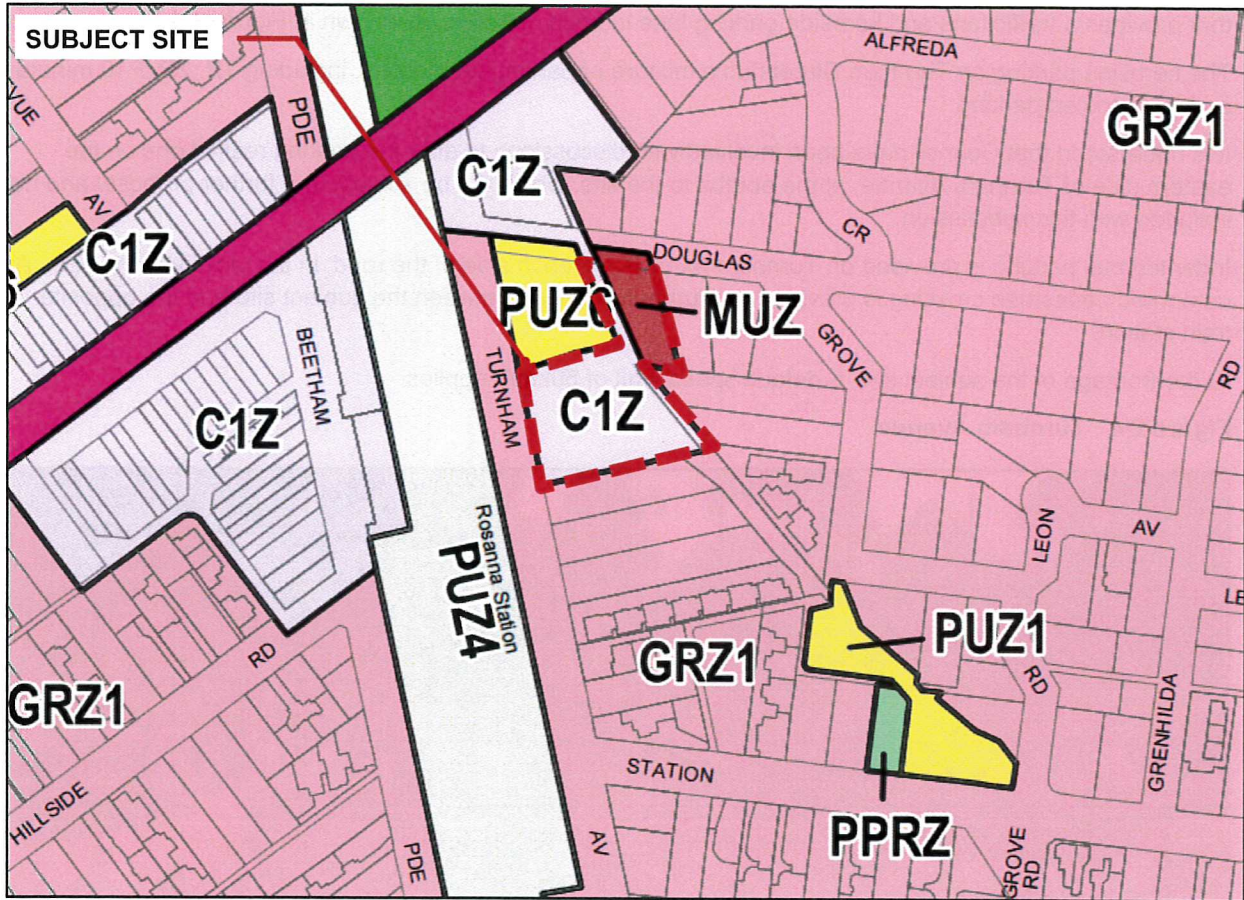


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2.3 Planning Zones

Figure 2-3 shows the location of the site and the Banyule Planning Scheme Zones which demonstrates that the subject site is located within the Commercial 1 Zone (C1Z), Mixed Use Zone (MUZ) and Public Use Zone (PUZ).

Figure 2-3 Planning Scheme Zones



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2.4 Road Network

2.4.1 Turnham Avenue

Turnham Avenue is a local road running generally north-south between Lower Plenty Road to the north and Station Road to the south.

At the frontage of the subject site, Turnham Avenue comprises an approximately 12.5 metre wide pavement that provides a traffic lane and kerbside parking lane in each direction, as shown in Figure 2-4.

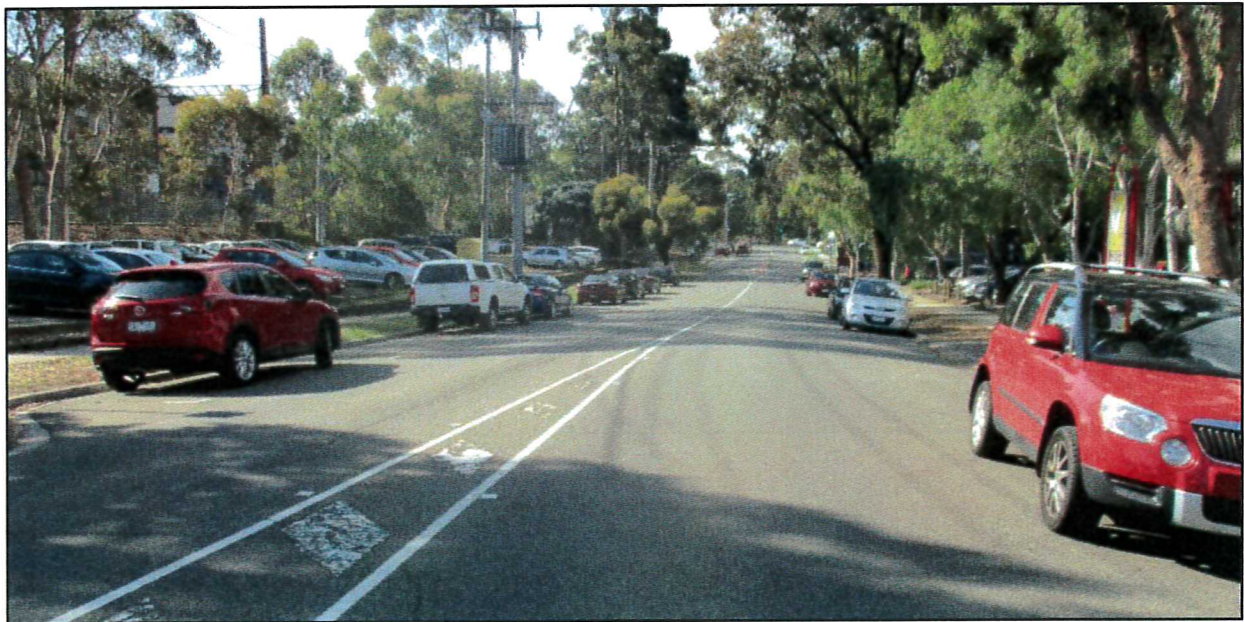
The kerbside parking on Turnham Street has a mixture of parking restrictions, including 1P, 2P, P10 minutes and unrestricted parking.

It is understood that Council have been involved with discussions to alter the parking restrictions on the eastern side of Turnham Avenue, at the abuttal to the site, which will be subject to a further proposal and not included with this submission.

Indented bus parking is provided on Turnham Avenue, on each side of the road, in the vicinity of the site. An unmarked pedestrian crossing is provided on Turnham Avenue between the subject site and the opposite train station.

At the frontage of the subject site, a default speed limit of 50km/h applies.

Figure 2-4 Turnham Avenue



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2.4.2 Douglas Street

Douglas Street is a local road running east-west between Rosanna Road to the east and Turnham Avenue to the west.

At the frontage of the subject site, Douglas Street comprises an approximately 6.5 metre wide pavement that provides a traffic lane in each direction, as shown in Figure 2-5. Kerbside parallel parking is permitted on the southern kerb of Douglas Street, east of the subject sites access and indented parallel parking is provided on a portion of the northern kerb, west of the site's access.

The kerbside parking at the frontage of the subject site is restricted as 4P 8:30am-5:30pm, Monday-Friday and 8:30am-12:30pm, Saturday.

A default speed limit of 50km/h applies.

Figure 2-5 Douglas Street



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2.5 Traffic Volumes

Turning movement counts were undertaken by Trans Traffic Surveys, on behalf of Cardno Victoria, at the intersections of both the main car park access and library undercover car park access, via Douglas Street.

The surveys were undertaken on Thursday 19th November 2015 from 2:30pm to 6:30pm.

The peak hour results of the surveys are shown in Figure 2-6 and Figure 2-7.

Figure 2-6 Existing Traffic Volumes – Douglas Street / Library Undercover Car Park

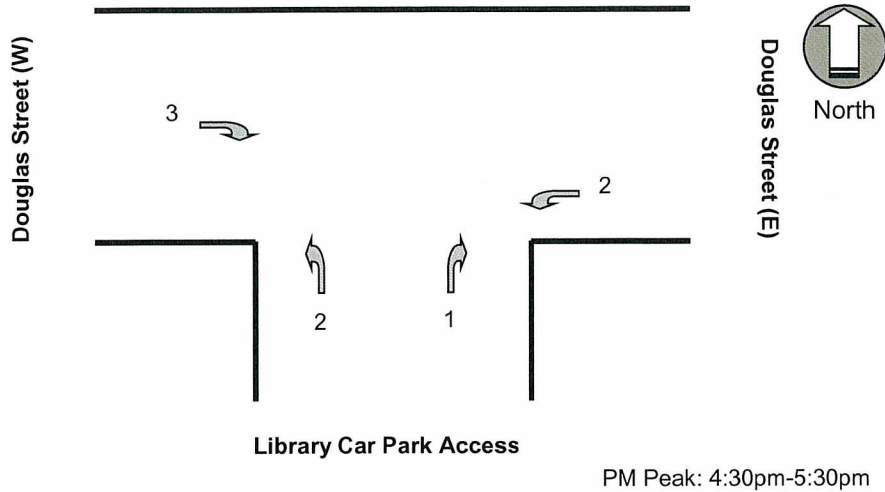
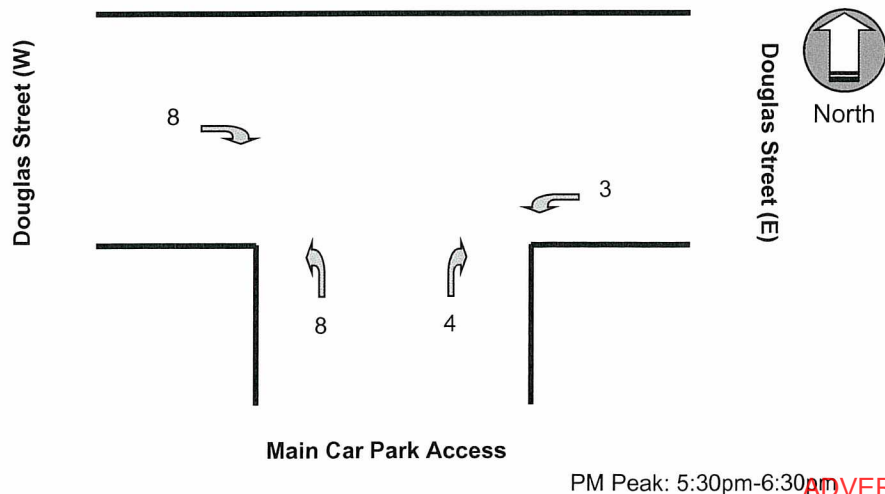


Figure 2-7 Existing Traffic Volumes – Douglas Street / Main Car Park Access



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In addition to the turning movement counts, traffic volumes on Douglas Street nearby the frontage of the site were recorded via a 7-day tube count from Thursday 19th November 2015 – Thursday 26th November 2015.

The peak hour volumes for the AM and PM peak hours and the five day 24 hour two way volumes are shown in Table 2-1.

Table 2-1 Existing Average Weekday Traffic Volumes – Douglas Street

		Direction		
		Westbound	Eastbound	Total
AM Peak Hour	- Time	8:00 – 9:00	8:00 – 9:00	8:00 – 9:00
	- Volume	56 vph	49 vph	105 vph
PM Peak Hour	- Time	5:00 – 6:00	5:00 – 6:00	5:00 – 6:00
	- Volume	63 vph	31 vph	94 vph
24 hr Volume		537 vpd	472 vpd	1,009 vpd



2.6 Car Parking

2.6.1 Parking Survey

Surveys of car parking occupancy on-site and the surrounding on-street parking supply were undertaken by Trans Traffic Surveys on behalf of Cardno, on Friday 20th November 2015 and Saturday 21st November 2015 from 2:30pm – 6:30pm on each day.

The parking surveys collected in the area included on-street parking on Turnham Avenue (between Lower Plenty Road and Station Road) and Douglas Street (between Turnham Avenue and Grove Road). The parking surveys also included counts of the parking areas within the site. The areas surveyed are shown in Figure 2-8.

Figure 2-8 Car Parking Survey Area

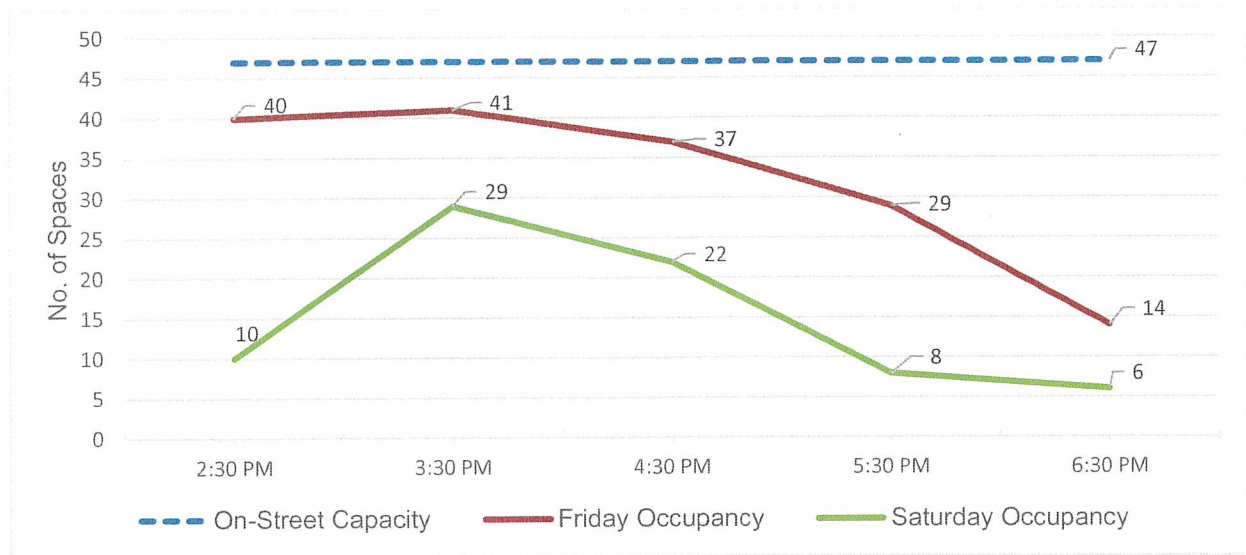


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The results of the survey for the on-street parking areas only are shown in Figure 2-9

Figure 2-9 On-Street Parking Surveys – Friday 20th November and Saturday 21st November



The on-street parking surveys identified a total capacity for 47 spaces within the survey area, which on the Friday reached a maximum occupancy of 41 spaces (3:30pm) and on the Saturday reached a maximum occupancy of 29 spaces (3:30pm).

It is noted that on the Friday surveyed, the on-site parking area was at capacity at 2:30pm and 3:30pm and it is expected that a number of vehicles parked on the street were attributed to the Council office.

It is also noted that the commuter car parks opposite the site include in the order of 150 parking spaces which typically reach capacity during the weekday business hours.

2.7 Sustainable Transport

2.7.1 Public Transport

The site has good public transport accessibility, with bus and train services located within close proximity, as shown in Figure 2-10. Specifically, the Rosanna Railway Station is located on the opposite side of Turnham Avenue and provides access to the Hurstbridge line.

