APPLICATION ON NOTIFICATION – CATEGORY 2

Applicant:	Nielsen Architects
Development Number:	100/E074/18
Nature of Development:	Demolition of all existing buildings and construction of a new ALDI supermarket and Chemist Warehouse building with shared car parking for up to 117 cars.
Subject Land:	1150-1154 & 1156-1158 South Road, Clovelly Park and 19 Wingfield Street, Clovelly Park, and 1, 3, and 5 Norrie Avenue, Clovelly Park.
Development Plan:	Marion Council Development Plan consolidated on 20 February 2018.
Zone / Policy Area:	Neighbourhood Centre Zone
Contact Officer:	Malcolm Govett
Phone Number:	7109 7094
Consultation Start Date:	19 September 2018
Consultation Close Date:	4 October 2018
During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).	

Written representations must be received by the close date (indicated above) and can either be posted, hand-delivered or emailed to the State Commission Assessment Panel.

Any representations received after the close date will not be considered.

Postal Address:
The Secretary
State Commission Assessment Panel
GPO Box 1815
ADELAIDE SA 5001

Street Address:
Development Division
Department of Planning, Transport and Infrastructure
Level 5, 50 Flinders Street
ADELAIDE

Email Address: scapreps@sa.gov.au

#13108161

South Australian
DEVELOPMENT ACT, 1993
REPRESENTATION ON APPLICATION – CATEGORY 2

Applicant:	Nielsen Architects
Development Number:	100/E074/18
Nature of Development:	Demolition of all existing buildings and construction of a new ALDI supermarket and Chemist Warehouse building with shared car parking for up to 117 cars.
Zone / Policy Area:	Neighbourhood Centre Zone
Subject Land:	1150-1154 & 1156-1158 South Road, Clovelly Park and 19 Wingfield Street, Clovelly Park, and 1, 3, and 5 Norrie Avenue, Clovelly Park.
Contact Officer:	Malcolm Govett
Phone Number:	7109 7094
Close Date:	4 October 2018

My Name: _____ My phone number: _____

Primary method(s) of contact: Email: _____

Postal Address: _____ Postcode: _____

You may be contacted via your nominated PRIMARY METHOD(s) OF CONTACT if you indicate below that you wish to be heard by the State Commission Assessment Panel in support of your submission.

My interests are: *(please tick one)*

- ☐ owner of local property
- ☐ occupier of local property
- ☐ a representative of a company/other organisation affected by the proposal
- ☐ a private citizen

The address of the property affected is: _____

_____ Postcode _____

My interests are: *(please tick one)*

- ☐ I support the development
- ☐ I support the development with some concerns
- ☐ I oppose the development

The specific aspects of the application to which I make comment on are: _____

_____

_____

_____

_____

I: *(please tick one)*

- ☐ wish to be heard in support of my submission
- ☐ do not wish to be heard in support of my submission *(Please tick one)*

By: *(please tick one)*

- ☐ appearing personally
- ☐ being represented by the following person *(Please tick one)*

Signature: _____

Date: _____

Return Address: The Secretary, State Commission Assessment Panel, GPO Box 1815, Adelaide, SA 5001 /or
Email: scapreps@sa.gov.au

DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: Marion Council

APPLICANT: Nielsen Architects

Postal Address: 108 Mt Barker Road, Stirling, SA 5152

Owner: As per Certificates of Title - see Planning Statement Appendix 1

Postal Address:

BUILDER: TBC

Postal Address:

Licence No:

CONTACT PERSON FOR FURTHER INFORMATION

Name: Rebecca Thomas (Ekistics Planning)

Telephone: 08) 7231 0286 [work] [Ah]

email: rthomas@ekistics.com.au

Fax: [work] [Ah]

EXISTING USE: Shops and associated car park

FOR OFFICE USE

Development No:

Previous Development No:

Assessment No:

☐ Complying	Application forwarded to DA
☐ Non Complying	Commission/Council on
☐ Notification Cat 2	/ /
☐ Notification Cat 3	Decision:
☐ Referrals/Concurrences	Type:
☐ DA Commission	Date: / /

	Decision required	Fees	Receipt No	Date
Planning:				
Building:				
Land Division:				
Additional:				
Development Approval				

DESCRIPTION OF PROPOSED DEVELOPMENT: Staged construction of a freestanding ALDI Store (shop) and Chemist Warehouse (shop) with associated on-site signage, fencing, car parking and landscaping

LOCATION OF PROPOSED DEVELOPMENT:

House No: See Planning Statement Lot No: Street: South Road, Wingfield St & Norrie Avenue Town/Suburb: Clovelly Park

Section No [full/part] Hundred: Volume: Folio:

Section No [full/part] Hundred: Volume: Folio:

LAND DIVISION:

Site Area [m^2] Reserve Area [m^2] No of existing allotments

Number of additional allotments [excluding road and reserve]: Lease: **YES** ☐ **NO** ☐

BUILDING RULES CLASSIFICATION SOUGHT: Present classification:

If Class 5,6,78 or 9 classification is sought, state the proposed number of employees: Male: Female:

If Class 9a classification is sought, state the number o persons for whom accommodation is provided:

If Class 9b classification is sought, state the proposed number of occupants of the various spaces at the premises:

DOES EITHER SCHEDULE 21 OR 22 OF THE DEVELOPMENT REGULATIONS 2008 APPLY? **YES** ☐ **NO** ☐

HAS THE CONSTRUCTION INDUSTRY TRAINING FUND ACT 2008 LEVY BEEN PAID? **YES** ☐ **NO** ☐

DEVELOPMENT COST [do not include any fit-out costs]: $ 6.4M

I acknowledge that copies of this application and supporting documentation may be provided to interested persons in accordance with the Development Regulations 2008.

SIGNATURE: Dated: 28 / 08 / 18

Trent Burns (Nielsen Architects)

DEVELOPMENT REGULATIONS 2008
Form of Declaration (Schedule 5 clause 2A)

Government of South Australia

To: State Commission Assessment Panel (SCAP)

From: Nielsen Architects

Date of Application: 28 / 08 / 2018

Location of Proposed Development: 1150-1154 South Road, Clovelly Park; 1156-1158 South Road, Clovelly Park; 19 Wingfield Street, Clovelly Park; 1-5 Norrie Avenue, Clovelly Park

House No: _____ Lot No: _____ Street: _____

Town/Suburb: _____

Section No (full/part): _____ Hundred: _____

Volume: _____ Folio: _____ See Planning Statement Appendix 1 for CTs

Nature of Proposed Development: Staged construction of a freestanding ALDI Store (shop) and Chemist Warehouse (shop) wit associated on-site signage, fencing, car parking and landscaping

I Trent Burns (Nielsen Architects) **being the applicant/ ~~a person acting on behalf of the applicant~~ (delete the inapplicable statement) for the development described above declare that the proposed development will involve the construction of a building which would, if constructed in accordance with the plans submitted, not be contrary to the regulations prescribed for the purposes of section 86 of the Electricity Act 1996. I make this declaration under clause 2A(1) of Schedule 5 of the Development Regulations 2008.**

Signed: _____ **Date:** 28/08/18

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:01PM
Customer Reference	1648055
Order ID	20160304007229
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5132 Folio 506

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 1443/5
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	19/07/1993
Edition	4
Edition Issued	15/04/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 26 DEPOSITED PLAN 3034
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

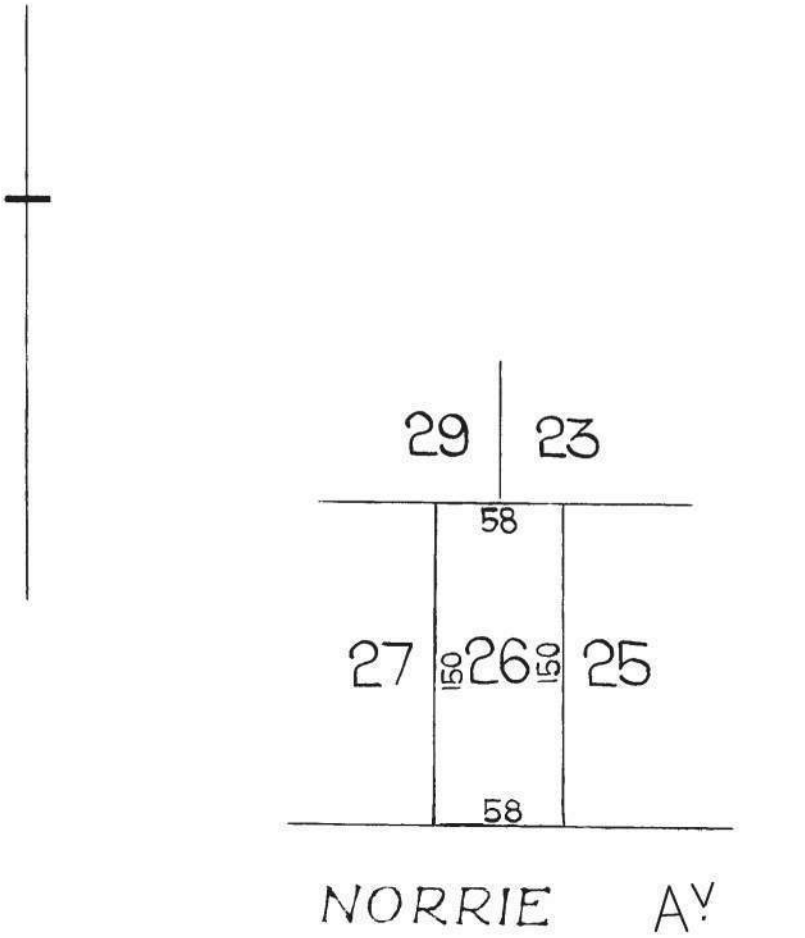
NIL

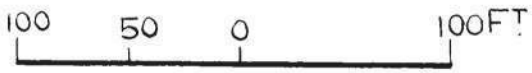
Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:01PM
Customer Reference	1648055
Order ID	20160304007229
Cost	$32.50





DISTANCES ARE IN FEET AND INCHES FOR METRIC CONVERSION		
1 FOOT	=	0·3048 metres
1 INCH	=	0·0254 metres

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:08PM
Customer Reference	1648055
Order ID	20160304007372
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5148 Folio 47

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 2552/15
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/10/1993
Edition	3
Edition Issued	15/04/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 216 FILED PLAN 12391
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7651907	ENCUMBRANCE TO ABYDOS PTY. LTD. (SINGLE COPY ONLY)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

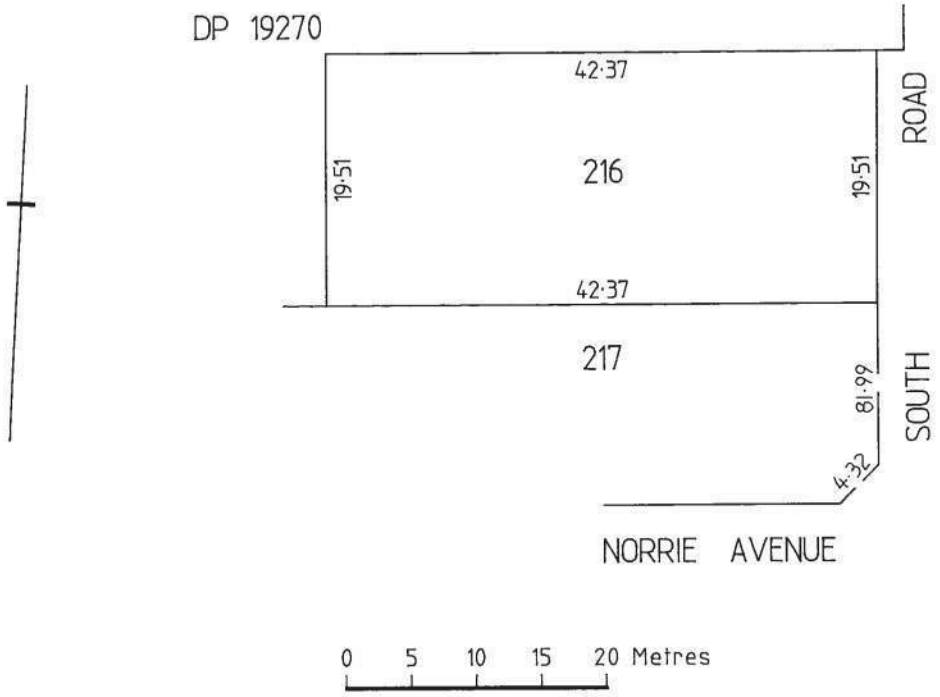
NIL

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:08PM
Customer Reference	1648055
Order ID	20160304007372
Cost	$32.50



Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:02PM
Customer Reference	1648055
Order ID	20160304007244
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5148 Folio 210

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 2588/47
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/10/1993
Edition	3
Edition Issued	15/04/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 29 DEPOSITED PLAN 3034
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7651907	ENCUMBRANCE TO ABYDOS PTY. LTD. (SINGLE COPY ONLY)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

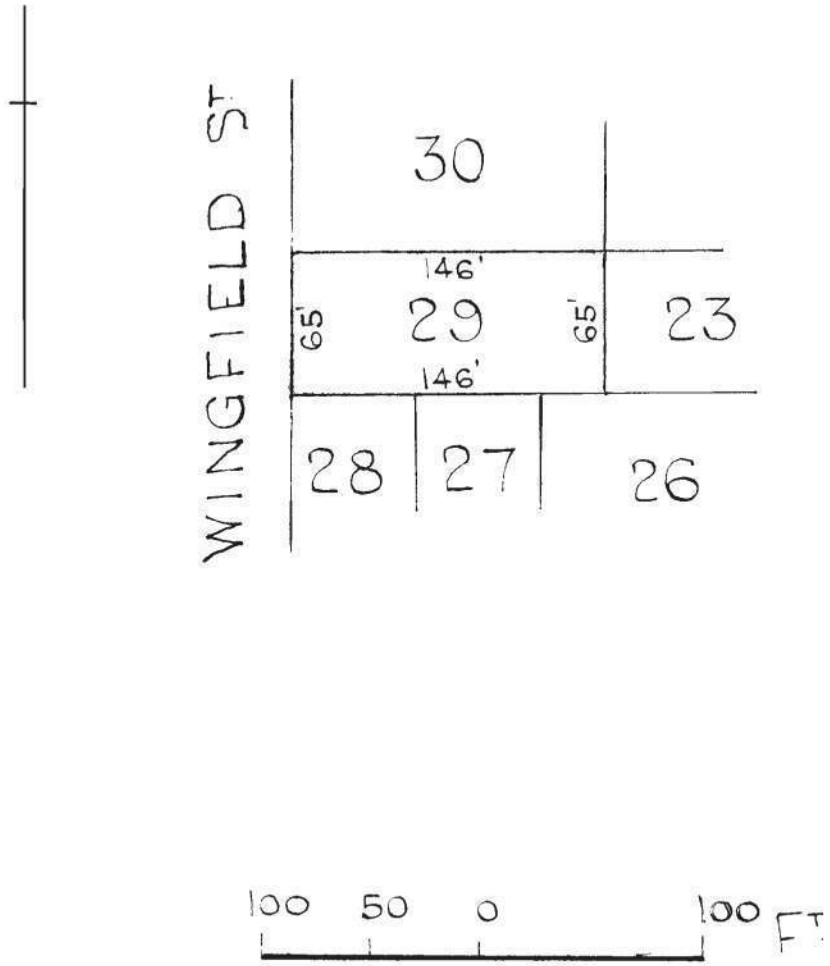
NIL

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:02PM
Customer Reference	1648055
Order ID	20160304007244
Cost	$32.50



DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION

1 FOOT	=	0·3048 metres
1 INCH	=	0·0254 metres

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:04PM
Customer Reference	1648055
Order ID	20160304007289
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

REGISTRAR - GENERAL SOUTH AUSTRALIA

Registrar-General

Certificate of Title - Volume 5148 Folio 211

REAL PROPERTY ACT, 1886 South Australia

Parent Title(s)	CT 2588/48
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/10/1993
Edition	3
Edition Issued	15/04/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 30 DEPOSITED PLAN 3034
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7651907	ENCUMBRANCE TO ABYDOS PTY. LTD. (SINGLE COPY ONLY)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

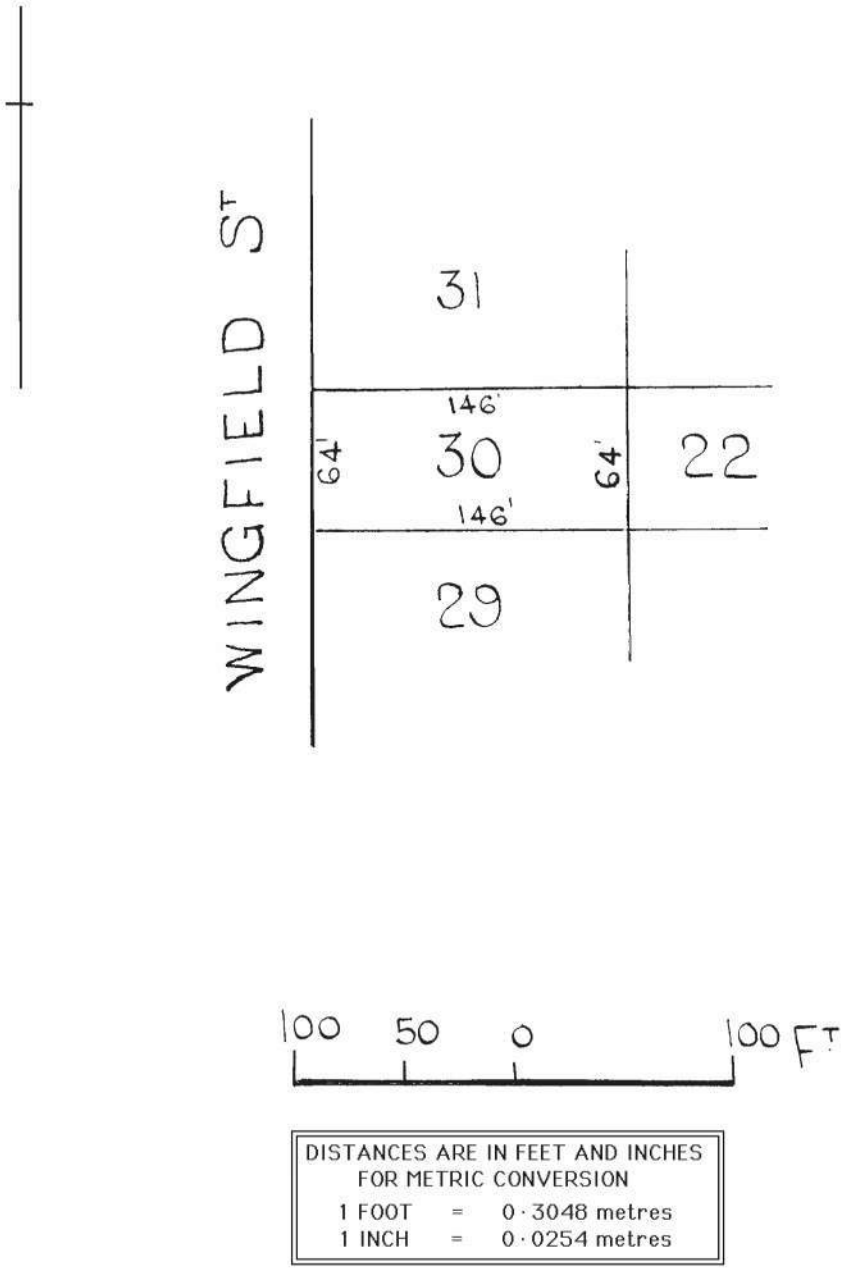
NIL

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:04PM
Customer Reference	1648055
Order ID	20160304007289
Cost	$32.50



Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:03PM
Customer Reference	1648055
Order ID	20160304007269
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5148 Folio 214

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 4367/503
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/10/1993
Edition	5
Edition Issued	12/10/2015

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 218 FILED PLAN 12391
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7651907	ENCUMBRANCE TO ABYDOS PTY. LTD. (SINGLE COPY ONLY)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

NEW EDITION CREATED DUE TO EXPIRATION OF LEASE

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:03PM
Customer Reference	1648055
Order ID	20160304007269
Cost	$32.50

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:05PM
Customer Reference	1648055
Order ID	20160304007305
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5148 Folio 217

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 4390/792
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	08/10/1993
Edition	3
Edition Issued	15/04/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 217 FILED PLAN 12391
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

Dealing Number	Description
7651907	ENCUMBRANCE TO ABYDOS PTY. LTD. (SINGLE COPY ONLY)

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

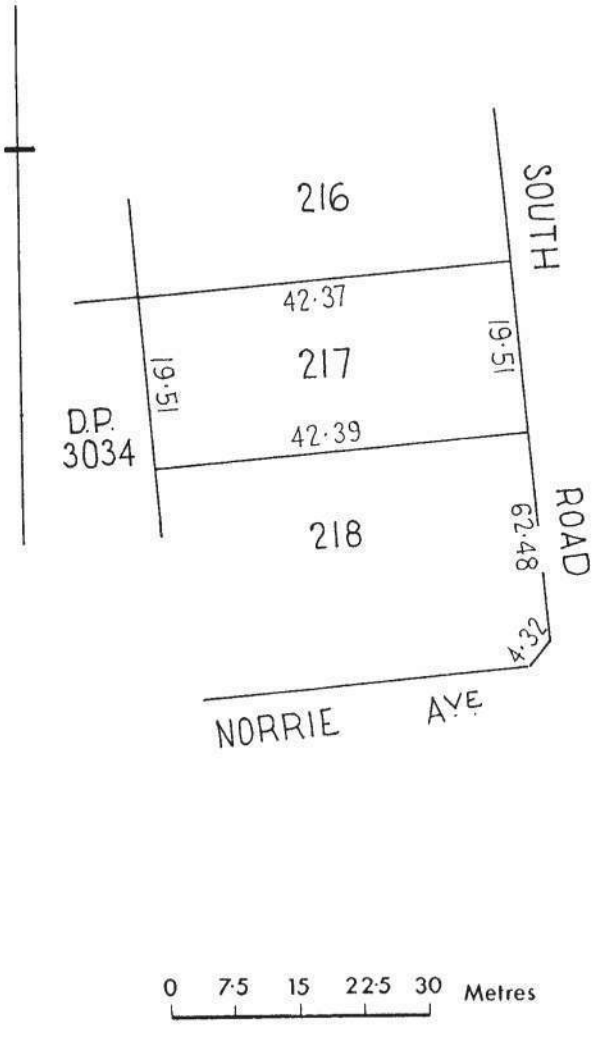
NIL

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:05PM
Customer Reference	1648055
Order ID	20160304007305
Cost	$32.50



Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 01:58PM
Customer Reference	1648055
Order ID	20160304007167
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5258 Folio 302

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 2588/46
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	29/03/1995
Edition	9
Edition Issued	19/02/2015

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF LEVEL 15/390 ST KILDA ROAD MELBOURNE VIC 3004

Description of Land

ALLOTMENT 28 DEPOSITED PLAN 3034
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

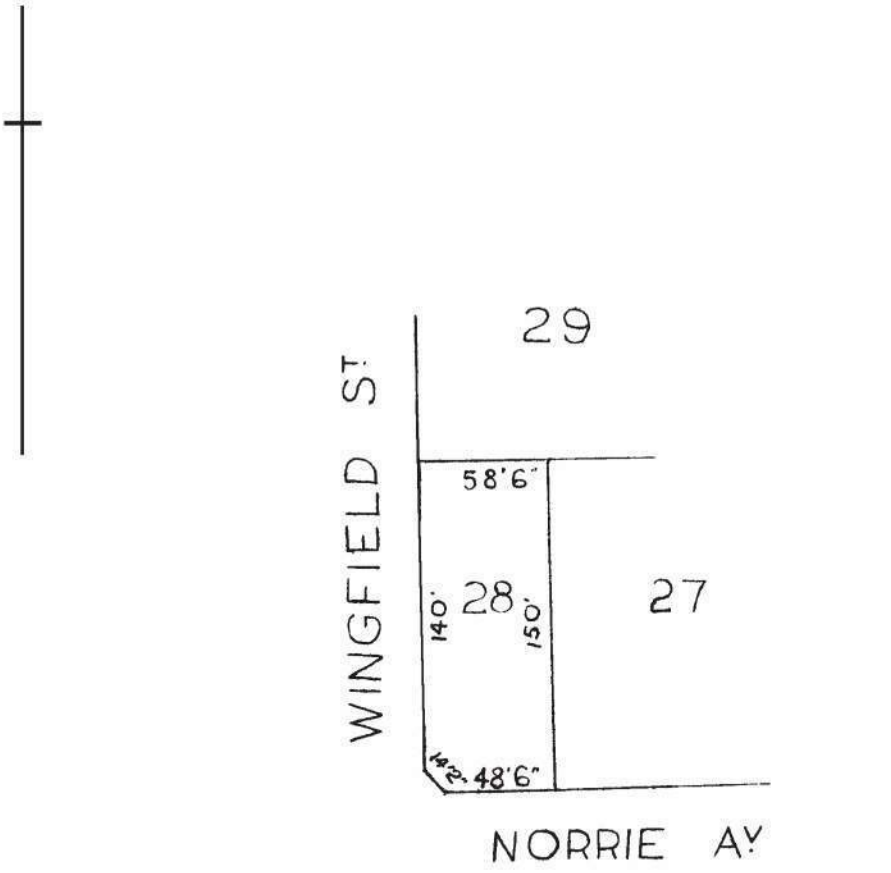
NIL

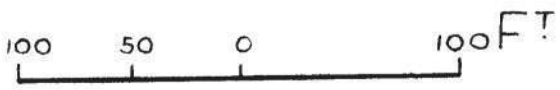
Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 01:58PM
Customer Reference	1648055
Order ID	20160304007167
Cost	$32.50





DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION
1 FOOT = 0·3048 metres
1 INCH = 0·0254 metres

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	04/03/2016 02:00PM
Customer Reference	1648055
Order ID	20160304007212
Cost	$32.50

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

Registrar-General

Certificate of Title - Volume 5676 Folio 287

REAL PROPERTY ACT, 1886
South Australia

Parent Title(s)	CT 2332/186
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	28/07/1999
Edition	2
Edition Issued	09/02/2015

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH RD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF LEVEL 15/390 ST KILDA ROAD MELBOURNE VIC 3004

Description of Land

ALLOTMENT 27 DEPOSITED PLAN 3034
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

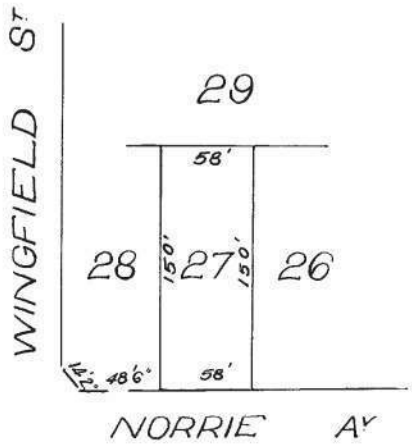
NIL

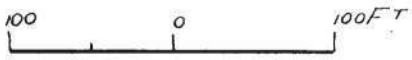
Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	04/03/2016 02:00PM
Customer Reference	1648055
Order ID	20160304007212
Cost	$32.50





DISTANCES ARE IN FEET AND INCHES
FOR METRIC CONVERSION
1 FOOT = 0·3048 METRES
1 INCH = 0·0254 METRES

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	07/07/2016 04:22PM
Customer Reference	162878:LGA
Order ID	20160707009864
Cost	$33.00

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

REGISTRAR - GENERAL SOUTH AUSTRALIA

Registrar-General

Certificate of Title - Volume 5252 Folio 910

REAL PROPERTY ACT, 1886 South Australia

Parent Title(s)	CT 5103/926
Dealing(s) Creating Title	PS 7815121
Title Issued	07/03/1995
Edition	6
Edition Issued	11/02/2009

Estate Type

FEE SIMPLE

Registered Proprietor

1152 SOUTH ROAD CLOVELLY PARK PTY. LTD. (ACN: 133 069 539)
OF 274 EDWARDES STREET RESERVOIR VIC 3073

Description of Land

ALLOTMENT 3 DEPOSITED PLAN 19270
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

PLAN FOR LEASE PURPOSES VIDE G649/1991

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	07/07/2016 04:22PM
Customer Reference	162878:LGA
Order ID	20160707009864
Cost	$33.00

Government of South Australia
Department of Planning, Transport and Infrastructure

Product	Register Search Plus
Date/Time	07/07/2016 02:03PM
Customer Reference	162878
Order ID	20160707007149
Cost	$33.00

The Registrar-General certifies that this Title Register Search displays the records maintained in the Register Book and other notations at the time of searching.

REGISTRAR - GENERAL SOUTH AUSTRALIA

Registrar-General

Certificate of Title - Volume 5450 Folio 122

REAL PROPERTY ACT, 1886 South Australia

Parent Title(s)	CT 4282/944
Dealing(s) Creating Title	CONVERTED TITLE
Title Issued	16/09/1997
Edition	6
Edition Issued	17/01/2015

Estate Type

FEE SIMPLE

Registered Proprietor

1156-1158 STH ROAD CLOVELLY PARK PTY. LTD. (ACN: 135 182 231)
OF LEVEL 15/390 ST KILDA ROAD MELBOURNE VIC 3004

Description of Land

ALLOTMENT 2 DEPOSITED PLAN 19270
IN THE AREA NAMED CLOVELLY PARK
HUNDRED OF ADELAIDE

Easements

NIL

Schedule of Dealings

NIL

Notations

Dealings Affecting Title

NIL

Priority Notices

NIL

Notations on Plan

NIL

Registrar-General's Notes

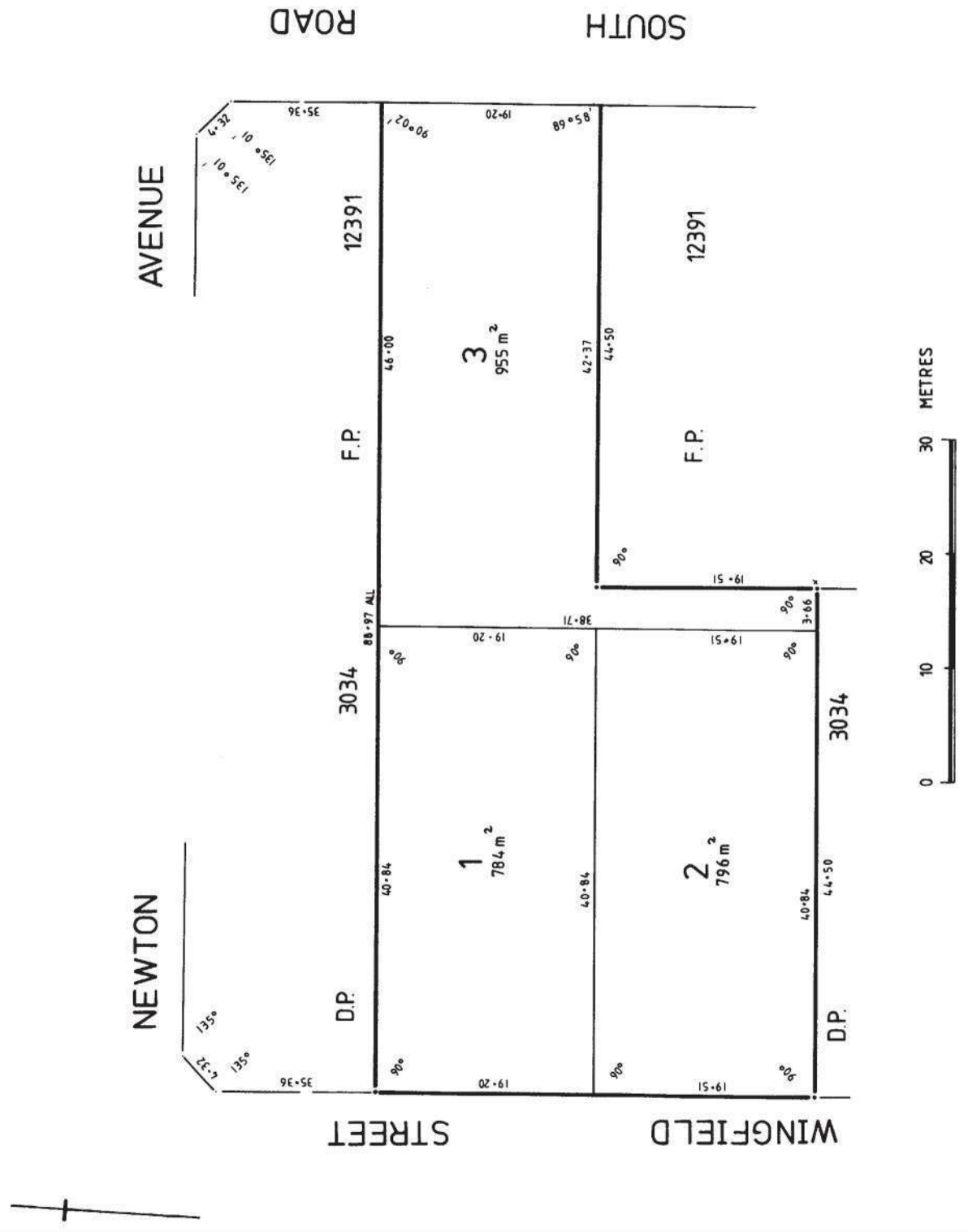
NIL

Administrative Interests

NIL

* Denotes the dealing has been re-lodged.