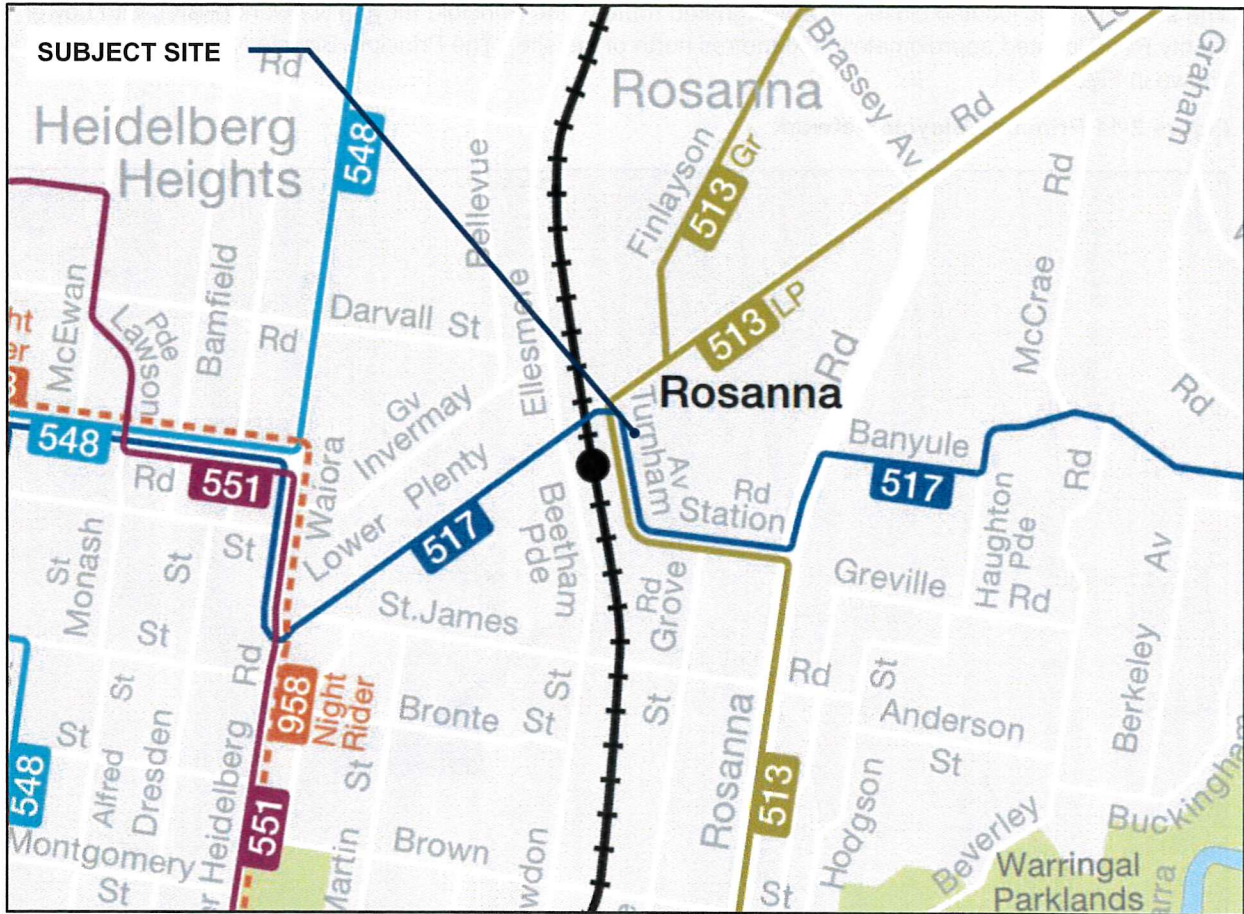
Furthermore, a bus stop is located near to the intersection of Turnham Avenue and Douglas Street and provides access to the following bus routes:

- 513 Eltham – Glenroy via Greensborough or Lower Plenty; and
- 517 Northland SC – St Helena.

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Figure 2-10 Public Transport Map



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3 Proposed Development

3.1 General

Based on the plans prepared by McCabe Architects, it is proposed to redevelop the southern portion of the site (currently occupied by the Council office building and the car parks on its east and west sides) for the purposes of a supermarket with undercroft parking area.

The existing at-grade car park in the northern portion of the site is to remain relatively unchanged and will provide access to the proposed undercroft parking area, as well as a loading area at the rear of the supermarket building and a vehicle connection to the existing undercover parking area for the adjacent library.

The supermarket is proposed with a net leasable floor area of 2,702 square metres, including an upper level with staff offices and stock room. The main pedestrian access to the supermarket is proposed via the building frontage to Turnham Avenue.

It is proposed to provide for a formalised pedestrian crossing, zebra type, across Turnham Avenue at the frontage of the site, subject to further referral authority approval.

3.2 Car Parking and Access

The proposed undercroft parking area is to provide for 64 parking spaces, including three spaces for people with disabilities. Access to the undercroft parking area is proposed via the at-grade parking area in the north of the site and subsequently the existing crossover to Douglas Street.

The two existing crossovers to Turnham Avenue are to be removed and reinstated as kerb and channel, to the satisfaction of the responsible authority. It is expected that the reinstatement of this kerb and channel will provide for additional kerbside parking on Turnham Avenue.

The proposed minor alterations to the existing at-grade car park in the north of the site, to allow for access to the proposed undercroft parking area, will provide for a total of 22 parking spaces. It is noted that there are 12 additional spaces which are located within the site boundary for the library however are accessed via the access aisle for the subject site at-grade car park.

The total proposed parking provision for the supermarket is 86 spaces.

It is expected that the proposed pedestrian crossing on Turnham Avenue will have an impact to the provision of on-street parking however this is to be assessed as part of a further application.

3.3 Loading Facilities

The loading activities for the proposed supermarket are to take place within a loading dock in the south-east corner of the site, with vehicle access proposed via the existing connection to Douglas Street. It has been advised that the loading activities are to utilise a 12.5m long loading vehicle, which turns within the area at the rear of the building and the unused laneway at the rear of the site.

This loading area will service both deliveries to the supermarket and also waste collection.

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4 Design Considerations

4.1 Car Parking and Access

The undercroft parking area and proposed minor alterations to the existing at-grade car park have been assessed against the requirements of the Banyule Planning Scheme and the Australian Standard for off-street car parking (AS/NZS 2890.1).

The undercroft parking spaces are shown with dimensions in excess of the requirements of Clause 52.06 of the Planning Scheme, being 2.6m wide, 5.4m long and accessed from an aisle width of no less than 6.5m.

The columns shown adjacent parking spaces are outside of the door opening area of the parking clearance envelope within Clause 52.06 of the Planning Scheme, particularly given the increased parking module length from the standard Planning Scheme parking dimensions. There are some columns located in the end area adjacent parking spaces however these columns are not anticipated to restrict access to the adjacent spaces with the increased aisle width provided throughout the undercroft parking area.

The undercroft parking layout is designed without any end aisles and provides sufficient passing areas to facilitate car park circulation and reduce the potential for drivers to be required to perform corrective movements within these areas.

The parking spaces for people with disabilities are provided with dimensions in excess of the requirements of AS/NZS 2890.6:2009 and are each provided with the required adjacent shared area.

A minimum height clearance of 2.4m is to be provided throughout the undercroft parking area, with increased clearance provided for the DDA parking spaces of 2.5m above the dedicated spaces to allow for unloading of equipment, in accordance with the relevant Australian Standards.

4.2 Bicycle Parking and Access

Bicycle parking is provided with five double sided rails within the at-grade car park at the rear of the site and also four double sided rails at the frontage of the site to Turnham Avenue. The double sided rails are to have a minimum separation of one metre, consistent with the product specifications for 'Mona Lisa' type products.

The proposed bicycle rails at the frontage of the site are subject to Council approval however as noted within the following bicycle parking considerations they are not necessarily relied upon for the bicycle parking requirements.

4.3 Loading and Waste Collection

It is proposed to utilise a 12.5m long loading vehicle to access the loading dock within the south-east corner of the site. The design vehicle will enter this area from the existing at-grade car park, in a forwards direction, and then reverse up to the dock, utilising the laneway at the rear of the site for manoeuvring. When exiting the area the design loading vehicle will leave via the at-grade car park to Douglas Street.

The swept paths show the 12.5m loading vehicle utilising the laneway at the rear of the site to access the loading dock.

Swept paths have been prepared demonstrating loading access to the dock for the 12.5m long design vehicle and are attached as Appendix A. It is noted that the swept paths show the design vehicle passing through the bins on the northern side of the loading dock however these bins have been relocated to the southern side of the dock within the architectural plans to be submitted.

4.4 Turnham Avenue

It is proposed to remove the existing crossovers to Turnham Avenue with these areas to be reinstated as kerb and channel, with additional kerbside parking to be provided to the satisfaction of the responsible authority. It is anticipated that the removal of the southern crossover could provide for an additional two kerbside parking spaces.

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In order to facilitate pedestrian connectivity between the subject site and Rosanna Train Station, it is proposed to provide for a zebra pedestrian crossing treatment across Turnham Avenue. The zebra crossing is to be installed in the approximate location of the existing southern crossover (potentially impacting on the additional parking to be provided through the removal of this existing crossover). The detailed design of this pedestrian crossing is to be undertaken as part of a further application.

5 Loading Considerations

Clause 52.07 of the Banyule Planning Scheme outlines the requirements for the loading and unloading of vehicles. It specifies that:

- > No building or works may be constructed for the manufacture, servicing, storage or sale of goods or materials unless:
 - Space is provided on the land for loading and unloading vehicles as specified in Table 5-1;
 - The driveway to the loading bay is at least 3.6 metres wide;
 - The driveway that provides access to the loading bay is at least 3.6 metres wide.
 - A permit may be granted to reduce or waive these requirements if either
 - The land area is insufficient; or
 - Adequate provision is made for loading and unloading vehicles to the satisfaction of the responsible authority.

Table 5-1 Planning Scheme Loading Requirements – Clause 52.07

Floor Area of Building	Minimum Loading Bay Dimensions	
2,600 m ² or less in single operation	Area	27.4 m ²
	Length	7.6 m
	Width	3.6 m
	Height clearance	4.0 m
For every additional 1,800 m ² or part	Additional 18 m ²	

Considering the above, the proposed supermarket with a floor area of 2,702 square metres generates a requirement for a loading area of 54.8 square metres. The proposed loading area has an area of approximately 169 square metres, exceeding the requirements of Clause 52.07 of the Planning Scheme.

The proposed loading area has been designed to cater for the 12.5m design loading vehicle and also to meeting the loading requirements of the supermarket, as advised by the developer. The designed loading area is therefore considered appropriate for the proposed use.

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6 Bicycle Parking Considerations

The bicycle parking requirements for the proposed supermarket development are outlined in Clause 52.34 of the Banyule Planning Scheme.

The rates applicable to a supermarket development are listed under the category of 'shop' in Clause 52.34 and are identified within Table 6-1.

Table 6-1 Planning Scheme Bicycle Parking Requirements – Clause 52.34

Component	Area/No	Requirement	Total
		Rate	
Shop	2,702 m ²	1 space per 600m ² for employees	4
		1 space per 500m ² for visitors	5

Application of the bicycle parking rates within Clause 52.34 to the proposed development generates a bicycle parking requirement for nine spaces, comprising four spaces for employees and five spaces for visitors.

The proposed provision of five double sided rails (effectively providing parking for 10 bicycles) within the at-grade car park at the rear of the site meets the Planning Scheme requirements for employees and visitors.

The proposed double sided rails at the frontage of the site would provide for a convenient location for visitors to the supermarket to park their bicycles while shopping.

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7 Car Parking Considerations

7.1 Statutory Car Parking Requirements

7.1.1 Car Parking Requirements – Clause 52.06

Clause 52.06 of the Banyule Planning Scheme specifies the following parking provision requirements for a supermarket development.

Table 7-1 Planning Scheme Car Parking Requirements – Clause 52.06-5

Use	Area/No	Rate	Requirement
Supermarket	2,702 m ²	5 spaces to each 100 sq m of leasable floor area	135 spaces

The redevelopment of the site provides for a total of 86 car parking spaces (existing at-grade parking area and undercroft parking area), which is a shortfall of 49 spaces in comparison to the Planning Scheme default provision.

Clause 52.06-6 of the Banyule Planning Scheme states that an application to reduce or waive the requirement for car spaces must be accompanied by a Car Parking Demand Assessment, which includes an assessment of the following:

- > The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.
- > The variation of car parking demand likely to be generated by the proposed use over time.
- > The short-stay and long-stay car parking demand likely to be generated by the proposed use.
- > The availability of public transport in the locality of the land.
- > The convenience of pedestrian and cyclist access to the land.
- > The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.
- > The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.
- > Any empirical assessment or case study.

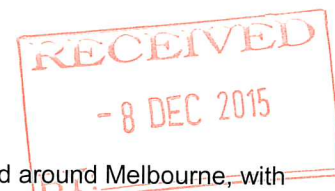
7.2 Car Parking Demand Assessment

7.2.1 Case Study Data - General

Cardno has undertaken car parking surveys of a number of supermarkets in and around Melbourne, with recorded parking demands generally falling in the range of 3.0 to 5.0 spaces per 100 square metres. Application of these rates to the proposed 2,702 square metre floor area supermarket equates to demands in the range of 81-134 spaces.

Given the subject sites location with regards to the nearby Rosanna Train Station it is anticipated that the proposed supermarket will not generate a parking demand at the upper limit of the case study rates, with potential shoppers visiting the supermarket as part of their daily commute with their parking demands accommodated elsewhere.

The case study data held by Cardno for supermarkets includes supermarkets with a range of floor areas, varying between 2,000 square metres and 4,000 square metres. The parking demands generated by these supermarkets is observed to be affected by the overall floor area and therefore to provide for a targeted parking assessment for the subject supermarket (floor area towards the lower end of the scale, noting that the subject floor area includes a large mezzanine component) a review of the parking rates for two similar sized supermarkets is provided below.



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7.2.2 Case Study – Heidelberg Woolworths

The existing Woolworths supermarket located at the intersection of Banksia Street and Lower Heidelberg Road in Heidelberg has a floor area of 2,432 square metres (including ground floor area and upper floor mezzanine) and an at-grade car park with a capacity for 158 parking spaces.

Parking surveys were collected of the Heidelberg Woolworths supermarket car park on Thursday 6th August 2015, between 4:00pm and 8:00pm, and Saturday 8th August 2015, 11:00am-3:00pm. The parking surveys recorded a peak demand on the Thursday of 80 spaces and a peak demand on the Saturday of 87 spaces. These peak parking demands equated to the following parking rates applicable to the supermarket floor area:

- > Weekday Peak Parking Demand (Thursday) – **3.29** spaces per 100 square metres floor area; and
- > Saturday Peak Parking Demand – **3.58** spaces per 100 square metres floor area.

It is noted that the on-site car park did not reach capacity during the survey periods and therefore the site is considered to be unconstrained with regards to parking provision.

7.2.3 Case Study – North Balwyn Coles

The existing Coles supermarket located at the intersection of Doncaster Road and Burke Road has a floor area of 2,000 square metres and an on-site car park with a capacity for 112 spaces, as well as 11 on-street parking spaces along the site frontage to Doncaster Road.

Parking surveys were collected of the North Balwyn Coles car park, including the 11 spaces on Doncaster Road, on Friday 27th February 2013, between 12:00 noon and 10:00pm, and on Saturday 28th February 2013, between 10:00am and 10:00pm. The parking surveys recorded a peak demand on the Friday of 65 spaces and on the Saturday of 72 spaces. These peak parking demands equated to the following parking rates applicable to the supermarket floor area:

- > Weekday Peak Parking Demand (Friday) – **3.25** spaces per 100 square metres floor area; and
- > Saturday Peak Parking Demand – **3.60** spaces per 100 square metres floor area.

It is noted that the on-site car park did not reach capacity during the survey periods and therefore the site is considered to be unconstrained with regards to parking provision.

7.2.4 Anticipated Parking Demand

The case study data for both the Heidelberg Woolworths and the North Balwyn Coles indicate varying parking demands for the peak weekday periods and Saturdays. The parking demand assessment for the subject supermarket has been undertaken for a weekday and Saturday, consistent with the peak demands for the two case study sites provided.

The case study sites are considered to be representative of the subject proposal given their respective locations and also the overall floor areas of the supermarkets.

The peak parking demands observed at the two case study sites have been utilised to determine the peak parking demands of the proposal, as summarised in Table 7-2.

Table 7-2 Anticipated Parking Demands – Weekday and Saturday

Day	Parking Rate	Parking Demand
Weekday	3.29 spaces per 100 sqm	89 spaces
Saturday	3.6 spaces per 100 sqm	97 spaces

Clause 52.06-6 states that before granting a permit to reduce the number of spaces below the likely demand assessed by the Car Parking Demand Assessment, the responsible authority must consider the following, as appropriate:

- > The Car Parking Demand Assessment;
- > The availability of alternative car parking in the locality of the land, including:
 - On street parking in non-residential zones; and

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- Streets in residential zones specifically managed for non-residential parking;
- > The need to create safe, functional and attractive parking areas;
- > Access to and provision of alternative transport modes to and from the land; and
- > Any other relevant consideration.

7.3 Adequacy of Proposed Parking Provision

The proposed on-site parking provision for 86 spaces (within the undercroft area and the at-grade parking area) represents a shortfall of the peak weekday parking demands of **three spaces** and the Saturday peak parking demands of **11 spaces**. The additional parking demands during these periods are to be accommodated within the on-street parking in the locality of the site.

The additional parking demands generated by the proposed supermarket are expected to be short term shoppers and therefore will be able to make use of the short term restricted on-street parking spaces. It is also noted that it is understood discussions have been had with Council regarding potential alterations to the on-street parking in the immediate area to reflect the proposed change of use on the site (this potential change of parking restriction will be subject to a further application). The potential change to the parking restrictions will continue to allow for these spaces to be made available for use by shoppers to the supermarket.

The on-street parking surveys, detailed within Section 2.6 of this report, indicated a minimum availability for six on-street spaces on the Friday surveyed and 18 spaces on the Saturday surveyed. As noted previously, the existing car park was also at capacity on the Friday survey period and it could therefore be expected that overflow parking from the existing on-site use is displaced on-street and the redevelopment of the site could generate additional on-street parking capacity.

The anticipated demand for three on-street spaces during the weekday can be accommodated by the existing availability for six spaces. It is noted there is also expected to be an increased capacity through the removal of the existing on-street demand generated by the Council office building.

The anticipated demand for 11 on-street spaces during the Saturday can be accommodated by the existing availability for 18 spaces in the immediate area.

A summary of the anticipated on-street parking demands and existing parking availability is provided in Table 7-3.

Table 7-3 Anticipated On-Street Parking Impacts

Day	On-Street Parking Demand	Existing Parking Availability	Future Parking Availability
Weekday	3 spaces	6 spaces	3 spaces*
Saturday	11 spaces	18 spaces	7 spaces

** It is expected that there could be an increased future on-street parking availability reflective of the removed parking demand associated with the existing use of the site as a Council office*

The proposed waiver of short term parking spaces is considered appropriate given the proximity of the site to public transport facilities, available case study data and the availability of on-street parking in close proximity to the site.

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8 Traffic Considerations

8.1 Traffic Generation

The impact of shopping centre traffic on the adjacent road network is greatest during the evening commuter peak period when shopping centre traffic combines with commuter traffic to produce the greatest volume on the surrounding road network.

Based on case study data held by Cardno, and for the purposes of this assessment, it has been assumed that the supermarket will generate traffic during the afternoon peak at a rate of 11 vehicle movements per 100 square metres. This traffic is generally evenly distributed between inbound and outbound vehicle movements.

Applying this traffic generation rate to the proposed supermarket, with a floor area of 2,702 square metres, equates to an evening peak hour traffic generation of **296 vehicle movements**, approximately equivalent to **148 inbound movements** and **148 outbound movements**.

It is noted that a traffic generation credit associated with the existing use of the site could be accounted for within the following traffic impact assessment however for the case of a conservative assessment an impact assessment of the future demands only has been assessed.

8.2 Traffic Distribution

The inbound and outbound traffic movements are expected to be further distributed to the surrounding road network via the following distributions:

- > 30% to/from the east on Douglas Street; and
- > 70% to/from the west on Douglas Street; then further distributed as:
 - 30% to/from the south on Turnham Avenue; and
 - 70% to/from the north on Turnham Avenue; then further distributed as:
 - > 60% to/from the north on Lower Plenty Road; and
 - > 40% to/from the north on Lower Plenty Road.

The traffic distributions have been adopted through a review of the surrounding road network and also a high level assessment of the anticipated catchment areas for the supermarket.

Applying this traffic distribution to the peak inbound and outbound generated movements identifies that the proposal could be expected to generate traffic as detailed in Figure 8-1.

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Figure 8-1 Peak Hour Inbound and Outbound Generated Vehicle Movements



8.3 Traffic Impact

When distributed to the further surrounding road network, the peak directional movements are attributed to the east on Douglas Street and south-west on Lower Plenty Road (45 inbound and outbound movements and 44 inbound and outbound movements, respectively). These peak movements equate to an average of in the order of three movements per four minutes in each direction.

8.3.1 Douglas Street Capacity

Based on previous experience with supermarket traffic generation, the daily traffic movements are equivalent to approximately ten times the peak hour volumes. With consideration to this ratio, it is anticipated that the proposed development could generate in the order of 900 vehicles per day to the east of the site on Douglas Street.

The daily vehicle counts, previously detailed in this report, indicate that Douglas Street currently caters for in the order of 1,000 vehicle movements per day.

The layout of the road network and design of Douglas Street is considered to be equivalent of a Connector Street – Level 1, under Clause 56 of the Planning Scheme, which has an environmental capacity for 3,000 daily vehicle movements. The expected future daily traffic generation of in the order of 1,900 vehicle movements is within this environmental capacity and therefore considered appropriate. Application No. P1260/2015

8.3.2 Nearby Intersection Capacity

The additional traffic movements to the nearby intersections of Douglas Street/Turnham Avenue and Turnham Avenue/Lower Plenty Road have been quantified in Figure 8-1.

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The intersection between Douglas Street and Turnham Avenue is a fully directional unsignalised intersection. The proximity of this intersection to the nearby signalised intersection of Turnham Avenue/Lower Plenty Road is expected to produce gaps in the through traffic on Turnham Avenue to assist with the uncontrolled movements at this intersection.

The intersection between Turnham Avenue and Lower Plenty Road is a fully directional signalised intersection, however is signed to not allow the right turn from Lower Plenty Road to Turnham Avenue between 7am-9am, Monday-Friday. The peak movements generated by the proposed supermarket are not anticipated to coincide with this movement ban and therefore the traffic distribution has adopted this intersection as providing for all movements.

The signalised intersection is expected to have a cycle time of in the order of 100 seconds (with additional impacts from the nearby level rail crossing), equating to an average of 36 cycles in the hour. The peak generated movements at this intersection, right turn from Lower Plenty Road and left turn from Turnham Avenue and expected to generate 1.2 vehicles per cycle (less than 3 vehicles per every second cycle). The other movements at this intersection are expected to contribute less than one vehicle per cycle during the peak hour period. The additional movements to this intersection are expected to be catered for by the signal operation of this intersection.

The distribution of traffic movements to be generated by the site is expected to be catered by the nearby intersections and to be assimilated into the surrounding road network.

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9 Conclusions

Based on the foregoing analysis it is concluded that;

- > It is proposed to redevelop a portion of the site for the purposes of a supermarket with new undercroft parking area;
- > The existing crossovers to Turnham Avenue are to be removed and there are no proposed changes to the existing site access to Douglas Street;
- > The parking layout changes have been assessed in accordance with Clause 52.06 of the Planning Scheme and the relevant Australian Standards;
- > The proposed loading area meets the requirements of Clause 52.07 of the Planning Scheme and has sufficient access to cater for a 12.5m loading vehicle (which has been advised is to be utilised for deliveries);
- > Bicycle parking is proposed to meet the requirements of Clause 52.34 of the Planning Scheme;
- > The proposed parking provision is considered appropriate given the proximity of the site to public transport facilities, available case study data and the availability of on-street parking in close proximity to the site.
- > It is anticipated that the proposal will generate in the order of 296 vehicle movements during the peak hour period, distributed evenly between inbound and outbound movements; and
- > The extended distribution of vehicle movements is expected to be catered for by the nearby intersections and to be assimilated into the surrounding road network.

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Rosanna Woolworths

APPENDIX

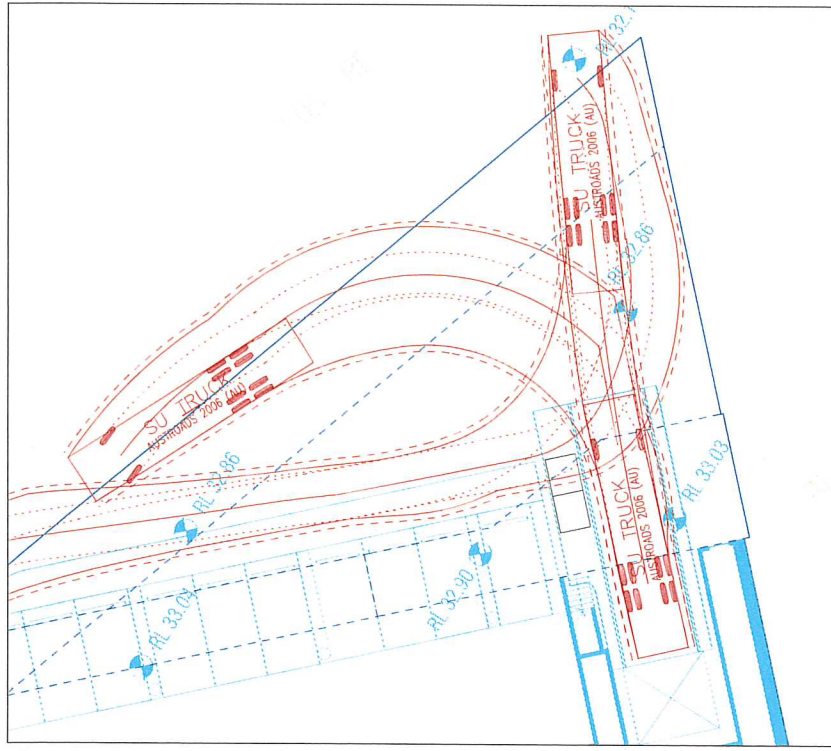
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LOADING VEHICLE SWEEP PATHS

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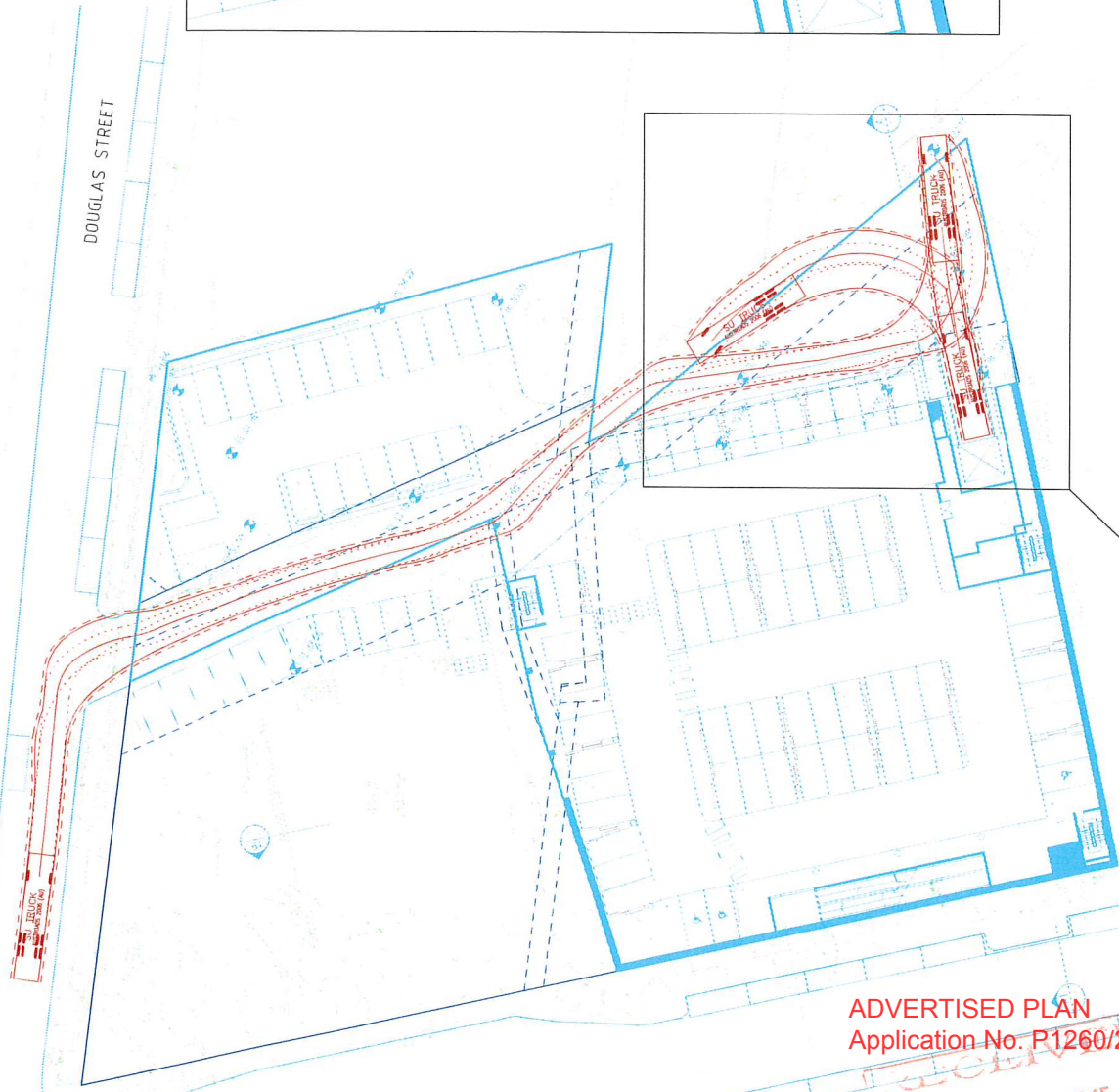
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WOOLWORTHS
ROSSANA WOOLWORTHS
TURNHAM AVENUE ROSSANA
LOADING DOOR ACCESS POINT
SWEPT PATH - STD 12.5m TRUCK
Date: 12.15
Scale: 1:500
Drawing Number: CG150969-TR-SK-2501

Size A3
Register 2



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For

Fabcot Pty Ltd

Site location

**44 Turnham Avenue
Rosanna**

Report type

Arboricultural Construction Impact Assessment

Prepared by

Roger Greenwood

B. App. Sci. (Hort)
Dip. App. Sci. (Hort)
Adv. Cert. Arb.

Tuesday, 22 March 2016

Ref: 3714 160322 CIR Urbis Turnham Rosanna 44 Av.Docx

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1. Summary

This report was commissioned by Ms G Pool of Urbis P/L to assess the condition of 43 trees located on or adjacent to 44 Turnham Avenue, Rosanna and to evaluate the impacts on these trees arising from the proposed development on this site.

This site is in two parts and these are the main part of the site fronting Turnham Avenue and the smaller part to the north east that fronts Douglas Street. The smaller part to the north east is currently a car park and it is proposed to continue this use.

It is proposed to remove all of the trees that are located on and adjacent to the main part of the site and to remove some of the trees within the smaller carpark section of the site.

Of the 43 trees assessed as a part of this report:

1. Sixteen (16) trees are located on adjacent road reserves or on adjacent properties. Of these trees:
 - a. Seven (7) trees are shown as removed on the plans provided.
 - b. Nine (9) trees are shown as retained on the plans provided. Of these 8 trees:
 - i. Two (2) trees (Trees 21 and 41) are very unlikely to remain viable within the proposed development.
 1. The successful retention of these trees will require further arboricultural assessment and most likely some level of redesign of the proposed development.
 - ii. Seven (7) trees are likely to remain viable within the proposed development.
 1. Further arboricultural assessment may be required to determine the impact of the proposed development on these trees.
2. Twenty seven (27) trees are located on the subject site. Of these trees.
 - a. Twenty three (23) trees are proposed to be removed as a part of the proposed development.
 - b. Four (4) trees are proposed to be retained within the north eastern car park section of the site.
 - i. These trees are likely to remain viable within the proposed development.
3. Three (3) trees are subject to the VPO5 provisions.
 - a. These are Trees 2, 23 & 24.
 - i. All of these trees are located on properties or road reserves adjoining to the site.
 - ii. Of these trees only Tree 2 is proposed to be removed.
 1. This tree is located on the Turnham Avenue road reserve.

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2. Document control

File reference	File type	Modifications	Date
3714 160125	CIR	Original document. Construction impact assessment for 43 trees.	25/01/2016
3714 160224	CIR	Various revisions based on additional information from Urbis P/L.	24/02/2016
3714 160322	CIR	Various revisions based on additional information from Urbis P/L.	22/03/2016

3. Introduction

This report was commissioned by Ms G Pool of Urbis P/L to assess the condition of 43 trees located on or adjacent to 44 Turnham Avenue, Rosanna and to evaluate the impacts on these trees arising from the proposed development on this site.

Specifically the report addresses the following issues:

- The health and structural condition of the trees.
- The suitability of these trees for retention on the site in light of the proposed development.
- The impact of the development on these trees.
- Recommendations for the protection of these trees.

This report is based, in part, on the plans provided and the accuracy of these plans is assumed. Inaccuracies in the plans provided may invalidate all or parts of this report.

The location of services within the site is not known and the possible impact of any services installation on the retained trees at this site is not included within this report.

The site was inspected by Roger Greenwood of this office on Friday 15th January 2016.

4. Documents reviewed

The following documents were reviewed in the preparation of this report.

Date	Title	Author	Company
16/12/2015	Feature & Level Plan. 44 – 72 Turnham Avenue, Rosanna. (Ref: 8888 Rev 2)	MV GV	Breese Pit Dixon P/L
Dec 2015	Upper Ground Plan (Ref: Proj No 1444. Dwg No TP.101)	AB	McCabe Architects
Dec 2015	Lower Ground Plan (Ref: Proj No 1444. Dwg No TP.100)	AB	McCabe Architects
Dec 2015	First Floor Plan (Ref: Proj No 1444. Dwg No TP.102)	AB	McCabe Architects
23/02/2016	Landscape Concept Plan (Ref: ND 1429. LA-01 Rev. B)	Not stated	Urbis P/L

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5. Scope

All of those trees that are considered significant to the site and that are located either on the site or within approximately four metres of the site boundaries are addressed in this report.

Significant trees are generally those that are greater than five metres in height and/or with a Diameter at Breast Height (DBH) of greater than 15 cm.

Smaller trees may be assessed on adjoining properties where it is considered likely that they could reasonably be affected by the proposed development.

6. Site context

This site is located within the following town planning zones within the municipal area of Banyule.