Product	Register Search Plus
Date/Time	07/07/2016 02:03PM
Customer Reference	162878
Order ID	20160707007149
Cost	$33.00



ekistics

Appendix 6. Detail Survey Plan

LEGEND

47.51TK TOP KERB
47.36WT WATER TABLE
45.18FL FLOOR LEVEL
46.12IL INVERT LEVEL
or TAP
WATER METER
SPRINKLER / IRRIG VALVE
or HYDRANT
DOMESTIC OUTLET
DOWNPIPE
DOMESTIC SUMP
STORMWATER MHOLE
SEP / GRATING
TEL. COMM. PILLAR / PIT
TRAFFIC LIGHT
SIGN / BUS SIGN
LITTER BIN
MAIL BOX / SIGNAL BOX
TICKET MACHINE
ROAD / ELEC. SERVICE
WATER SV / FP
ELEC. / GAS METER
GAS SERVICE
PSM
PEG / TBM
SURVEY MARKS
BOREHOLE
POWER / LIGHT POLE
CABLE MARKER
STOBIE / WOODEN POLE
POST / BOLLARD
SEWER MH / IO / SIP
UNKNOWN POINT / SERVICE
EDGE OF VEGETN
ROAD SIGN / HOARD
TREE / SHRUB
Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.
BOTTOM OF BANK
TOP OF BANK
CHANGE OF GRADE
DRAIN
SEWER PIPE UG
TEL. COMM. UG
WATER PIPE UG
BUILDING
WALL
GI BUILDING
CONCRETE
FENCE
GATE

REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 94 ZONE 54
SCALE: GROUND	(CSF = 1.000197215)

ADOPTED STATION & AUTHORITY

PSM 6628/28686	RL:	32.792	SDB
PSM 6628/28686	E:	278701.595	SDB
	N:	6124718.828	SDB

SDB denotes SA Government survey data base values (Dated: / /2015)

0 2 4 8 12 16 20 m

1:200

ORIGINAL SHEET SIZE A1

Notes:
Property boundaries shown hereon have been compiled from the government records and have not been verified by field survey.

GRID SPACING	20m
CONTOUR INTERVAL:	MIN 0.2m; MAJ 1.0m
SURVEY: AS	21/06/2018
DRAWN: NAS	04/07/2018
CHECKED: BT	05/07/2018

Alexander & Symonds Pty Ltd
11 King William Street Kent Town,
South Australia 5067
PO Box 1000 Kent Town, SA 5071
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Alexander Symonds Surveying Consultants

Detail & Level Survey
South Rd & Norrie Ave
Clovelly Park

DRAWING No. A051618 DETAIL(0)

SHEET 1 OF 3

REVISION 0

LEGEND

47.51TK TOP KERB
47.39WT WATER TABLE
45.16FL FLOOR LEVEL
46.12IL INVERT LEVEL
or TAP
WATER METER
SPRINKLER / IRRIG VALVE
or HYDRANT
DOMESTIC OUTLET
DOWNPIPE
DOMESTIC SUMP
STORMWATER MHOLE
SCP / GRATING
TEL. COMM. PILLAR / PIT
TRAFFIC LIGHT
SIGN / BUS SIGN
LITTER BIN
MAIL BOX / SIGNAL BOX
TICKET MACHINE
ROAD / ELEC. SERVICE
WATER SV / FP
ELEC. / GAS METER
GAS SERVICE
PSM
PEG / TBM
SURVEY MARKS
BOREHOLE
POWER / LIGHT POLE
CABLE MARKER
STOBIE / WOODEN POLE
POST / BOLLARD
SEWER MH / IO / SP
UNKNOWN POINT / SERVICE
EDGE OF VEGETN
ROAD SIGN / HOARD
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BOTTOM OF BANK
TOP OF BANK
CHANGE OF GRADE
DRAIN
SEWER PIPE U/G
TEL. COMM. U/G
WATER PIPE U/G
BUILDING
WALL
GI BUILDING
CONCRETE
FENCE
GATE

REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

COORDINATE SYSTEM

VERTICAL:	AHD
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SDB denotes SA Government survey data base values (Dated: / /2015)

0 2 4 8 12 16 20 m

1:200

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Detail & Level Survey
South Rd & Norrie Ave
Clovelly Park

DRAWING No. A051618 DETAIL(0)

SHEET 2 OF 3

REVISION 0

LEGEND

47.01TK TOP KERB
47.36WT WATER TABLE
45.18FL FLOOR LEVEL
46.12IL INVERT LEVEL
or TAP
WATER METER
SPRINKLER / IRRIG VALVE
or HYDRANT
DOMESTIC OUTLET
DOWNPIPE
DOMESTIC SUMP
STORMWATER MHOLE
SCP / GRATING
TEL. COMM. PILLAR / PIT
TRAFFIC LIGHT
SIGN / BUS SIGN
LITTER BIN
MAIL BOX / SIGNAL BOX
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GAS SERVICE
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EDGE OF VEGETN
ROAD SIGN / HOARD
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Possible REGULATED / SIGNIFICANT TREE by measurement only (trunk greater than 2.0m circumference). Professional advice from council / arborist required.
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BUILDING
WALL
GI BUILDING
CONCRETE
FENCE
GATE

REV	DATE	DESCRIPTION	CALC	FIELD
ADDITIONS, AMENDMENTS AND APPROVALS				

COORDINATE SYSTEM

VERTICAL:	AHD
HORIZONTAL:	GROUND PLANE ORIENTED TO: MGA 94 ZONE 54
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0 2 4 8 12 16 20 m

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Detail & Level Survey
South Rd & Norrie Ave
Clovelly Park

DRAWING No. A051618 DETAIL(0)

SHEET 3 OF 3

REVISION 0

PROPOSED ALDI CLOVELLY PARK

TABLE OF CONTENTS

NIELSEN ARCHITECTS

108 Mt Barker Road Stirling
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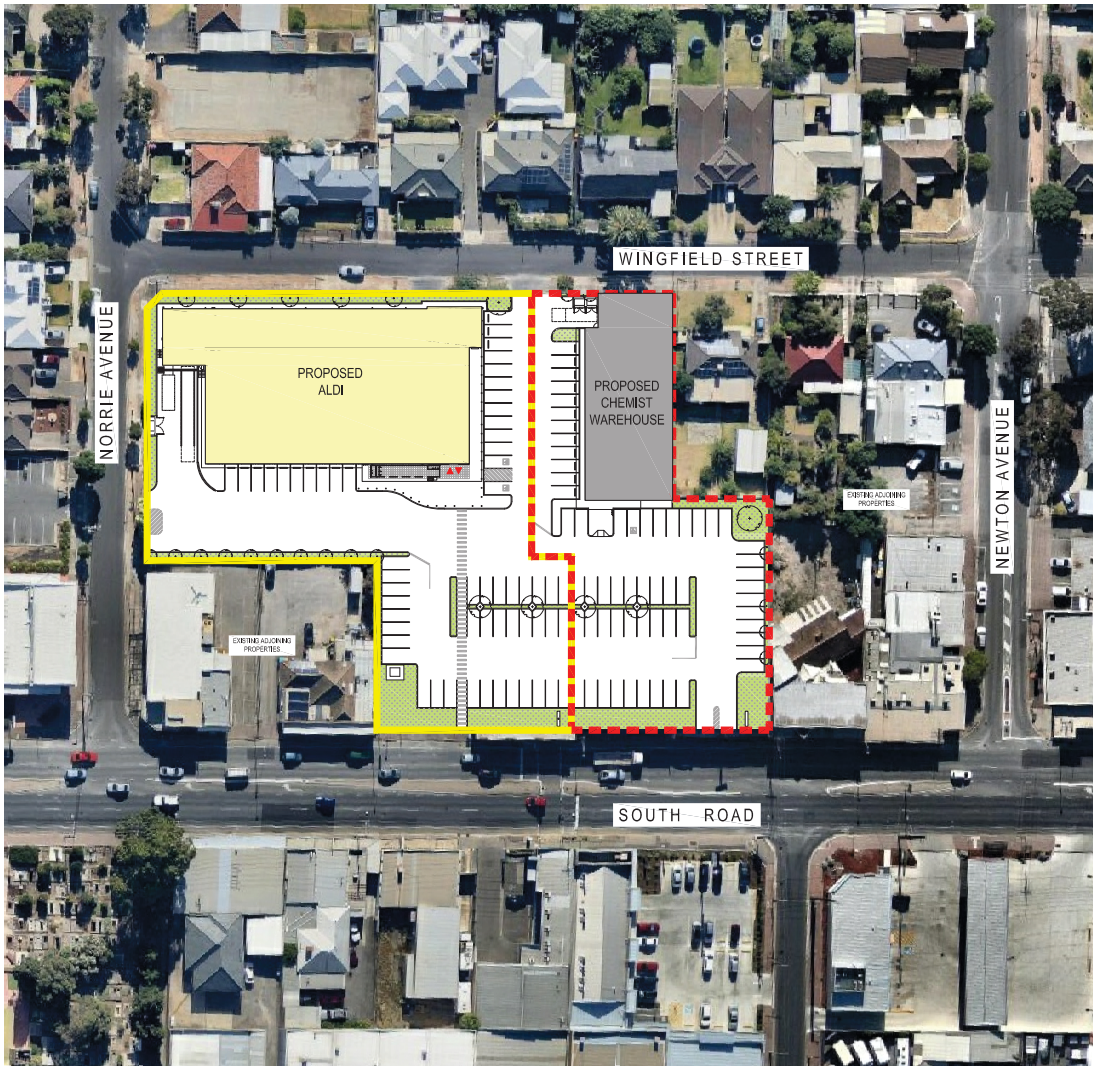
admin@nielsenarchitects.com.au
www.nielsenarchitects.com.au



LOCATION PLAN

1:1000

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
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B	25.06.18	PLANNING	TB	DS
C	19.07.18	PLANNING	TB	DS

LEGEND	
ALDI SITE BOUNDARY	
CHEMIST WAREHOUSE SITE BOUNDARY	
ALDI STORE	
CHEMIST WAREHOUSE	

N

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
LOCATION PLAN
PROPOSED

NIELSEN ARCHITECTS
108 Mt Barker Road Stirling
South Australia 5152
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www.nielsenarchitects.com.au

SCALE	DATE	DRAWN	CHECKED
1:1000	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA01.1	DA	C

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

N

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
CONTRACT TITLES
EXISTING

NIELSEN ARCHITECTS
108 Mt Barker Road Stirling
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SCALE	DATE	DRAWN	CHECKED
1:500	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA01.2	DA	A

CONTRACT TITLES - EXISTING
1:500

LEGEND

EXISTING BOUNDARIES	

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS
B	25.06.18	PLANNING	TB	DS

N

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
CONTRACT TITLES
PROPOSED

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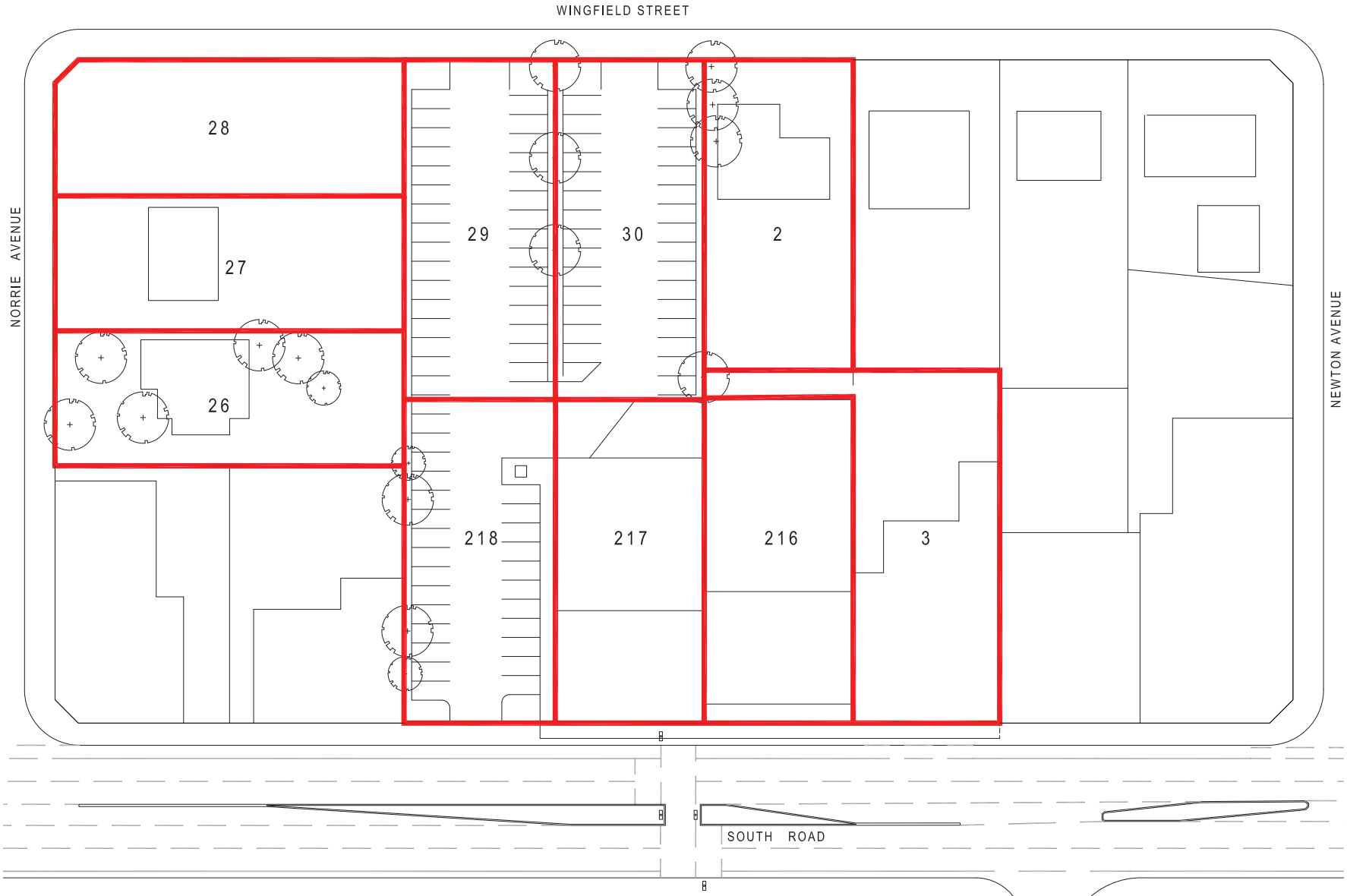
SCALE	DATE	DRAWN	CHECKED
1:500	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA01.3	DA	B

CONTRACT TITLES - PROPOSED

1:500

LEGEND	
ALDI TITLE BOUNDARY	
CHEMIST WAREHOUSE TITLE BOUNDARY	
EXISTING TITLE BOUNDARIES	



EXISTING SITE PLAN
1:500

LEGEND	
EXISTING BOUNDARY	
EXISTING CONTOUR	0.00
EXISTING LEVEL	EX 0.00
DESIGN LEVEL	RL 0.00

NOTES
ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

N

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
EXISTING SITE PLAN

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SCALE	DATE	DRAWN	CHECKED
1:500	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
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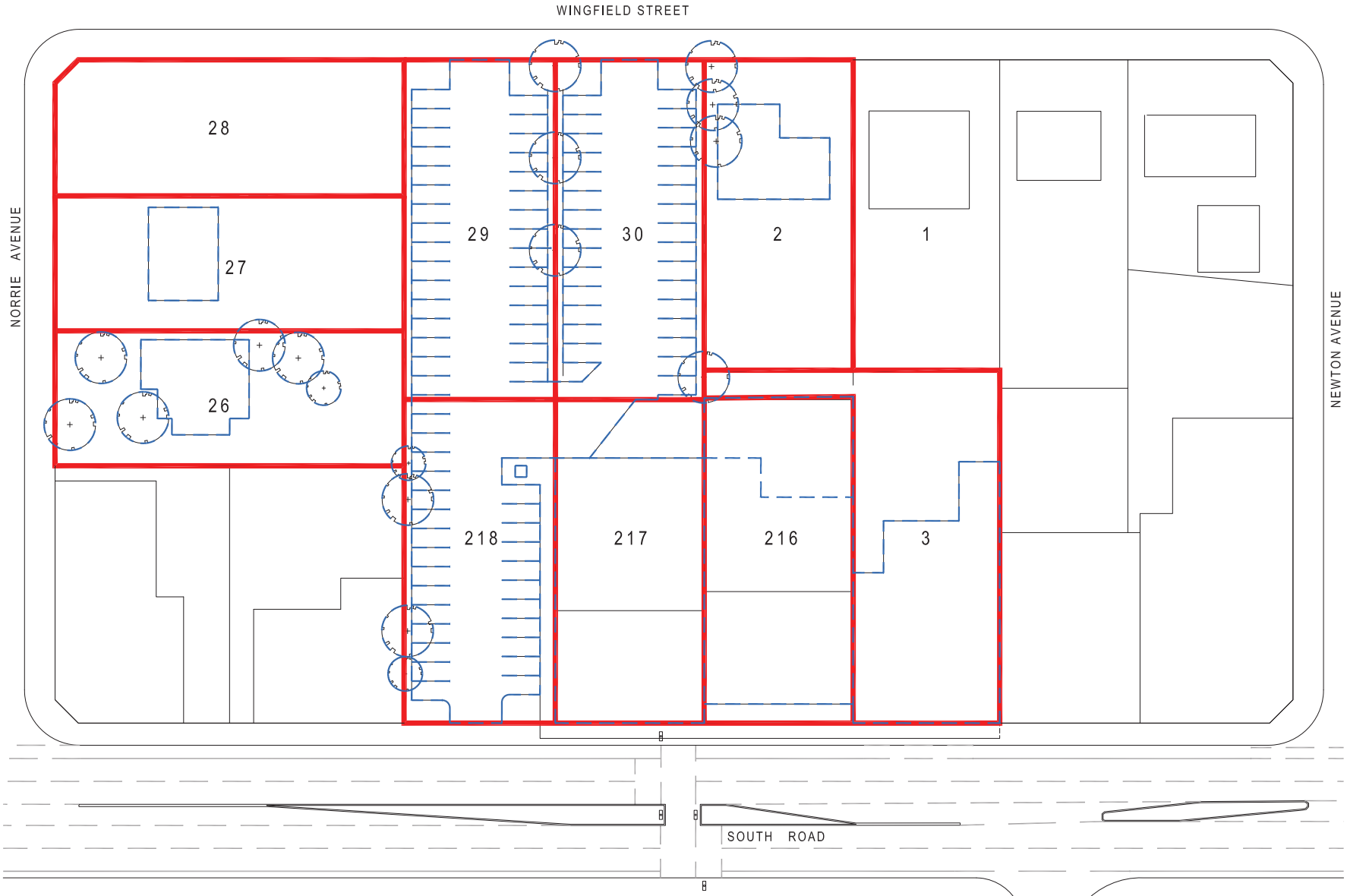

DEMOLITION SITE PLAN
1:500

LEGEND

EXISTING BOUNDARY	
STRUCTURES AND ITEMS TO BE DEMOLISHED	
EXISTING BOUNDARY	0.00
EXISTING LEVEL	EX 0.00
DESIGN LEVEL	RL 0.00

NOTES
ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

N

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
DEMOLITION SITE PLAN

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PROJECT No	DRAWING No	STATUS	REV
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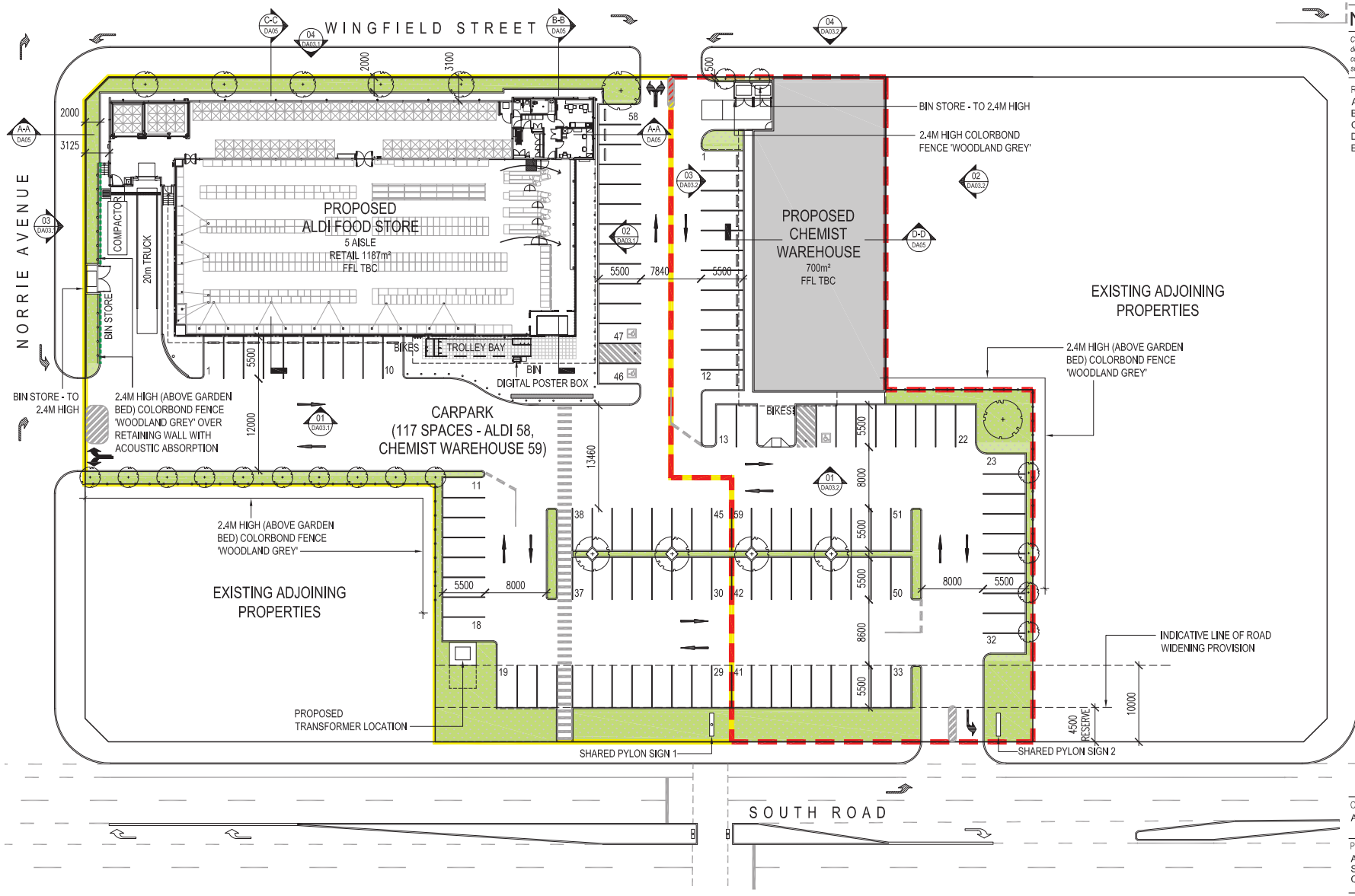

PROPOSED SITE PLAN

1:500

DEVELOPMENT	
TOTAL SITE AREA	8422m²

ALDI DESCRIPTION			
ALDI SITE AREA	5374m²	AMENITIES NETT AREA	79m²
ALDI GROSS AREA	1732m²	REMAINING NETT AREA	490m²
ALDI NETT AREA	1677m²	BOH PALLETS	120
RETAIL NETT AREA	1187m²	CHILLER LENGTH	40m
BOH NETT AREA	411m²	SIZE OF TRUCK	20m

CHEMIST WAREHOUSE DESCRIPTION	
CHEMIST WAREHOUSE SITE AREA	3048m²
RETAIL GROSS AREA	700m²

CARPARKING	
ALDI CARS	58
CHEMIST WAREHOUSE CARS	59

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS
B	25.06.18	PLANNING	TB	DS
C	19.07.18	PLANNING	TB	DS
D	07.08.18	PLANNING	LT	TB
E	14.08.18	PLANNING	LT	TB

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
PROPOSED SITE PLAN

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SCALE	DATE	DRAWN	CHECKED
1:500	AUG 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
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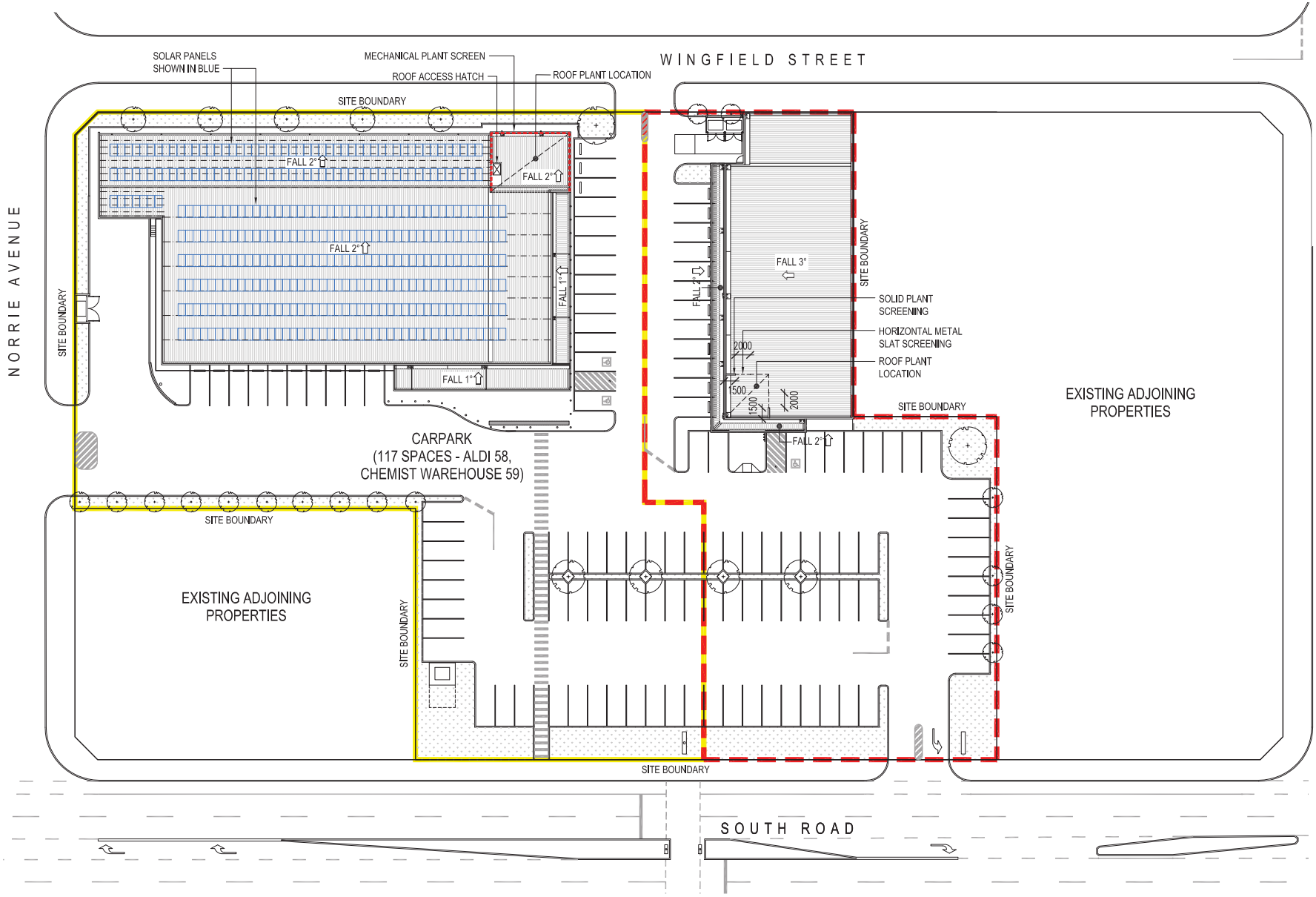

PROPOSED ROOF PLAN
1:500

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS
B	25.06.18	PLANNING	TB	DS
C	19.07.18	PLANNING	TB	DS
D	14.08.18	PLANNING	TB	DS

CLIENT
ALDI STORES

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ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
PROPOSED ROOF PLAN

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SCALE	DATE	DRAWN	CHECKED
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PROJECT No	DRAWING No	STATUS	REV
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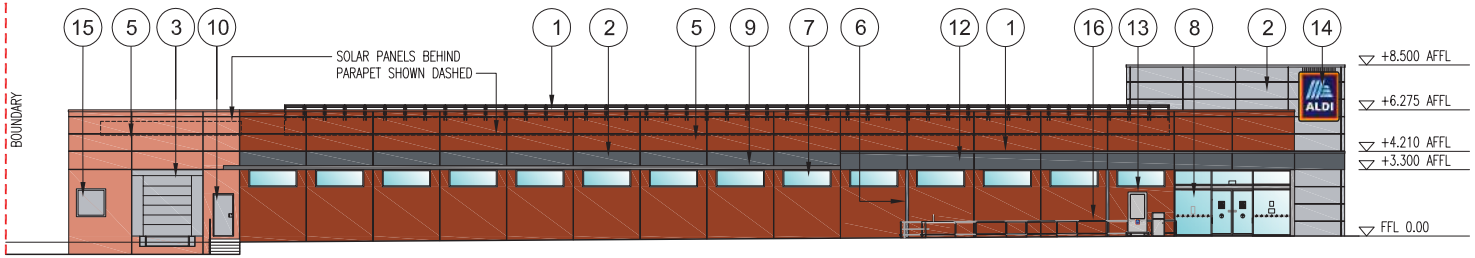
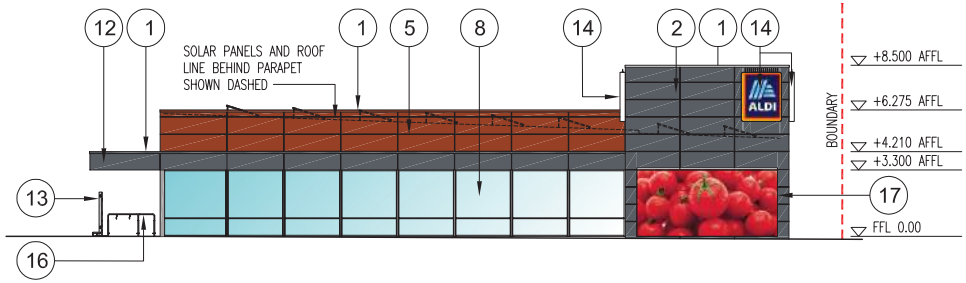
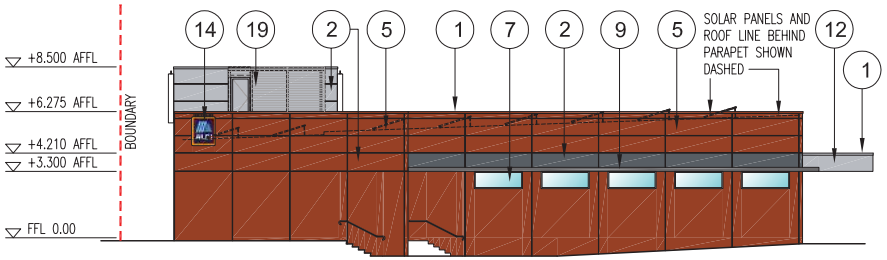