1. Commercial 1 Zone (C1Z).
2. Mixed Use Zone (MUZ).
3. Public Use Zone – Local Government (PUZ6).

The following town planning overlays are applicable to this site:

4. *A Vegetation Protection Zone (VPO5) pertains to a small section of this site and to a number of trees located on properties and road reserves adjacent to the site. Generally a permit is required to removed trees that have:*
 - a. *A height of more than 12 metres.*
 - b. *A trunk or stems of more than 40cm measured at 1.4 metres above grade.*
5. *The following trees are subject to the VPO5.*
 - c. *Tree 2 (Located on the Turnham Avenue Road Reserve).*
 - i. *Proposed to be removed.*
 - d. *Tree 23 (Located on the adjoining property to the east of the site).*
 - i. *Proposed to be retained.*
 - e. *Tree 24 (Located on the adjoining property to the east of the site).*
 - i. *Proposed to be retained.*

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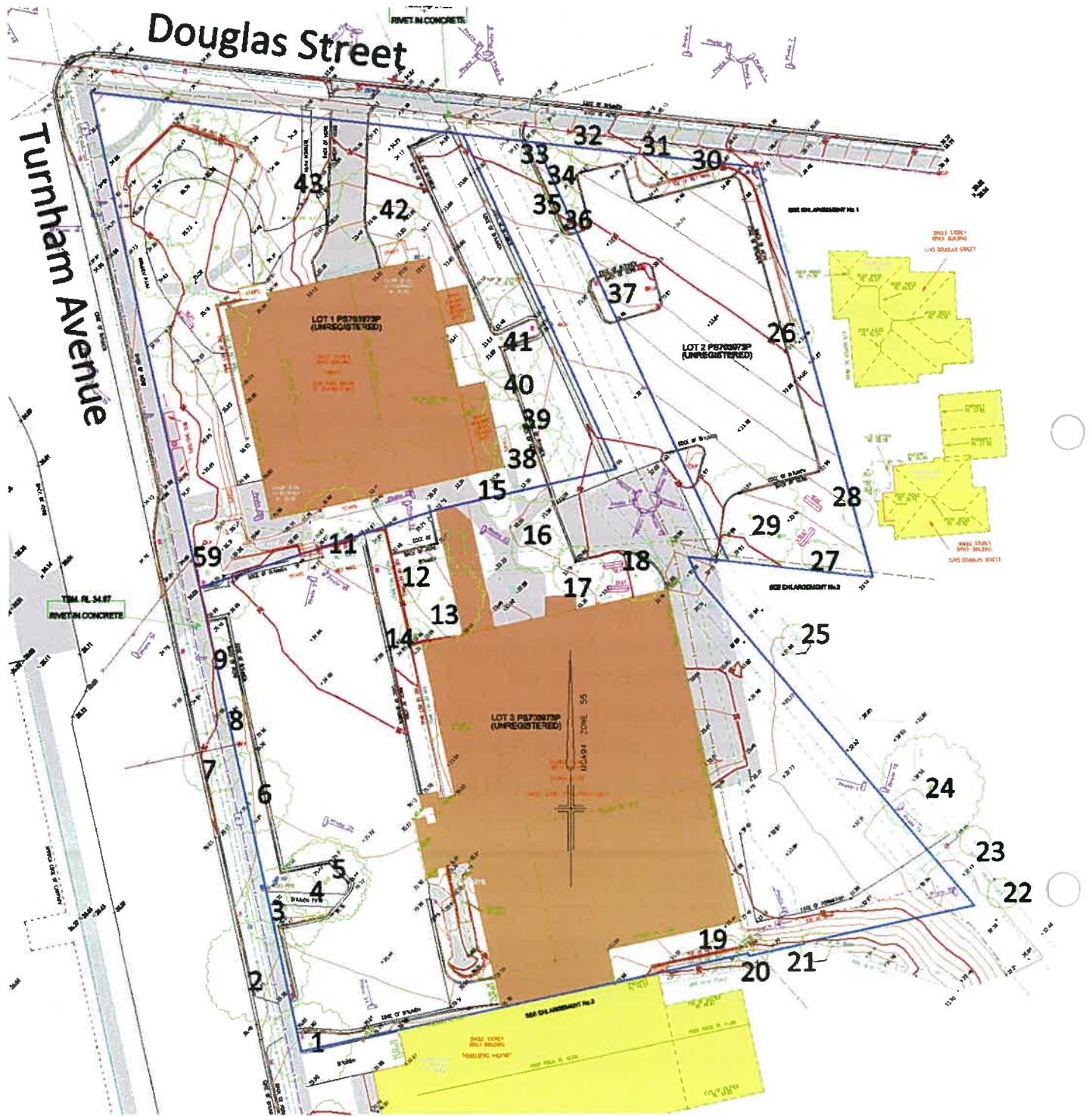
7. Notes

1. The column label "ID" is used in all the tables throughout this report. This refers to the tree identification number and to the tree numbering found on the "Site plan". This number is the same as the "Tree ID" found in the "Tree data" section of the report.
2. Trees 4, 20, 21, 22, 23, 24, 25, 28 and 37 were not shown on the survey provided.
 - a. These trees have been added to the enclosed site plans based on site measurements taken during the site inspection.
 - b. The location of these trees and the assessment of construction impact for these trees are considered adequate for the purposes of this report.
3. The following changes in tree numbering have been made as requested by Urbis Pty Ltd.
 - a. Tree 10 has been renumbered to Tree 59.
 - i. The tree number 10 does not now exist in this report.
 - b. Tree 26 has been renumbered to Tree 29.
 - c. Tree 29 has been renumbered to Tree 44.
4. Tree 22 is shown on the Landscape Plan provided (Urbis P/L LA-01 23/02/2016) as being located on the adjoining property to the east of the site.
 - a. This tree is actually located in the lane at the south east corner of the site.
 - b. While this tree is shown on this plan as being retained, it is understood that this tree will need to be removed.
 - c. While this tree is shown as being retained on the plans provided for this report, it is considered as being removed within this report.
 - i. It is understood that this tree is within the swept path of trucks attending the loading dock.

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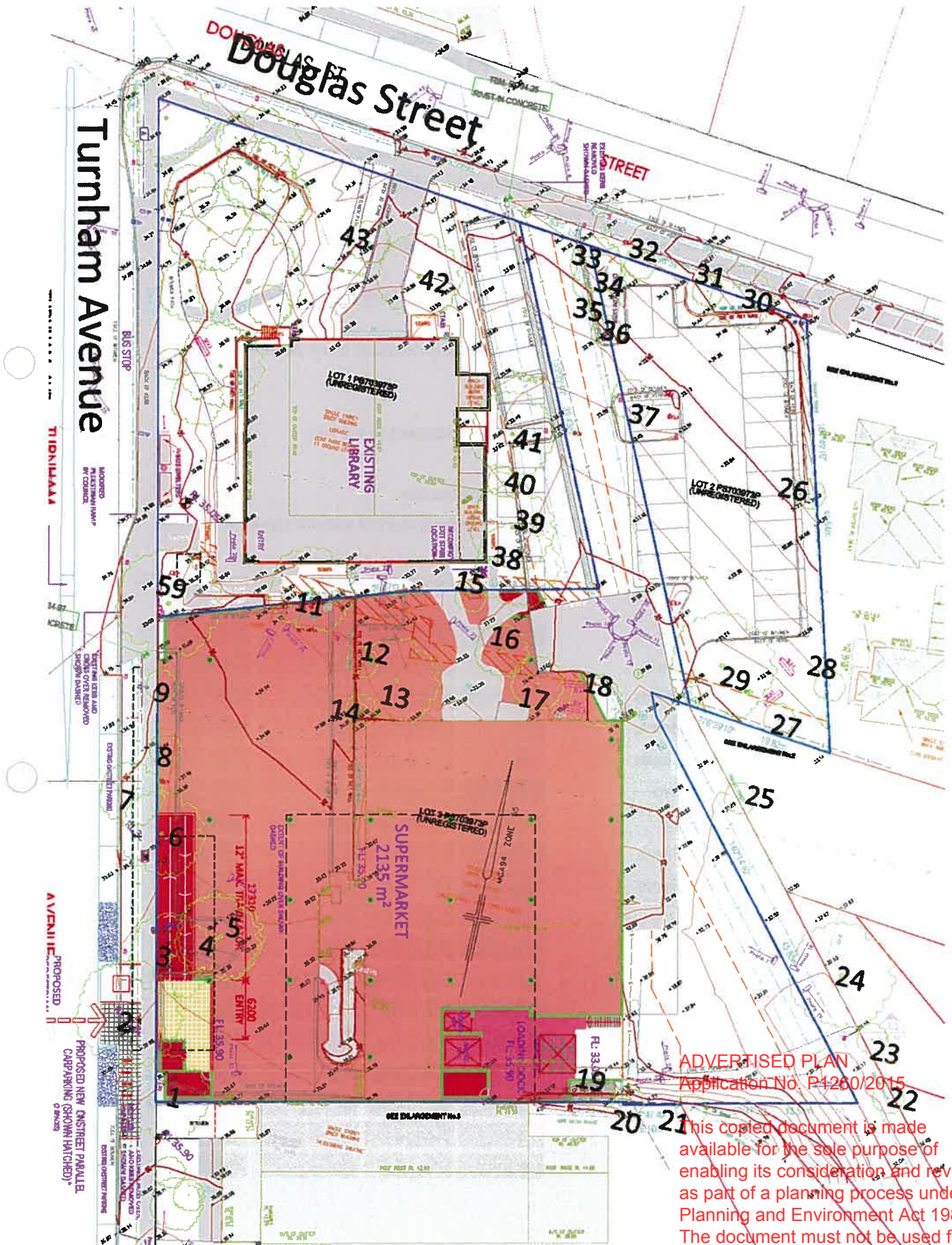
8. Site plan (existing conditions)



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9. Site plan (proposed development showing removed and retained trees)



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10. Tree summary data

This table contains a summary of data pertaining to all trees shown and numbered on the enclosed feature and levels survey.

Underlined and italicised species names have not been assessed. Generally these trees are <5m tall, not found or stumps. The construction impact values are blank for these records.

1. **Retention value:** The retention value of the tree to the site.
 - a. Tree number and species name are **Bold** for High and Very high values trees.
2. **Retained:** Indicates whether the tree is proposed to be retained on the site.
3. **Construction impact:** Indicates the impact of the proposed development on the tree.
 - a. **None:** Works do not intrude onto the tree's TPZ.
 - b. **Low:** Construction intrusion is less than 10% of TPZ and contiguous area exists to compensate for any loss.
 - c. **Moderate:** Construction intrusion exceeds 10% of TPZ but construction methods or other factors make tree retention possible.
 - d. **High:** Construction intrusion is excessive and tree retention is not possible within the development as currently proposed.
 - e. **Blank:** Tree has not been assessed.
4. **Location:** Whether the tree is located on the site or adjacent to the site.
 - a. **Site:** the tree is located on the site.
 - b. **Off site:** the tree is located on land adjoining the site.
 - i. Trees in this category should generally be preserved without significant impact.

ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:
1	Schinus molle var areira	Moderate	Removed	High	Site	2.6	6
2	Eucalyptus sideroxylon	High	Removed	High	Off site	2.8	7.4
3	Eucalyptus camaldulensis	Very high	Removed	High	Site	2.8	7.2
4	Eucalyptus camaldulensis	High	Removed	High	Site	2.4	4.8
5	Eucalyptus camaldulensis	High	Removed	High	Site	2.8	7.6
6	Schinus molle var areira	Moderate	Removed	High	Site	2.5	5.6
7	Eucalyptus leucoxyton	Moderate	Removed	High	Off site	2.3	4.6
8	Eucalyptus camaldulensis	Moderate	Removed	High	Site	1.6	2.5
9	Eucalyptus camaldulensis	Moderate	Removed	High	Site	1.5	2
11	Grevillea robusta	High	Removed	High	Off site	2.8	7.1
12	Callistemon salignus	Low	Removed	High	Site	1.7	2.8
13	Eucalyptus camaldulensis	High	Removed	High	Site	2.3	4.7
14	Callistemon salignus	Low	Removed	High	Site	2	3.6
15	Corymbia citriodora	Moderate	Removed	High	Site	1.8	3
16	Casuarina cunninghamiana	High	Removed	High	Site	2.5	5.3
17	Casuarina cunninghamiana	High	Removed	High	Site	2.4	4.9
18	Casuarina cunninghamiana	High	Removed	High	Site	2.4	3.2
19	Acacia implexa	Remove.	Removed	High	Site	2	3.6

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ID:	Genus / Species:	Retention Value:	Retained?:	Construction Impact:	Location:	SRZ:	TPZ:
20	Acacia implexa	Low	Removed	High	Site	1.8	2.9
21	Melaleuca styphelioides	Low	Retained	High	Off site	1.8	3
22	Acacia implexa	Low	Removed	High	Off site	1.7	2.6
23	Lophostemon confertus	Moderate	Retained	Moderate	Off site	2.6	5.9
24	Eucalyptus saligna	High	Retained	Moderate	Off site	3.1	10
25	Fraxinus angustifolia	Moderate	Retained	Moderate	Off site	1.6	2.4
26	Lophostemon confertus	Low	Retained	Low	Site	1.5	2
27	Eucalyptus camaldulensis	Remove.	Removed	None	Site	1.6	2.4
28	Lophostemon confertus	Very low	Retained	None	Off site	1.7	2.6
29	Quercus robur	Very high	Retained	Moderate	Site	3	9.2
30	Eucalyptus melliodora	High	Retained	Moderate	Site	2.5	5.4
31	Angophora costata	Very low	Retained	None	Site	1.5	2
32	Angophora costata	Remove.	Removed	None	Site	1.5	2
33	Populus nigra 'Italica'	High	Removed	High	Site	3	8.8
34	Populus nigra 'Italica'	Moderate	Removed	High	Site	2.2	4.1
35	Populus nigra 'Italica'	Remove.	Removed	High	Site	1.6	2.4
36	Populus nigra 'Italica'	Remove.	Removed	High	Site	2	3.7
37	Populus nigra 'Italica'	Remove.	Removed	High	Site	2.8	7.2
38	Eucalyptus camaldulensis	High	Removed	High	Off site	2	3.5
39	Angophora costata	High	Removed	High	Off site	2	3.7
40	Angophora costata	Very low	Removed	High	Off site	1.5	2
41	Corymbia citriodora	High	Retained	High	Off site	2.5	5.6
42	Fraxinus oxycarpa	Moderate	Retained	Moderate	Off site	2.5	5.5
43	Hymenosporum flavum	Low	Retained	None	Off site	1.5	2.3
59	Eucalyptus camaldulensis	Very high	Removed	High	Off site	2.8	7.7

Total number of tree/s referred to in this report(Total): 43

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11. Trees 24 & 29 canopy lifting

These two large trees are located to the east of the lane at the east side of the main site and it is understood that large trucks are required to access this area for delivery purposes.

These trucks will require an overhead clearance of at least 4 metres and some canopy lift pruning on these two trees will be require to achieve this clearance.

This level of canopy lift pruning is readily achievable in accordance with *AS 4373 - 2007 Pruning of Amenity Trees* and without detriment to these two trees.

These works should be undertaken by qualified arborists.

12. Construction impact

The following trees are regarded as being suitable for retention and are located within close proximity to elements of the proposed development. The successful retention of those trees that are proposed to be retained may require additional care and the adoption of the following recommendations.

Note: **Construction Proximity** of 0.1 indicates construction over or immediately adjacent to the tree.

ID	Genus / species	DBH	SRZ	TPZ	TPZ	ConP	Ref Value	Retained?
The following 25 tree/s are shown as Removed on the plans provided.								
1	<i>Schinus molle var areira</i>	50	2.6	6.0	= TPZ	0.1	Moderate	Removed
2	<i>Eucalyptus sideroxylon</i>	62	2.8	7.4	= TPZ	0.1	High	Removed
3	<i>Eucalyptus camaldulensis</i>	60	2.8	7.2	= TPZ	0.1	Very high	Removed
4	<i>Eucalyptus camaldulensis</i>	40	2.4	4.8	= TPZ	0.1	High	Removed
5	<i>Eucalyptus camaldulensis</i>	63	2.8	7.6	= TPZ	0.1	High	Removed
6	<i>Schinus molle var areira</i>	47	2.5	5.6	= TPZ	0.1	Moderate	Removed
7	<i>Eucalyptus leucoxylon</i>	38	2.3	4.6	= TPZ	2.6	Moderate	Removed
8	<i>Eucalyptus camaldulensis</i>	21	1.6	2.5	= TPZ	0.1	Moderate	Removed
9	<i>Eucalyptus camaldulensis</i>	12	1.5	2.0	= TPZ	0.1	Moderate	Removed
11	<i>Grevillea robusta</i>	59	2.8	7.1	= TPZ	1.2	High	Removed
12	<i>Callistemon salignus</i>	23	1.7	2.8	= TPZ	0.1	Low	Removed
13	<i>Eucalyptus camaldulensis</i>	39	2.3	4.7	= TPZ	0.1	High	Removed
14	<i>Callistemon salignus</i>	30	2	3.6	= TPZ	0.1	Low	Removed
15	<i>Corymbia citriodora</i>	25	1.8	3.0	= TPZ	0.1	Moderate	Removed
16	<i>Casuarina cunninghamiana</i>	44	2.5	5.3	= TPZ	0.1	High	Removed
17	<i>Casuarina cunninghamiana</i>	41	2.4	4.9	= TPZ	0.1	High	Removed
18	<i>Casuarina cunninghamiana</i>	43	2.4	5.2	= TPZ	0.1	High	Removed
20	<i>Acacia implexa</i>	24	1.8	2.9	= TPZ	0.1	Low	Removed
22	<i>Acacia implexa</i>	22	1.7	2.6	= TPZ	1	Low	Removed
33	<i>Populus nigra 'Italica'</i>	73	3	8.8	= TPZ	2.6	High	Removed
34	<i>Populus nigra 'Italica'</i>	34	2.2	4.1	= TPZ	0.8	Moderate	Removed
38	<i>Eucalyptus camaldulensis</i>	29	2	3.5	= TPZ	0.1	High	Removed
39	<i>Angophora costata</i>	31	2	3.7	= TPZ	0.1	High	Removed
40	<i>Angophora costata</i>	14	1.5	2.0	= TPZ	0.1	Very low	Removed
59	<i>Eucalyptus camaldulensis</i>	64	2.8	7.7	= TPZ	1.3	Very high	Removed

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The following 9 tree/s are shown as Retained on the plans provided.

21	<i>Melaleuca styphelioides</i>	25	1.8	3.0	= TPZ	1	Low	Retained
23	<i>Lophostemon confertus</i>	49	2.6	5.9	= TPZ	0.8	Moderate	Retained
24	<i>Eucalyptus saligna</i>	85	3.1	10.2	= TPZ	1	High	Retained
25	<i>Fraxinus angustifolia</i>	20	1.6	2.4	= TPZ	0.5	Moderate	Retained
26	<i>Lophostemon confertus</i>	11	1.5	2.0	= TPZ	1	Low	Retained
29	<i>Quercus robur</i>	77	3	9.2	= TPZ	2.6	Very high	Retained
30	<i>Eucalyptus melliodora</i>	45	2.5	5.4	= TPZ	2.8	High	Retained
41	<i>Corymbia citriodora</i>	47	2.5	5.6	= TPZ	0.1	High	Retained
42	<i>Fraxinus oxycarpa</i>	46	2.5	5.5	= TPZ	3.3	Moderate	Retained

SRZ: Structural Root Zone. TPZ: Tree Protection Zone. mTPZ: Tree Protection Zone.(Canopy)
 ConP: Construction Proximity.

Number of trees in this section (total): 34

12.1. Trees shown as removed

The trees shown in the table above as “The following tree/s are shown as removed on the plans provided.” are understood to be proposed for removal as a part of the proposed development of this site.

Construction impact assessments have not been undertaken for these trees.

12.2. Trees shown as retained site plan

The following trees (in large print - RED) are shown as retained on the plans provided but could be expected to suffer significant impacts from the proposed construction.

The locations of these trees are set out in Figure 1 below.

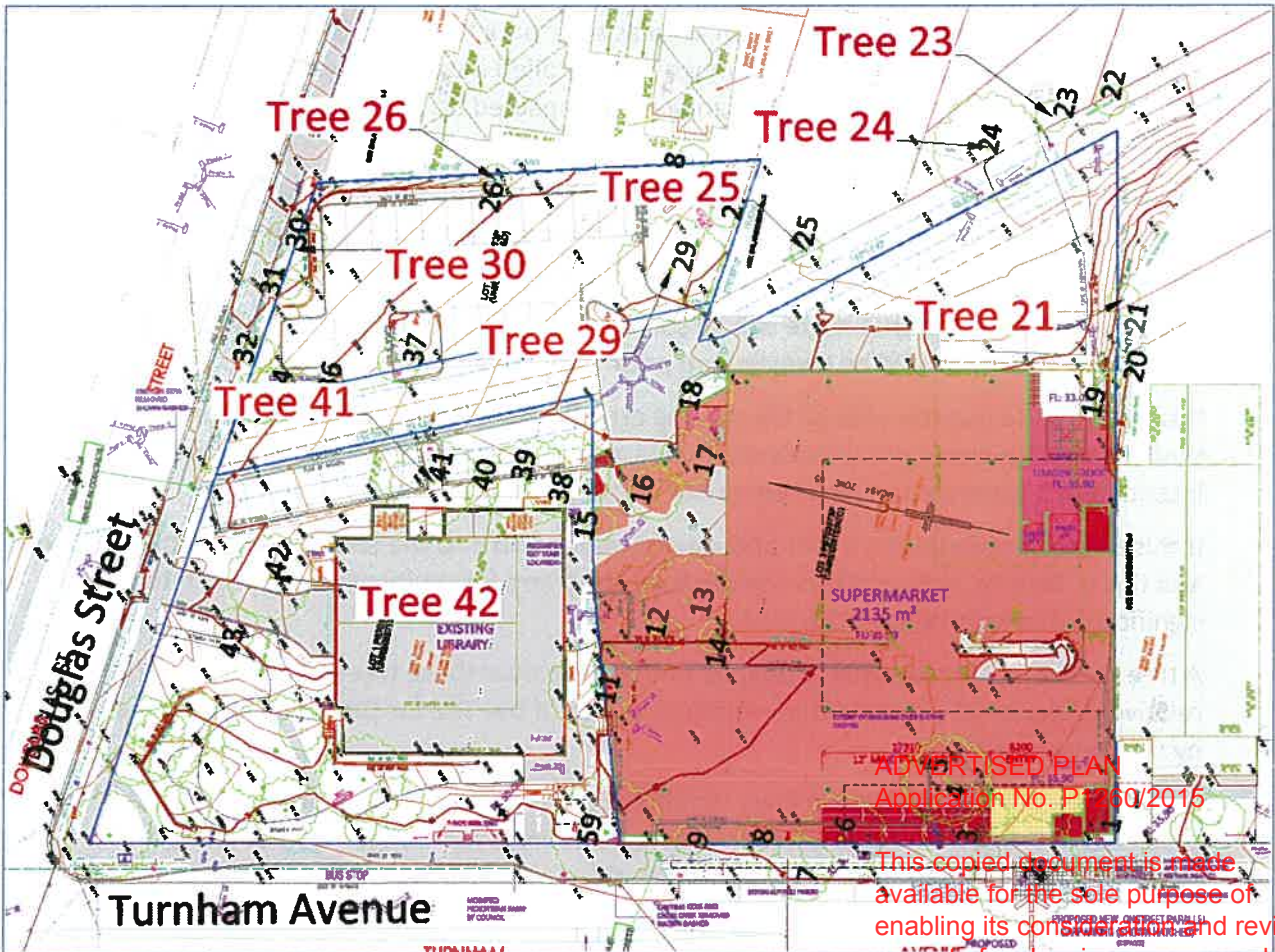


Figure 1 Trees likely to be affected by the proposed development

12.3. Tree 21

This tree is a small specimen that exhibits good health and fair structure and which has a long useful life expectancy and a low retention value.

This tree was not located on the plans provided and has been added to the enclosed plans based on a visual estimation of its location. Accordingly the construction impact assessment for this tree is approximate only and should be reviewed as required.

This tree is located on the adjoining property immediately adjacent to the loading dock. It is expected that the loading dock construction will require that the existing embankment will be excavated more or less up to the property boundary line. If this is the case then the proposed excavation will require a cut of approximately 1 metre or more below existing grade in this area.

The proposed excavation will be approximately 0.7 metres from the tree and this is very significantly inside the Structural Root Zone (SRZ) for this tree.

This injury is likely to impact significantly on this trees health and longevity.

This tree will is unlikely to remain viable within the proposed development.

12.4. Trees 23, 24 & 25

These three trees are located on the adjoining property to the east of the site and Tree 24 is a very large and impressive specimen with a High retention value. Trees 23 & 25 are smaller and have a Moderate retention value. Tree 25 is most likely a self-sown weed species.

The area of the subject site within the Tree Protection Zone (TPZ) for these trees is an area of gravel hard standing which has been used as a car park for a significant length of time. It is also understood that storm water drainage was installed into this area approximately 10 – 20 years ago and that this may have significantly impacted on the root systems of these trees.

It is unlikely that these trees will have significant root mass within this soil volume because of the pipeline installation and the significantly compacted soils resulting from the use of this area as a carpark.

However it is expected that there will be some tree root mass in this area and the extent of any tree root mass should be investigated prior to the finalising of the design for this area.

It is proposed to use this area as the turning area for the loading dock and it is understood that the existing levels will be retained in this area. It is also understood that this area is intended to be resealed using bitumen based paving media.

If this area is resealed then water and oxygen infiltration into the soil volume will be reduced and this is likely to have some impact on the health and longevity of these trees if there is significant tree root mass in this area.

A tree root zone investigation should be undertaken near these trees to determine the relative presence of tree root mass within the area of the TPZ for these trees that is occupied by the proposed works.

In the event that these trees do have significant root mass within this area the impact of the proposed development could be addressed by creating a narrow garden bed along the property boundary and supplying irrigation in this area via an automated irrigation system.

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Provided that the impacts of any resealing within the TPZ for these trees are adequately addressed then the impact of the proposed development on these trees is likely to be minor.

A minor amount of pruning is understood to be required to facilitate truck movement in the area of Tree 24. This pruning is will have a negligible impact on the health or longevity of this tree.

These three trees will remain viable within the proposed development provided that the recommendations of this report are adopted and effectively implemented.

12.5. Tree 26

This tree is a small and low value specimen that is located in the garden bed to the east of the car park in this area. The amenity provided by this tree could be readily replaced by new plantings within 3 – 5 years.

The plans provided show the existing car park kerb being moved to the east by approximately 0.5 metres and this will intrude significantly into the SRZ and TPZ for this tree. It is also understood that the existing site boundary fence adjacent to this tree will be replaced with a taller fence.

However it is understood that the plans in this area are incorrect and that the existing kerb will not be modified. The fence replacement is not shown on the plans provided.

Further investigation of the proposed activities in the area of this tree should be undertaken.

However if the kerb is not to be moved and the existing fence is replaced with another paling fence then the impact on this tree is likely to be negligible.

This tree is likely to remain viable within the proposed development provided that the car park in the area of this tree is not significantly modified.

If the car park is to be modified as shown on the plans provided then this tree is unlikely to remain viable within the proposed development.

12.1. Tree 29

This tree is a large specimen with a long useful life expectancy and a Very high retention value.

The proposed works in the area of this tree are not adequately defined on the plans provided although it is understood that very little will change in the area of this tree.

If this is the case then it is likely that this tree will remain viable within the proposed development.

A minor amount of pruning is understood to be required to facilitate truck movement in the area of this tree. This pruning is will have a negligible impact on the health or longevity of this tree.

This tree is likely to remain viable within the proposed development.

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12.2. Tree 30

This tree is a large specimen with a long useful life expectancy and a High retention value.

The proposed works in the area of this tree are not adequately defined on the plans provided although it is understood that very little will change in the area of this tree.

If this is the case then it is likely that this tree will remain viable within the proposed development.

Further investigation should be undertaken with regard to the works in the area of this tree.

It is likely that this tree will remain viable within the proposed development although further investigation is required to determine the actual impacts for this tree.

12.3. Tree 41

This tree is a large specimen that exhibits good health and which has a long useful life expectancy and a High retention value.

It is understood that the proposed development shown on the plans provided in this area is indicative only and are not expected to be undertaken as a part of the current proposal. If this is the case then this tree will not be impacted by works associated with the current proposal.

However, as plans have not been provided that indicate that these works are not to be undertaken as a part of the proposed development, the impact of these works on this tree is considered here.

This tree is located within a car park outstand with existing car parking on both sides within 1 metre of the centre of trunk.

The proposed car parking will involve excavation into the existing car parking outstand and into the soil volume to the west of the tree.

This excavation is likely to result in significant injury to the scaffold root system for this tree and this injury is likely to destabilise the tree with attendant risk of harm to persons and property as well as impacting significantly on its health and longevity.

If this tree is to be retained then the proposed car parking should be redesigned to accommodate this tree.

This tree will not remain viable within the proposed development if the car park design changes shown on the plans provided are undertaken. If these changes are not undertaken then this tree will not be significantly affected by the proposed development of this site.

12.4. Tree 42

This tree is a large specimen with a long useful life expectancy and a moderate retention value.

It is understood that the proposed development shown on the plans provided in this area is indicative only and are not expected to be undertaken as a part of the current proposal. If this is the case then this tree will not be impacted by works associated with the current proposal.

However, as plans have not been provided that indicate that these works are not to be undertaken as a part of the proposed development, the impact of these works on this tree is considered here.

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A pedestrian path is proposed to be constructed within the TPZ for this tree.

Provided that this path is constructed at or above existing grade then the impact of this path on this tree will be negligible.

Excavation for this path should be limited to not more than 0.1 metres below existing grade.

This tree will remain viable within the proposed development irrespective of whether this path is constructed or not.

13. Recommendations

The following recommendations should be adopted to ensure the successful retention of those trees that are proposed to be retained.

1. A services plan should be created for this site and this construction impact report should be revised as required to ensure that services installation impacts on retained trees are avoided.
2. A Tree Management Plan should be created for this site to inform tree management guide construction within the Tree Protection Zones for retained trees.

13.1. Trees 21

3. The location of this tree should be accurately verified and the proposed construction in this area should be accurately defined so that the construction impact for this tree can be accurately assessed and appropriate trees preservation actions can be undertaken as required.

13.2. Trees 23, 24 & 25

4. The proposed construction in this area should be accurately defined.
5. Tree root investigations should be undertaken in this area to determine the extent of the root mass within the existing car park.
6. Further arboricultural construction impact assessment should be undertaken for these three trees based on the outcomes from the points above.

13.3. Trees 29 & 30

7. The works in the area of these trees should be accurately defined and further assessment of the impacts on these trees should be undertaken as required.
8. Further arboricultural construction impact assessment should be undertaken for these three trees based on the outcomes from the further investigation.

13.4. Tree 26

9. The proposed construction in this area should be investigated and accurately defined.
10. Further arboricultural construction impact assessment should be undertaken for this tree based on the outcomes from the investigation specified above.
11. If excavation beyond the existing kerb is required then:

- a. Excavation should be limited to the minimum extent required to construct the proposed car park.

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- b. The excavation within the TPZ for this tree should be undertaken by hand.
- c. Any tree roots are neatly pruned with sharp hand tools.
- d. The remaining TPZ should be mulched and irrigated for the next three years.

13.5. Tree 41

12. The proposed construction in this area should be investigated and accurately defined.
13. If this tree is to be retained then the proposed car parking should be redesigned to accommodate its root system.
 - a. Further arboricultural assessment of the proposed works in the area of this tree must be undertaken.

13.6. Tree 42

14. The proposed construction in this area should be investigated and accurately defined.
15. The proposed path to the east of this tree should be constructed at or above existing grade.
 - b. Excavation for this path should be limited to not more than 0.1 metres below existing grade.

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14. Construction – no impact

The following trees are regarded as being suitable for retention and are unlikely to suffer any significant impact from the proposed development.

While significant care may be required to successfully retain these trees, no modification of the plans or special precautions are likely to be required to ensure this outcome. If these trees are to be retained then they should be protected during construction as outlined in Section 19 - Tree Protection Guidelines.

ID	Genus / species	DBH	SRZ	TPZ:	mTPZ	ConP	Ret Value	Retained
The following 3 tree/s are shown as Retained on the plans provided.								
28	<i>Lophostemon confertus</i>	22	1.7	2.6	= TPZ	5.6	Very low	Retained
31	<i>Angophora costata</i>	12	1.5	2.0	= TPZ	3.4	Very low	Retained
43	<i>Hymenosporum flavum</i>	19	1.5	2.3	= TPZ	7.7	Low	Retained
SRZ: Structural Root Zone. TPZ: Tree Protection Zone. mTPZ: Tree Protection Zone.(Canopy) ConP: Construction Proximity.								
Number of trees in this section Total): 3								

15. Trees shown as removed

The following trees are shown as removed on the plans provided.

ID	Genus / species	Common name	ULE	Ret value
The retention value for the following 11 tree/s is High				
2	<i>Eucalyptus sideroxylon</i>	Red Ironbark	25 - 50	High
4	<i>Eucalyptus camaldulensis</i>	River Red Gum	25 - 50	High
5	<i>Eucalyptus camaldulensis</i>	River Red Gum	25 - 50	High
11	<i>Grevillea robusta</i>	Silky Oak	15 - 25	High
13	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	High
16	<i>Casuarina cunninghamiana</i>	River She - Oak	25 - 50	High
17	<i>Casuarina cunninghamiana</i>	River She - Oak	25 - 50	High
18	<i>Casuarina cunninghamiana</i>	River She - Oak	25 - 50	High
33	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	15 - 25	High
38	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	High
39	<i>Angophora costata</i>	Sydney Apple Gum	> 50	High
The retention value for the following 3 tree/s is Low				
12	<i>Callistemon salignus</i>	Willow Bottle Brush	15 - 25	Low
14	<i>Callistemon salignus</i>	Willow Bottle Brush	15 - 25	Low
20	<i>Acacia implexa</i>	Lightwood	5 - 15	Low
The retention value for the following 7 tree/s is Moderate				
1	<i>Schinus molle var areira</i>	Pepper Tree	> 50	Moderate
6	<i>Schinus molle var areira</i>	Pepper Tree	> 50	Moderate
7	<i>Eucalyptus leucoxylon</i>	Yellow Gum	25 - 50	Moderate
8	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	Moderate
9	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	Moderate
15	<i>Corymbia citriodora</i>	Lemon Scented Gum	15 - 25	Moderate
34	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	15 - 25	Moderate

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The retention value for the following 6 tree/s is Remove.