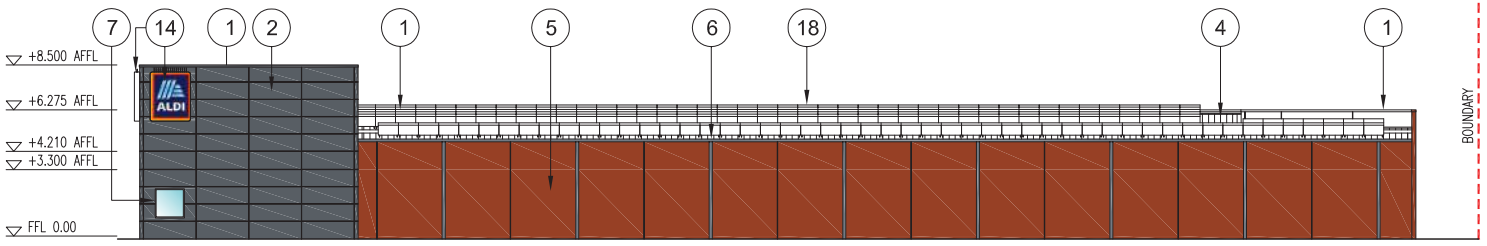
01 DA02.3 **EAST ELEVATION** 1:250



02 DA02.3 **NORTH ELEVATION** 1:250



03 DA02.3 **SOUTH ELEVATION** 1:250 PROPOSED



04 DA02.3 **WEST ELEVATION** 1:250 PROPOSED

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

MATERIAL SCHEDULE

1 - COLORBOND CAPPING, COLOUR TO MATCH ADJACENT PRECAST PANEL FINISH
2 - PRECAST RC PANEL, PAINT FINISH DULUX 'DRIVETIME'
3 - PANEL LIFT DOOR AND COMPACTOR DOOR - COLORBOND, 'BASALT GREY'
4 - COLORBOND ROOF SHEETING, SURFMIST
5 - PRECAST RC PANEL, PAINT FINISH DULUX 'FLUORESCENT FIRE'
6 - GUTTER AND DOWNPIPES - COLORBOND, 'BASALT GREY'
7 - WINDOWS - ANODISED ALUMINIUM FRAMES, NATURAL FINISH
8 - SHOPFRONT - ANODISED ALUMINIUM FRAMES, NATURAL FINISH
9 - SUNSCREEN - PAINTED STEEL FRAME - COLORBOND, 'BASALT GREY'
10 - DOOR & FRAME, DULUX 'OLDE PEWTER'
11 - BIN STORE, PRECAST CONCRETE 'FLUORESCENT FIRE'
12 - FIBRE CEMENT FASCIA, DULUX 'DRIVETIME'
13 - POSTER BOX
14 - ALDI ILLUMINATED SIGNS
15 - COMPACTOR DOOR & FRAME - 'OLDE PEWTER'
16 - TROLLEY BAY
17 - EXTERNAL LIFESTYLE IMAGE (TOMATO)
18 - SOLAR PANELS
19 - PLANT LOUVERS - POWERCOATED 'OLDE PEWTER'

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
ALDI EXTERNAL ELEVATIONS

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SCALE	DATE	DRAWN	CHECKED
1:250	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
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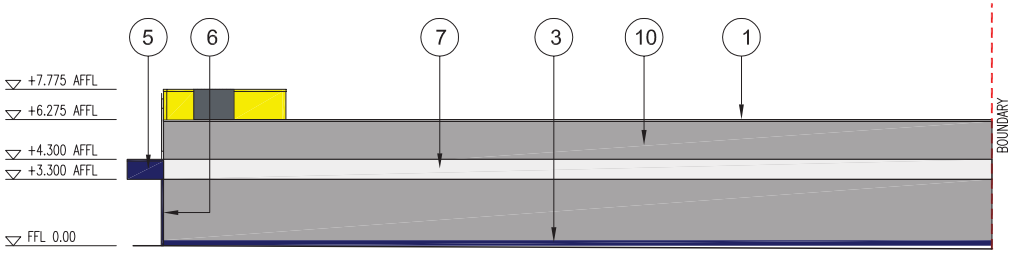
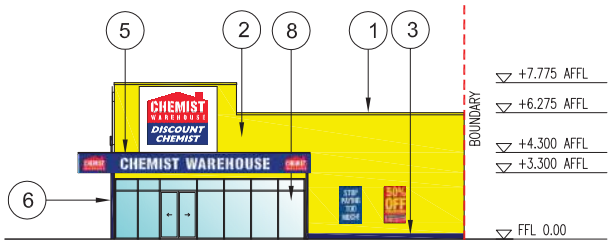


01 DA02.3 **NORTH ELEVATION** 1:250



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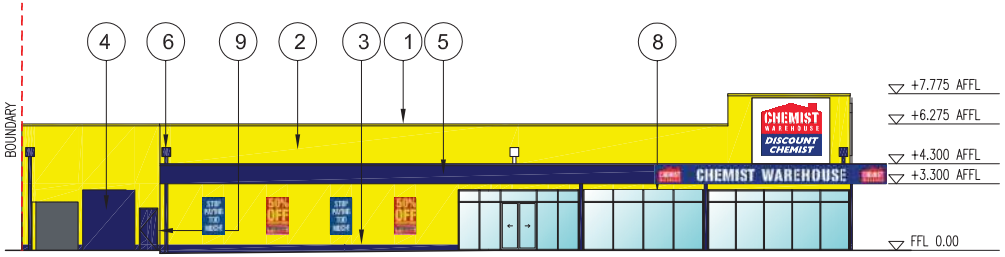
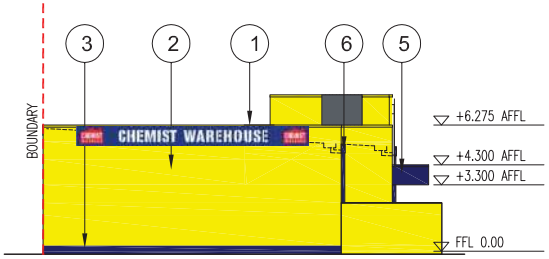


03 DA02.3 **SOUTH ELEVATION** 1:250



04 DA02.3 **WEST ELEVATION** 1:250

NOTES

ORIGINAL A3

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B	19.07.18	PLANNING	TB	DS
C	07.08.18	PLANNING	LT	TB
D	13.08.18	PLANNING	LT	TB

MATERIAL SCHEDULE

1 - COLORBOND CAPPING, COLOUR TO MATCH ADJACENT WALL FINISH
2 - PRECAST RC PANEL, PAINT FINISH, COLOUR CHEMIST WAREHOUSE YELLOW
3 - BOTTOM OF PRECAST PANEL BAND, PAINT FINISH, COLOUR TO MATCH CHEMIST WAREHOUSE BLUE
4 - STEEL ROLLER DOOR, PAINT FINISH, COLOUR TO MATCH CHEMIST WAREHOUSE BLUE
5 - CANOPY - LIGHT WEIGHT CLADDING, PAINTED FINISH, COULOUR TO MATCH CHEMIST WAREHOUSE BLUE
6 - RAINWATER HEADS AND DOWNPIPES - STEEL, PAINTED TO MATCH CHEMIST WAREHOUSE BLUE
7 - PRECAST RC PANEL BAND, PAINT FINISH, COLOUR TO MATCH COLORBOND SHALE GREY
8 - SHOPFRONT - FRAMES NATURAL ANODISED ALUMINIUM
9 - DOOR AND FRAME - STEEL FRAME, SOLID CORE DOOR, PAINTED FINISH, COULOUR TO MATCH CHEMIST WAREHOUSE BLUE
10 - PRECAST RC PANEL, PAINT FINISH, COLOUR TO MATCH COLORBOND WOODLAND GREY

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
CHEMIST WAREHOUSE
EXTERNAL ELEVATIONS

NIELSEN ARCHITECTS
108 Mt Barker Road Stirling
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p: 08 8339 8008
f: 08 8339 2004
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SCALE	DATE	DRAWN	CHECKED
1:250	AUG 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA03.2	DA	D

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
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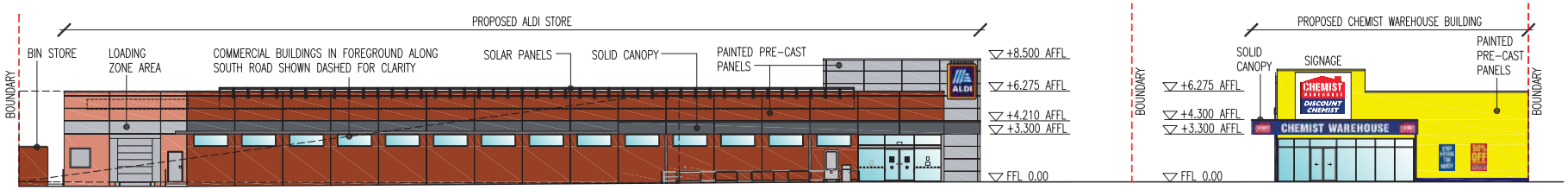
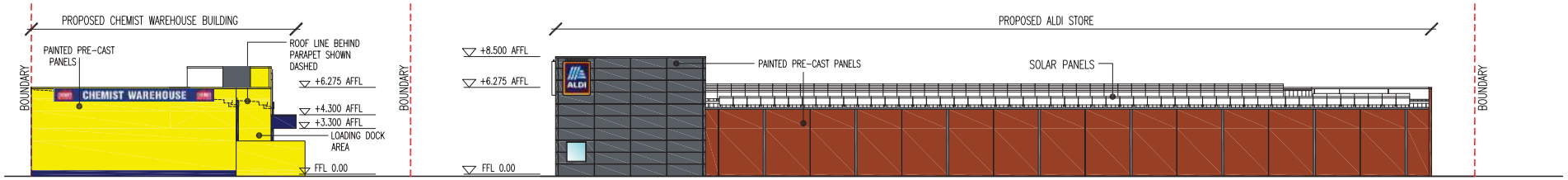
B	19.07.18	PLANNING	TB	DS
C	07.08.18	PLANNING	LT	TB



01 DA02.3 SOUTH ROAD STREETSCAPE

1:300



02 DA02.3 WINGFIELD STREET STREETSCAPE

1:300

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
STREETSCAPE ELEVATIONS

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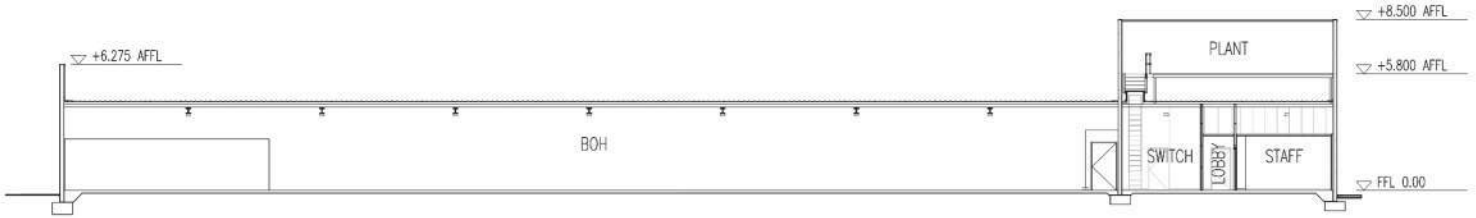
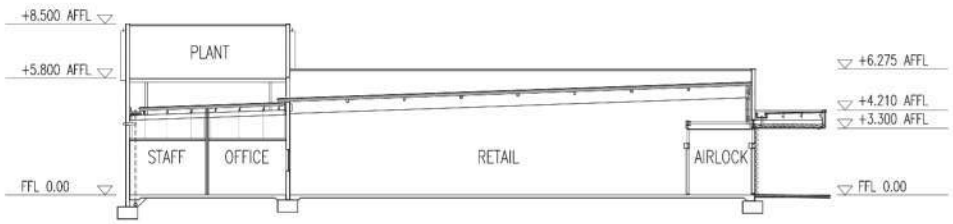
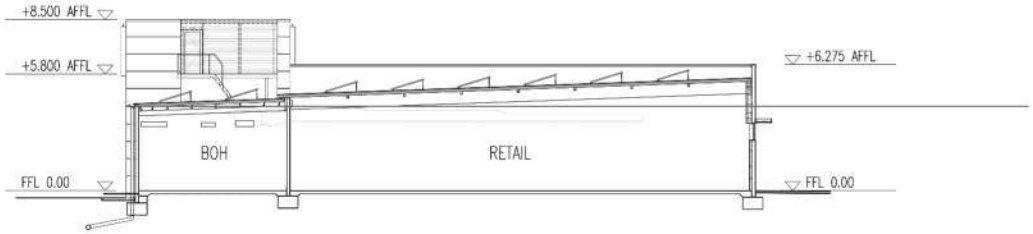
PROJECT No	DRAWING No	STATUS	REV
2052	DA03.3	DA	C



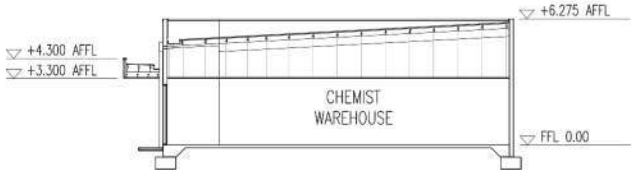
01 DA02 **SECTION A-A**
1:250 ALDI



02 DA02 **SECTION B-B**
1:250 ALDI



03 DA02 **SECTION C-C**
1:250 ALDI



04 DA02 **SECTION D-D**
1:250 ALDI

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
SECTIONS

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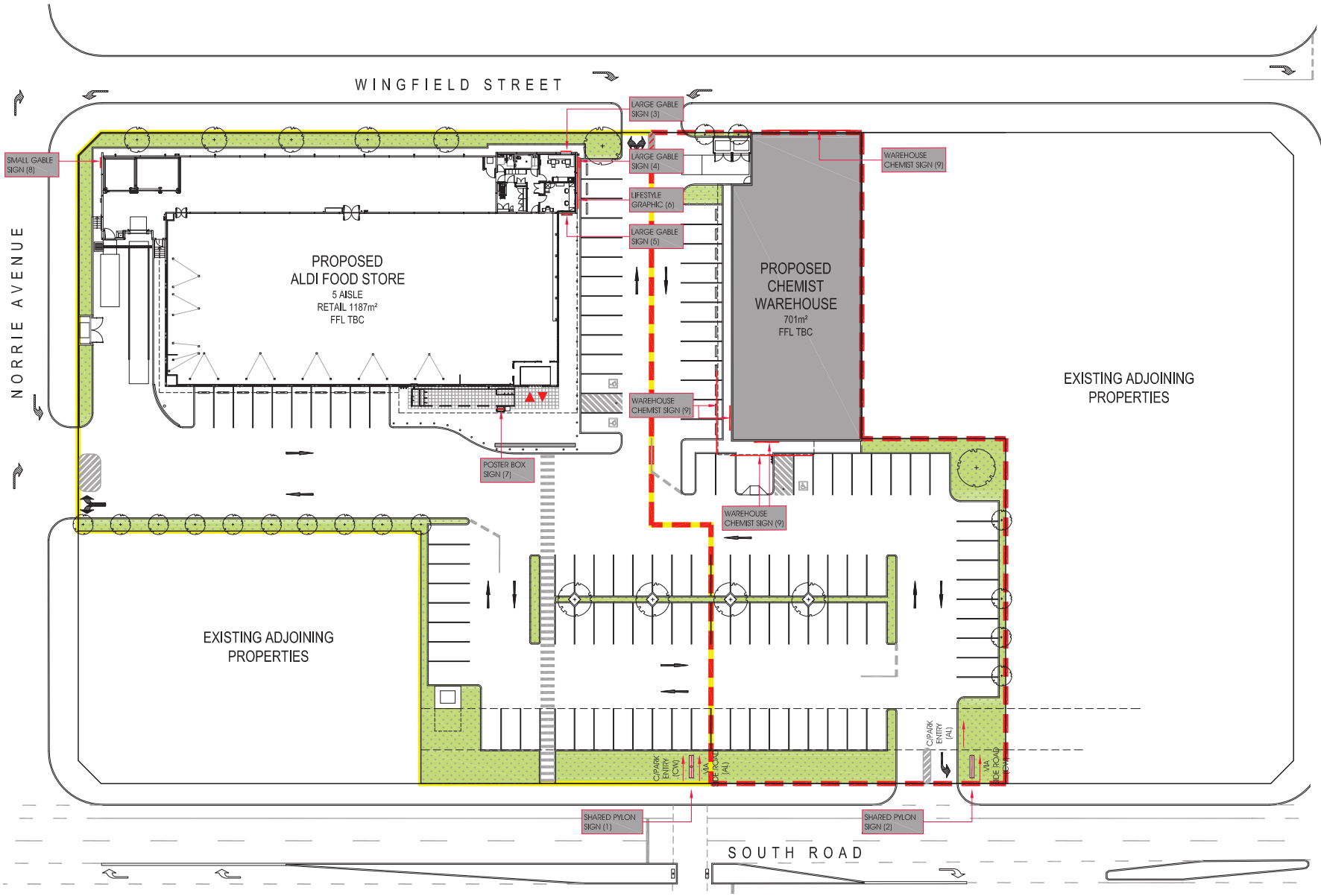
SCALE	DATE	DRAWN	CHECKED
1:250	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA05	DA	A



01 - SIGNAGE PLAN
1:500 PROPOSED

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS
B	25.06.18	PLANNING	TB	DS
C	19.07.18	PLANNING	TB	DS

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
SIGNAGE PLAN

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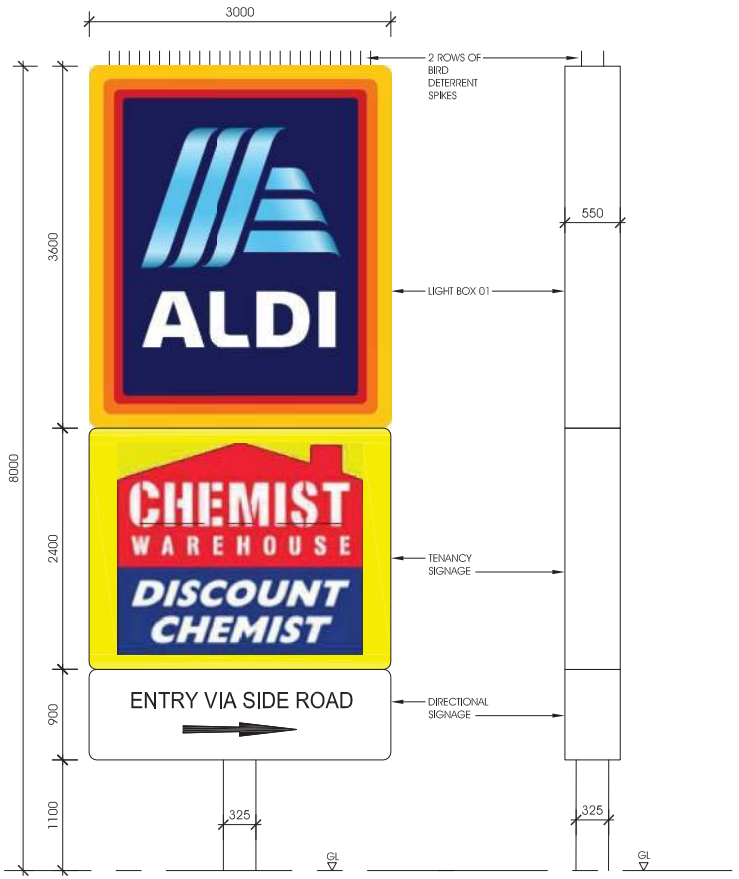
SCALE	DATE	DRAWN	CHECKED
1:500	JUN 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA06.1	DA	C

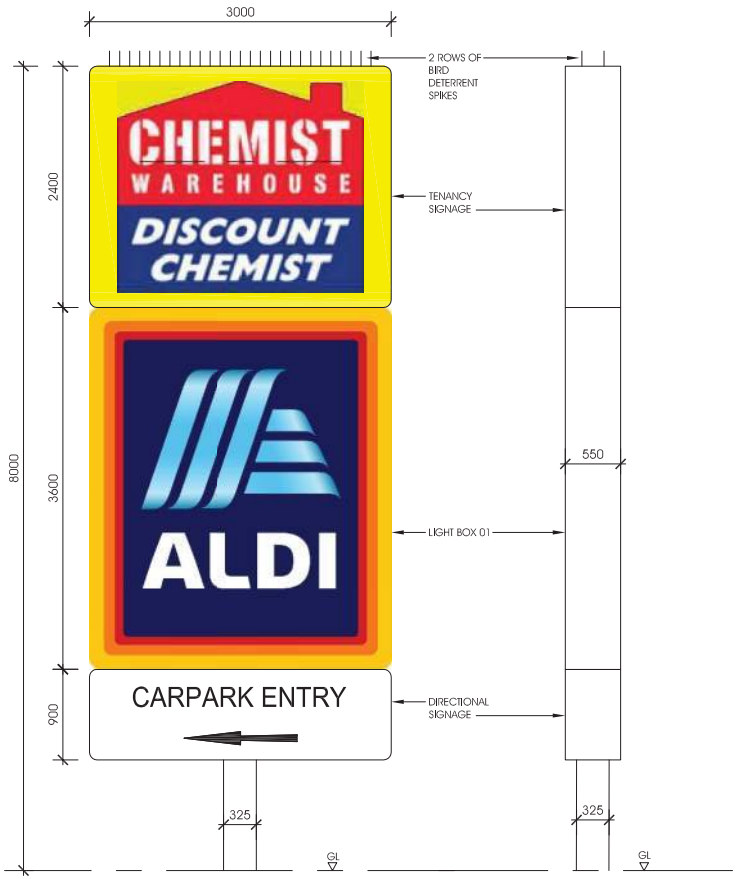


POLE
324 DIA. X 6MM CHS
32mm MS BASE PLATE
HOT DIPPED GALVANISED
MIO PAINT FINISH

FOOTING
CONCRETE FOOTING TO ENGINEERS DETAIL

LIGHTBOX
LIGHT BOX 01-3600 X 3000 X 550 DOUBLE SIDED
FLEX FACE BOX
INTERNAL MILD STEEL FRAME
ALUMINIUM 'OZ' FLEX FACE EXTRUSION
1.6mm ALUMINIUM EXTERNAL CLADDING
2 PACK POLYURETHANE INTERNAL PAINT FINISHES
MIO PAINT FINISH TO EXTERNAL SURFACE
INTERNAL 'DAYLIGHT' FLUORESCENT LIGHTING
MULFORDS SX GRADE FLEX FACE (NO VISIBLE JOINS)
TECHNOGRAPH AND 3M SELF-ADHESIVE VINYL
LIGHT OUTPUT: CALVIN - 40,000 LUMINS 16,500

01 - SHARED PYLON SIGN - NORTH FACING (1)
1:50



POLE
324 DIA. X 6MM CHS
32mm MS BASE PLATE
HOT DIPPED GALVANISED
MIO PAINT FINISH

FOOTING
CONCRETE FOOTING TO ENGINEERS DETAIL

LIGHTBOX
LIGHT BOX 01-3600 X 3000 X 550 DOUBLE SIDED
FLEX FACE BOX
INTERNAL MILD STEEL FRAME
ALUMINIUM 'OZ' FLEX FACE EXTRUSION
1.6mm ALUMINIUM EXTERNAL CLADDING
2 PACK POLYURETHANE INTERNAL PAINT FINISHES
MIO PAINT FINISH TO EXTERNAL SURFACE
INTERNAL 'DAYLIGHT' FLUORESCENT LIGHTING
MULFORDS SX GRADE FLEX FACE (NO VISIBLE JOINS)
TECHNOGRAPH AND 3M SELF-ADHESIVE VINYL
LIGHT OUTPUT: CALVIN - 40,000 LUMINS 16,500

02 - SHARED PYLON SIGN - SOUTH FACING (1)
1:50

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS
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CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
SIGNAGE DETAILS
SHEET 1

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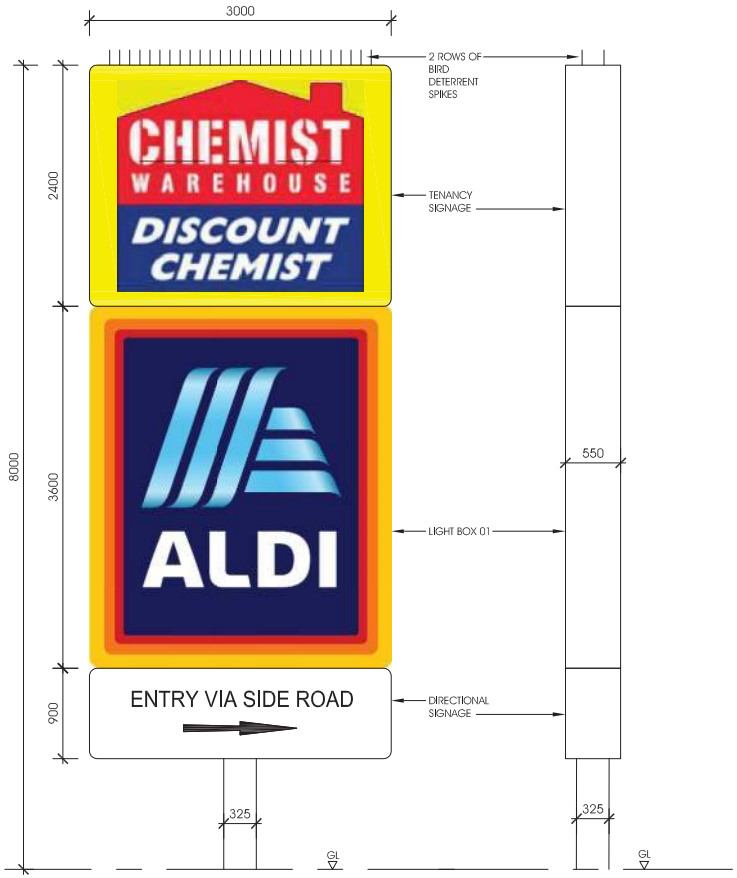
PROJECT No	DRAWING No	STATUS	REV
2052	DA06.2	DA	B

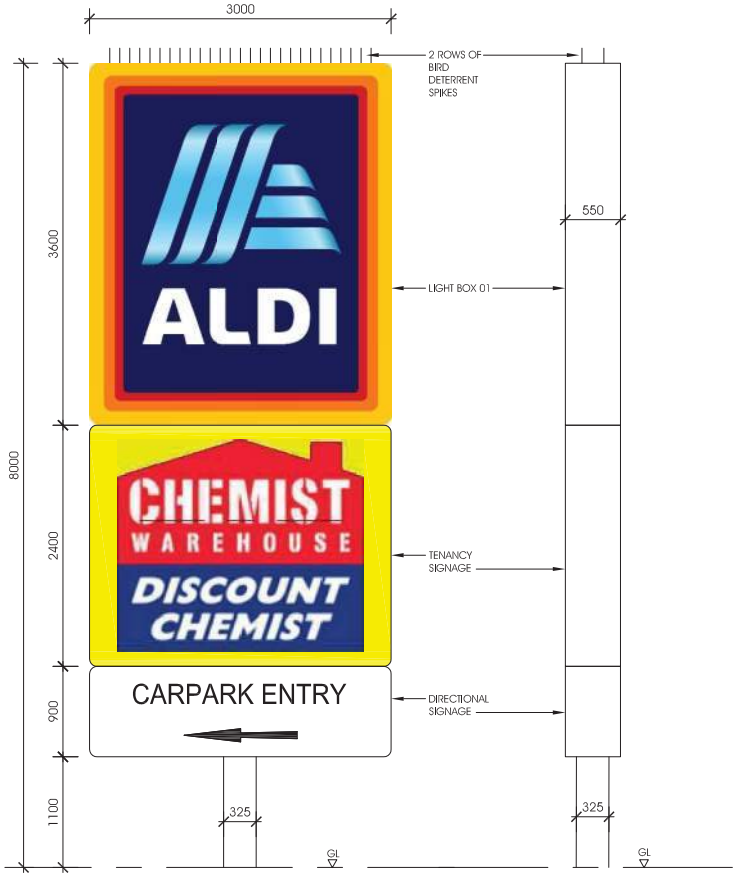


POLE
324 DIA. X 6MM CHS
32mm MS BASE PLATE
HOT DIPPED GALVANISED
MIO PAINT FINISH

FOOTING
CONCRETE FOOTING TO ENGINEERS DETAIL

LIGHTBOX
LIGHT BOX 01-3600 X 3000 X 550 DOUBLE SIDED
FLEX FACE BOX
INTERNAL MILD STEEL FRAME
ALUMINIUM 'OZ' FLEX FACE EXTRUSION
1.6mm ALUMINIUM EXTERNAL CLADDING
2 PACK POLYURETHANE INTERNAL PAINT FINISHES
MIO PAINT FINISH TO EXTERNAL SURFACE
INTERNAL 'DAYLIGHT' FLUORESCENT LIGHTING
MULFORDS SX GRADE FLEX FACE (NO VISIBLE JOINS)
TECHNOGRAPH AND 3M SELF-ADHESIVE VINYL
LIGHT OUTPUT: CALVIN - 40,000 LUMINS 16,500

01 SHARED PYLON SIGN - NORTH FACING (2)
1:50



POLE
324 DIA. X 6MM CHS
32mm MS BASE PLATE
HOT DIPPED GALVANISED
MIO PAINT FINISH

FOOTING
CONCRETE FOOTING TO ENGINEERS DETAIL

LIGHTBOX
LIGHT BOX 01-3600 X 3000 X 550 DOUBLE SIDED
FLEX FACE BOX
INTERNAL MILD STEEL FRAME
ALUMINIUM 'OZ' FLEX FACE EXTRUSION
1.6mm ALUMINIUM EXTERNAL CLADDING
2 PACK POLYURETHANE INTERNAL PAINT FINISHES
MIO PAINT FINISH TO EXTERNAL SURFACE
INTERNAL 'DAYLIGHT' FLUORESCENT LIGHTING
MULFORDS SX GRADE FLEX FACE (NO VISIBLE JOINS)
TECHNOGRAPH AND 3M SELF-ADHESIVE VINYL
LIGHT OUTPUT: CALVIN - 40,000 LUMINS 16,500

02 SHARED PYLON SIGN - SOUTH FACING (2)
1:50

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	19.06.18	PLANNING	TB	DS
B	25.06.18	PLANNING	TB	DS

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
SIGNAGE DETAILS
SHEET 2

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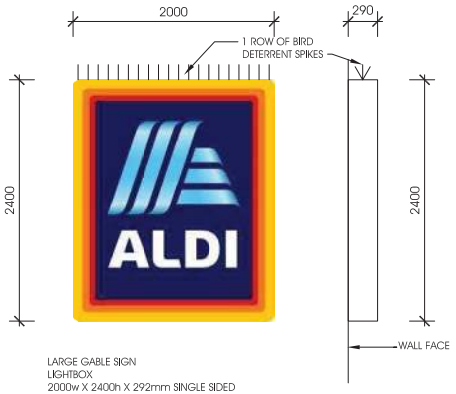
SCALE	DATE	DRAWN	CHECKED
1:50	JUN 2018	DS	TB