19	<i>Acacia implexa</i>	Lightwood	1 - 5	Remove.
27	<i>Eucalyptus camaldulensis</i>	River Red Gum	1 - 5	Remove.
32	<i>Angophora costata</i>	Sydney Apple Gum	1 - 5	Remove.
35	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Remove.
36	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Remove.
37	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Remove.

The retention value for the following 2 tree/s is Very high

3	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	Very high
59	<i>Eucalyptus camaldulensis</i>	River Red Gum	> 50	Very high

The retention value for the following 1 tree/s is Very low

40	<i>Angophora costata</i>	Sydney Apple Gum	1 - 5	Very low
----	--------------------------	------------------	-------	----------

Number of tree/s in this section (Total): 30

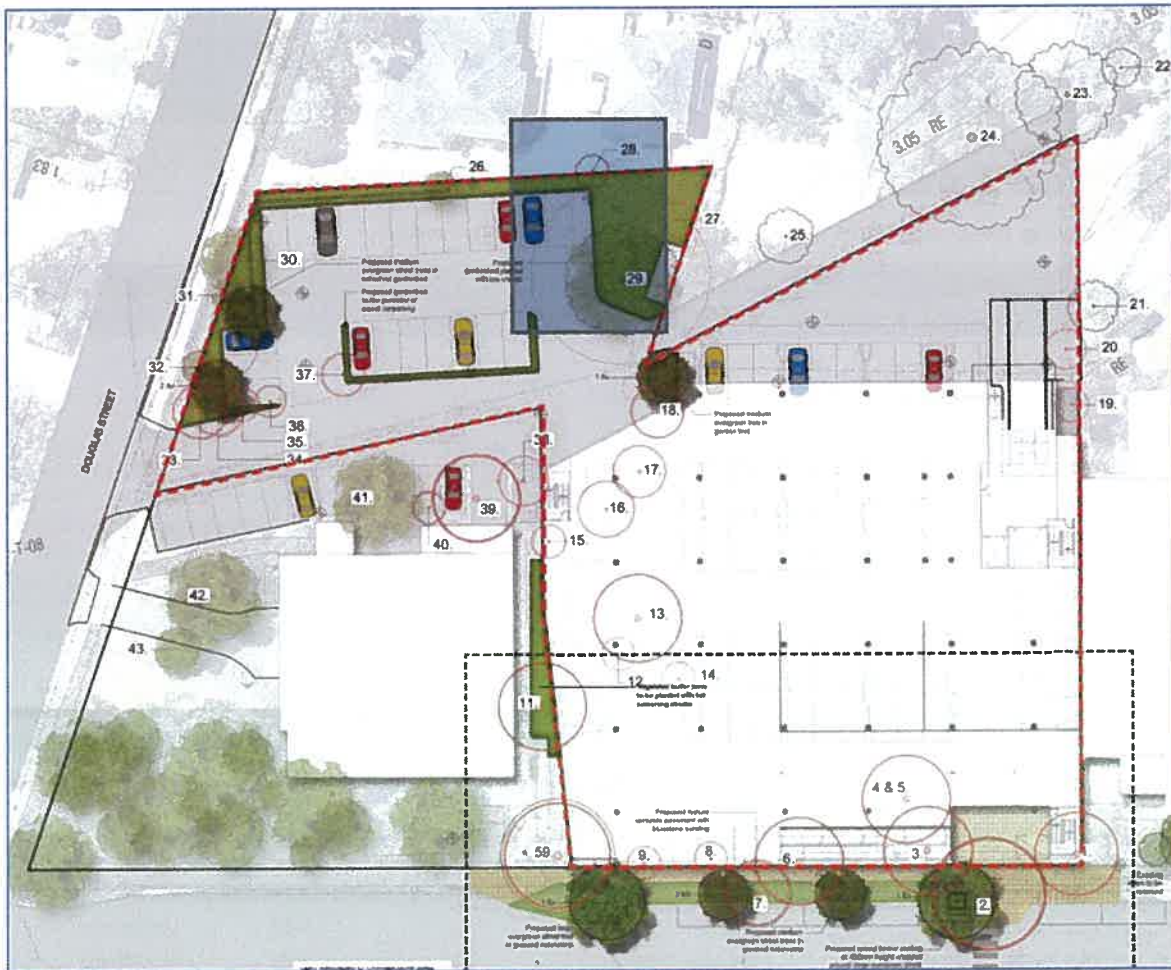


Figure 2 Tree removal and retention plan (Urbis P/L LA-01. 23/02/2016)

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16. Trees recommended for removal

The following trees are recommended for removal generally on the basis of poor, or worse, health and/or structure.

ID	Genus / species	Common name	ULE	Reason:	Ret value
The following 6 tree/s are shown as Removed on the plans provided.					
19	<i>Acacia implexa</i>	Lightwood	1 - 5	Health ULE.	Remove.
27	<i>Eucalyptus camaldulensis</i>	River Red Gum	1 - 5	Health ULE.	Remove.
32	<i>Angophora costata</i>	Sydney Apple Gum	1 - 5	Health ULE.	Remove.
35	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Health ULE.	Remove.
36	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Health ULE.	Remove.
37	<i>Populus nigra 'Italica'</i>	Lombardy Poplar	1 - 5	Health ULE.	Remove.
Number of tree/s in this section (Total): 6					

17. Weed species

The following trees are regarded by authorities as being environmental weeds (Muyt, 2001) (Yarra Ranges, 2004). Consideration should be given to the removal of these trees on the basis of their potential to contribute to environmental weed problems within the local area.

Trees located on adjoining properties are not included in this list.

ID	Genus / species	Common name	ULE	Ret value
1	<i>Schinus molle var areira</i>	Pepper Tree	> 50	Moderate
6	<i>Schinus molle var areira</i>	Pepper Tree	> 50	Moderate
42	<i>Fraxinus oxycarpa</i>	Desert Ash	25 - 50	Moderate
Number of tree/s in this section (Total): 3				

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18. References

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<http://www.forestry.uga.edu/warnell/service/library/for96-039a/index.html>
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- Society for Growing Australian Plants Maroondah, 1991, *Flora of Melbourne, a guide to the indigenous plants of the greater Melbourne area*, Society for Growing Australian Plants, Maroondah.
- Mattheck, C. & Breleor, H., 1994, *The body language of trees*, The Stationery Office, London, UK.
- Standards Australia, 2009, *AS 4970 - 2009 Protection of trees on development sites*, Standards Australia, Sydney.

19. Appendix 1 - Tree protection guidelines

The following tree protection guidelines should be observed as appropriate. Where it is not possible to comply with these recommendations alternative arrangements should be decided with a qualified arborist.

1. A site specific Tree Protection Report should be commissioned prior to the commencement of construction to guide construction activity around any retained trees on or adjacent to the site.
2. Clearly marked as being retained on the site to avoid confusion during the tree removal phase.
3. The stumps of removed trees should be ground out rather than pulled to avoid injury to adjacent trees.
4. Construction specifications should include the plan location of those trees that are to be retained.
5. Penalties should be included in the construction specifications for damage to trees that are to be retained.
6. The trees to be retained should be enclosed with a 1.8 meter high chain link fence supported on steel posts driven 0.6 meters into the ground.
 - 6.1. Tree protection fencing should be established as shown.
 - 6.1.1. If tree protection fencing is not detailed in the report it should enclose, at a minimum, the entire **Structural Root Zone** and as much of the **Tree Protection Zone** as possible.
 - 6.2. Access should be provided by a single gate that should be kept locked at all times except when required for tree inspection or maintenance.
 - 6.3. Tree protection fencing should be installed following the removal of trees and prior to any other works being commenced.
 - 6.4. The area inside the fence should be mulched to a depth of 0.15 meters with general arboricultural wood chip mulch or similar.

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7. Where construction clearance is required and areas of the Tree Protection Zone cannot be fenced the ground in these areas should be protected from compaction with **Ground Protection**.
 - 7.1. **Ground Protection** can consist of any constructed platform that prevents point loads on the soil within the **Tree Protection Zone**. These could include:
 - 7.1.1. Industrial pallets joined together to form a platform.
 - 7.1.2. 12 mm plywood joined together to form a platform.
 - 7.1.3. Planks of timber joined together to form a platform.
 - 7.2. **Ground Protection** should be constructed with sufficient strength to allow it to survive the entire construction process.
 - 7.3. **Ground Protection** should be installed following the removal of trees and prior to any other works being commenced.
8. Excavation within the **Structural Root Zone** should be avoided unless absolutely necessary.
 - 8.1. Any excavation within the **Structural Root Zone** should be performed by hand.
 - 8.2. Any excavation within or tunnelling under the **Structural Root Zone** should be supervised by a qualified arborist.
 - 8.3. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.
 - 8.4. Before any roots are pruned the effect of such pruning on the health and structural stability of the tree should be evaluated by a qualified arborist.
9. Excavation within the **Tree Protection Zone** should be avoided where possible.
 - 9.1. Any excavation within the **Tree Protection Zone** should be performed carefully to minimise root injury.
 - 9.2. Any roots encountered from the retained trees should be pruned carefully and cleanly, preferably back to a branch root.
 - 9.3. Before any excavation occurs the effect of such excavation on the health and structural stability of the tree should be evaluated by a qualified arborist.
10. Concrete and other washout or waste disposal areas should be kept well away from trees to be retained.
11. Where automatic irrigation systems are installed the amount of irrigation that is applied should be checked against the requirements of the existing trees on the site.
12. Any pruning works that are required to facilitate construction should be performed by a qualified arborist.

Adapted from Harris, Clark and Matheny (2004)

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21. Appendix 2 - Tree data

Note: Where **Retention value** = "Remove" only the arboricultural attributes of the tree (i.e. health, structure and ULE) are considered. Other factors that may affect the decision to retain or remove the tree are not considered.

- Where the 'Construction Proximity' is larger than the 'Tree Protection Zone (TPZ)' it is probable that the development will have **no significant impact on the health and longevity** of the tree.
- Where the 'Construction Proximity' is larger than the 'Structural Root Zone (SRZ)' it is probable that the development will have **no significant impact on the stability** of the tree.
- The following information should be read in conjunction with the 'Explanation of Terms' and the 'Glossary / Notes' sections found later in this report.

SRZ (m):	AS 4970-2009 Protection of trees on development sites. (Radius)	Total Number of trees
TPZ (m):	AS 4970-2009 Protection of trees on development sites (Radius)	43
mTPZ (m):	Modification to TPZ as required to protect canopy	
Construction Proximity:	0.1 indicates construction over or immediately adjacent to the tree	

Tree ID: 1

Genus / species: *Schinus molle var areira*
 Evergreen Pepper Tree
Height (m): 10 **Structure:** Fair
Width (m): 11 **Health:** Fair
DBH (cm): 50 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** > 50
Retained?: Removed **Form:** Fair
Retention Value: Moderate
Rec reason: N/A
Amenity value: Low
Works Required: N/A.



SRZ (m): 2.6 **Works priority:** N/A
TPZ (m): 6.0 **Construction Proximity:** 0.1
mTPZ (m): = TPZ

Tree ID: 2

Genus / species: *Eucalyptus sideroxylon*
 Evergreen Red Ironbark
Height (m): 18 **Structure:** Poor
Width (m): 12 **Health:** Good
DBH (cm): 62 Measured **Maturity:** Mature
Origin: Victorian **ULE (years):** 25 - 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: Road reserve.
Amenity value: High
Works Required: Weight reduce.



SRZ (m): 2.8 **Works priority:** Moderate
TPZ (m): 7.4 **Construction Proximity:** 0.1
mTPZ (m): = TPZ

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Tree ID: 3

Genus / species: *Eucalyptus camaldulensis*
 Evergreen River Red Gum
Height (m): 16 **Structure:** Good
Width (m): 8 **Health:** Good
DBH (cm): 60 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Fair
Retention Value: Very high
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.8 **Works priority:** N/A
TPZ (m): 7.2 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 4

Genus / species: *Eucalyptus camaldulensis*
 Evergreen River Red Gum
Height (m): 17 **Structure:** Good
Width (m): 8 **Health:** Fair
DBH (cm): 40 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** 25 - 50
Retained?: Removed **Form:** Fair
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.4 **Works priority:** N/A
TPZ (m): 4.8 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 5

Genus / species: *Eucalyptus camaldulensis*
 Evergreen River Red Gum
Height (m): 19 **Structure:** Good
Width (m): 14 **Health:** Fair
DBH (cm): 63 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** 25 - 50
Retained?: Removed **Form:** Fair
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.8 **Works priority:** N/A
TPZ (m): 7.6 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



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Tree ID: 6

Genus / species: *Schinus molle var areira*
Evergreen Pepper Tree
Height (m): 10 **Structure:** Fair
Width (m): 12 **Health:** Fair
DBH (cm): 47 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** > 50
Retained?: Removed **Form:** Good
Retention Value: Moderate
Rec reason: N/A
Amenity value: Low
Works Required: Canopy lift.

SRZ (m): 2.5 **Works priority:** Very low
TPZ (m): 5.6 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 7

Genus / species: *Eucalyptus leucoxylon*
Evergreen Yellow Gum
Height (m): 12 **Structure:** Fair
Width (m): 7 **Health:** Good
DBH (cm): 38 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** 25 - 50
Retained?: Removed **Form:** Good
Retention Value: Moderate
Rec reason: Road reserve.
Amenity value: Moderate
Works Required: N/A.

SRZ (m): 2.3 **Works priority:** N/A
TPZ (m): 4.6 **Construction Proximity:** 2.6
mTPZ (m): = TPZ



Tree ID: 8

Genus / species: *Eucalyptus camaldulensis*
Evergreen River Red Gum
Height (m): 10 **Structure:** Good
Width (m): 6 **Health:** Fair
DBH (cm): 21 Measured **Maturity:** Imature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Fair
Retention Value: Moderate
Rec reason: N/A
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.6 **Works priority:** N/A
TPZ (m): 2.5 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



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Tree ID: 9

Genus / species: *Eucalyptus camaldulensis*
Evergreen River Red Gum
Height (m): 8 **Structure:** Good
Width (m): 3 **Health:** Fair
DBH (cm): 12 Measured **Maturity:** Imature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Fair
Retention Value: Moderate
Rec reason: N/A
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.0 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 11

Genus / species: *Grevillea robusta*
Evergreen Silky Oak
Height (m): 19 **Structure:** Poor
Width (m): 11 **Health:** Good
DBH (cm): 59 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: Adjoining property.
Amenity value: High
Works Required: Structural pruning.

SRZ (m): 2.8 **Works priority:** Very low
TPZ (m): 7.1 **Construction Proximity:** 1.2
mTPZ (m): = TPZ



Tree ID: 12

Genus / species: *Callistemon salignus*
Evergreen Willow Bottle Brush
Height (m): 10 **Structure:** Fair
Width (m): 4 **Health:** Good
DBH (cm): 23 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Removed **Form:** Fair
Retention Value: Low
Rec reason: N/A
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.7 **Works priority:** N/A
TPZ (m): 2.8 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



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Tree ID: 13

Genus / species: *Eucalyptus camaldulensis*
 Evergreen River Red Gum
Height (m): 15 **Structure:** Good
Width (m): 8 **Health:** Good
DBH (cm): 39 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: N/A
Amenity value: Moderate
Works Required: N/A.

SRZ (m): 2.3 **Works priority:** N/A
TPZ (m): 4.7 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 14

Genus / species: *Callistemon salignus*
 Evergreen Willow Bottle Brush
Height (m): 9 **Structure:** Fair
Width (m): 4 **Health:** Good
DBH (cm): 30 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Removed **Form:** Fair
Retention Value: Low
Rec reason: N/A
Amenity value: Low
Works Required: N/A.

SRZ (m): 2 **Works priority:** N/A
TPZ (m): 3.6 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 15

Genus / species: *Corymbia citriodora*
 Evergreen Lemon Scented Gum
Height (m): 14 **Structure:** Poor
Width (m): 6 **Health:** Good
DBH (cm): 25 Measured **Maturity:** Imature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Removed **Form:** Good
Retention Value: Moderate
Rec reason: N/A
Amenity value: Moderate
Works Required: Structural pruning.

SRZ (m): 1.8 **Works priority:** Very low
TPZ (m): 3.0 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



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Tree ID: 16

Genus / species: *Casuarina cunninghamiana*
Evergreen River She - Oak
Height (m): 21 **Structure:** Fair
Width (m): 8 **Health:** Good
DBH (cm): 44 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.5 **Works priority:** N/A
TPZ (m): 5.3 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 17

Genus / species: *Casuarina cunninghamiana*
Evergreen River She - Oak
Height (m): 21 **Structure:** Fair
Width (m): 9 **Health:** Good
DBH (cm): 41 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.4 **Works priority:** N/A
TPZ (m): 4.9 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 18

Genus / species: *Casuarina cunninghamiana*
Evergreen River She - Oak
Height (m): 18 **Structure:** Fair
Width (m): 11 **Health:** Good
DBH (cm): 43 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: N/A.