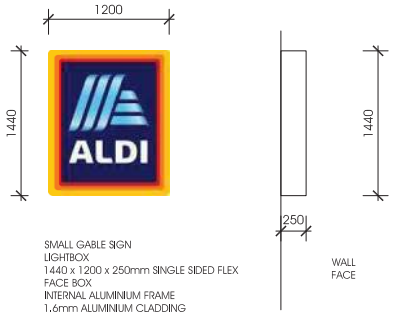
PROJECT No	DRAWING No	STATUS	REV
2052	DA06.3	DA	B



LARGE GABLE SIGN
LIGHTBOX
2000w X 2400h X 292mm SINGLE SIDED
FLEXFACE WALL SIGN.
DIR-571 OR SIMILAR 200mm ALUM SIGNBOX
EXTRUSION WITH 1.6mm ALUMINIUM
CLADDING TO BACK
PAINT FINISH EXTERNAL: DULUX OLD PEWTER
50243 70% GLOSS IN 2 PACK POLYURETHANE
OR POWDERCOAT FP964
PAINT FINISH INTERNAL: FLAT WHITE
INTERNAL ILLUMINATION: 'DAYLIGHT'
FLUORESCENT TUBES SPACED EVENLY
LIGHT OUTPUT: CALVIN - 40,000
LUMINS 16,500

01 LARGE GABLE SIGN (3, 4 & 5)

- 1:50

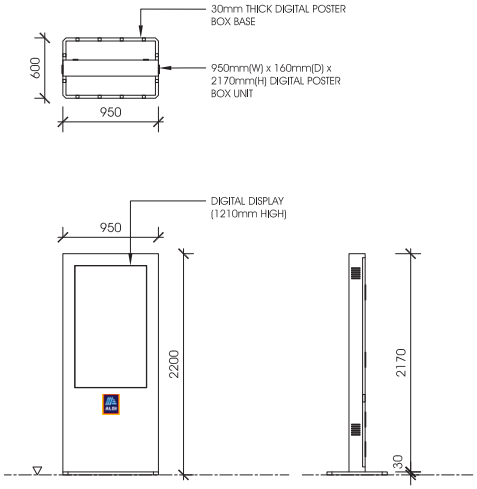


SMALL GABLE SIGN
LIGHTBOX
1440 x 1200 x 250mm SINGLE SIDED FLEX
FACE BOX
INTERNAL ALUMINIUM FRAME
1.6mm ALUMINIUM CLADDING
2 PACK POLYURETHANE INTERNAL PAINT
FINISHES
MULFORDS SX GRADE FLEX FACE (NO JOINS)
TECHNOGRAPH SX 3m SELF-ADHESIVE VINYL
INTERNAL 'DAYLIGHT' FLUORESCENT LIGHTING
LIGHT OUTPUT: CALVIN - 40,000 LUMINS 16,500

02 SMALL GABLE SIGN (8)

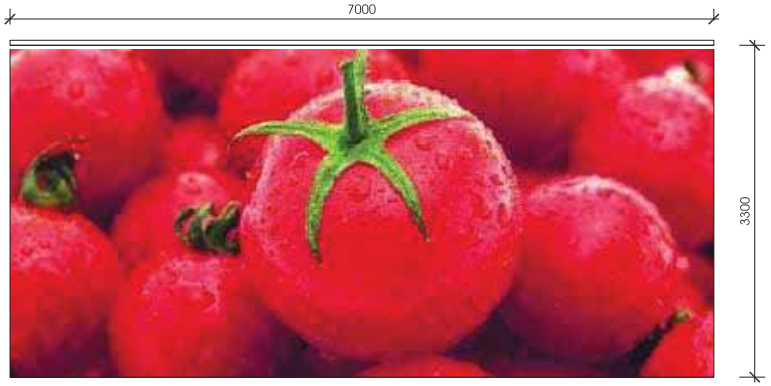
- 1:50

NOTE:
REFER TO EXTERNAL ELEVATIONS DRAWING DA03.2
FOR CHEMIST WAREHOUSE SIGNAGE DETAILS



03 POSTER BOX (7)

- 1:50



EXTERNAL LIFESTYLE IMAGE
7000 x 3300 x 250mm SINGLE FACED DIBOND
GRAPHIC PANEL
INTERNAL ALUMINIUM FRAME
50mm ALUMINIUM ANGLE COVER TRIM,
POWDERCOAT FINISH (BLACK)
3mm DIBOND PANEL
APPLIED DIGITAL PRINT C/W ANTI GRAFFITI COAT
EXTERNALLY ILLUMINATED FROM ABOVE

04 EXTERNAL LIFESTYLE GRAPHIC (6)

- 1:50

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	20.06.18	PLANNING	TB	DS

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
SIGNAGE DETAILS
SHEET 3

NIELSEN ARCHITECTS
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PROJECT No	DRAWING No	STATUS	REV
2052	DA06.4	DA	B

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
A	05.06.18	PLANNING	TB	DS
B	19.07.18	PLANNING	TB	DS
C	07.08.18	PLANNING	LT	DS

PROPOSED 3D VISUAL RENDER

NTS

CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
PROPOSED 3D VISUAL RENDERS
SHEET 1

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SCALE	DATE	DRAWN	CHECKED
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PROJECT No	DRAWING No	STATUS	REV
2052	DA08.1	DA	C

PROPOSED 3D VISUAL RENDER
NTS

NOTES

ORIGINAL A3

REV	DATE	DESCRIPTION	DRN	CHKD
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CLIENT
ALDI STORES

PROJECT
ALDI CLOVELLY PARK
SOUTH ROAD
CLOVELLY PARK, SA

DRAWING
PROPOSED 3D VISUAL RENDERS
SHEET 2

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NTS	AUG 2018	DS	TB

PROJECT No	DRAWING No	STATUS	REV
2052	DA08.2	DA	C

LEGEND

- PROPOSED MEDIUM TREES
- PROPOSED SMALL TREES
- SCREENING SHRUBS
- SHRUBS & GROUNDCOVERS
- COLORBOND FENCE BY OTHERS
- ALDI STORE BOUNDARY
- CHEMIST WAREHOUSE SITE BOUNDARY

PLANT PALETTE

TREES

Fraxinus angustifolia 'Raywoodii'
Claret Ash
Height: 15m
Width: 8m

Lagerstroemia indica
Crepe Myrtle
Height: 7m
Width: 5m

Pyrus calleryana 'Capital'
Capital Callery Pear
Height: 9m
Width: 3m

SHRUBS & GROUNDCOVERS

Pyrus calleryana 'Chanticleer'
Chanticleer Callery Pear
Height: 11m
Width: 6m

Cistus salvifolius 'Brilliancy'
Pink Rock Rose
Height: 1.5m
Width: 1m

Dianella caerulea 'Little Jess'
Little Jess
Height: 0.4m
Width: 0.4m

Dianella tasmanica 'Tas Red'
Tas Red Flax Lily
Height: 0.6m
Width: 0.5m

Dietes grandiflora
Butterfly Iris
Height: 0.7m
Width: 0.7m

Ficinia nodosa
Knobby Club Rush
Height: 1m
Width: 0.7m

SCREENING SHRUBS

Leucophyta brownii
Cushion Bush
Height: 0.7m
Width: 1m

Liriope muscari
Blue Lily Turf
Height: 0.5m
Width: 0.3m

Lomandra longifolia 'Tanika'
Tanika Mat Rush
Height: 0.6m
Width: 0.6m

Olearia axillaris
Coast Daisy Bush
Height: 1.5m
Width: 1.5m

Rosmarinus officinalis
Rosemary
Height: 1m
Width: 1m

Westringia fruticosa 'Grey Box'
Grey Box
Height: 0.4m
Width: 0.4m

Raphiolepis x delacourii
Cosmic White
Height: 1.5m
Width: 1.5m

Viburnum tinus
Laurustinus
Height: 2m
Width: 2m

PLANTING NOTES

PLANTS HAVE BEEN SELECTED TO GIVE A STRONG IDENTITY TO ALL ALDI STORES WITHIN METROPOLITAN ADELAIDE. EACH SPECIES SERVING A SPECIFIC FUNCTION.

SCREENING SHRUB SPECIES ARE TO BE USED AROUND THE ELECTRICAL TRANSFORMER. STREET FRONTAGE GARDEN BEDS ARE TO BE LOW GROWING MASS PLANTED AREAS TO PROVIDE A BARRIER TO UNDESIRED PEDESTRIAN ENTRY.

FEATURE PLANTING WILL BE SITUATED AT ALL VEHICLE AND PEDESTRIAN ENTRIES, PROVIDING AN INSTANT IMPACT FOR SHOPPERS ENTERING THE CAR PARK. THIS WILL BE ACHIED THROUGH CONTRASTING COLOUR AND TEXTURES.

TREES ARE PROPOSED TO BE CLEAN TRUNKED SPECIES THAT PROVIDE SHADE TO THE CARPARK BUT ENABLE SIGHTLINES TOWARDS THE ALDI STORE FRONT AND FOR PEDESTRIAN SAFETY.

OUTER SPACE
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w: www.outerspace.net.au

PROJECT ALDI CLOVELLY PARK
CLIENT ALDI STORES
DRAWING LANDSCAPE CONCEPT PLAN & PLANT PALETTE

DRAWN BY AM
APPROVED BY GH
DRAWING NO. OS645_CP01
ISSUE DATE 02/08/18

0 2 5 10 15 20 25
SCALE 1:250 @ A1

PRELIMINARY
NOT FOR CONSTRUCTION

ekistics

ALDI & CHEMIST WAREHOUSE, CLOVELLY PARK PLANNING STATEMENT

Proposed Retail Development
South Road, Clovelly Park

Prepared for:
ALDI Stores & Chemist Warehouse

Date:
30 August 2018

ekistics

Proprietary Information Statement

Document Control

Revision	Description	Author	Date
V1	Draft Planning Statement	HK/RT	19 August 2018
V2	Final Planning Statement	HK/RT	30 August 2018

Approved by: RT

Date: 30 August 2018

ekistics

Contents

Appendices

Figures

Tables

1. Executive Summary

Category	Details
PROJECT	ALDI and Chemist Warehouse Clovelly Park
ADDRESS OF SITE	1150 -1154 South Road, Clovelly Park 1156-1158 South Road, Clovelly Park 19 Wingfield Street, Clovelly Park 1-5 Norrie Avenue, Clovelly Park
CERTIFICATES OF TITLE	Volume 5132 Folio 506 (Lot 26) Volume 5148 Folio 47 (Lot 216) Volume 5148 Folio 210 (Lot 29) Volume 5148 Folio 214 (Lot 218) Volume 5148 Folio 217 (Lot 217) Volume 5148 Folio 211 (Lot 30) Volume 5252 Folio 910 (Lot 3) Volume 5258 Folio 302 (Lot 28) Volume 5450 Folio 122 (Lot 2) Volume 5676 Folio 287 (Lot 27)
SITE AREA	ALDI Site Area – 5,374m^2 Chemist Warehouse Site Area – 3,048m^2 Total: 8,422m^2
FRONTAGE	South Road – 78.03 metres Norrie Avenue – 50.13 metres Wingfield Street – 101.50 metres
DEPTH	83.83 metres (South Road to Wingfield Street)
LOCAL GOVERNMENT	City of Marion
RELEVANT AUTHORITY	State Commission Assessment Panel (SCAP) – Schedule 10, 20 (1)
DEVELOPMENT PLAN	Marion Council – Consolidated 20 Feburary 2018
ZONING	Neighbourhood Centre Zone
POLICY AREA/PRECINCT	Nil
EXISTING USE	Retail shops and residential dwellings
PROPOSAL DESCRIPTION	Staged construction of a freestanding ALDI Store (shop) and Chemist Warehouse (shop) with associated on-site signage, fencing, car parking and landscaping
SEPARATE CONSENTS	N/A
REFERRALS	Commissioner of Highways
PUBLIC NOTIFICATION	Category 2
APPLICANT	Nielsen Architects
CONTACT PERSON	Rebecca Thomas – Ekistics Planning and Design – (08) 7231 0286
OUR REFERENCE	00263

2. Introduction/Background

ALDI Stores and Chemist Warehouse are seeking to construct a new ALDI Store and Chemist Warehouse (shops) adjacent South Road, Clovelly Park, within the Neighbourhood Centre Zone of Marion Council Development Plan.

This planning statement provides information about the subject land and proposed development and addresses the merits of the development application against the relevant provisions of the Neighbourhood Centre Zone, as well as the most relevant 'General Section' provisions of the Marion Council Development Plan.

For the purposes of this statement, the Marion Council Development Plan (Consolidated 20 February 2018) will be referred to as the 'Development Plan', the '*Development Act 1993*' will be referred to as the 'Act' and the '*Development Regulations 2008*' will be referred to as the 'Regulations'.

The proposed development is illustrated on the plans and elevations prepared by Nielsen Architects as identified in Table 2.1 below.

Table 2.1 *Drawing Schedule*

Drawing #	Drawing Title
DA01.1	Location Plan
DA01.2	Contract Titles – Existing
DA01.3	Contract Titles - Proposed
DA02.1	Existing Site Plan
DA02.2	Demolition Site Plan
DA02.3	Proposed Site Plan
DA02.4	Proposed Roof Plan
DA03.1	ALDI External Elevations
DA03.2	Chemist External Elevations
DA03.3	Streetscape Elevations
DA05	Sections
DA06.1	Signage Plan
DA06.2	Signage Details - Sheet 1
DA06.3	Signage Details - Sheet 2
DA06.4	Signage Details – Sheet 3
DA08.1	Proposed 3D Visual Renders - Sheet 1
DA08.2	Proposed 3D Visual Renders - Sheet 2

Other supporting documents, which also form part of the application, are appended to this report and include:

- Traffic Impact Assessment prepared by GTA;
- Landscape Plan prepared by Outer Space Landscape Architects;
- Environmental Noise Assessment by Sonus; and
- Stormwater Management Report by Drew Rudd Engineers (*to be submitted post-lodgement*)

3. The Site and Locality

3.1 The Site

The subject land comprises the Certificates of Title and street addresses as identified in Table 3.1 (refer to ***Appendix 1***). There are no easements listed on the Certificates of Title.

Table 3.1 *Street addresses and Certificates of Title*

Street address	Certificate of Title reference
1150-1154 South Road, Clovelly Park	Volume 5252 Folio 910
1156-1158 South Road, Clovelly Park	Volume 5148 Folio 210 Volume 5148 Folio 214 Volume 5148 Folio 217 Volume 5148 Folio 211 Volume 5148 Folio 47
19 Wingfield Street, Clovelly Park	Volume 5450 Folio 122
5 Norrie Avenue, Clovelly Park	Volume 5258 Folio 302
3 Norrie Avenue, Clovelly Park	Volume 5676 Folio 287
1 Norrie Avenue, Clovelly Park	Volume 5132 Folio 506

Figure 3.1 *Subject site allotments*

The irregular shaped subject site has a total area of 8,422m^2, 5,374m^2 of which is proposed to be allocated to the ALDI supermarket and 3,048m^2 to Chemist Warehouse. The site has a primary frontage of 78 metres to South Road, a secondary frontage of 50 metres (excluding corner cut-off) to Norrie Avenue and a rear boundary of 101 metres to Wingfield Street.

Vehicular access is provided via one (1) existing dual crossover to South Road and two (2) existing crossovers to Wingfield Street.

The subject site currently comprises the following:

- Six (6) commercial allotments:
  - Single storey Chemist Warehouse (shop) facing South Road;
  - Single storey Rite Price Supermarket (shop) located behind Chemist Warehouse; and
  - Associated ground level car parking through the middle of the site.
- Three (3) residential allotments containing single storey detached dwellings and associated outbuildings located at:
  - 19 Wingfield Street;
  - 1 Norrie Avenue; and
  - 3 Norrie Avenue.
- One (1) vacant allotment on the corner of Wingfield Street and Norrie Avenue.

The subject land is relatively flat with minor vegetation in the form of various trees, bushes and grasses that are scattered around the perimeter of the commercial car park and existing dwellings. None of the trees on site or street trees appear to be 'Regulated' under the Act.

A Detailed and Level Survey of the subject land has been prepared by Alexander Symonds and is included as ***Appendix 6*** of this report.

The images below highlight the existing development on site:

Figure 3.2 *Subject land viewed from South Road looking north-west*

Figure 3.3 *Subject land viewed from South Road looking south-west*

Figure 3.4 *Subject land viewed from South Road looking west*

Figure 3.5 *Subject land viewed from within the car park looking east*

Figure 3.6 *Subject land viewed from Wingfield Street looking east*

Figure 3.7 *Subject land looking north from corner of Norrie Avenue and Wingfield Street*

Figure 3.8 *Subject land viewed from Norrie Avenue looking north towards 1 and 3 Norrie Avenue*

3.2 The Locality and Surrounding Development

The character of the locality is mixed in terms of land use and built-form (see ***Figure 3.9*** *over-page*).

Various commercial operations are located along South Road adjacent the subject site in the form of a petrol filling station and shop, gym, consulting room and shop. A signalised pedestrian crossing to the east of the subject site provides pedestrian connectivity across South Road. The built form of commercial development along South Road varies and includes a mix of contemporary commercial development (*see* ***Figure 3.11***) as well as older building stock with a relatively poor streetscape amenity (*see* ***Figure 3.12***).

To the south-east of the subject site, adjoining commercial land uses include shops (bakery, café), personal service establishment (hairdresser) a consulting room and a retail showroom. Adjoining the subject site to the north, a consulting room fronts South Road and a single storey detached dwelling faces Wingfield Street.

Residential development is located on the opposite side of Wingfield Street, in the form of single-storey detached, semi-detached and group dwellings.

Signage associated with the range of commercial development within the locality includes freestanding signs (Chemist Warehouse, F45 indoor Gym, Petro Filling Station) as well as flat wall façade signage and window displays.

South Road is a DPTI controlled primary arterial road with a median strip separating the dual lane north-bound and south-bound traffic. The median strip also serves to restrict vehicle access to the site from South Road to left-in, left out movements.

The site is located approximately 26 metres from the nearby public transport bus stop along South Road, to the north of the site form (see ***Figure 3.9*** *over-page*).

The locality also includes the State Heritage listed St Mary's Anglian Church and associated cemetery fronting South Road, approximately 56m to the south-east of the subject land.

Figure 3.9 *Locality Plan*

Figure 3.10 *Adjoining South Road commercial development to the south-east of the subject site*

Figure 3.11 *Adjacent contemporary commercial development along South Road, looking east*

Figure 3.12 *Adjacent older commercial development along South Road, looking south-east*

Figure 3.13 *South Road signalised pedestrian crossing and median strip adjacent the subject site, looking south*

Figure 3.14 *Interface between adjoining retail showroom to the south-east of the subject site and 1 Norrie Avenue (subject site), looking north*

Figure 3.15 *Adjacent residential development along Wingfield Street, facing south-west*

Figure 3.16 *Wingfield Street facing north, residential development to the west and subject site to the east*

Figure 3.17 *Adjacent residential and commercial development along Norrie Avenue, facing south, from Wingfield Street through the vacant allotment (subject site).*

4. Proposed Development

4.1 Land Use

The proposed development involves the demolition of the existing commercial and residential buildings on site and in their place the following is proposed:

- a new ALDI supermarket to be constructed on the south-western portion of the land adjacent the corner of Norrie Avenue and Wingfield Street;
- a new Chemist Warehouse building to be constructed on the north-western portion of the land abutting Wingfield Street; and
- a substantial shared car-park established between and in front of the ALDI Store and Chemist Warehouse to provide convenient parking for customers with vehicular access provided from South Road, Wingfield Street and Norrie Avenue.

The ALDI Store will have a nett floor area of 1,732m^2, of which 1,187m^2 will be retail floor space, 411m^2 will be 'back of house' functions and 79m^2 will be for staff amenities. The Chemist Warehouse will have a gross retail floor area of 700m^2. The combined retail area of the ALDI store and Chemist Warehouse is 1887m^2.

A separate land division application will be lodged shortly to consolidate the existing titles and realign a boundary to accommodate the two proposed commercial operations. Appropriate easements and rights of way to facilitate the integrated vehicular access, manoeuvring areas and car parking. Importantly, a development deed has been prepared between ALDI and Chemist Warehouse which will ensure that vehicular access and car parking will be managed in a coordinated manner across the site.

A centralised 117 space car park will be established to service the ALDI Store and Chemist Warehouse with roughly half allocated to each store (albeit they will appear on a single consolidated car park). This will provide convenient parking near the entrances to the shops as well as ensuring that vehicles can safely access the site from South Road, Norrie Avenue and Wingfield Street.

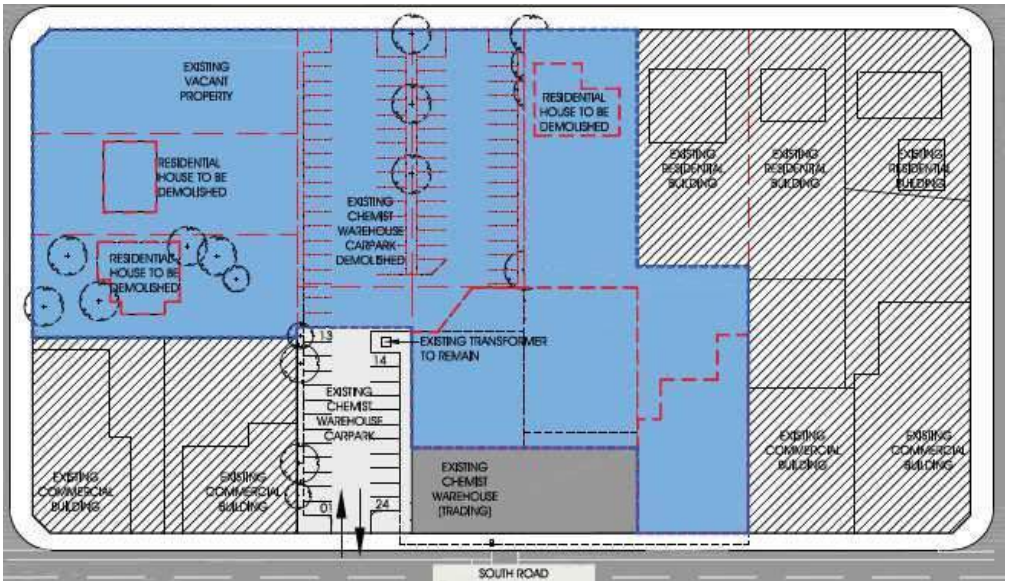
The proposed development (including the ALDI Store and Chemist Warehouse) meets the definition of 'shop' in accordance with Schedule 1 of the *Development Regulations, 2008*:

> ***shop*** *means—*
>
> *(a) premises used primarily for the sale by retail, rental or display of goods, foodstuffs, merchandise or materials; or*
>
> *(b) a restaurant; or*
>
> *(c) a bulky goods outlet or a retail showroom; or*
>
> *(d) a personal service establishment,*
>
> *but does not include—*
>
> *(e) a hotel; or*
>
> *(f) a motor repair station; or*
>
> *(g) a petrol filling station; or*
>
> *(h) a plant nursery where there is no sale by retail; or*
>
> *(i) a timber yard; or*
>
> *(j) service trade premises; or*
>
> *(k) service industry;*

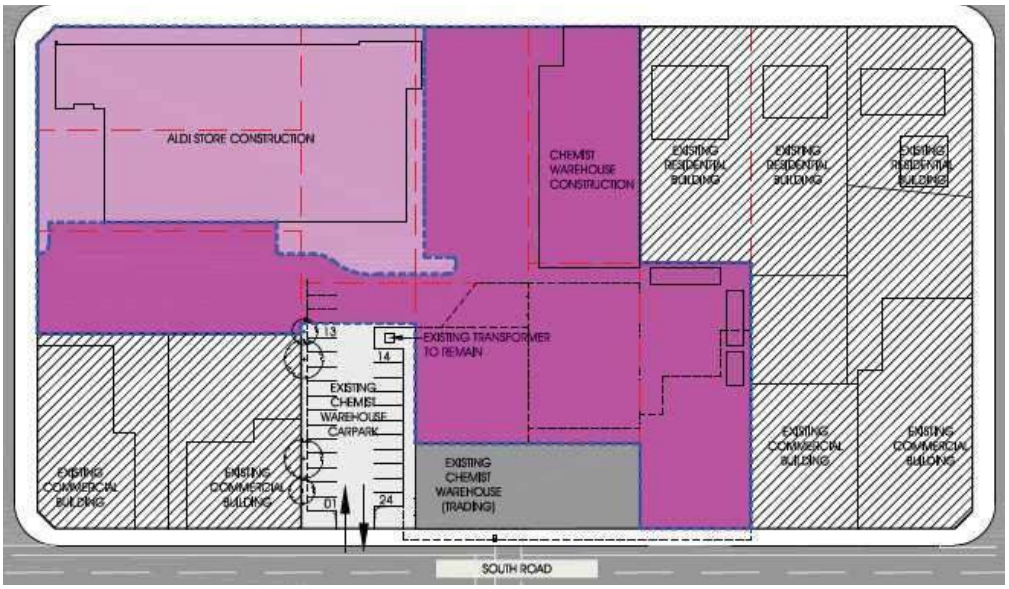
4.1.1 *Staging and Operative Period*

The development is intended to be staged as follows:

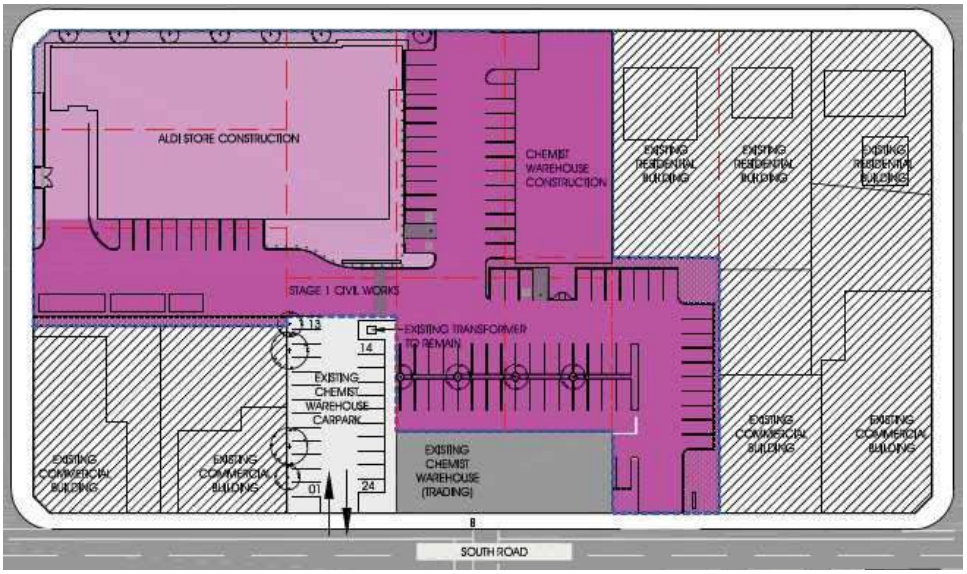
- Stage 1 – Demolition of residential dwellings, Rite Price Supermarket and northern portion of Chemist Warehouse. Reduced floor area of Chemist Warehouse to continue trading with adjacent (existing) 24 carparks accessible.



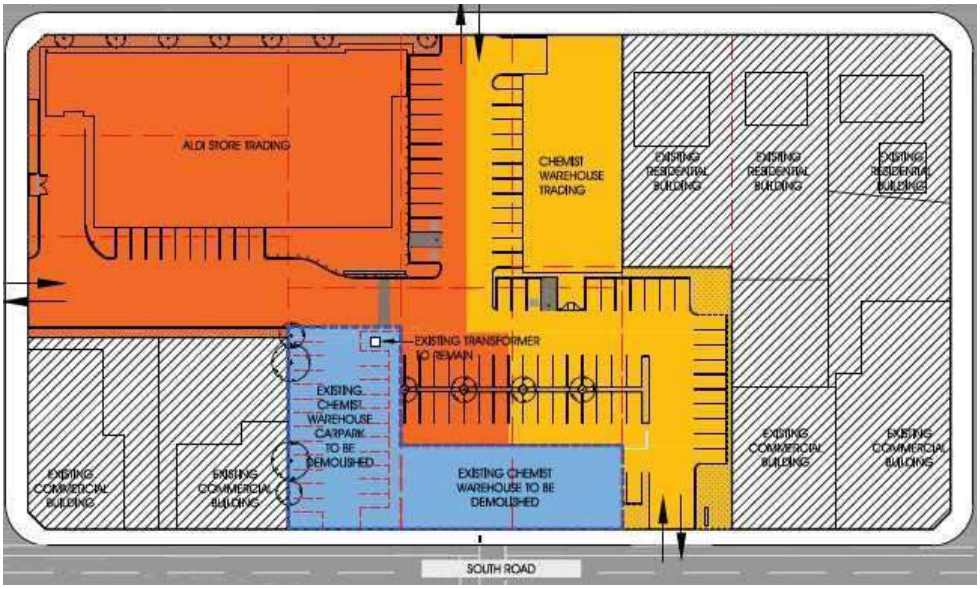
- Stage 2 - Construction of new Chemist Warehouse and ALDI (all construction works contains behind still trading Chemist Warehouse and remaining 24 space carpark).



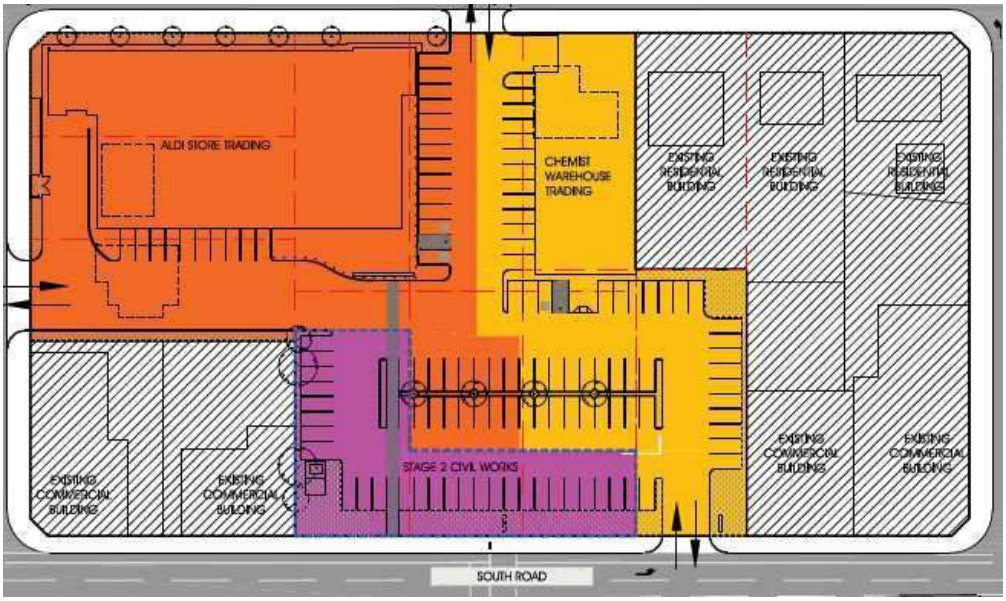
- Stage 3 – Civil works and ¾ of carpark constructed including vehicle access to South Road and 1 pylon sign (remaining Chemist Warehouse still trading).



- Stage 4 – Remaining Chemist Warehouse and carpark demolished, ALDI and new Chemist Warehouse stores trading commences.



- Stage 5 – Balance of carpark constructed, remaining civil works and landscaping completed.



For procedural convenience, we request that should Development Plan Consent be granted, it reflects the required staging of the development, and in particular, enables operational continuity of Chemist Warehouse during construction.