SRZ (m): 2.4 **Works priority:** N/A
TPZ (m): 5.2 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 19

Genus / species: *Acacia implexa*

Evergreen Lightwood

Height (m): 12 **Structure:** Fair
Width (m): 6 **Health:** Poor
DBH (cm): 30 Estimated **Maturity:** Over mature
Origin: Melbourne **ULE (years):** 1 - 5
Retained?: Removed **Form:** Fair

Retention Value: Remove.

Rec reason: Health ULE.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): 2 **Works priority:** N/A
TPZ (m): 3.6 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 20

Genus / species: *Acacia implexa*

Evergreen Lightwood

Height (m): 9 **Structure:** Fair
Width (m): 4 **Health:** Fair
DBH (cm): 24 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** 5 - 15
Retained?: Removed **Form:** Good

Retention Value: Low

Rec reason: N/A.

Amenity value: Low

Works Required: N/A.

SRZ (m): 1.8 **Works priority:** N/A
TPZ (m): 2.9 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 21

Genus / species: *Melaleuca styphelioides*

Evergreen Prickly Paperbark

Height (m): 5 **Structure:** Fair
Width (m): 5 **Health:** Good
DBH (cm): 25 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Retained **Form:** Good

Retention Value: Low

Rec reason: Adjoining property.

Amenity value: Low

Works Required: N/A.

SRZ (m): 1.8 **Works priority:** N/A
TPZ (m): 3.0 **Construction Proximity:** 1
mTPZ (m): = TPZ



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Tree ID: 22

Genus / species: *Acacia implexa*

Evergreen Lightwood

Height (m): 8 **Structure:** Poor
Width (m): 4 **Health:** Fair
DBH (cm): 22 Estimated **Maturity:** Mature
Origin: Melbourne **ULE (years):** 5 - 15
Retained?: Removed **Form:** Fair

Retention Value: Low

Rec reason: Adjoining property.

Amenity value: Low

Works Required: N/A.

SRZ (m): 1.7 **Works priority:** N/A
TPZ (m): 2.6 **Construction Proximity:** 1
mTPZ (m): = TPZ



Tree ID: 23

Genus / species: *Lophostemon confertus*

Evergreen Queensland Brush Box

Height (m): 12 **Structure:** Fair
Width (m): 10 **Health:** Fair
DBH (cm): 49 Estimated **Maturity:** Mature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Retained **Form:** Good

Retention Value: Moderate

Rec reason: Adjoining property.

Amenity value: Moderate

Works Required: N/A.

SRZ (m): 2.6 **Works priority:** N/A
TPZ (m): 5.9 **Construction Proximity:** 0.8
mTPZ (m): = TPZ



Tree ID: 24

Genus / species: *Eucalyptus saligna*

Evergreen Sydney Blue Gum

Height (m): 25 **Structure:** Good
Width (m): 18 **Health:** Good
DBH (cm): 85 Estimated **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Retained **Form:** Good

Retention Value: High

Rec reason: Adjoining property.

Amenity value: High

Works Required: > 50mm dead wood.

SRZ (m): 3.1 **Works priority:** Very low
TPZ (m): 10.2 **Construction Proximity:** 1
mTPZ (m): = TPZ



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Tree ID: 25

Genus / species: *Fraxinus angustifolia*
Deciduous Narrow Leaf Ash
Height (m): 8 **Structure:** Good
Width (m): 5 **Health:** Good
DBH (cm): 20 Estimated **Maturity:** Imature
Origin: Exotic **ULE (years):** > 50
Retained?: Retained **Form:** Good
Retention Value: Moderate
Rec reason: Adjoining property.
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.6 **Works priority:** N/A
TPZ (m): 2.4 **Construction Proximity:** 0.5
mTPZ (m): = TPZ



Tree ID: 26

Genus / species: *Lophostemon confertus*
Evergreen Queensland Brush Box
Height (m): 6 **Structure:** Good
Width (m): 2 **Health:** Fair
DBH (cm): 11 Measured **Maturity:** Imature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Retained **Form:** Good
Retention Value: Low
Rec reason: N/A
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.0 **Construction Proximity:** 1
mTPZ (m): = TPZ



Tree ID: 27

Genus / species: *Eucalyptus camaldulensis*
Evergreen River Red Gum
Height (m): 6 **Structure:** Poor
Width (m): 5 **Health:** Very poor
DBH (cm): 20 Estimated **Maturity:** Imature
Origin: Melbourne **ULE (years):** 1 - 5
Retained?: Removed **Form:** Poor
Retention Value: Remove.
Rec reason: Health ULE.
Amenity value: Very low
Works Required: N/A.

SRZ (m): 1.6 **Works priority:** N/A
TPZ (m): 2.4 **Construction Proximity:** 8.6
mTPZ (m): = TPZ



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Tree ID: 28

Genus / species: *Lophostemon confertus*

Evergreen Queensland Brush Box

Height (m): 11 **Structure:** Fair
Width (m): 6 **Health:** Very poor
DBH (cm): 22 Estimated **Maturity:** Mature
Origin: Australian **ULE (years):** 1 - 5
Retained?: Retained **Form:** Very poor
Retention Value: Very low
Rec reason: Adjoining property.
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.7 **Works priority:** N/A
TPZ (m): 2.6 **Construction Proximity:** 5.6
mTPZ (m): = TPZ



Tree ID: 29

Genus / species: *Quercus robur*

Deciduous English Oak

Height (m): 14 **Structure:** Good
Width (m): 14 **Health:** Good
DBH (cm): 77 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** > 50
Retained?: Retained **Form:** Good
Retention Value: Very high
Rec reason: N/A
Amenity value: High
Works Required: Canopy lift.

SRZ (m): 3 **Works priority:** N/A
TPZ (m): 9.2 **Construction Proximity:** 2.6
mTPZ (m): = TPZ



Tree ID: 30

Genus / species: *Eucalyptus melliodora*

Evergreen Yellow Box

Height (m): 16 **Structure:** Poor
Width (m): 8 **Health:** Good
DBH (cm): 45 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** 15 - 25
Retained?: Retained **Form:** Good
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: Structural pruning.

SRZ (m): 2.5 **Works priority:** Low
TPZ (m): 5.4 **Construction Proximity:** 2.8
mTPZ (m): = TPZ



Tree ID: 31

Genus / species: *Angophora costata*
Evergreen Sydney Apple Gum
Height (m): 5 **Structure:** Fair
Width (m): 3 **Health:** Fair
DBH (cm): 12 Measured **Maturity:** Imature
Origin: Australian **ULE (years):** 15 - 25
Retained?: Retained **Form:** Fair
Retention Value: Very low
Rec reason: N/A
Amenity value: Very low
Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.0 **Construction Proximity:** 3.4
mTPZ (m): = TPZ



Tree ID: 32

Genus / species: *Angophora costata*
Evergreen Sydney Apple Gum
Height (m): 6 **Structure:** Fair
Width (m): 2 **Health:** Poor
DBH (cm): 10 Measured **Maturity:** Imature
Origin: Australian **ULE (years):** 1 - 5
Retained?: Removed **Form:** Fair
Retention Value: Remove.
Rec reason: Health ULE.
Amenity value: Very low
Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.0 **Construction Proximity:** 2.4
mTPZ (m): = TPZ



Tree ID: 33

Genus / species: *Populus nigra 'Italica'*
Deciduous Lombardy Poplar
Height (m): 20 **Structure:** Fair
Width (m): 6 **Health:** Fair
DBH (cm): 73 Measured **Maturity:** Over mature
Origin: Exotic **ULE (years):** 15 - 25
Retained?: Removed **Form:** Fair
Retention Value: High
Rec reason: N/A
Amenity value: High
Works Required: > 50mm dead wood.

SRZ (m): 3 **Works priority:** Moderate
TPZ (m): 8.8 **Construction Proximity:** 2.6
mTPZ (m): = TPZ



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Tree ID: 34

Genus / species: *Populus nigra 'Italica'*
Deciduous Lombardy Poplar
Height (m): 15 **Structure:** Fair
Width (m): 5 **Health:** Good
DBH (cm): 34 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** 15 - 25
Retained?: Removed **Form:** Fair
Retention Value: Moderate
Rec reason: N/A
Amenity value: Moderate
Works Required: N/A.

SRZ (m): 2.2 **Works priority:** N/A
TPZ (m): 4.1 **Construction Proximity:** 0.8
mTPZ (m): = TPZ



Tree ID: 35

Genus / species: *Populus nigra 'Italica'*
Deciduous Lombardy Poplar
Height (m): 11 **Structure:** Poor
Width (m): 3 **Health:** Poor
DBH (cm): 20 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** 1 - 5
Retained?: Removed **Form:** Fair
Retention Value: Remove.
Rec reason: Health ULE.
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.6 **Works priority:** N/A
TPZ (m): 2.4 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 36

Genus / species: *Populus nigra 'Italica'*
Deciduous Lombardy Poplar
Height (m): 7 **Structure:** Poor
Width (m): 3 **Health:** Poor
DBH (cm): 31 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** 1 - 5
Retained?: Removed **Form:** Fair
Retention Value: Remove.
Rec reason: Health ULE.
Amenity value: Low
Works Required: N/A.

SRZ (m): 2 **Works priority:** N/A
TPZ (m): 3.7 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



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Tree ID: 37

Genus / species: *Populus nigra 'Italica'*
Deciduous Lombardy Poplar
Height (m): 20 **Structure:** Poor
Width (m): 5 **Health:** Poor
DBH (cm): 60 **Estimated Maturity:** Mature
Origin: Exotic **ULE (years):** 1 - 5
Retained?: Removed **Form:** Fair
Retention Value: Remove.
Rec reason: Health ULE.
Amenity value: High
Works Required: N/A.

SRZ (m): 2.8 **Works priority:** N/A
TPZ (m): 7.2 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 38

Genus / species: *Eucalyptus camaldulensis*
Evergreen River Red Gum
Height (m): 16 **Structure:** Fair
Width (m): 8 **Health:** Good
DBH (cm): 29 **Measured Maturity:** Mature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: Adjoining property.
Amenity value: Moderate
Works Required: > 50mm dead wood.

SRZ (m): 2 **Works priority:** Very low
TPZ (m): 3.5 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 39

Genus / species: *Angophora costata*
Evergreen Sydney Apple Gum
Height (m): 13 **Structure:** Good
Width (m): 8 **Health:** Good
DBH (cm): 31 **Measured Maturity:** Mature
Origin: Australian **ULE (years):** > 50
Retained?: Removed **Form:** Good
Retention Value: High
Rec reason: Adjoining property.
Amenity value: Moderate
Works Required: N/A.

SRZ (m): 2 **Works priority:** N/A
TPZ (m): 3.7 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 40

Genus / species: *Angophora costata*
 Evergreen Sydney Apple Gum
Height (m): 11 **Structure:** Good
Width (m): 4 **Health:** Poor
DBH (cm): 14 Measured **Maturity:** Imature
Origin: Australian **ULE (years):** 1 - 5
Retained?: Removed **Form:** Poor
Retention Value: Very low
Rec reason: Adjoining property.
Amenity value: Low
Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.0 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 41

Genus / species: *Corymbia citriodora*
 Evergreen Lemon Scented Gum
Height (m): 21 **Structure:** Good
Width (m): 14 **Health:** Good
DBH (cm): 47 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Retained **Form:** Good
Retention Value: High
Rec reason: Adjoining property.
Amenity value: High
Works Required: N/A.

SRZ (m): 2.5 **Works priority:** N/A
TPZ (m): 5.6 **Construction Proximity:** 0.1
mTPZ (m): = TPZ



Tree ID: 42

Genus / species: *Fraxinus oxycarpa*
 Deciduous Desert Ash
Height (m): 14 **Structure:** Good
Width (m): 15 **Health:** Good
DBH (cm): 46 Measured **Maturity:** Mature
Origin: Exotic **ULE (years):** 25 - 50
Retained?: Retained **Form:** Good
Retention Value: Moderate
Rec reason: Adjoining property.
Amenity value: Moderate
Works Required: Canopy lift.

SRZ (m): 2.5 **Works priority:** Very low
TPZ (m): 5.5 **Construction Proximity:** 3.3
mTPZ (m): = TPZ



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Tree ID: 43

Genus / species: *Hymenosporum flavum*

Evergreen Native Frangi-pani

Height (m): 9 **Structure:** Good
Width (m): 3 **Health:** Good
DBH (cm): 19 Measured **Maturity:** Mature
Origin: Australian **ULE (years):** 25 - 50
Retained?: Retained **Form:** Good

Retention Value: Low

Rec reason: Adjoining property.

Amenity value: Low

Works Required: N/A.

SRZ (m): 1.5 **Works priority:** N/A
TPZ (m): 2.3 **Construction Proximity:** 7.7
mTPZ (m): = TPZ



Tree ID: 59

Genus / species: *Eucalyptus camaldulensis*

Evergreen River Red Gum

Height (m): 21 **Structure:** Good
Width (m): 9 **Health:** Good
DBH (cm): 64 Measured **Maturity:** Mature
Origin: Melbourne **ULE (years):** > 50
Retained?: Removed **Form:** Good

Retention Value: Very high

Rec reason: Adjoining property.

Amenity value: High

Works Required: N/A.

SRZ (m): 2.8 **Works priority:** N/A
TPZ (m): 7.7 **Construction Proximity:** 1.3
mTPZ (m): = TPZ



21. Appendix 3 – Arboricultural information

The following sections are presented to provide an introduction to the process of tree root system protection. A trees root system is the critical element to be protected during the development process and if the trees roots are adequately protected then the rest of the tree will generally survive without significant injury.

21.1. Root plate estimation

One of the primary purposes of this report is to estimate the impact of the development on the trees on this site. This is mainly achieved by estimating the extent of the root plate area of the trees that are proposed to be retained and the proportion of this area that is likely to be excised or affected during the construction process.

In this report two elements of the tree root area are described. These are:

21.1.1. Structural Root Zone

This is an estimate of the radius that is likely to encompass the major scaffold roots of the tree. These roots are critical to anchoring the tree and damage to these roots will increase the risk of entire tree failure (i.e. uprooting). This radius is based on AS 4970-2009.

21.1.2. Tree Protection Zone

This is an estimate of the radius that is likely to encompass enough of the smaller absorbing roots to allow the tree to obtain sufficient nutrients and water to allow it to survive in the long term. This radius is based on AS 4970-2009 and is based on the size of the tree.

Estimation of the likely root plate radius for both methods are based on the DBH (Diameter at Breast Height) of each tree. This is usually measured but where the tree is inaccessible or has numerous trunks a visual estimation may be used. Whether the DBH is estimated or measured is noted within the "Tree Data" section of the report.

The two elements of each trees' root zone is transposed over the site survey and building footprint and the degree of root injury is calculated from this.

21.2. Tree rooting patterns

Contrary to common belief, trees usually have a broad flat plate of roots that may extend 1.5 – 3 times the radius of the canopy (Harris, Matheny & Clark, 1999; Coder, 1996; Hitchmough, 1994). Relatively few trees have deep roots and Harris, Matheny and Clark (2004) note that most tree roots will be found in the top 1.0 metre of the soil profile.

While the models used to approximate the size of tree root plates assume a uniformly radial root system, in highly disturbed urban soils root systems often develop in a highly asymmetric manner (Matheny & Clarke, 2004). This may require the modification of the models used where it is likely that the root system is asymmetric.

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21.3. Construction impacts

Construction in the vicinity of trees can have several negative impacts on their health, longevity and structural stability. Harris, Matheny and Clark (2004) note that some level of tree root injury or root zone change is almost inevitable during construction around trees and maintain that the goal of tree preservation is to reduce the injury or change to a level that will enable the long term preservation of the retained trees.

Negative impacts can include:

- Root severance from trenching and grading activities. Damage to the transport and absorbing root system may deprive the tree of the ability to absorb nutrients and water and damage to the structural scaffold roots that support the tree may result in instability and uprooting. Depending on the percentage of the root plate affected and proximity to the tree, the affects can range from minor degradation of health through to total root plate failure (i.e. uprooting).
- Compaction and root injury. Most trees require a well aerated and friable soil to allow normal physiological processes to occur and to allow root growth. Soil compaction from pedestrian or vehicular traffic can result in direct injury to the roots, indirect injury through soil drainage changes, reduced soil aeration or decreased soil penetrability. If severe enough soil compaction can lead to a rapid decline in many tree species and may eventually result in instability and uprooting.
- Changes in drainage patterns. Changes in drainage patterns may result from hard surfacing, trenching, land shaping and other construction activities. These can result in either drought stress or waterlogging, both of which can cause a rapid decline in trees and may result in instability and uprooting.

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22. Appendix 4 - AS 4970 -2009

This report generally conforms to *AS 4970 – 2009 Protection of Trees on Development Sites* except in the following areas.