4.1.2 *Operational Aspects*

ALDI stores are in many ways similar to typical supermarkets in that they offer traditional grocery products in a familiar aisle-by-aisle format. However, there are a number of key differences that distinguish ALDI from other supermarket operations. These differences include:

- Predominately exclusive ALDI label branded products;
- 'Hard discount' food and grocery model;
- Simplified, consistent supply chain, building development, internal layout, merchandising, store operations and marketing;
- All delivery and logistics undertaken by ALDI employees, with only two 20 metre truck deliveries per 24 hours and one daily bakery delivery via a small rigid vehicle;
- Low swept exhaust delivery vehicles (ALDI trucks are to European standards with the exhaust discharge at wheel level on the Prime Mover, i.e. there is no exhaust discharge above the vehicle cabin);
- Regulated product range of approximately 1,300 items (compared with typical full-line supermarkets which offer between 20,000-30,000 items); and
- Considerably smaller retail floor plate of 1,732m^2 (compared with full-time supermarkets which are typically between 3,000m^2 to 4,000m^2).

Of particular note is that ALDI stores, of which there are in excess of 500 across Australia in Victoria, NSW, ACT, QLD, WA and SA successfully operate in close proximity to other major supermarket chains (i.e. Coles and Woolworths), with direct competition in approximately 80% of the existing locations.

Unlike most supermarket operations, ALDI own, operate and control all of its supply and logistics via its purpose-built distribution centre located in Regency Park. This streamlined system of operation enables ALDI to position itself as a discount supermarket quite differently to its competitors. Accordingly, a dedicated loading bay will be situated on the southern side of the building which will provide for ALDI's dedicated delivery by 19.0 metre long semi-trailers.

A typical ALDI Store is expected to employ 25 full-time equivalent (FTE) employees with 6-10 employees present on site at any one time.

The hours of operation for the supermarket will be established and potentially varied in response to customer demands, however will be in accordance with any limitations set out by the Shop Trading Hours Act, 1977. The store is unlikely to operate with extended hours, with likely opening times no earlier than 7:00am and likely closing times no later than 9:00pm, other than in limited seasonal peaks such as Christmas and Easter.

4.2 Built Form and Site Works

The proposal seeks the staged construction of two single-storey buildings to be used as shops. A detailed description of each element of the proposed development is provided below.

4.2.1 *Proposed ALDI Store*

The proposed ALDI Store will be setback approximately 3.1 metres from Wingfield Street and Norrie Avenue, and 52 metres from South Road. A 2.0 metre wide landscaping buffer will be provided to Wingfield Street and Norrie Avenue and a 4.5m wide landscaping buffer is proposed to South Road in additional to internal pockets of landscaping throughout the car park.

The proposed supermarket will have a maximum height of approximately 8.5 metres, measured from finished floor level, while the majority of the building will have a height of 6.2 metres above finished floor level. The highest portion of the building will be the 'tower' element which will be located on the north-west elevation of the building, near Wingfield Street. The tower element is a key design feature of ALDI Stores and is intended to create visual interest, clearly identifying the entrance of the store for customers and also enclose the roof top plant / equipment. As noted on the elevations, the tower will be a different colour from the balance of the Store and will feature a graphic image which will further assist to create visual interest.

The main entrance to the ALDI Store will be located on the eastern facade of the building while the main shop-front for the store will face north, towards the internal car park. A canopy will wrap around the front and a portion of the eastern side of the building to provide shelter for customers and create additional visual interest.

The eastern elevation (facing the main car parking area), will feature glass automatic doors at the entrance to the Store. High level windows will be installed on the eastern and southern elevations whilst large floor to canopy windows are proposed to the northern elevation.

The loading dock and associated facilities will be located near the south-western corner of the building, near the intersection of Norrie Avenue and Wingfield Street.

The proposed store will be primarily constructed of the following materials and colours:

- Precast concrete panel walls to all sides of the building – painted 'Fluorescent Fire';
- Precast concrete panels for the tower element – painted Dulux 'Drive Time';
- Fibre cement fascia – painted Dulux 'Drive Time';
- Windows and shopfront – anodised aluminium frames, natural finish;
- Colorbond® capping – colour to match adjacent precast panel finish;
- Downpipes and gutters – Colorbond® 'Basalt Grey';
- Roof – Colorbond® sheeting – 'Surfmist'; and
- Sunscreen – Painted steel frame, Colorbond® 'Basalt Grey'.

Full details of the proposed external materials and finishes are contained on the elevation plans prepared by Nielsen Architects (***Appendix 2***).

Solar panels will be installed on the roof of the ALDI Store and will, generally, be located behind the parapet. Consequently, the majority of the solar panels won't be visible from surrounding land. The exception is along a portion of the western elevation where some views of the solar panels may be visible from Wingfield Street.

4.2.2 *Proposed Chemist Warehouse*

As outlined previously, the proposed development also includes a new Chemist Warehouse building to be located in the north-western portion of the site abutting Wingfield Street and the adjoining northern allotment.

The building height is similar to the proposed ALDI store as the majority of the building will have a height of 6.2 metres above finished floor level with the exception of the raised parapet feature in the south-east corner of the building.

The parapet element complements the ALDI tower and creates visual interest while also clearly identifying the entrance of the store for customers. The roof top plant equipment is also discretely housed behind, screened on all sides.

The entrance to the Chemist Warehouse will be located on the eastern and southern facade of the building towards the internal car park. A canopy will wrap around a portion of the eastern and southern side of the building to provide shelter for customers and assist with identifying the building entry.

The southern and eastern elevation (facing the car parking area), will feature windows and glass automatic doors at the entrances to the building. The loading dock and associated facilities will be located on near the south-western corner of the building, near Wingfield Street.

The proposed shop will be primarily constructed of the following materials and colours:

- Precast concrete panel walls to the eastern, southern, and western sides of the building as well as the tower element – painted 'Chemist Warehouse Yellow';
- Precast concrete panel walls to the northern side of the building – paint colour similar to 'Woodland Grey' with a feature horizontal strip painted to match 'Shale Grey' to add visual interests;
- Light weight canopy cladding – painted 'Chemist Warehouse Blue';
- Windows and shopfront – anodised aluminium frames, natural finish;
- Colorbond® capping – colour to match Colorbond® 'Woodland Grey';
- Downpipes and gutters – painted 'Chemist Warehouse Blue';
- Roof – Zincalume.

The proposed Chemist Warehouse store hours of operation are as follows:

Monday - Wednesday, and Friday: 7:30am - 8:00pm
Thursday: 7:30am - 9:00pm
Saturday: 8:00am - 6:00pm
Sunday: 10:00am - 6:00pm

4.3 Transport, Parking and Access

GTA Consultants have undertaken a detailed traffic and parking assessment to confirm that the proposed access/egress, vehicle manoeuvring and parking arrangements are feasible, safe and achieve the relevant Australian Standards (refer to ***Appendix 3***). GTA's report sets out an assessment of the anticipated traffic implications of the proposed development, including:

- Existing traffic and parking conditions surrounding the site;
- Parking demand likely to be generated by the proposed development;
- Suitability of the proposed parking in terms of supply (quantum) and layout;
- Traffic generation characteristics of the proposed development;
- Proposed access arrangements for the site; and
- Traffic impact of the development proposal on the surrounding road network.

4.3.1 *Access/Egress*

Vehicular access to the site will occur via three (3) access points as discussed within the GTA report and described below:

1. South Road Access

The existing access point will be relocated approximately 50 metres north (to the north of the signalised pedestrian crossing) to maximise separation between the South Road access point and the existing the

pedestrian crossing. The proposed access point will facilitate in left turn ingress and left turn egress only, as per the existing situation. GTA have confirmed that the access point will be located outside of the 6.0 metre prohibited zone of the median nose, which assists to mitigate conflict to the Southern Avenue intersection. The access point will facilitate light vehicle traffic only.

2. Norrie Avenue Access

A new access point has been proposed on Norrie Avenue adjacent the proposed ALDI Store. The access will be located approximately 40 metres west of the South Road/Norrie Avenue intersection and facilitate both light vehicles and heavy vehicles up to a 19.0 metre Semi Trailers. The access point will also facilitate un-restricted turning movements. Given the access proximity to South Road, a 19.0 metre Semi Trailer will be able to store prior to turning into the site without queuing back to South Road.

3. Wingfield Street Access

The two existing access points on Wingfield Street will be consolidated into a single access with un-restricted turning movements. The access will facilitate both light vehicles and trucks up to a 10 metre delivery truck for the proposed Chemist Warehouse store.

4.3.2 *Heavy Vehicle Manoeuvring*

The siting of the buildings means that heavy vehicle movements will be managed safely and appropriately on-site with semi-trailers entering and exiting the land in a forward direction from Norrie Avenue and Wingfield Street. In addition, heavy vehicle movements will be separated from the South Road crossover, being the primary access point of the car park, which also assists to reduce the potential for conflicts between large trucks and passenger vehicles.

More specifically, ALDI heavy vehicles will perform a right-hand turn from South Road to Norrie Avenue and enter the site in a forward direction from Norrie Avenue. The existing on-street parking will need to be removed on Norrie Avenue for an approximately length of 35 metres from the intersection with South Road (subject to negotiation with Council) to assist the manoeuvring of heavy vehicles. The ALDI trucks will then undertake a reversing manoeuvre into the loading dock near the rear of the site. Once the loading/unloading process has been completed, the trucks will exit the site in a forward direction back to Norrie Avenue. The Chemist Warehouse loading vehicles will access the loading area via Wingfield Street and similarly exit in a forward direction.

4.3.3 *Parking*

A total of 117 car parking spaces are proposed for the site to be shared amongst the ALDI Store and the Chemist Warehouse. The parking layout has been designed in accordance with the relevant Australian Standards and will be provided with lighting throughout.

Three disabled parking spaces are provided, two adjacent the ALDI store entrance and one adjacent the Chemist Warehouse entrance to provide convenient access to people with a disability.

While a proposed future land division would create a technical separation of the two car parking areas, in reality, the 117 spaces will function as one integrated car park accessible for all who enter the site for whatever purpose. Appropriate reciprocal access rights would encumber the land to ensure the full balance of the parking provided remains accessible for the whole of the mixed use development.

4.3.4 *Deliveries*

Two separate loading areas for delivers are proposed, one for each of the respective shops.

The ALDI loading area is proposed to be located at the south-western corner of the site, adjacent Norrie Avenue, at the end of the ALDI building. The ALDI loading dock will be provided in accordance with ALDI's standard detail and seeks 24 hour delivery access with two main deliveries made per day by 19.0 metre long semi-trailers. A third delivery, via a small rigid vehicle, will deliver bakery products once a day. All delivery vehicles will enter and exit the site in a forward direction from Norrie Avenue as mentioned previously.

ALDI oversees and undertakes all its own deliveries and therefore has full control of the operations and logistics, which enables the business to minimise the impact of deliveries on customers and nearby residents. A copy of ALDI's loading procedures are attached (***Appendix 4***).

The Chemist Warehouse loading area is adjacent Wingfield Street, at the western end of the building. Delivers to the Chemist Warehouse store will occur by trucks and vans up to 10.0 metres long during trading hours. A maximum of two deliveries will be made per day and delivery vehicles will exit Wingfield Street in a forward direction.

4.3.5 *Pedestrian and Cyclist Accessibility*

The subject land is well served by pedestrian infrastructure with footpaths located on both sides of Wingfield Street, Norrie Avenue and South Road. The subject land is also well serviced by public transport with Bus Stop 20 on South Road providing services up to 15 minutes in frequency.

A signalised pedestrian crossing to the east of the subject site provides pedestrian connectivity across South Road. Designated bike lanes are present on both sides of South Road, adjacent the subject site.

The proposal includes the provision of six (6) bicycle spaces across three (3) bike rails. Two bike rails are located near the ALDI Store entrance and the other near the Chemist Warehouse entrance.

4.4 Landscaping

A variety of landscaping is proposed in association with the development. A landscape plan, prepared by Outerspace Landscape Architects, is included in ***Appendix 5***. Specifically, six (6) medium sized trees (Crepe Myrtles and Capital Pears) will be planted adjacent Wingfield Street and another five (5) medium sized trees will be planted in the car park, parallel to South Road. Five (5) small trees (Claret Ash) will be located near the northern boundary and another two (2) will be sited near the western boundary, adjacent Chemist Warehouse.

The trees will be complemented by landscape beds located around the site which will be densely planted with a range of shrubs and groundcovers. In particular, landscaping strips will be established along the road frontages

including the 4.5 metre wide landscaping strip adjacent South Road and the 2.0 metre wide landscaping buffer to Wingfield Street and Norrie Avenue to soften the appearance of the built form and the car park.

4.5 Signage

The application proposes to erect two (2), double sided 8 metre high internally illuminated pylon signs – one near South Road crossover adjacent the north-eastern corner of the site and another near the middle of the eastern boundary, adjacent South Road. The shared pylon signs will feature an ALDI advertisement 3.0 metres by 3.6 and a Chemist Warehouse advertisement 2.4 metres by 3.0 metres as well as minor directional signage.

The sign near the main vehicular entrance will also feature the ALDI logo as well as a triangular 'opening hours sign' below.

Three internally illuminated gable signs measuring 2.0 metres by 2.4 metres will be attached to the ALDI tower. In addition, an internally illuminated 'lifestyle graphic', measuring 7 metres by 3.3 metres, will be located on the northern elevation of the tower element to provide additional visual interest to the building as viewed internally from the car park area.

A digital display freestanding poster box measuring 2.2 metres in height and 0.95 metres in width will be located near the entrance to the ALDI Store.

Three (3) flat wall Chemist Warehouse signs will be placed on the eastern, southern and western façade as detailed on the Elevation Plans.

Specific details of each proposed sign are outlined in the Nielsen Architects drawings located in ***Appendix 2***.

4.6 Stormwater Management

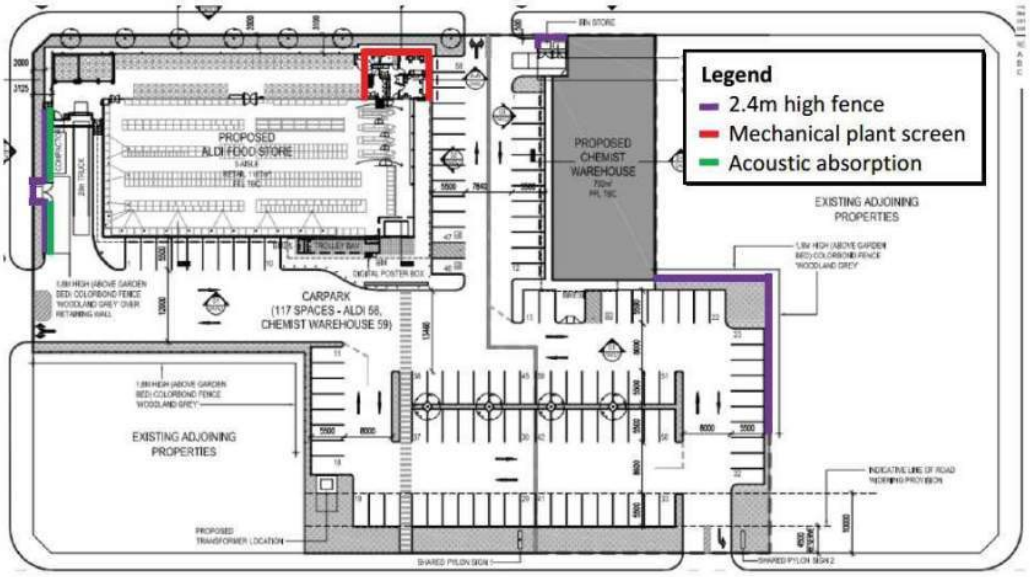
A stormwater management plan prepared by Drew Rudd Engineers will be provided under separate cover.

4.7 Fencing

Following a detailed acoustic assessment of the proposed development, Sonus Engineers have provided an acoustic report that includes recommended fencing (***Appendix 7***).

Sonus have advised that 2.4m high "Colorbond" fencing as shown in PURPLE (see figure 4.1) should be constructed such that they are sealed airtight at all junctions, including at the ground and at the building wall.

Figure 4.1 *Recommended fencing treatment (C/-Sonus)*



Consequently, a 2.4m high Colorbond® fence to is proposed near the southern boundary adjacent the ALDI Store loading dock, to the western boundary abutting Chemist Warehouse loading area as well as the northern and north-western boundary adjacent the cark park. The balance of the site boundaries will remain open and unfenced.

4.8 Waste collection

Waste collection will be managed within the respective loading and service bays for each building.

ALDI's recycling and rubbish will be stored within a compactor and bin enclosure located in the loading dock which will be screened from view. The compactor and bins will be emptied regularly by vehicles up to Medium Rigid Vehicle class, typically 10.5 metres or less in length. The collection of the ALDI bin is undertaken by a third-party contractor who will attend the Store on average three times per week to collect the contents of the bin.

ALDI's organic waste comprising fruit, vegetables and meat nearing the products best before date will be collected and re-distributed every day by ALDI's partner companies – Foodbank and SecondBite.

The Chemist Warehouse building does not generate perishable (organic) waste and therefore there will be no odour associated with the dedicated refuse bay.

Waste collection on-site will be restricted to between the hours of 9am and 7pm on a Sunday or public holiday, and 7am and 7pm on any other day.

5. Procedural Requirements

5.1 Relevant Authority

The relevant authority to determine the development application is the State Commission Assessment Panel (SCAP), with referral being made to the City of Marion. A request made under Schedule 10, Part 20 of the *Development Regulations,* 2008 was accepted by the State Coordinator-General by letter dated 9 July 2018.

5.2 Nature of Development

As outlined in Section 4.1, it is considered that the staged proposal includes demolition of the existing buildings on site and construction of a new supermarket (ALDI Store) and shop (Chemist Warehouse) with associated car parking, signage, fencing and landscaping.

The 'procedural matters' section of the Neighbourhood Centre Zone within the Development Plan list the following:

Non-complying Development

Development (including building work, a change in the use of land, or division of an allotment) for the following is non-complying:

Form of Development	Exceptions
Advertisement and/or advertising hoarding	Except where the advertisement and/or advertising hoarding achieves any one of the following: (a) it is attached to a building or structure where the height of the advertisement does not exceed the height of the roof of the walls or parapet of the building or structure by more than 2 metres (b) it is freestanding and has a height not exceeding 8 metres (c) it is located on a side or rear wall facing and not within 50 metres of an abutting residential zone.

The proposed signage achieves exceptions (a) and (b) listed above as the proposed façade signage does not project above the building roofline and the pylon signs do not exceed 8 metres in height. Therefore, as at least one of the three non-complying exceptions is satisfied, the proposed signage is a 'merit' form of development.

The remaining aspects of the proposed development are neither complying nor non-complying and, therefore the application must be assessed on its merits against the relevant provisions of the Development Plan.

5.3 Public Notification

The 'procedural matters' section of the Neighbourhood Centre Zone defers to the Schedule 9 of the Regulations in regard to categories of public notification.

Schedule 9, Part 2 (19) of the Regulations assigns any kind of development (excluding non-complying development) within the Neighbourhood Centre Zone, where the site is adjacent land in a different zone, as a Category 2 form of development. As the subject site is located within the Neighbourhood Centre Zone and

adjacent the Residential Zone and Commercial Zone (*see Figure 6.1*) the proposal is a subject to **Category 2** public notification.

5.4 Agency Referrals

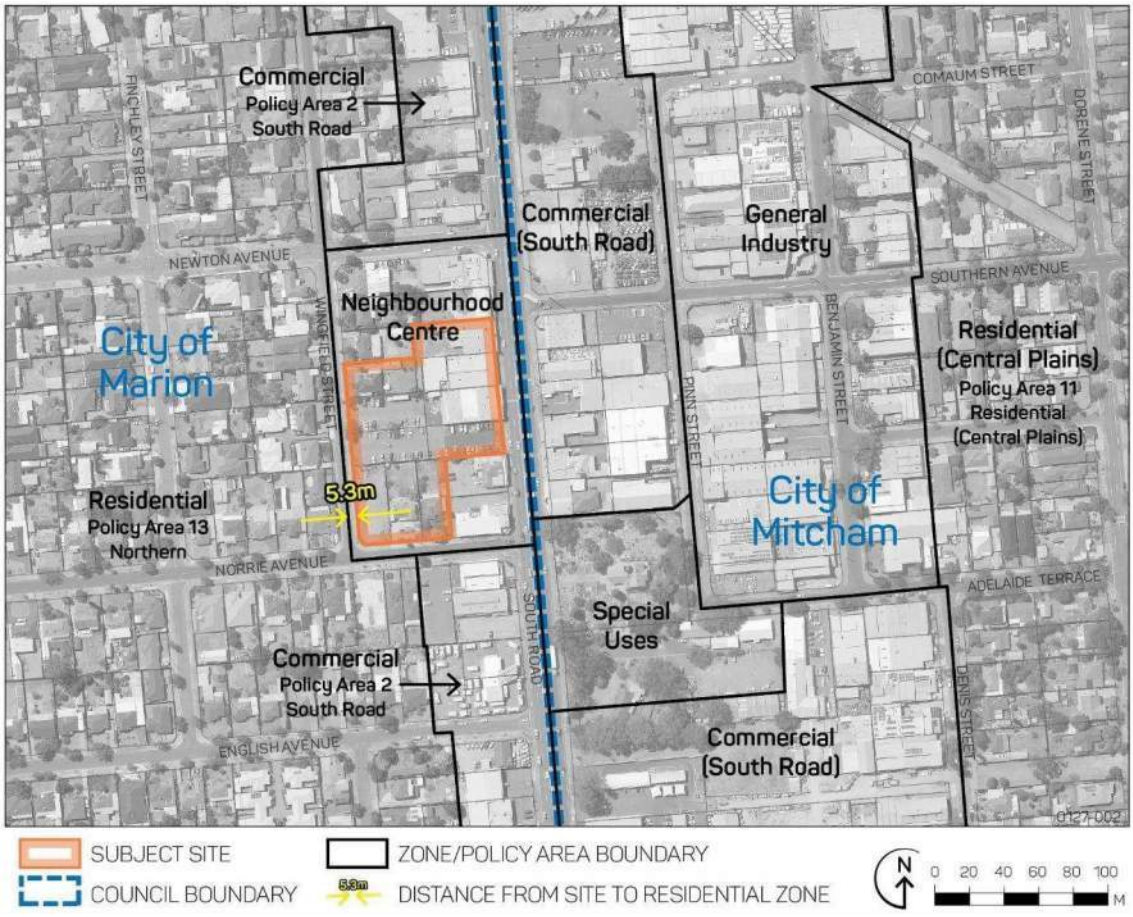
Given that the State Commission Assessment Panel (SCAP) is the relevant Planning Authority, it is understood that the proposal will be referred to the City of Marion for a period of 6 weeks. In addition, a 4 week referral period will be required to the Commissioner of Highways in accordance with clause 3 of the Table in Schedule 8 of the Regulations as the proposal will alter an existing access (remove), create a new access to an arterial road (South Road) and noting the 10 metre road widening requirement to South Road.

6. Development Plan Assessment

6.1 Overview

The following section provides an assessment of the proposal against the Marion Council Development Plan (consolidated 20 February 2018). The Zoning of the land and locality is identified in ***Figure 6.1*** below.

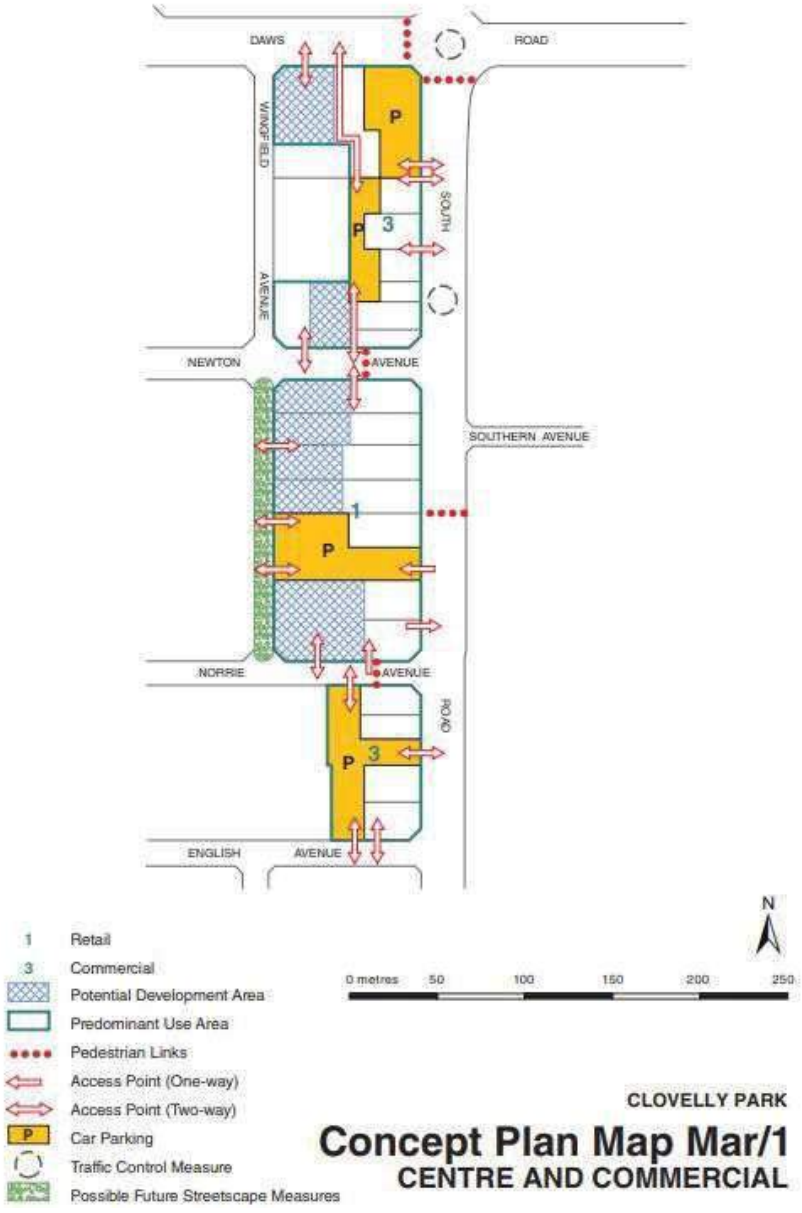
Figure 6.1 *Zoning*



While the Neighbourhood Centre Zone does not have any Policy Areas or Precincts, the Zone does refer to Concept Plan Map Mar/1 – Clovelly Park Centre and Commercial. As can be seen on ***Figure 6.2***, the subject land is situated within an area intended for retail development which extends from Norrie Avenue to Newton Avenue, bound by South Road and Wingfield Street.

Concept Plan Map Mar/1 also earmarks the corner of Norrie Avenue and Wingfield Street as a 'Potential Development Area' which is essentially where the proposed ALDI building will be located. The Concept Plan Map Mar/1 is discussed further in section 6.2.1 of this report.

Figure 6.2 *Concept Plan Map Mar/1 Centre and Commercial*



For convenience, this assessment has been grouped under a series of headings which reflect the key relevant planning 'themes' from the Development Plan. The following provides an assessment of the proposal against relevant Development Plan Objectives (OBJ) and Principles of Development Control (PDC).

6.2 Land Use

The Neighbourhood Centre Zone aims to provide a *"a range of facilities to meet the shopping, community, business, and recreational needs of the surrounding neighbourhood*" (Zone OBJ 1). The Zone is intended as the "*main focus of business and community life outside a district centre, and provides for the more frequent and regularly recurring needs of a community*" (Zone OBJ 2).

Retail development including shops and supermarkets are both listed as envisaged uses in the Zone (Zone PDC 1).

Concept Plan Map Mar/1 - Centre and Commercial in the Marion Development Plan provides guidance on the preferred layout of the Centre and identifies the subject site location as one to be developed:

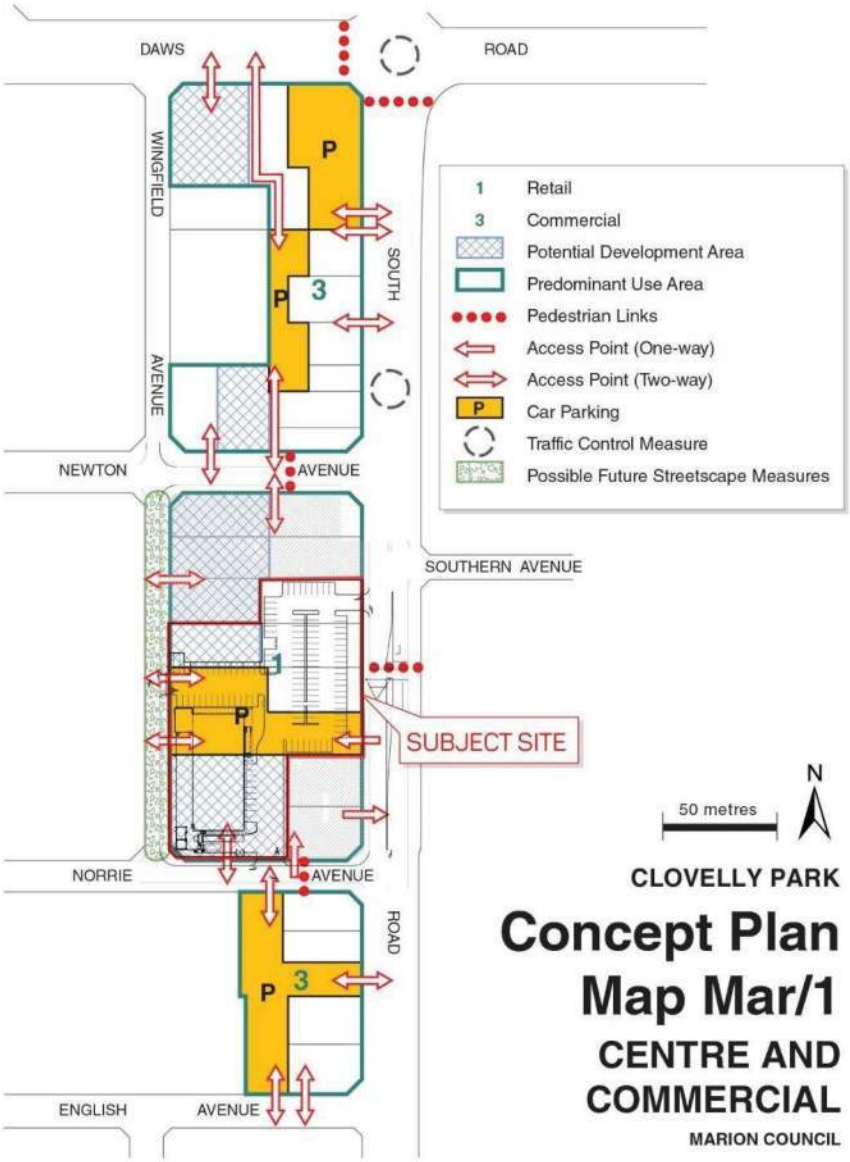
- For 'retail' land uses (Area 1);
- Consolidated on-site car parking with access from South Road, Wingfield Ave and Norrie Ave; and
- Development across the front ('*Predominant Use Area'*) and to the rear of the site ('*Potential Development Area'*).

We have overlayed the proposed site area and layout on this Concept Plan over page which illustrates the close alignment of the application with the aims of the Concept Plan.

In particular, we note that the proposal:

1. The proposal is for a supermarket and a shop, both envisaged uses, which will contribute to meeting the local, everyday convenience based shopping needs of surrounding residential community and passers-by;
2. Incorporates a single consolidated access/egress point from South Road, albeit it is located to the north of the pedestrian crossing, not south as indicated on the Concept Plan (noting however that a crossover to the north as proposed is considered preferential as its avoid conflict with the signalised pedestrian crossing as noted within the GTA traffic assessment);
3. Incorporates a consolidated, shared parking arrangement, between South Road and Wingfield Street with access/egress to both Norrie Avenue and Wingfield Street as suggested in the Concept Plan; and
4. The proposed buildings are sited on land identified as 'potential development area' on the Concept Plan.

Figure 6.3 *Neighbourhood Centre Concept Plan overlayed with proposal*



The Zone policies referenced above and the proposal's clear alignment with these policies is reinforced by the relevant Centre's policy in the General Section of the Development Plan which encourages centres to offer convenience, vibrancy, safety through pedestrian movement connectivity and efficient layouts.

General Section – Centres and Retail Development

OBJ 2 *Centres that ensure rational, economic and convenient provision of goods and services and provide:*

(a) a focus for community life

(b) safe, permeable, pleasant and accessible walking and cycling environments.

PDC 1 *Development within centres should:*

(a) integrate facilities within the zone

(b) allow for the multiple use of facilities and the sharing of utility spaces

(c) allow for the staging of development within the centre

(d) be integrated with public and community transport…

We note that Zone PDC 5 suggests limitation to the extent of retail floor area that should be established in the various Neighbourhood Centres within Marion as follows (our emphasis):

Zone PDC 5 *The maximum gross leasable retail floor areas in the following centres should generally be in the order of the amounts shown in the table below:*

Location of Neighbourhood Centre	*Area (square metres)*
Marion Road - Ascot Park	*2000*
Marion Road - Marion/Mitchell Park	*2500*
Marion Road - Park Holme	*4500*
Marion Road - South Plympton	*1200*
South Road - Clovelly Park	***2000***

The proposed ALDI Supermarket and Chemist Warehouse have a combined gross leasable floor area of 2,432m$^{2.}$

The existing retail buildings which will be demolished to make way for the new development currently account for approximately 2,100m^2 of gross leasable floor area. Therefore, the proposal presents an increase of approximately 332m^2 additional retail floor area or 13.5%. In the context of a new, integrated site redevelopment, which replaces a compromised 'mini' supermarket with a larger, yet still modest sized supermarket, this additional floor area is considered nominal.

We also note that the Clovelly Park Neighbourhood Centre is approx. 14,500m^2 in size (being the block between South Road, Wingfield Street, Norrie and Newton Avenues). Therefore, the Development Plan's guide for retail floor area in this location suggests that only 13.8% of the entire Zone should be allocated to retail floor area.

This allocated percentage of retail area does not correspond with the intent of the Zone or the Concept Plan Map Mar/1 which suggests a small area of consolidated parking in the centre of the Zone with the land surrounding occupied by 'predominant' and 'potential' development. While some of this could be for other complimentary uses (consulting rooms, personal services and residential development), it remains questionable that the floor area guide and the Concept Plan for Clovelly Park are informed by any valid retail analysis or demand study (noting that Marion Council have not undertaken a review of their centres policy for many years).

Given the small amount of retail floor area which will remain in the Zone once the buildings on the subject site area demolished (equating to approx. 350m^2) and the resulting moderate increase in retail floor area that will result from the development, it is considered that the proposal will not compromise the intent of the Neighbourhood Centre Zone or the viability of any other Centres within the region.

The application is appropriately aligned with the relevant provisions of the Marion Development Plan as they relate to land use.

6.3 Built Form

The Neighbourhood Centre Zone offers limited guidance on the built form appearance expected and matters of site layout and land use arrangements have been addressed in the previous section.

The 'Centres and Retail Development' and 'Design and Appearance' General Sections of the Development Plan offer the following relevant built form policies:

General Section – Centres and Retail Development

PDC 4 *A single architectural theme should be established within centres through:*

(a) constructing additions or other buildings in a style complementary to the existing shopping complex

(b) renovating the existing shopping complex to complement new additions and other buildings within the centre

(c) employing a signage theme.

General Section – Design and Appearance

PDC 1 *Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following:*

(a) building height, mass and proportion

(b) external materials, patterns, colours and decorative elements

(c) roof form and pitch

(d) façade articulation and detailing

(e) verandas, eaves, parapets and window screens.

PDC 14 Buildings, landscaping, paving and signage should have a coordinated appearance that maintains and enhances the visual attractiveness of the locality.

PDC 15 Buildings should be designed and sited to avoid extensive areas of uninterrupted walling facing areas exposed to public view.

The supermarket and shop buildings present a contemporary and complimentary architectural design which is relatively consistent with the character and scale of development in the locality. The appearance of the development in conjunction with the landscaping, will enhance the subject site, as illustrated below.

Figure 6.4 *Existing Site as viewed from South Road, facing north-west*

Figure 6.5 *Proposed Development from South Road (artist impression)*

The typically single storey form with low pitched roofs behind raised parapets and shop front glazing is retained however the new buildings present a unified, streamlined appearance compared to the patchy amalgam of built form elements currently on the site. Canopies are incorporated into the building design to define the building entrances albeit they are setback from the street edge.

The building scale is modest and consistent with commercially functioning buildings, with a height of 6.27m for the majority of the structures. A small area of raised parapet on the south-eastern corner of the Chemist building is proposed to define the entrance and conceal roof top plant equipment. The ALDI similarly has an extended 'tower' rising to 8.5m in its north-west corner opposite Wingfield Ave. In addition to providing

variation and interest in the building form, this element also houses back of house functions and encloses the plant equipment servicing the supermarket. This integrated approach to plant screening achieves the following policy.

General Section – Design and Appearance

PDC 4 *Structures located on the roofs of buildings to house plant and equipment should be screened from view and should form an integral part of the building design in relation to external finishes, shaping and colours.*

A range of materials are proposed which, in conjunction with the architectural design, will present a vibrant and robust built form appearance. Extensive areas of uninterrupted walling have been avoided, for the most part by using a variety of window openings, colours, feature concrete panels, signage and graphics within the building façades.

In relation to the front boundary setback, the need for a consolidated, accessible carpark together with the 10m wide road widening requirement has informed the site layout and built form setback as proposed.

We note the Development Plan calls for setbacks to reflect others in the locality while also acknowledging the impact siting has on function and appearance.

General Section – Centres and Retail Development

PDC 21 *Except in areas where a new character is desired, the setback of buildings from public roads should:*

(a) be similar to, or compatible with, setbacks of buildings on adjoining land and other buildings in the locality

(b) contribute positively to the function, appearance and/or desired character of the locality. Consolidated

PDC 24 *All setbacks from the road frontage should be additional to the road widening setback established under the Metropolitan Adelaide Road Widening Plan Act 1972.*

The traditional strip shop alignment of buildings constructed to the street edge is still prevalent in the immediate area, however newer developments are adopting a substantially greater front setback, both to accommodate future road widening and acquisition of land along South Road for the impending arterial road upgrade as well as the desire to present conveniently accessible car parking. The recently constructed commercial development immediately opposite the subject site on the corner of South Road and Southern Ave is an example of this, as illustrated in the image below.

Figure 6.6 *Figure Setback variations – South Road looking south*

In this context, the proposed setback form South Road is considered acceptable.

Both the supermarket and shop have sited the loading and services areas to minimise public visibility while also ensuring convenient and safe vehicle manoeuvring. Both bays are also screened by fencing and landscaping. As such, the proposal achieves the following design provision.

General Section – Centres and Retail Development

PDC 20 *Outdoor storage, loading and service areas should be:*

(a) screened from public view by a combination of built form, solid fencing and/or landscaping

(b) conveniently located and designed to enable the manoeuvring of service and delivery vehicles

(c) sited away from sensitive land uses.

6.4 Signage

The Neighbourhood Centre and adjoining Commercial Zones currently incorporate a wide range of signage, an established character element of South Road for most of its length. The diversity of land uses and desire for visual exposure on this high frequency transport route has resulted in a streetscape comprising freestanding pylon signs, parapet advertisement, roof top signs, projecting verandah signs (*see* ***figure 6.7*** *and* ***figure 6.8***).

Figure 6.7 *Existing Site Signage*

Figure 6.8 *Existing signage in the locality*

The Development Plan calls for retail development to present a consistent signage theme which enhances the appearance of site and building/s and does not disfiguring streetscapes. Other key policies are as follows:

General Section – Advertisement

PDC 1 *The location, siting, design, materials, size, and shape of advertisements and/or advertising hoardings should be:*

(a) consistent with the predominant character of the urban or rural landscape

(b) in harmony with any buildings or sites of historic significance or heritage value in the area

(c) co-ordinated with and complement the architectural form and design of the building they are to be located on.

PDC 3 *Buildings occupied by a number of tenants should exhibit co-ordinated and complementary advertisements and/or advertising hoardings to identify the tenants and their type of business.*

PDC 7 *Advertisements and/or advertising hoardings attached to buildings should not be sited on the roof or higher than the walls of a building, unless the advertisement or advertising hoarding is appropriately designed to form an integrated and complementary extension of the existing building.*

PDC 18 *Freestanding advertisements and/or advertising hoardings should be:*

(a) limited to only one primary advertisement per site or complex

(b) of a scale and size in keeping with the desired character of the locality and compatible with the development on the site.

Further, free standing signs in Neighbourhood Centre Zones should not exceed 8m in height with a $6m^2$ display area on both sides of the sign (Advertisements PDC 20).

The application proposes to erect two, eight (8) metre pylon signs and a number of façade signage panels on the building as previously outlined.

In relation to the proposed signage we note that:

- The proposal, which incorporates two commercial developments over ten (10) separate allotments, proposes two pylon signs to a maximum height of 8m as per the advertising height guidelines;
- The pylon signs and modest building façade signs are consistent with the predominate character of the commercial locality;
- The façade signage is integrated into the building design and does not extend above the parapet lines;
- The pylon signs incorporate the branding of all proposed tenants on the site; and
- The face of the pylon signs exceeds that suggested (6m2 recommended and 18m2) however in the context of the land size and the other signage in proximity to the site, this is considered acceptable.

Visually evident signage is a reality of commercial sites and critically important for businesses which rely heavily on passing vehicle trade and the ability of customers to clearly identify the business on approach and make a decision within ample time to enter the site.

In considering the proposed development and the polices related to advertising, the proposed site signage sufficiently achieves the intent of the Marion Development Plan.

6.5 Transport, Access and Parking

The Development Plan contains numerous provisions which seek to ensure that traffic can move efficiently and safely while also ensuring that an appropriate amount of car parking is provided to meet the demands generated by various developments.

As mentioned previously, GTA traffic consultants have undertaken a detailed traffic assessment of the proposed development (***Appendix 3***).

6.5.1 *Car Parking*

GTA note that the subject site is within 200 metres of a high frequency public bus service and therefore the site is within a 'Designated Area' under the Development Plan. Zone PDC 7 seeks on-site vehicle parking in accordance with Table Mar/2A – Off Street Vehicle Parking Requirements for Designated Areas, being a minimum rate of 3 spaces per 100m^2 of GLFA and maximum rate of 6 spaces per 100m^2 GLFA.

GTA provided the following car park assessment for the proposed development, based on the Development Plan rates:

Table 6.1 *Development Plan Car Parking Rates (GTA)*

Use	Size (sq. m)	Parking Rate		Parking Requirement	
		Minimum	Maximum	Minimum	Maximum
ALDI Store	1,677	3 spaces per 100 sq. m	6 spaces per 100 sq. m	51	101
Chemist Warehouse	700	3 spaces per 100 sq. m	6 spaces per 100 sq. m	21	42
Total	**2,377**			**72**	**143**

Therefore, the proposed development generates a minimum and maximum development plan requirement of 72 and 143 spaces respectively.

The proposed development will provide a total of 117 car parks across the site, which equates to a parking rate of 4.9 spaces per 100m^2 which is anticipated to adequately meet the demand for on-site vehicle parking and satisfies Zone PDC 7.

GTA confirm that the proposed car parking layout has also been designed in accordance with the relevant Australian Standard (AS/NZS2890.1.2004), thereby achieving the intent of PDC 35, Transport and Access.

> ***PDC 35*** *Development should be consistent with Australian Standard AS: 2890 - Parking facilities.*

Three disabled parking spaces are provided, two adjacent the ALDI store entrance and one adjacent the Chemist Warehouse entrance, to provide convenient access to people with a disability, in accordance with PDC 32, Transport and Access.

> ***PDC 32*** *Development should be sited and designed to provide convenient access for people with a disability.*

The proposal includes the provision of six (6) bicycle spaces across three (3) bike rails. Two bike rails are located near the ALDI Store entrance and the other near the Chemist Warehouse entrance. Whilst the proposed bicycle parking spaces is below the recommended 13 spaces stated within Table Mar/5 of the Development Plan, GTA consider the Development Plan bicycle parking rate to be notably high. GTA conclude that the proposed six bicycle spaces is adequate for this form of development. Notwithstanding, additional bike rails may be provided on a demand basis.

6.5.2 *Access & Loading Arrangements*

As mentioned previously in section 4.3.2 of this report, access to the site will be via South Road, Norrie Avenue and Wingfield Street, all of which are all-weather public roads consistent with PDC 22, Transport and Access.

> ***PDC 22*** *Development should have direct access from an all-weather public road.*

The two existing crossovers to Wingfield Street will be consolidated to one crossover and a new crossover is proposed to Norrie Avenue. The existing South Road crossover will be removed, and a new crossover proposed to the north to increase the separation distance to the adjacent signalised pedestrian crossing.

There is no increase in the number of access points proposed to South Road (arterial road) and the proposed South Road access will service both the ALDI Store and Chemist Warehouse, consistent with the intent of PDC 25, Transport and Access.

> ***PDC 25*** *The number of vehicle access points onto arterial roads shown on Overlay Maps - Transport should be minimised and, where possible, access points should be:*
>
> *(a) limited to local roads (including rear lane access)*
>
> *(b) shared between developments.*

The South Road access is for customer vehicles only. Heavy vehicles will access the site from Norrie Avenue servicing the ALDI building and medium rigid vehicles via Wingfield Street servicing Chemist Warehouse. Vehicle access to South Road is restricted to left-in, left-on movements only and vehicles will exit the site to South road (arterial road) in a forward direction, consistent with PDC 27, Transport and Access.

> ***PDC 27*** *Development with access from arterial roads or roads as shown on Overlay Maps – Transport should be sited to avoid the need for vehicles to reverse onto or from the road.*

The loading facility for the ALDI Store will accommodate truck access up to a 19.0 metre Semi Trailer with access via South Road and Norrie Avenue. The existing on-street parking will need to be removed on Norrie Avenue for an approximately length of 35 metres from the intersection with South Road (subject to negotiation with Council) to assist the manoeuvring of heavy vehicles. The loading facility for the Chemist Warehouse will accommodate trucks up to a 10.0 metre rigid truck. All vehicles will enter and exit the site in a forward direction and the proposal achieves the intent of PDC 14, Transport and Access.

> ***PDC 14*** *Development should provide for the on-site loading, unloading and turning of all traffic likely to be generated.*

In relation to the traffic impact and the capacity of the existing road network to cater for vehicles generated by the proposal, GTA noted the following:

> *The additional traffic generated by the ALDI Development won't adversely impact on the surrounding road network. While there will be increases in the average delays and queue lengths, these will generally be marginal. The right turn lane into Norrie Avenue will experience a more significant increase*

in the average delay (29 seconds) with a 95th Percentile Queue of 22.8 metres (~3 vehicles). Notwithstanding, this will remain within the capacity of the lane.

The additional right turns from Norrie Avenue will experience a large delay with a slight increase in queue length. However, existing traffic turning right onto South Road already experience long delays. In practice, most vehicles will turn left and seek alternative routes such as Daws Road to link back to the south. The proposed access point on Norrie Avenue will generate minimal queues and delays, and as such won't adversely impact on South Road.

Norrie Avenue/Wingfield Street and Newton Avenue/Wingfield Street [intersection] will also experience an increase in traffic. Notwithstanding, given the existing volumes for these intersections are low, the intersections will continue to perform well post development.

Based on GTA's assessment and conclusions, the proposed development satisfies the relevant provisions of the Development Plan relating to movement, transport and car parking. In particular, GTA has identified that sufficient on-site parking spaces will be provided to achieve the guidelines contained within the Development Plan.

6.6 Landscaping

Outerspace Landscape Architects has prepared a Landscape Plan (***Appendix 5***). This Landscape Plan proposes a range of plants which have been selected to give a strong identity to ALDI Stores within Metropolitan Adelaide, with each species serving a specific function.

As mentioned previously, the proposed landscaping is orientated towards the street frontages to soften the appearance of the buildings and car park. In particular, the proposed landscaping buffer to the three road frontages is generally 2.0 metres wide to Norrie Avenue and Wingfield Street, and 4.5 metres wide to South Road, consistent with the quantitative guideline within PDC 3, Landscaping Fencing and Walls.

PDC 3 *Landscaped areas along road frontages should have a width of not less than 2 metres and be protected from damage by vehicles and pedestrians.*

While some establish vegetation will be removed to accommodate the proposed crossover, a total of 11 medium trees will be planted across the site in addition to small trees, screening shrubs and ground covers. The six (6) proposed medium trees adjacent Wingfield Street will assist to soften the visual impact of the site as viewed from the adjacent Residential Zone. Feature planting is sited at all vehicle and pedestrian entries, providing an instant impact for shoppers entering the car park through contrasting colour and texture. The proposed landscaping will ultimately provide a coordinated mix of vegetation that enhances the appearance and amenity of the site and aligns with PDC 1 & 2 Landscaping, Fencing and Walls.

PDC 1 *Development should incorporate open space and landscaping in order to:*

(a) complement built form and reduce the visual impact of larger buildings (eg taller and broader plantings against taller and bulkier building components)

(b) enhance the appearance of road frontages

(c) screen service yards, loading areas and outdoor storage areas

(d) minimise maintenance and watering requirements

(e) enhance and define outdoor spaces, including car parking areas

(f) provide shade and shelter

(g) assist in climate control within buildings

(h) maintain privacy

(i) maximise stormwater re-use

(j) complement existing native vegetation

(k) contribute to the viability of ecosystems and species

(l) promote water and biodiversity conservation.

PDC 2 *Landscaping should:*

(a) include the planting of locally indigenous species where appropriate

(b) be oriented towards the street frontage

(c) result in the appropriate clearance from powerlines and other infrastructure being maintained.

In addition, the proposed landscaping within the car park will assist to reduce heat loads in summer by providing shade to hard stand areas, in accordance with PDC 40, Transport and Access

PDC 40 *To assist with stormwater detention and reduce heat loads in summer, outdoor vehicle parking areas should include landscaping.*

Further, it is noted that the proposed landscaping includes clean trunk tree species that will maintain view-lines to entrances and exits as well as allowing clear views to areas where people may gather. The proposed landscaping is generally consistent with the intent of PDC 1, Crime Prevention.

PDC 1 *Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable..*

For these reasons, the proposed development and the associated landscaping satisfies the relevant provisions of the Development Plan.

6.7 Stormwater

A stormwater management plan prepared by Drew Rudd Engineers will be provided under separate cover.

6.8 Interface between Land Uses

There are a number of relevant provisions in the Development Plan which seek to address interface considerations. OBJ 1 and OBJ 2, Interface Between Land Uses broadly seek to "*protect community health and amenity from adverse impacts of development*" (OBJ 2) and ensure that development is *"located and designed to minimise adverse impact and conflict between land uses"* (OBJ 1).

More specifically, PDC 6, Interface Between Land Uses seeks to minimise noise impacts between non-residential and residential land uses.

> ***PDC 6*** *Non-residential development on land abutting a residential zone should be designed to minimise noise impacts to achieve adequate levels of compatibility between existing and proposed uses..*

The direction provided by PDC 6 is reinforced by the PDC 7, which references the desire for development that emits noise to include noise attenuation measures, with reference to the Environmental Protection (Noise) Policy.

> ***PDC 7*** *Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant Environment Protection (Noise) Policy criteria when assessed at the nearest existing noise sensitive premises.*

This Policy is based on the World Health Organisation Guidelines to prevent annoyance, sleep disturbance and unreasonable interference on the amenity of an area.

It is noted that the noise transfer from the subject site to adjacent residential properties would already occur given the existing site layout and uses which includes commercial development (shops and associated car park) similar to the proposed. Further, the site would also be currently serviced by delivery vehicles and waste collection trucks.

Notwithstanding, the potential transfer of noise resulting from the proposed development has been reviewed and will be minimised by:

- Facing the main entrance to the ALDI Store and Chemist Warehouse towards the customer car park rather than towards the residential area;
- Maintaining typical shopping hours for supermarkets and shops;
- Enclosing the plant equipment within the tower element of the ALDI Store and behind a screened roof parapet on the Chemist Warehouse building; and
- Implementing the noise attenuation measures recommended by the acoustic consultants.

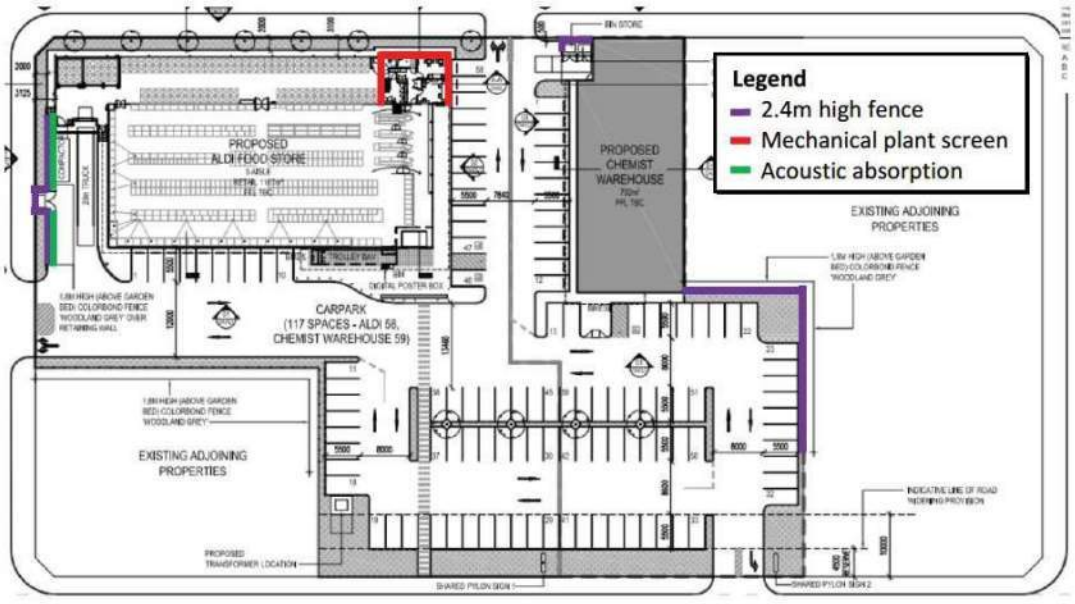
In order to confirm that the proposed development satisfies the requirements of the Development Plan, Sonus have prepared an Environmental Noise Assessment (***Appendix 7***). The acoustic assessment summarises the prediction of noise from the proposed ALDI Store and Chemist Warehouse, compares the predictions with the relevant criteria and provides indicative recommendations for acoustic treatment to ensure that the noise from the proposal does not detrimentally affect the amenity of the locality.

Sonus have reviewed the proposal against the Environment Protection (Noise) Policy 2007 and have considered potential noise generating activities on the site including noise from rubbish collection, car park activity and vehicle movements, the mechanical plant operation and delivery activities.

Sonus have advised that subject to the following acoustic treatments, the proposed development will satisfy the requirements of the Environment Protection (Noise) Policy 2007:

- Restrict the hours of rubbish collection from the site to the hours of Division 3 of the Environment Protection (Noise) Policy 2007. That is, only between the hours of 9am and 7pm on a Sunday or public holiday, and 7am and 7pm on any other day;
- Specific fence heights and constructions including installation of acoustic absorption:
  - » Construct 2.4m high "Colorbond" fences as shown in PURPLE (see *figure 6.9*) such that they are sealed airtight at all junctions, including at the ground and at the building wall;
  - » Install 50mm thick acoustic insulation with a minimum density of 32 kg/m3to the ALDI loading area fence for the extent shown in GREEN (*see figure 6.9*). The insulation should extend for the full practicable height of the fence and be should be installed as indicated within the Sonus report; and
  - » Screening of ALDI mechanical plant for the extent shown in RED (see figure 6.9).

Figure 6.9 *Site plan and recommended acoustic treatments (c/-Sonus image)*



Following the above, Sonus conclude that *"the facility has been designed to minimise adverse impact and conflict between land uses, avoid unreasonable interference on amenity, and will not detrimentally affect the locality by way of noise, thereby achieving the relevant provisions of the Development Plan related to environmental noise"*.

In addition, the proposed development will also ensure that car park lighting achieves appropriate Australian Standards and minimises spill or glare towards residential areas. As mentioned previously, sufficient on-site car parking will be provided, in accordance with the Development Plan car parking rate, to limit car park spill in adjoining streets.

Accordingly, the proposed development therefore aligns with the intent of PDC 1, Interface Between Land Uses.

> ***PDC 1*** *Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:*
> *(a) the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants*
> *(b) noise*
> *(c) vibration*
> *(d) electrical interference*
> *(e) light spill*
> *(f) glare*
> *(g) hours of operation*
> *(h) traffic impacts.*

The proposed Chemist Warehouse building presents a solid wall to the western boundary of Wingfield Street and the adjoining Residential Zone, however it is limited in length to 14.9m comprising only 14% of the western boundary. The remainder of the western boundary primarily incorporates a two (2) metre wide landscaped buffer with mature trees interspersed with shrubs and ground covers, which will soften the interface with the adjacent Residential Zone to the west. In addition to the landscaping buffer, the ALDI Store is setback 3.1 metres from the western and southern boundaries, further reducing the scale of the building as viewed from adjacent residential dwellings separated by Wingfield Street and Norrie Avenue.

Consideration has been given to the impact of the proposed development on the adjoining detached dwelling to the north of the site at 17 Wingfield Street. It is noted that the residential property is located within the Neighbourhood Centre Zone. Zone PDC 4 states that *"dwellings should be located only behind or above non-residential uses on the same allotment"* indicating the preferred ground floor land use facing the street is non-residential development and consequently street fronting ground level dwellings are not encouraged.

The Chemist Warehouse building abuts the northern boundary for a length of approximately 40.8 metres. The visual impact of the wall on the northern boundary is softened by the intentional choice of paint colour: 'Woodland Grey' (rather than the standard Chemist Warehouse branding colours of yellow and blue). Further, a strip of 'Shale Grey', a lighter colour, is proposed to break up the bulk of the wall consistent with PDC 15, Design and Appearance.

> ***PDC 15*** *Buildings should be designed and sited to avoid extensive areas of uninterrupted walling facing areas exposed to public view.*

Additionally, the proposed 6.2 metre high Chemist Warehouse boundary wall will have no overshadowing impact on the adjoining northern allotment and the solid boundary wall will maintain privacy between the proposed building and adjoining residential allotment, consistent with PDC 3, Interface Between Land Uses:

> ***PDC 3*** *Development adjacent to a Residential Zone should be designed to minimise overlooking and overshadowing of adjacent dwellings and private open space.*

In the context of the existing buildings on site, there are similar existing examples of commercial buildings abutting residential allotments such as the Rite Price building that abuts the rear (eastern) boundary of 19 Wingfield Street (see *Figure 6.10).* The proposed Chemist Warehouse building will have no overshadowing impact and arguably less of a visual impact to the adjoining residential allotment to the north (side boundary) than the existing Rite Price building abutting an eastern (rear) boundary of a residential allotment.

Figure 6.10 *Rite Price building abutting a residential allotment*

The proposed built form interface to the 17 Wingfield Street presents a reasonable and practical outcome noting the presence of commercial buildings abutting residential allotments within the Neighbourhood Centre Zone including the subject site.

Finally, the adjoining residential allotment is earmarked as a 'potential development area' on Concept Plan Map Mar/1 and therefore it is reasonable to assume that the site may be developed in the future to enjoy one of the many non-residential land uses envisaged within the Zone.

In assessing the amenity-related impacts of a development, it is worthwhile considering the contemplated land uses for the locality. For example, residential properties abutting commercial zones and activities and close to main roads, will typically be exposed to greater amenity-related impacts created by commercial built form, greater volumes of noise and the like when compared with residential properties situated within the heart of a residential zone.

Whilst the preservation of high levels of amenity is of importance, it is also necessary to consider existing and anticipated land use activities within the locality when determining what is an acceptable amenity level for a locality.

This view is consistent with the approach adopted by the Environmental Resources and Development Court, as considered in the matter of Wilkins v City of Unley [ERDC No. 524 of 2000]:

> *If people choose to live at or near the boundary between a residential zone and a business zone, they must expect some noise, traffic, overshadowing and the like which would not be appropriate further into the residential zone. Likewise, the businesses must expect some residentially based activities which may annoy.*

In considering the potential interface issues which may arise from the proposal, it is our view that, subject to certain treatments, the development will satisfy the relevant provisions of the Development Plan.

7. Conclusion

This development application seeks to construct an ALDI Store and Chemist Warehouse within the Neighbourhood Centre Zone of the Marion Council Development Plan. Given the location of the subject site and ability to provide convenient access for customers and delivery trucks, the site is well suited for its intended use for retail development.

Following an inspection of the subject land and locality, a review of the proposed plans and associated documentation as well as a detailed assessment of the proposed development against the relevant provisions of the Marion Council Development Plan, we have formed the opinion that the proposed development represents appropriate and orderly development that deserves favourable consideration for approval. More specifically:

- The proposal is consistent with the land uses envisaged within the Neighbourhood Zone;
- New investment will lift the amenity of the area and improve what is currently a relatively dilapidated site;
- The supply of car parking spaces will satisfy the anticipated demand generated by the proposed development and will exceed the minimum standards set out in the Development Plan;
- The ALDI Store will provide a range of groceries and other shopping products which will serve the needs of the local and broader community while also providing competition to other supermarkets which will help to drive down prices;
- The building features a sleek design which, combined with the proposed materials and finishes, will provide an enhanced and contemporary retail development across the co-ordinated site and improve the streetscape amenity to South Road, Norrie Avenue and Wingfield Street;
- The building setback to South Road will accommodate future road widening, the irregular shape of the allotment and the desire for car parking to be easily visible to passing traffic along South Road;
- The proposed landscaping will improve the amenity of the locality and soften views of the building from surrounding streets and adjacent properties;
- Projected traffic generation and distribution will not unreasonably impact on the function and/or capacity of the adjacent road networks;
- Vehicle access, egress and circulation movements will be appropriately managed through the provision of dedicated loading docks for delivery trucks; and
- The proposed advertising signage will clearly and concisely identify the intended use, while also achieving consistency with the architectural style of the building and complementing the character of existing signage along South Road and within the broader locality.

The proposed development is aligned with the most relevant provisions of the Development Plan and warrants Development Plan Consent, subject to reasonable and relevant conditions.

GTAconsultants

Proposed ALDI Store
South Road, Clovelly Park
Transport Impact Assessment

Client // ALDI Australia
Office // SA
Reference // S117000
Date // 29/08/2018

Proposed ALDI Store

South Road, Clovelly Park

Transport Impact Assessment

Issue: A 29/08/2018

Client: ALDI Australia
Reference: S117000
GTA Consultants Office: SA

Quality Record

Issue	Date	Description	Prepared By	Checked By	Approved By	Signed
A	29/08/18	Final	Richard Frimpong	Ian Bishop	Paul Morris	

GTAconsultants

Melbourne | Sydney | Brisbane
Canberra | Adelaide | Perth

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Appendices

Figures

Tables

1. Introduction

1.1 Background

A development comprising an ALDI Store and Chemist Warehouse is proposed on South Road in Clovelly Park, and located on a site between Norrie Avenue, South Road and Wingfield Street. GTA Consultants (GTA) has been commissioned to undertake a transport impact assessment of the proposed development.

1.2 Purpose of this Report

This report sets out an assessment of the anticipated transport implications of the proposed development, including consideration of the following:

i existing traffic and parking conditions surrounding the site
ii parking demand likely to be generated by the proposed development
iii suitability of the proposed parking in terms of supply (quantum) and layout
iv traffic generation characteristics of the proposed development
v proposed access arrangements for the site
vi transport impact of the development proposal on the surrounding road network.

1.3 References

In preparing this report, reference has been made to the following:

- City of Marion Development Plan (consolidated 20 February 2018)
- Australian Standard/ New Zealand Standard, Parking Facilities, Part 1: Off-Street Car Parking AS/NZS 2890.1:2004
- Australian Standard, Parking Facilities, Part 2: Off-Street Commercial Vehicle Facilities AS 2890.2:2002
- Australian Standard / New Zealand Standard, Parking Facilities, Part 6: Off-Street Parking for People with Disabilities AS/NZS 2890.6:2009
- plans for the proposed development prepared by Nielsen Architects
- traffic and car parking surveys undertaken by GTA Consultants as referenced in the context of this report
- various technical data as referenced in this report
- an inspection of the site and its surrounds
- other documents as nominated.