1. AS 4970 notes that the project arborist should verify the accuracy of feature survey for the subject site.
 - a. This is generally not feasible and the feature survey is taken as being an accurate representation of the features of the site.
 - b. However if trees are found on the site that are not represented in the feature survey then these trees will be added to the report plans based on a visual estimation of their location.
 - i. Accordingly the location of these trees may not be sufficiently accurate for the purposes of the report.
 - ii. The location of these trees should be verified by a qualified surveyor where appropriate.
2. *AS 4970-2009 Protection of Trees on Development Sites* makes no differentiation between the Tree Protection Zone (TPZ) derived from the trees DBH and the modified TPZ derived from the trees canopy where it extends past the DBH derived TPZ. As the two forms of TPZ are independent a differentiation between the two forms of TPZ needs to be made. In this report:
 - a. "TPZ" refers to the DBH derived Tree Protection Zone (12 x DBH) and "mTPZ" pertains to the TPZ where it is modified to account for a canopy that extends beyond the DBH derived TPZ.
 - b. The modified Tree Protection Zone (mTPZ) for all trees is taken as being identical to the Tree Protection Zone (TPZ) except where the canopy of the tree extends beyond the TPZ. Where this is the case the TPZ is shown on the site plans and any tree canopy impacts are addressed as required within the report. Otherwise the mTPZ is recorded within this report as "= TPZ".

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23. Appendix 5 - Explanation of terms

The assessment of Health, Structure, Condition, U.L.E. (Useful Life Expectancy), Origin, Maturity, Form and Retention value are based on the following definitions. In the case of health and structure these definitions encompass only the more common indicators for these assessments. Other indicators not included in these definitions may lead to the ascribing of a particular health or structure category.

23.1. Origin

The notation of "Origin" is based on the following categories.

➤ Category	Description
➤ Melbourne	Native to the greater Melbourne metropolitan area as defined by Flora of Melbourne (S. G. A. P. M., 1991).
➤ Victorian	Native to Victoria but not the greater Melbourne Metropolitan area.
➤ Australian	Native to Australia but not Victoria.
➤ Exotic	Not native to Australia.

23.2. Maturity

The notation of "Maturity" is based on the following categories.

➤ Category	Description
➤ Immature	Less than 20% of the life expectancy for that tree.
➤ Mature	20 – 80% of the life expectancy for that tree.
➤ Over mature	> 80% of the life expectancy for that tree.

23.3. Works required

The works required listed in this report are of a general nature only and should be reviewed following the completion of any works on the site.

Where a tree is recommended for removal (Recommendation) it is not listed in the Works required section of the report.

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23.4. Priority

The priority accorded particular works is based on a projected increased site usage following the completion of a development on the site. The priority is of a general nature only and should be reviewed following the completion of any works on the site.

“Priority” is based on the following categories.

<u>Category</u>	<u>Description</u>
➤ N/A.	No tree works are required
➤ Very low	Tree works are optional and could be performed at any time..
➤ Low	Works should be performed within five years.
➤ Moderate	Works should be performed within 3 years.
➤ High	Works should be performed within 12 months.
➤ Urgent	Works should be performed immediately.

23.5. Retention value (RV)

The Retention value ascribed to each tree in this report is not definitive and should be used as a guide only. Many factors influence the comparative value of a tree and a number of these factors are outside the scope of arboricultural assessment. These factors cannot therefore be addressed in a single rating system.

Retention value is comprised of two parts. These are the Amenity Value of the tree rated as Very Low to Very high and the Useful Life Expectancy (ULE) of the tree.

The Amenity Value of the tree relates to the contribution of the tree to the aesthetic amenity of the area. The primary determinants of amenity value are tree health, size and form.

The Amenity Value is then modified by the ULE of the tree with short ULE values reducing the RV of the tree and long ULE values increasing the RV of the tree.

Trees that are listed on a register of heritage or significant trees are not accommodated within this rating system as these values are often independent from the arboricultural attributes of the tree. Heritage and significant trees may be ascribed a very low retention value despite their listing on any register. Where known, any heritage or significant register listing it will be noted in the report.

RV is assessed on each tree as a single entity. The value of a group of trees is not considered in this context and each tree within the group will be assessed as an individual.

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Amenity value is based on the following categories and is ascribed an Amenity Value (AVV) ranging from 2 - 10.

<u>Category</u>	<u>Example</u>	<u>AVV</u>
➤ Very high	Generally a very large tree that exhibits excellent health and/or form or a tree that is listed on a heritage or significant tree register.	10
➤ High	Generally a large tree that exhibits good health and/or form.	8
➤ Medium	Generally a medium tree that exhibits good health and/or form. May be a large tree that exhibits fair health and/or form.	6
➤ Low	Generally a small tree that exhibits good health and/or form. May be a large or medium tree that exhibits fair or poor health and/or form.	4
➤ Very low	Generally a small tree that exhibits poor health and/or form. May be a large or medium tree that exhibits poor, or worse, health and/or form.	2

U.L.E. is based on the following categories each of which have a modifier (ULEM) ranging from 0 – 12.

<u>Category</u>	<u>Example</u>	<u>ULEM</u>
➤ 0	The tree is dead or almost dead or constitutes an immediate and unacceptable hazard.	0
➤ 0 – 5	The tree is unlikely to provide useful amenity for longer than 5 years. The tree is in serious decline, poses an unacceptable hazard and/or requires a level of maintenance disproportionate with its' value.	4
➤ 5 – 15	The tree is unlikely to provide useful amenity for longer than 15 years. The tree may be in serious decline, be a very short lived species, present a moderately elevated hazard and/or require high levels of maintenance.	7
➤ 15 – 25	The tree is unlikely to provide useful amenity for longer than 25 years. The tree may be in moderate decline, a short lived species, present a slightly elevated hazard and/or require moderate levels of maintenance.	10

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➤ **25 – 50** The tree is likely to provide useful amenity for up to 50 years. 11

The tree may be in fair to good condition, have a moderate life-span, present a low to moderate level of hazard and/or require moderate levels of maintenance.

➤ **> 50** The tree is likely to provide useful amenity for greater than 50 years. 12

The tree may be in good to excellent condition, a long lived species, present a low level of hazard and/or require low levels of maintenance.

RV is then derived from the multiplication of AVV by ULEM and the resulting score is categorised as Very high to Very low.

<u>Category</u>	<u>Example</u>	<u>RV value</u>
➤ Very high	Every effort should be made to preserve trees in this category	96 - 120
➤ High	These trees should be retained if at all possible	72 - 95
➤ Moderate	These trees should be retained if they do not overly constrain development on the site.	48 - 71
➤ Low	These trees should not create a material constraint on development of the site. These trees should be removed where they conflict with development of the site.	24 - 47
➤ Very low	Generally a small tree that exhibits poor health and/or form. May be a large or medium tree that exhibits poor, or worse, health and/or form. These trees should generally be removed.	1 – 23
➤ Remove	These trees are not suitable for retention within the site and are recommended to be removed.	0

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23.6. Health

Pertains to the health and growth potential of the tree.

The notation of "Health" is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ Good	<p>Crown full, with good foliage density. Foliage is entire with average colour, minimal or no pathogen damage. Above average growth indicators such as extension growth, leaf size and canopy density. Little or no canopy die-back. Generally no dead wood on the perimeter of the canopy. Good wound wood development.</p> <p>Tree exhibits above average health and no works are required.</p>
➤ Fair	<p>Tree may have more than 30% dead wood, or may have minor canopy dieback. Foliage density may be slightly below average for the species. Foliage colour may be slightly lower than average and some discolouration may be present. Typical growth indicators, e.g. extension growth, leaf size, canopy density for species in location. Average wound wood development.</p> <p>The tree exhibits below average health and remedial works may be employed to improve health.</p>
➤ Poor	<p>Tree may have more than 30% dead wood and canopy die back may be present. Leaves may be discoloured and/or distorted, often small, and excessive epicormic growth may be present. Pathogens and/or stress agents may be present that could lead, or are leading to, the decline of tree. Poor wound wood development.</p> <p>The tree exhibits low health and remedial works or removal may be required.</p>
➤ Very poor	<p>The tree has more than 30% dead wood. Extensive canopy die back is present. Canopy is very sparse. Pathogens and/or stress agents are present that are leading to the decline of the tree. Very poor wound wood development.</p> <p>The tree exhibits very low health and remedial works or removal are required.</p>
➤ Dead	<p>Tree is dead and generally should be removed.</p>

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23.7. Structure

Pertains to the physical structure of the tree including the main scaffold branches and roots. Structure includes those attributes that may influence the probability of major trunk, root or limb failure.

The notation of "Structure" is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ Good	<p>The tree has a well-defined and balanced crown. Branch unions appear to be strong with no defects evident in the trunk or the branches. The tree is unlikely to suffer trunk or branch failure under normal conditions.</p> <p>The tree is considered a good example of the species with a well-developed form.</p>
➤ Fair	<p>The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance and some branch unions may exhibit minor structural faults or have the potential to create faults. If the tree is single trunked, this may be on a slight lean or be exhibiting minor defects.</p> <p>These defects are not likely to result in catastrophic trunk or branch failure although some branch failure may occur under normal conditions.</p>
➤ Poor	<p>The tree has significant problems in the structure of the scaffold limbs or trunk. It may be lop-sided or have few branches on one side or have large gaps in the crown. Large branches may be rubbing or crossing over. Branch unions may be poor, and faults at the point of attachment or along the branches may be evident. The tree may have a substantial lean. The tree may have suffered significant root damage. The tree may have some degree of basal or trunk damage.</p> <p>These defects may predispose the tree to major trunk or branch failure.</p>
➤ Very poor	<p>The tree has some very significant problems in the structure of the crown. It may be lop-sided or have few branches on one side or have large gaps in the crown. Branches may be rubbing or crossing over and causing damage to each other. Branch unions may be poor, and faults at the point of attachment or along the branches may be evident. The tree may have a substantial lean. The tree may have suffered major root damage. The tree may have extensive basal or trunk damage.</p> <p>These defects are likely to predispose the tree to trunk or scaffold limb failure.</p>

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23.8. U.L.E. (Useful Life Expectancy)

U.L.E. pertains to the span of time that the tree might reasonably be expected to provide useful amenity value with an acceptable level of safety at an acceptable cost. Depending on the situation, available financial resources and other factors, two identical trees may be accorded different longevity ratings.

The notation of U.L.E. is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ 0	The tree is dead or almost dead or constitutes an immediate and unacceptable hazard. The tree should generally be removed unless other considerations require its' retention.
➤ 0 – 5	The tree is unlikely to provide useful amenity for longer than 5 years. The tree is in serious decline, poses an unacceptable hazard and/or requires a level of maintenance disproportionate with its' value. The tree should generally be removed unless other considerations require its' retention.
➤ 5 – 15	The tree is unlikely to provide useful amenity for longer than 15 years. The tree may be in serious decline, be a very short lived species, present a moderately elevated hazard and/or require high levels of maintenance. The tree could be retained or removed depending on the situation.
➤ 15 – 25	The tree is unlikely to provide useful amenity for longer than 25 years. The tree may be in moderate decline, be a short lived species, present a slightly elevated hazard and/or require moderate levels of maintenance. The tree should generally be retained unless other factors dictate its' removal.
➤ 25 – 50	The tree is likely to provide useful amenity for up to 50 years. The tree may be in fair to good condition, have a moderate life-span, present a low to moderate level of hazard and/or require moderate levels of maintenance. The tree should generally be retained unless other factors dictate its' removal.
➤ > 50	The tree is likely to provide useful amenity for greater than 50 years. The tree may be in good to excellent condition, long lived species, present a low level of hazard and/or require low levels of maintenance. The tree should generally be retained unless other factors dictate its' removal.

24. Form

The notation of "Form" pertains to the aesthetic qualities of the trees live canopy. Generally good form is indicative of a symmetrical, well-balanced canopy although this is dependent on the particular species. Some species naturally develop an asymmetric canopy and in this case a highly irregular canopy might be described as good.

The form of a tree is considered assuming that the tree stands in isolation from any surrounding trees. This may mean that a group of trees that exhibit good form as a group, may be described as having poor form as individuals.

The notation of "Form" is based on the following categories.

<u>Category</u>	<u>Example</u>
➤ Very good	<p>An outstanding specimen of that species.</p> <p>Generally a very evenly balanced and symmetrical canopy with no deformation.</p> <p>If the development of that species is naturally irregular then an outstanding specimen of that species.</p>
➤ Good	<p>A good specimen of that species.</p> <p>Generally a well balanced and symmetrical canopy with minor deformation.</p> <p>If the development of that species is naturally irregular then a good specimen of that species.</p>
➤ Fair	<p>An average specimen of that species.</p> <p>Generally a balanced canopy with some minor to moderate asymmetry.</p> <p>If the development of that species is naturally irregular then an average specimen of that species.</p>
➤ Poor	<p>A below average specimen of that species.</p> <p>Generally a moderate to high degree of asymmetry.</p> <p>If the development of that species is naturally irregular then a poor specimen of that species.</p>
➤ Very poor	<p>A very poor specimen of that species.</p> <p>Generally a high to extreme degree of asymmetry.</p> <p>If the development of that species is naturally irregular then a very poor specimen of that species.</p>

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25. Glossary / notes

<u>Tree Protection Zone (TPZ)</u>	Is based on AS 4970-2009 <i>Protection of trees on development sites</i> and defines the soil volume that is likely to be required to encompass enough of the trees absorbing root system to ensure the long term survival of the tree. The radius specified as the TPZ is an estimate of the minimum distance from the tree that excavation or other activities that might result in root damage should occur to avoid negative impacts on the health and longevity of the tree. AS 4970 states that intrusion of up to 10% of the surface area of the TPZ may occur without further assessment or analysis.
<u>Structural Root Zone (SRZ)</u>	Is based on AS 4970-2009 (Protection of trees on development sites) and defines the likely spread of the trees scaffold root system. These roots are the primary anchoring roots for the tree and damage to these roots may render the tree liable to uprooting. SRZ is based on measurement of the trunk above the root flair (AS 4970) However in this report SRZ is based on the measured or estimated DBH and there should be taken as an estimate only. Additional measurement may be required if construction near the SRZ is expected to occur.
<u>Modified Tree Protection Zone (mTPZ)</u>	Is based on the TPZ and includes any requirement to protect the above ground parts of the tree that project beyond the TPZ. However generally the mTPZ will be equal to the TPZ. TPZ extension beyond the TPZ to protect the tree canopy will be shown on the site plan but will not be reflected in the TPZ radius measurements quoted in this report.
<u>DBH (Diameter at Breast Height)</u>	Is the diameter of the tree at approximately 1.4 meters above ground level. Where a trunk is divided at or near 1.4 meters above ground the DBH is generally measured at the narrowest point of the trunk between ground level and 1.4 meters. Alternatively, where a higher level of accuracy is required with multi stemmed trees, DBH is derived from the combined cross sectional area of all trunks. The DBH of all accessible trees is measured unless otherwise stated in the Tree Data section of this report. The DBH of trees on adjoining properties is measured where access can be readily gained to the property, otherwise it is estimated.
<u>Measured</u>	Indicates whether the DBH has been measured or estimated. DBH may be estimated for small low value multi stem trees or trees that are inaccessible.
<u>Retained?</u>	Indicates whether the tree is shown as being removed or retained on the plans provided. This is generally derived from the site plans provided but the removal or retention of trees might be communicated by other means.

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Recommendation reason Pertains to the reason that removal or retention or other works are recommended. Other than trees on adjoining properties or road reserves a reason for retention is usually not given. In this case N/A is used.

Height & width Tree height is generally measured for moderate, high and very high value trees and is measured with an Impulse Laser infrared range finder. The height of low and very low value trees is usually estimated. Canopy width is estimated unless otherwise stated.

Genus / species The identification of trees is based on accessible visual characteristics and given that key identifying features are often not available at the time of assessment the accuracy of identification is not guaranteed. Where the species of any tree is not known, **sp.** is used.

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26. Practice Note VCAT 2 — Expert Evidence

26.1. Name & address of consultant

Roger George Greenwood of 1 Como Street, Emerald, Victoria, 3782.

26.2. Qualifications & experience

Roger Greenwood has the following qualifications and experience:

- Bachelor of Applied Science (Horticulture).
- Diploma of Applied Science (Horticulture).
- Advanced Certificate of Arboriculture.
- 29 years experience in arboriculture.
 - 8 years as a partner in The Tree Works dealing with all aspects of commercial arboriculture. The Tree Works provided a range of arboricultural services to government, commercial and domestic clients.
 - 4 years as a contract climber, crew manager and consulting arborist with a range of companies while completing higher education qualifications.
 - 17 years as a consulting arborist.

26.3. Area of expertise

Roger Greenwood provides specialist technical advice in the field of arboriculture. This includes the provision of technical expertise relating to problem diagnosis, management programs, tree appraisal and valuation and the relationship between trees and the built environment.

26.4. Expertise to report

Roger Greenwood has, by training, education, experience and research, considerable knowledge relating to the care, maintenance and management of trees in a wide variety of contexts.

Significant areas of operation and expertise include the provision of tree and built structure conflict reports, hazard assessment, tree condition appraisal and broad scale tree inventories.

Considerable effort is expended in research to remain current with the latest advances in all areas relating to tree care.

26.5. Declaration

"I have made all the inquiries that I believe are desirable and appropriate and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Tribunal."

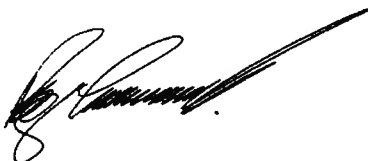
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Yours sincerely,



Roger Greenwood

B. App. Sci. (Hort)
Dip. App. Sci. (Hort)
Adv. Cert. Arb.