2. Existing Conditions

2.1 Subject Site

The subject site is located in Clovelly Park on South Road, to the north of Norrie Avenue, and extends to Wingfield Street. The properties on the corner of South Road and Norrie Avenue are not included as part of this proposal. The site of approximately 8,400 sq. m has frontages of approximately 78 metres to South Road, 50 metres to Norrie Avenue and 101 metres to Wingfield Street.

The site is located within a Neighbourhood Centre zone and is currently occupied by a mix of residential and commercial uses including Chemist Warehouse and Rite Price. The surrounding properties include residential and commercial land uses.

The location of the subject site and the surrounding environs is shown in Figure 2.1.

Figure 2.1: Subject Site and its Environs

(PhotoMap courtesy of NearMap Pty Ltd)

2.1.1 Adjoining Roads

South Road

South Road is an arterial road managed and maintained by the Department for Planning, Transport and Infrastructure (DPTI). The road is aligned in an approximate north to south direction and configured with dual carriageways with two (2) lanes in each direction and a central raised median. The carriageways are approximately 7.9 metres wide and set within a 24.2 metre wide road reserve (adjacent the site).

South Road carries approximately 44,700 vehicles per day[1] and has a posted speed limit of 60km/h.

Norrie Avenue

Norrie Avenue is a local road managed and maintained by the City of Marion. The road is aligned in an approximate east to west direction, with a two-way carriageway width of approximately 8.0 metres wide, set within a 15.4 metre wide road reserve.

Parking controls are located on the southern side of Norrie Avenue to restrict parking to 1 hour between 8am and 5pm (on any day).

Norrie Avenue carries approximately 840 vehicles per day[2] and is subject to the default urban speed limit of 50km/h.

Wingfield Street

Wingfield Street is a local road managed and maintained by the City of Marion. The road is aligned in an approximate north to south direction, with a two-way carriageway width of approximately 7.0 metres wide, set within a 12.4 metre wide road reserve.

Parking controls are located on the eastern side of Wingfield Street with No Stopping 8am to 5.30pm Monday to Friday and 8am to Noon Saturdays. One Hour parking applies on the western side 8.30am to 4.30pm Monday to Friday.

Wingfield Street carries approximately 1070 vehicles per day[2] and is subject to the default urban speed limit of 50km/h.

Newton Avenue

Newton Avenue is a local road managed and maintained by the City of Marion. The road is aligned in an approximate east to west direction and configured a single carriageway with one lane in each direction. The carriageway is approximately 11.1 metres wide and set within an 18.3 metre wide road reserve. Time limit parking control are applied on various sections of Newton Avenue.

Newton Avenue carries approximately 740 vehicles per day[2] and is subject to the default urban speed limit of 50km/h.

2.1.2 Surrounding Intersections

The following intersections currently exist in the vicinity of the site:

- Norrie Avenue/South Road (unsignalised)
- Norrie Avenue/Wingfield Street (unsignalised)
- Newton Avenue/Wingfield Street (unsignalised)
- Newton Avenue/South Road (unsignalised)
- Southern Avenue/South Road (unsignalised).

2.1.3 Traffic Volumes

GTA Consultants undertook traffic movement counts at the following intersections:

- Norrie Avenue/South Road
- Norrie Avenue/Wingfield Street
- Wingfield Street/ Southern Existing Access

[1] Based on data collected by the Department of Planning, Transport and Infrastructure (DPTI) available on LocationSA Map Viewer.
[2] Based on the peak hour traffic counts undertaken by GTA on 5 July 2018 and assuming a peak-to-daily ratio of 10%.

- Wingfield Street/ Northern Existing Access
- Newton Avenue/Wingfield Street
- Newton Avenue/South Road
- South Road/Existing Access

The traffic movement counts were undertaken during the following periods:

- Saturday 30 June 2018, 10:00am – 1:00pm
- Thursday 5 July 2018, 4:30pm – 6:30pm

The weekday PM peak hour and the Saturday peak hour traffic volumes are shown in Figure 2.2 and Figure 2.3 respectively.

Figure 2.2: Existing Weekday PM Peak Hour Traffic Volumes (4:45pm – 5:45pm)

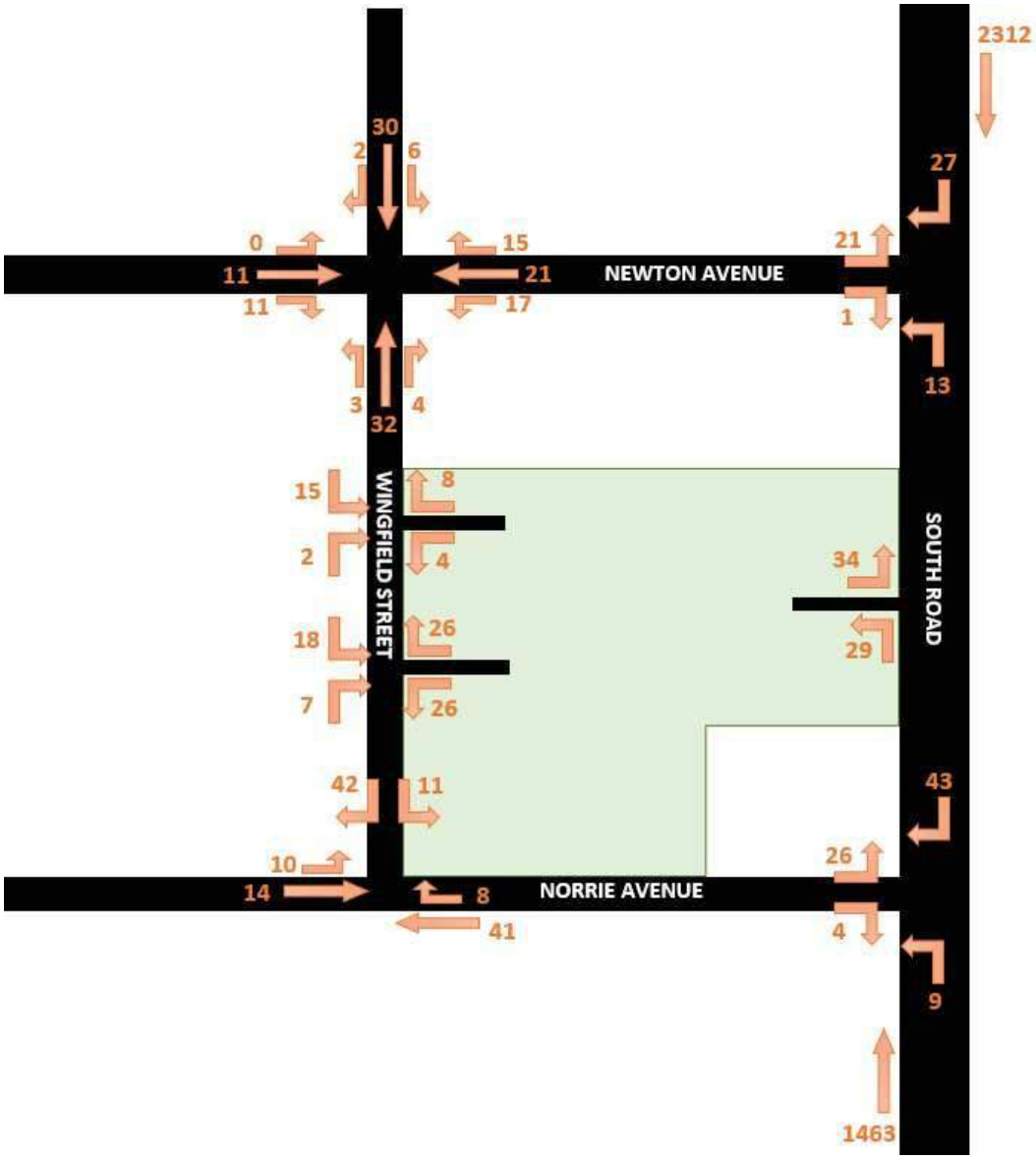
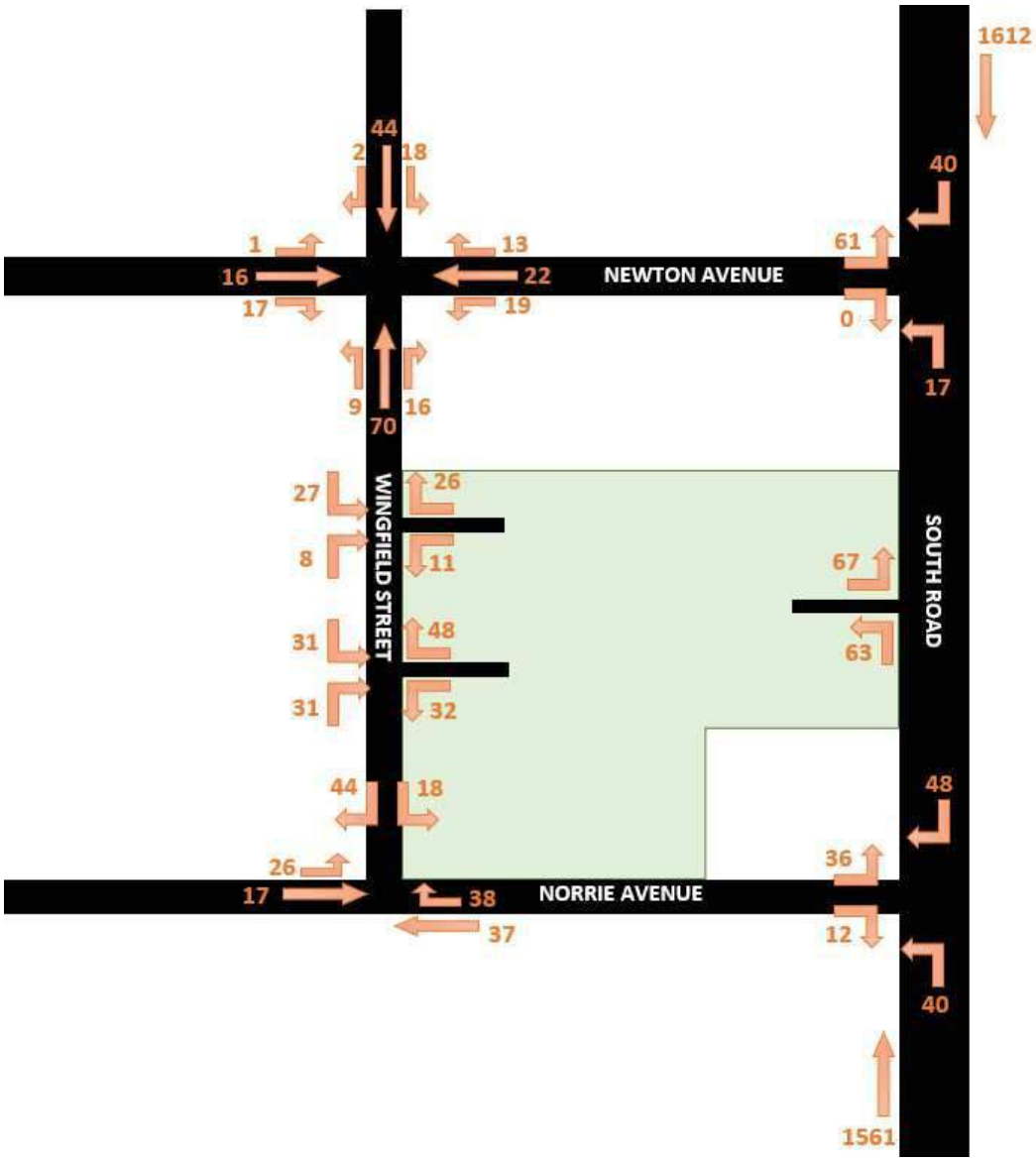


Figure 2.3: Existing Saturday Peak Hour Traffic Volumes (11:30am – 12:30pm)



2.1.4 Intersection Operation

The operation of the following critical intersections below has been assessed using *SIDRA INTERSECTION*[3], a computer based modelling package which calculates intersection performance.

- South Road/Newton Avenue – Table 2.1
- South Road/Chemist Warehouse Access – Table 2.2
- South Road/Norrie Avenue – Table 2.3

The commonly used measure of intersection performance is referred to as the *Degree of Saturation (DOS)*. The DOS represents the flow-to-capacity ratio for the most critical movement on each leg of the intersection. For signalised intersections, a DOS of around 0.95 has been

[3] Program used under license from Akcelik & Associates Pty Ltd.

typically considered the 'ideal' limit, beyond which queues and delays increase disproportionately[4].

The results have been discussed below:

South Road/Newton Avenue

The intersection of South Road and Newton Road has been assessed during the Weekday PM Peak and Saturday Peak as per Table 2.1.

Table 2.1: South Road/Newton Avenue – Existing Conditions

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
	Right	C	24.8	2.8	D	31.7	5.2
Newton Ave (West App)	Left	B	10.7	1.0	B	11.6	3.2
	Right	F	4032.5	14.6	F	4364.3	15.7

Based on the above, the existing intersection generally operates suitably during the Weekday PM Peak and Saturday Peak, with the exception of vehicles turning right out of Newton Avenue. Notwithstanding, while long delays are common for vehicles turning right from a minor road onto a major road, only one vehicle carried out this manoeuvre over an hour period for both the Weekday PM Peak and Saturday Peak.

South Road/Chemist Warehouse Access

The intersection of South Road and the Chemist Warehouse Access has been assessed during the Weekday PM Peak and Saturday Peak as per Table 2.2.

Table 2.2: South Road/Chemist Warehouse Intersection – Existing Conditions

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
Site Access (West App)	Left	B	10.7	1.6	B	11.3	3.4

Based on the above, the existing intersection generally operates suitably during the Weekday PM Peak and Saturday Peak, generally with a Level of Service (LOS) of A, low queuing and average delays.

[4] SIDRA INTERSECTION adopts the following criteria for Level of Service assessment:

		Intersection Degree of Saturation (X)	
		Unsignalised Intersection	Signalised Intersection
A	Excellent	<=0.50	<=0.60
B	Very Good	0.50-0.70	0.60-0.75
C	Good	0.70-0.80	0.75-0.90
D	Acceptable	0.80-0.90	0.90-0.95
E	Poor	0.90-1.00	0.95-1.00
F	Very Poor	>=1.0	>=1.0

South Road/Norrie Avenue

The intersection of South Road and Norrie Avenue has been assessed during the Weekday PM Peak and Saturday Peak as per Table 2.3.

Table 2.3: South Road/Norrie Avenue Intersection – Existing Conditions

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
	Right	C	24.0	4.5	D	29.5	4.8
Norrie Ave (West App)	Left	B	10.6	1.2	B	11.1	1.8
	Right	F	1214.9	15.8	F	528.2	19.8

Based on the above, the existing intersection operates suitably during both the Weekday PM Peak and the Saturday Peak. Similar to the South Road/Newton Avenue Intersection, the right turn out from Newton Avenue operates with a larger average delay and 95th percentile queue. Notwithstanding, this is not uncommon for vehicles turning right from a minor road onto a major road. It is further emphasised the number of right turn movements during both periods were low at 4 movements and 12 movements respectively.

2.1.5 Accident Statistics

A review of the reported accident casualty history for the roads and intersections adjoining the subject site has been sourced from the DPTI between 2012 and 2016. A summary of the accidents for the last available five-year period is presented in Table 2.4.

Table 2.4: Crash Statistic Summary

Location		No. of Crashes	Type of Crash	Total Casualties
South Road	Midblock (between Newton Avenue and Southern Avenue)	3	1 x Rear End 1 x Side Swipe 1 x Right Angle	0
	Midblock (between Southern Avenue and Norrie Avenue)	7	6 x Rear End 1 x Side Swipe	2
	T-junction (Norrie Avenue and South Road)	8	3 x Rear End 1 x Hit Fixed Object 3 x Right Angle 1 x Other	2
	T-junction (Newton Avenue and South Road)	4	4 x Right Turn	3
	T-junction (Southern Avenue and South Road)	1	1 x Right Angle	0
Newton Avenue	Newton Avenue and Wingfield Street Intersection	2	2 x Right Angle	0
Norrie Avenue	Midblock (Between Wingfield Street and South Road)	1	1 x Right Angle	0

Based on the above, the most common type of crashes at the intersections were right angle, while on the mid-block sections rear end collisions were the most common, which is typical of other intersections and midblock sections.

2.2 Car Parking

2.2.1 Supply

GTA Consultants recorded a total of 81 car parking spaces within the existing site for the Chemist Warehouse car park.

2.2.2 Demand

Parking demand surveys were undertaken within Chemist Warehouse/Rite Price car park during the following periods:

- Saturday, 30 June 2018 (between 10:00 and 13:00)
- Thursday, 5 July 2018 (between 16:30 and 18:30)

The key results are summarised in Table 2.5.

Table 2.5: Existing Parking Demand

Location	Supply	Date	Average Parking Demand		Peak Parking Demand	
			Volume	Occupancy (%)	Volume	Occupancy (%)
Chemist Warehouse Car Park	81	Saturday (30 June 18)	49	61%	59 11:30	73%
		Thursday (5 July 18)	38	47%	54 17:00	67%

The existing Chemist Warehouse and Rite Price contains a combined floor area of 1,236 sq. m, which equates to a peak parking rate of 4.8 spaces per 100 sq. m during the Saturday Peak and 4.4 spaces per 100 sq. m respectively.

2.3 Sustainable Transport Infrastructure

2.3.1 Public Transport

The site is located within close proximity to Bus Stop 20 on South Road, which provides services at up to 15 minutes in frequency. Table 2.6 considers the list of services available from South Road.

Table 2.6: Road Based Public Transport Provision

Route No.	Road Description	Nearest Stop
719	Flinders University to City	130 m
720/720H	Old Reynella Interchange to City	130 m
721/721F/T721	Noarlunga Interchange to City	130 m
722/T722	Noarlunga Interchange to City	130 m
723F	Colonnades Centre Interchange to City	130 m

2.3.2 Pedestrian Infrastructure

Footpaths are located on both sides of South Road, Norrie Avenue and Wingfield Street. There is also a pedestrian activated crossing (PAC) located on South Road, which enables a safe crossing location to/from the eastern side of South Road.

2.3.3 Cycle Infrastructure

There are bicycle lanes on both sides of South Road, which operate exclusively between 7:30am – 9:00am and 4:30pm – 6:00pm, Monday to Friday. There is no cycling infrastructure on Norrie Avenue and Wingfield Street.

3. Development Proposal

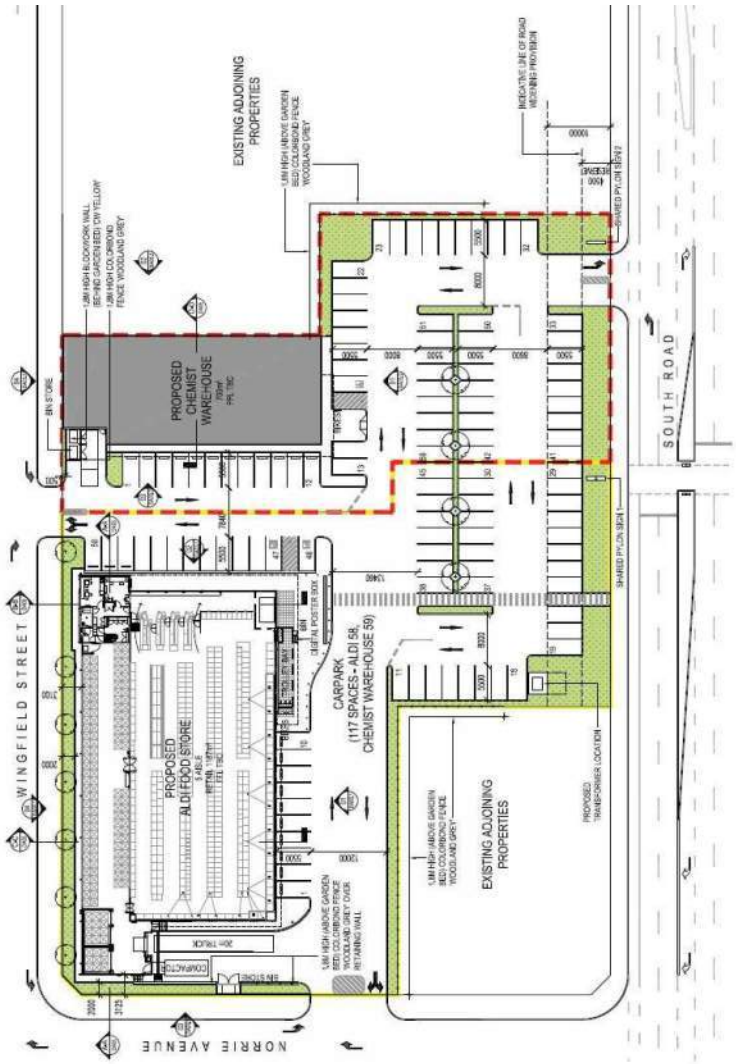
3.1 Land Uses

The proposed development includes;

- ALDI Supermarket of approximately 1,677 sq. m gross leasable floor area (GLFA)
- Chemist Warehouse of 700 sq. m GLFA
- Car parking for 117 vehicles within the site.
- Access points located on South Road, Norrie Avenue and Wingfield Street.
- Loading facilities for the ALDI Store and Chemist Warehouse.

Figure 3.1 presents the proposed site layout.

Figure 3.1: Proposed Layout Plan



4. Car Parking

4.1 Development Plan Car Parking Requirements

Car Parking rates for the proposed development have been sourced from Table Mar/2A of the Marion Council Development Plan.

The site is located within a Neighbourhood Centre Zone and is within 200 metres of a road along which a bus service operates at high frequency. On this basis, the site is a Designated Area for the purposes of assessing the development car parking requirements.

The most applicable rates for the retail component of the development is a non-residential development as follows:

Non-Residential Development

Minimum Parking Requirement	*3 spaces per 100 square metres of gross leasable floor area*
Maximum Parking Requirement	*6 spaces per 100 square metres of gross leasable floor area*

Based on the above rates, Table 4.1 has been prepared to summarise the development plan parking requirements of the site.

Table 4.1: Development Plan Parking Requirements

Use	Size (sq. m)	Parking Rate		Parking Requirement	
		Minimum	Maximum	Minimum	Maximum
ALDI Store	1,677	3 spaces per 100 sq. m	6 spaces per 100 sq. m	51	101
Chemist Warehouse	700	3 spaces per 100 sq. m	6 spaces per 100 sq. m	21	42
Total	**2,377**			**72**	**143**

Therefore, the proposed development generates a minimum and maximum development plan requirement of 72 and 143 spaces respectively.

4.2 Adequacy of Parking Supply

The provision of 117 car parking spaces equates to a parking rate of 4.9 spaces per 100 sq. m. This meets the Development Plan Car Parking requirements. Furthermore, the typical parking rate for ALDI stores throughout Metropolitan Adelaide and Australia is 4.1 spaces per 100sq.m GLFA based on existing parking surveys undertaken by GTA. It is also noted the existing Chemist Warehouse generates a parking rate of 4.8 spaces per 100 sq. m which occurred on the Saturday. Both rates are below the 4.9 spaces per 100 sq.m provided by the proposed development.

5. Parking Layout and Access

5.1 Car Parking Layout

The car parking layout has been designed in accordance with AS/NZS2890.1:2004. The parking spaces are suitable for User Class 3A, short term, high turnover car parking. As such, parking spaces will be 2.6 metres wide and 5.5 metres long.

The car parking aisles will be at least 7.8 metres wide, with widths up to 12.0 metres provided within the car park to accommodate truck movements. These dimensions will meet or exceed the minimum requirements of AS/NZS2890.1:2004.

Three disabled parking spaces are located along the store frontages and meet the dimensions of *'Australian / New Zealand Standards for Off-Street Parking Facilities for People with Disabilities'* (2009, henceforth referred to as AS/NZS2890.6).

Further to the above, the grades within the parking area will conform to the following requirements (as per AS/NZS2890.6 and AS2890.2):

- Maximum grade of 1 in 20 (5%) across nature strip
- Maximum grade of 1 in 40 (2.5%) across any footpath
- Maximum grade of 1 in 20 (5%) for 15 metres into the site (where commercial vehicles use the driveway, i.e. northern driveway)
- A maximum grade of 1 in 6.5 (15.4%) along commercial vehicles circulation roads, the maximum grade shall be 1 in 8 (12.5%) where reverse manoeuvres are required
- A maximum grade of 1 in 20 (5%) measured parallel to the angle of parking
- Maximum grade of 1 in 16 (6.25%) measured in any other direction to the angle of parking.

5.2 Access

Three (3) access points are proposed for the development.

5.2.1 South Road Access

The existing access point will be relocated approximately 50 metres north (to the north of the Pedestrian Actuated Crossing (PAC) to maximise separation from the pedestrian crossing. This will continue to facilitate left turn ingress and left turn egress only. The access point will be located outside of the 6.0 metre prohibited zone of the median nose, which assists to mitigate conflict to the Southern Avenue intersection. The access point will facilitate light vehicle traffic only.

5.2.2 Norrie Avenue Access

A new access point has been proposed on Norrie Avenue adjacent to the proposed ALDI Store. The access will be located approximately 40 metres west of the South Road/Norrie Avenue intersection and facilitate both light vehicles and heavy vehicles up to a 19.0 metre Semi Trailer. The access point will also facilitate un-restricted turning movements. Given the access proximity to South Road, a 19.0 metre Semi Trailer will be able to store prior to turning into the site without queuing back to South Road.

5.2.3 Wingfield Street Access

The two existing access points on Wingfield Street will be consolidated into a single access with un-restricted turning movements. The access will facilitate both light vehicles and trucks up to a 10 metre delivery truck for the proposed Chemist Warehouse store.

6. Sustainable Transport Infrastructure

6.1 Bicycle End of Trip Facilities

As discussed in Section 4.1, the proposed development is located within a designated area as it is located within a Neighbourhood Centre Zone and is located close to a high frequency bus stop. Therefore the bicycle parking rates have been sourced from Table Mar/5 of the Marion Council Development Plan. The most applicable rates to the development is as follows:

Shop

Employee	*1 for every 300 sq. m of Gross Leasable Floor Area*
Shopper	*1 for every 600 sq. m of Gross Leasable Floor Area*

Based on the above, the ALDI Store of 1,677 sq. m will generate nine (9) spaces including six (6) bicycle spaces for staff and three (3) bicycle spaces for shoppers. The Chemist Warehouse will generate four (4) spaces including one space for shoppers.

While some provision would be required for visitor bicycle parking, GTA considers the above rate high, especially given staff will usually store their bicycle internally. Therefore, the provision of four (2) bicycle spaces (2 rails) for the ALDI Store and two (2) spaces (1 rail) for the Chemist Warehouse is considered appropriate. Additional bicycle parking can be provided on a demand basis.

6.2 Walking and Cycling Network

The site is well integrated with South Road with pedestrian connectivity being provided to both ALDI and Chemist Warehouse. The site is also located adjacent an existing Pedestrian Activated Crossing, which enables pedestrians to link to the eastern side of South Road.

6.3 Public Transport

As discussed in Section 2.3.1, the site is located close to bus stop 20, which provides high frequency bus services to the City, Noarlunga and Flinders University.

7. Loading Facilities

7.1 Development Plan Requirements

Principle of Development Control (PDC) 14 in the 'Movement Systems' section of the Marion Council Development Plan sets out the requirements for loading applicable to the proposed development. PDC 14 is as follows:

14 "Development should provide for the on-site loading, unloading and turning of all traffic likely to be generated."

7.2 Proposed Loading Arrangements

7.2.1 ALDI

A loading area is proposed at the south of the site adjacent to Norrie Avenue. Whilst 19.0 metre vehicles will be used for deliveries, swept path assessments for 20.0 metre Semi Trailers have been used for future proofing of the site if these vehicles are approved for use in the future.

Entry will occur via a right turn into Norrie Avenue from South Road followed by a right turn into the site as shown in Figure 7.1. The existing on-street parking will be removed on Norrie Avenue between South Road and the Jaycar access to assist the turning into the site. Exit will occur via a left turn from the site onto Norrie Avenue followed by a left turn back onto South Road as per Figure 7.2. The loading dock will be provided in accordance with ALDI's standard detail. A bin store and compactor will also be located in the loading dock area.

The loading dock will also provide access for other vehicles including waste collection, compactor collection and bread deliveries. These are all carried out by vehicles up to Heavy Rigid Vehicle class, typically 10.5 metres or less in length.

Figure 7.1: 20m Semi Trailer – Entry – ALDI

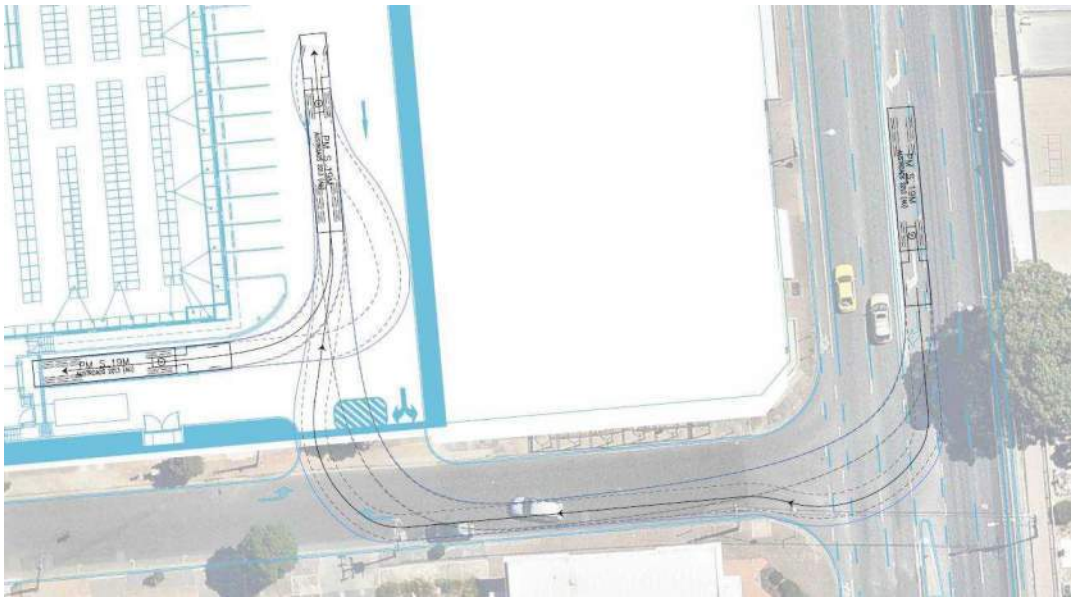
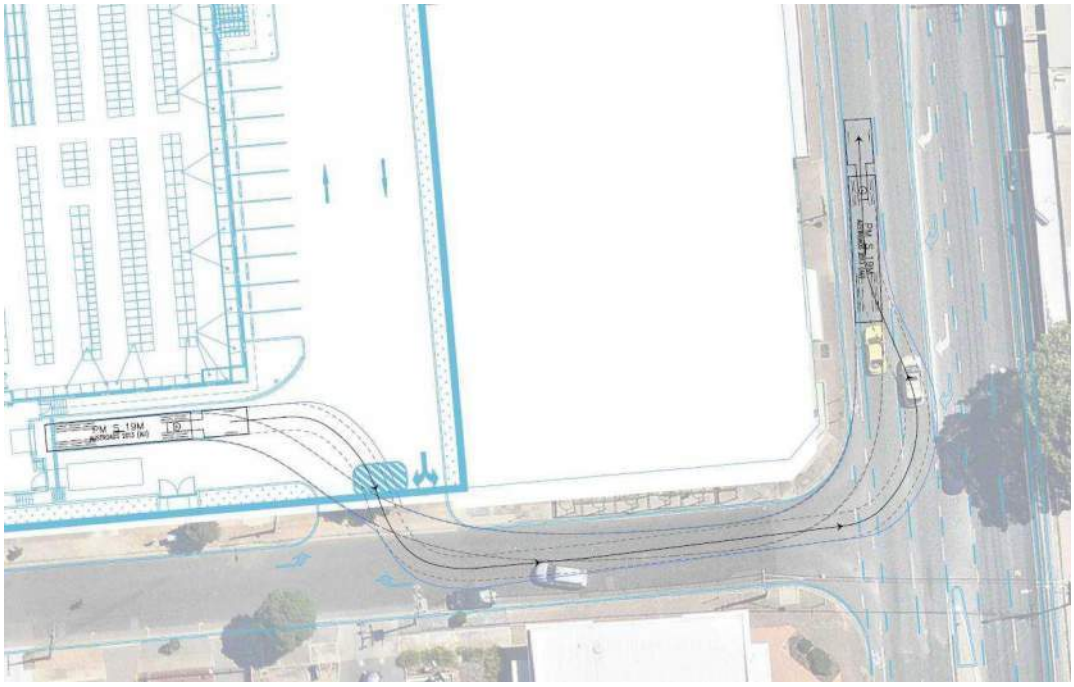


Figure 7.2: 20m Semi Trailer – Exit – ALDI



7.2.2 Chemist Warehouse

The loading area for Chemist Warehouse is proposed at the west of the site adjacent Wingfield Street. Deliveries will occur by trucks up to 10 metres long, with entry movements occurring via a right turn from Wingfield Street as shown in Figure 7.3. Exit movements will occur via a left turn movement from the site onto Wingfield as shown in Figure 7.4.

Figure 7.3: 10m Truck – Entry – Chemist Warehouse

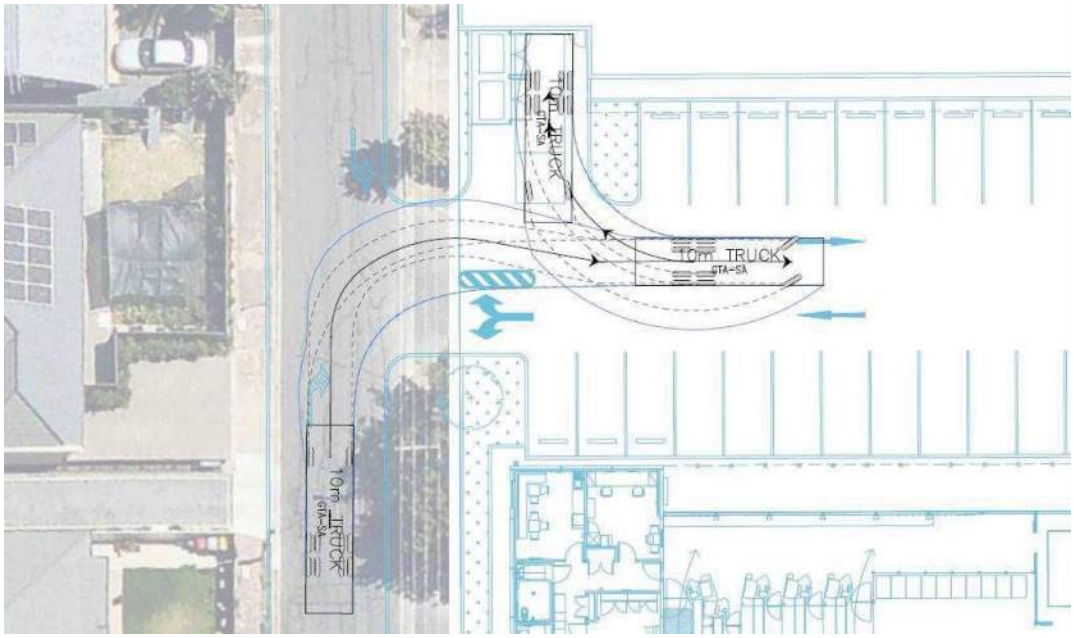
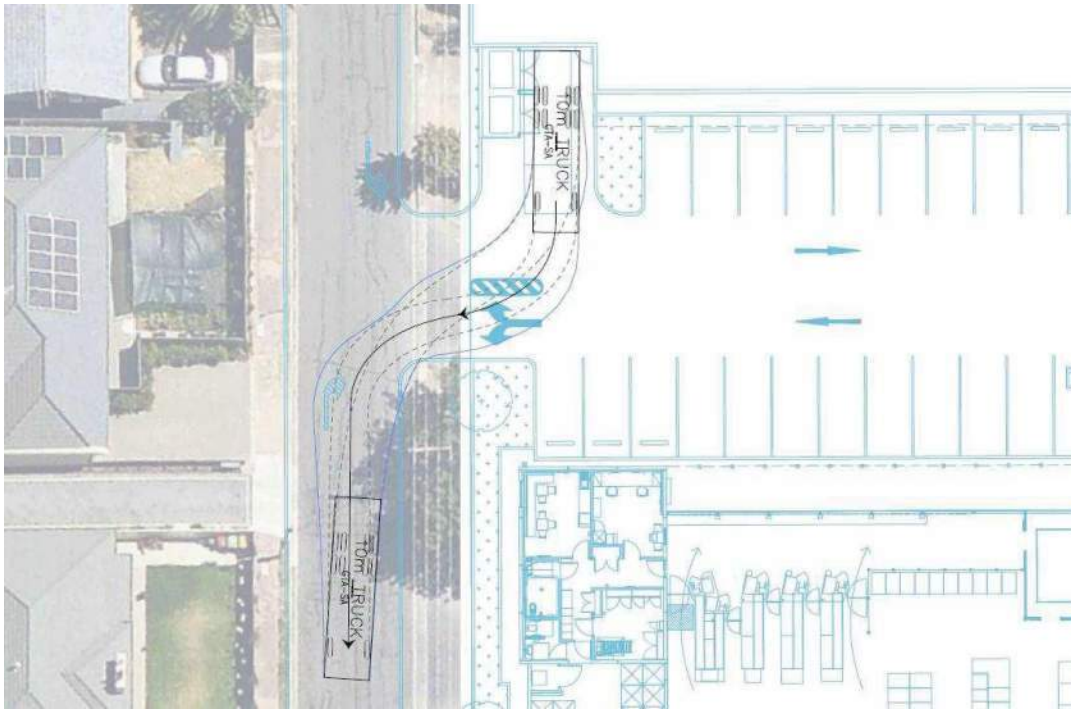


Figure 7.4: 10m Truck – Exit – Chemist Warehouse



8. Traffic Impact Assessment

8.1 Empirical Traffic Rates

The traffic assessment is based on consideration of empirical (or observed) traffic generation rates for ALDI stores in Victoria and South Australia.

8.1.1 ALDI Store

Table 8.1 presents the results of traffic generation surveys undertaken by GTA at standalone ALDI stores.

Table 8.1: Traffic Generation Surveys – ALDI Stores

Location	Gross Leasable Floor Area (sq.m)	Date	Traffic Generation (trips per 100sq.m)	
			PM Peak Hour	Saturday Peak Hour
Sunbury	1,274	17/02/2006	13.5	
Hampton Park	1,291	17/02/2006	14.6	
Carrum Downs	1,284	24/02/2006	13.2	
Rosebud	1,454	24/02/2006	10.7	
Ferntree Gully	1,274	15&31/07/2010	27.5	25.7
Pakenham	1,382	15&31/07/2010	12.0	13.5
AVERAGE			**15.3**	**19.6**

Based on the traffic generation survey results the following traffic generation rates have been adopted:

Weekday (PM Peak Hour): *15.3 trips per 100sq.m gross leasable floor area*

Weekend (Saturday Peak) *19.6 trips per 100sq. m gross leasable floor area*

Given the above, the proposed ALDI store of 1,677 sq. m gross leasable floor area would generate approximately 257 and 328 vehicle trips in the PM peak hour and Saturday peak respectively.

Link Trip Discount

GTA undertook 162 questionnaire surveys at six existing ALDI stores located in Victoria. The survey questions involved travel patterns including mode of travel, typical origin and destination and linking of trips. The results of the questionnaire survey with regards to passing trade from linked trips are presented in Table 8.2.

Table 8.2: ALDI Travel Patterns Questionnaire Survey – Link Trips

Site	Customer Surveys		
	Passing Trade	Total	Percentage
Belmont	7	30	23%
Carrum Downs	8	26	31%
Ferntree Gully	12	40	30%
Hampton Park	16	38	42%
Rosebud	2	5	40%
Sunbury	2	23	9%
AVERAGE	**47**	**162**	**29%**

The results of the table above indicate approximately 30% of all customers surveyed were identified as passing trade.

Based on the results of the questionnaire surveys a 30% discount factor for passing trade is considered reasonable for the development. Application of this discount factor results in an overall trip generation for the site of 180 and 230 new vehicle trips onto the road network in the PM peak and Saturday peak respectively.

The concept of linked trips is also supported by Austroads *Guide to Traffic Management Part 12* where it is recognised that traffic generated by (or attracted to) a development will be composed of the following:

- new trips that will not be made on the network if the development does not proceed
- existing trips between an origin and destination that divert a significant distance to visit the development
- existing trips that use the roads immediately abutting the development and break the journey to use the development.

8.1.2 Proposed Chemist Warehouse

Traffic generation for the Chemist Warehouse has been sourced from empirical turning count movements undertaken during the Thursday PM Peak and Saturday Peak respectively.

The following entry and exit movements were recorded during the Weekday PM Peak and Saturday PM Peak in Table 8.3 below.

Table 8.3: Chemist Warehouse Volumes

	Entry	Exit	Total
Thursday Weekday PM Peak	71	86	**169**
Saturday Weekend PM Peak	160	184	**344**

While the above movements did incorporate traffic associated with Rite Price, as a conservative assessment, the above numbers were adopted for the Chemist Warehouse trip generation. While an exact 50:50 distribution was not recorded during the survey, a 50:50 inbound: outbound split was considered appropriate as discussed in Section 8.1.3.

8.1.3 Traffic Generation

Given the traffic volume associated with the Chemist Warehouse is existing; the traffic generated by the site will only be additional trips associate with the ALDI Store. This equates to an additional 180 and 230 trips onto the network during the Weekday PM Peak Hour and the Saturday Peak Hour respectively. The site will generate an additional is 257 and 328 trips during the Weekday PM Peak and Saturday Peak respectively.

8.1.4 Distribution and Assignment

The directional distribution and assignment of traffic generated by the proposed development will be influenced by a number of factors, including the:

i configuration of the road network in the immediate vicinity of the site
i existing operation of intersections providing access between the local and arterial road network
ii distribution of households in the vicinity of the site
iii likely distribution of employee's residences in relation to the site
iv configuration of access points to the site.

Given the change to the access configuration for the proposed development, the distribution of traffic entering the site will be influenced by the proposed access on Norrie Avenue. This will alleviate traffic being generated onto the Wingfield Street access point. Furthermore, while the traffic entering from the South Road's north and south approaches were considered to be the same, a much higher volume of vehicles exiting to the north was considered.

This was influenced by the difficulty of vehicles undertaking a right turn out onto South Road under existing conditions and was reflected in the existing survey data. This condition is not unusual for right turn movements from local roads onto arterial roads in other locations. As such, only a very small proportion of vehicles exiting onto South Road via a right turn were assumed based on existing conditions.

Much of the catchment for this store is expected to be to the north on South Road with limited residential to the west and south of the site. This store will be located midway between ALDI stores at Marion Shopping Centre and Hawthorn. This will influence the catchment of customers primarily to the areas to the north on South Road (residential areas to the east and west of South Road). There is only a relatively small catchment of residential directly to the west.

Having consideration to the above, the traffic volume associated with the proposed ALDI and Chemist Warehouse is shown Figure 8.1 and Figure 8.2 respectively.

The diagrams below do not consider the additional traffic generated into the site and onto the road network, but rather the combined traffic associated with ALDI Store and Chemist Warehouse.

Figure 8.1: Combined ALDI and Chemist Warehouse Traffic – Weekday PM Peak

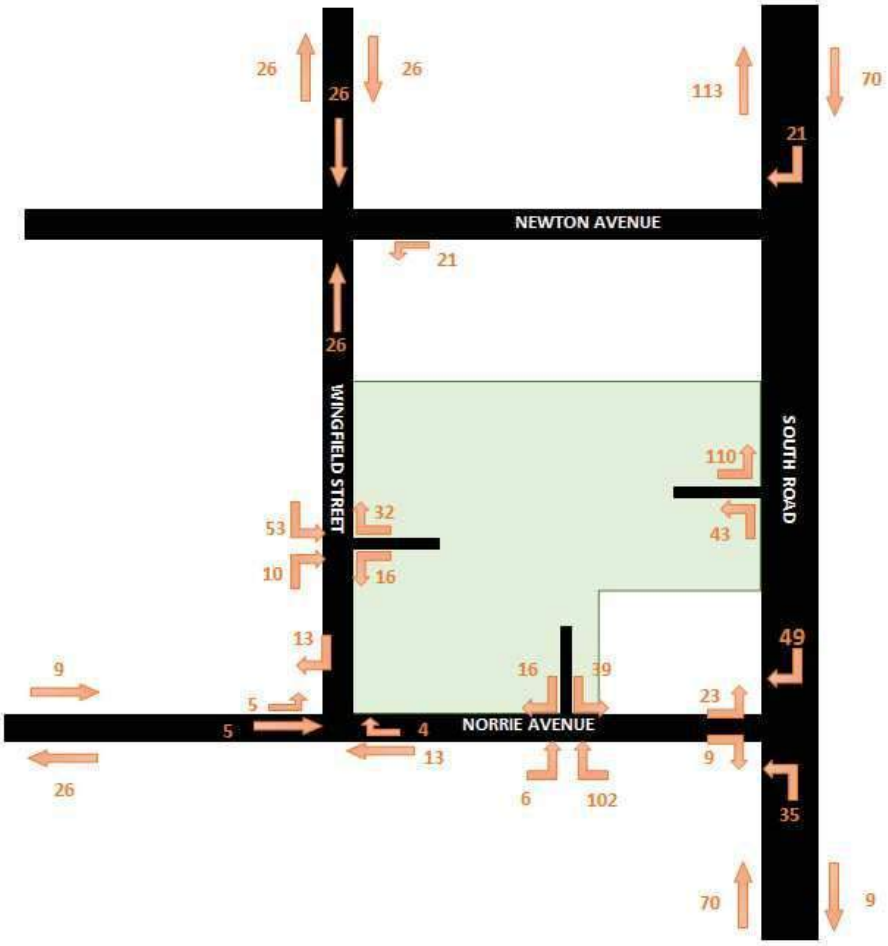
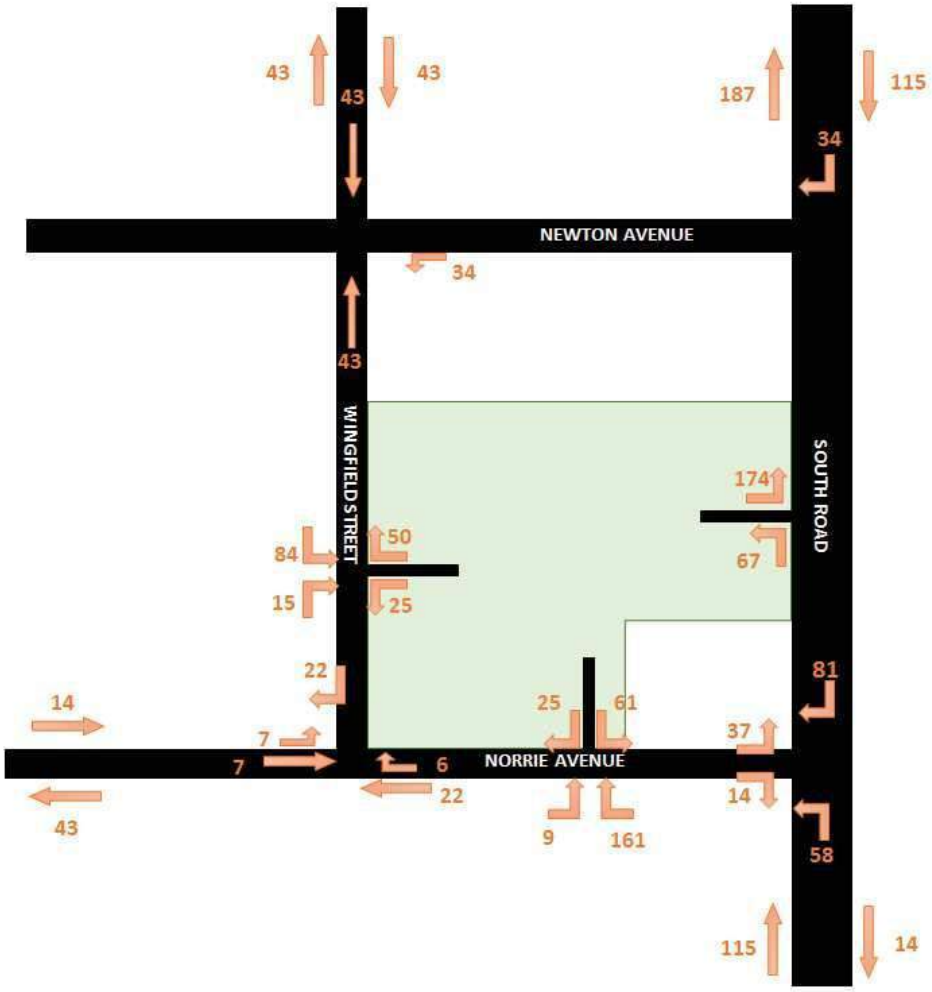


Figure 8.2: Combined ALDI and Chemist Warehouse Traffic – Saturday Peak Hour



Based on above, Figure 8.3 and Figure 8.4 considers the anticipated post development traffic during the Weekday PM Peak Hour and the Saturday Peak Hour.

Figure 8.3: Post Development – Weekday PM Peak Hour

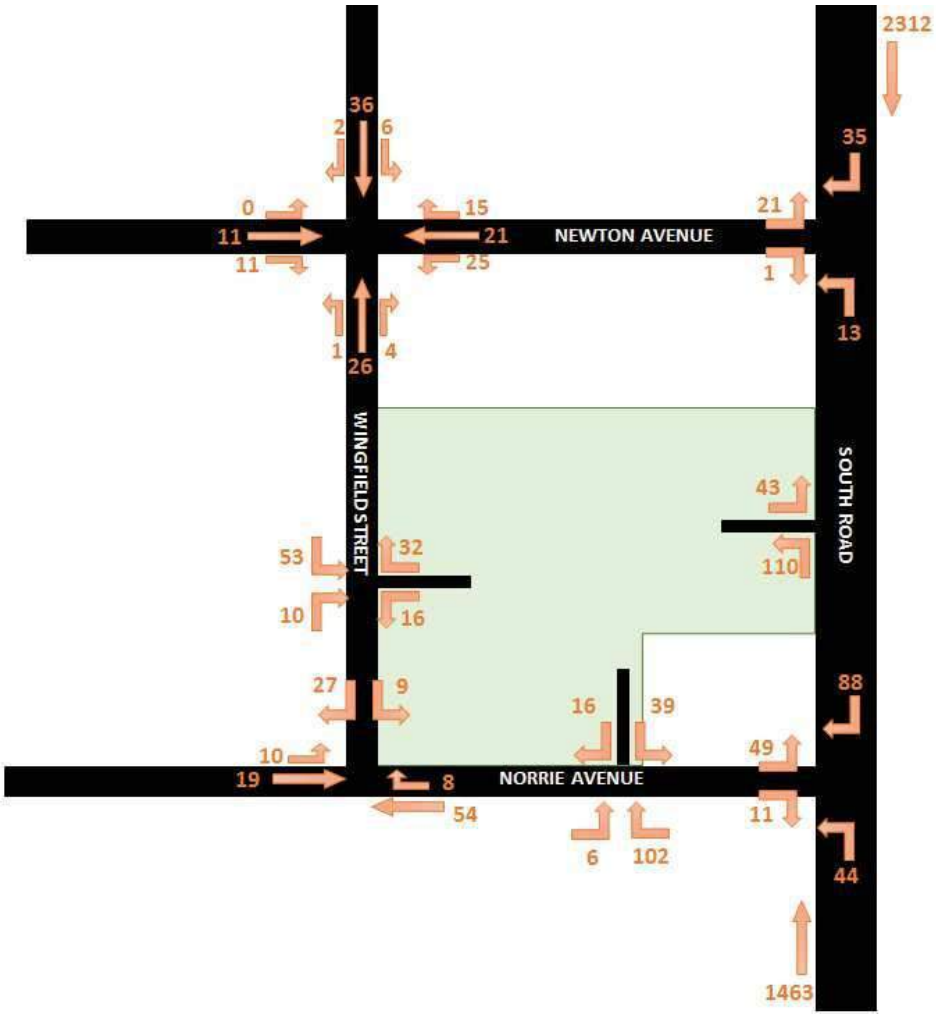
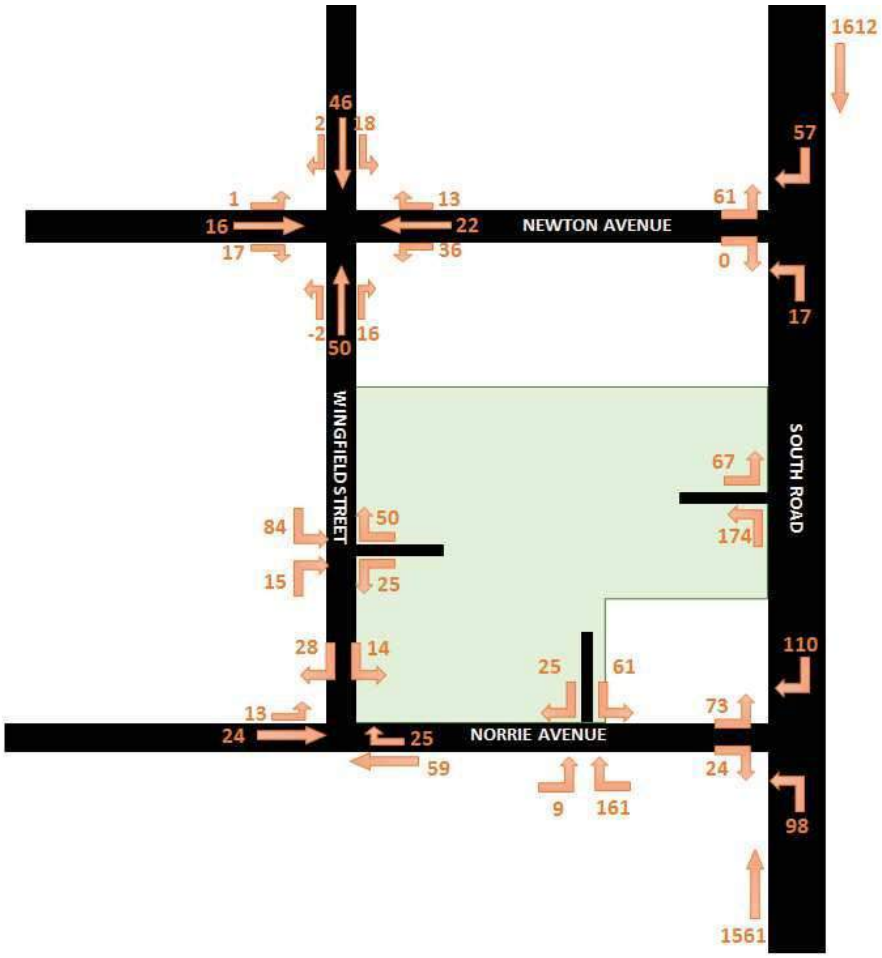


Figure 8.4: Post Development Volume – Saturday Peak Hour



8.2 SIDRA Intersection Analysis

The operation of the following intersections has been assessed using SIDRA INTERSECTION, a computer-based modelling package which calculates intersection performance. All movement summaries have been shown in Appendix A.

- South Road/Newton Avenue Intersection – Table 8.4
- South Road/Proposed Access – Table 8.5*
- South Road/Norrie Avenue Intersection – Table 8.6
- Norrie Avenue/Proposed Access – Table 8.7

The above intersections were considered critical to model during the Weekday PM Peak and the Saturday Peak considering their close proximity to South Road. While the local road intersections are likely to see a slight change in traffic distribution, these intersections weren't assessed given their current suitable level of operation and available capacity.

South Road/Newton Avenue Intersection

The results of the SIDRA analysis on the intersection of South Road and Newton Avenue is summarised in Table 8.4 during the Weekday PM Peak and Saturday Peak for post development conditions.

Table 8.4: South Road/Newton Avenue – Post Development

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
	Right	D	25.7	3.7	D	34.4	7.8
Newton Ave (West App)	Left	B	10.7	1.0	B	11.6	3.2
	Right	F	4030.4	14.6	F	4354.3	15.7

Based on the above, the intersection will continue to operate similar to existing conditions for both Weekday PM Peak and the Saturday Peak. The right turn into Newton Avenue will experience a marginal increase in delay and queuing, notwithstanding, this will still be within acceptable limits assuming poor level of service for right turns onto South Road will continue.

South Road/Revised Access

The results of the SIDRA analysis on the intersection of South Road and proposed access is summarised in Table 8.5 during the Weekday PM Peak and Saturday Peak for post development conditions.

Table 8.5: South Road/Proposed Site Access – Post Development

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
	Right						
Newton Ave (West App)	Left	B	10.2	1.9	B	10.5	3.1
	Right						

Despite the relocation of the access point to the north of the PAC, the intersection will continue to operate at the same LOS, with minimal changes to the average delay and 95th percentile queue length for both the Weekday PM Peak and the Saturday Peak.

South Road/Norrie Avenue Intersection

The results of the SIDRA analysis on the intersection of South Road and Norrie Avenue is summarised in Table 8.6 during the Weekday PM Peak and Saturday Peak for post development conditions.

Table 8.6: South Road/Norrie Avenue – Post Development

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
South Rd (South App)	Left	A	5.6	0.0	A	5.6	0.0
	Through	A	0.1	0.0	A	0.1	0.0
South Rd (North App)	Through	A	0.1	0.0	A	0.1	0.0
	Right	D	30.8	11.2	F	58.3	22.8
Norrie Ave (West App)	Left	B	10.5	2.3	B	10.9	3.6
	Right	F	518.2	17.8	F	293.3	22.4

Based on the above, the intersection will operate similar to existing conditions with some increases to the average delay and 95th percentile queue length on a couple of approaches. During the Weekday Peak, the right turn into Norrie Avenue would experience a 5.7 metre and 6.8 second increase in the 95th percentile queue length (less than one vehicle) and average delay respectively. The right turn out will experience an increase in queue length by 2 metres which is marginal. During the Saturday Peak, the right turn in will experience a 29 second increase in the average delay and an 11.7 metre increase in the 95th percentile queue. While this is a more notable increase, and the approach will experience a drop of Level of Service (LOS) to F, this delay is considered acceptable, with the 95th percentile queue being within the storage capacity of the right turn lane. The degree of Saturation for the Saturday Peak was 0.779 for the right turn indicating it will operate within the maximum capacity. Therefore, there will be no adverse impacts from the right turn lane into the site. The right turn onto South Road will experience a 3 metre increase in the 95th percentile queue length which is marginal.

Norrie Avenue/Site Access Intersection

The results of the SIDRA analysis on the intersection of Norrie Avenue and the proposed access is summarised in Table 8.7 during the Weekday PM Peak and Saturday Peak for post development conditions.

Table 8.7: Norrie Avenue/Site Access – Post Development

Approach	Movement	Weekday PM Peak			Saturday Peak Hour		
		Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)	Level of Service (LOS)	Average Delay (s)	95th Percentile Queue (m)
Norrie Ave (East App)	Through	A	0.1	2.6	A	0.1	4.4
	Right	A	5.6	2.6	A	5.6	4.4
Site Access (North App)	Left	A	5.6	1.1	A	5.6	1.8
	Right	A	6.1	1.1	A	6.5	1.8
Norrie Ave (West App)	Left	A	5.5	0.0	A	5.5	0.0
	Through	A	0.0	0.0	A	0.0	0.0

Based on the above, the intersection would operate at a LOS of A with no notable queuing or delay. This is concurrent during the Weekday PM Peak and Saturday Peak Hour. In particular, the right turn into the site from Norrie Avenue experiences a 95th percentile queue length of 4.4 metres (less than a vehicle). Therefore, the provision of this access will not result in queuing back

to South Road. As such, South Road won't be adversely impacted by the provision of this access point.

8.3 Traffic Impact

Therefore, the additional traffic generated by the ALDI Development won't adversely impact on the surrounding road network. While there will be increases in the average delays and queue lengths, these will generally be marginal. The right turn lane into Norrie Avenue will experience a more significant increase in the average delay (29 seconds) with a 95th Percentile Queue of 22.8 metres (~3 vehicles). Notwithstanding, this will remain within the capacity of the lane.

The additional right turns from Norrie Avenue will experience a large delay with a slight increase in queue length. However, existing traffic turning right onto South Road already experience long delays. In practice, most vehicles will turn left and seek alternative routes such as Daws Road to link back to the south. The proposed access point on Norrie Avenue will generate minimal queues and delays, and as such won't adversely impact on South Road.

Norrie Avenue/Wingfield Street and Newton Avenue/Wingfield Street will also experience an increase in traffic. Notwithstanding, given the existing volumes for these intersections are low, the intersections will continue to perform well post development.

9. Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

i The proposed supply of 117 car parking spaces (4.9 spaces per 100 sq. m) meets the Development Plan requirement. The parking provision also exceeds the empirical rate for ALDI Stores and the existing Chemist Warehouse.

ii The proposed car parking layout is consistent with dimensional requirements set out in the Australian/New Zealand Standard for Off-Street Car Parking (AS2890.1:2004) and the Australian Standard for Parking for People with Disabilities (AS2890.6:2009).

iii Three (3) access points have been proposed on South Road, Norrie Avenue and Wingfield Street respectively. All access points will operate suitably.

iv GTA considers the provision of six (6) bicycle parking spaces to be appropriate including four (4) spaces for the ALDI Store and two (2) spaces for Chemist Warehouse. If there is additional demand, additional spaces can be provided.

v The loading facility for the ALDI Store will accommodate truck access up to a 19.0 metre Semi Trailer with access via South Road and Norrie Avenue. The on-street parking on Norrie Avenue between South Road and the Jaycar access will be removed.

vi The loading facility for the Chemist Warehouse will accommodate trucks up to a 10.0 metre rigid truck. They will access the site via Wingfield Street.

vii The existing Chemist Warehouse and Rite Price generate a Weekday PM Peak and Saturday Peak volume of 169 and 344 trips. As a conservative approach, this was considered to reflect the proposed volumes associated with Chemist Warehouse, although GTA considers a slight reduction in traffic.

viii The site will generate an additional 257 and 328 trips during the Weekday PM Peak and Saturday Peak respectively. This volume is purely associated with ALDI traffic. Given the proximity of other ALDI Stores at Marion and Hawthorn, it is anticipated that the majority of the catchment will be to/from the north.

ix An analysis of the additional traffic generates by the proposed development during the Weekday PM Peak and Saturday Peak indicates the road network will experience some increases in queuing and delays, although marginal in most cases. The right turn into Norrie Avenue from South Road will experience an increase in delay by 29 seconds, although the 95th percentile queue length will remain within the current physical capacity of the lane.

Appendix A

SIDRA Intersection results

Site Access with South Road

Thursday PM Peak – Existing Conditions

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Site Access_Weekday PM Peak_Existing Conditions]**

Thursday PM Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	31	0.0	0.415	5.6	LOS A	0.0	0.0	0.00	0.02	58.1
2	T1	1540	4.1	0.415	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		1571	4.0	0.415	0.2	NA	0.0	0.0	0.00	0.01	59.7
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
Approach		2434	2.8	0.635	0.1	NA	0.0	0.0	0.00	0.00	59.7
West: Site Access											
10	L2	36	0.0	0.066	10.7	LOS B	0.2	1.6	0.61	0.82	49.9
Approach		36	0.0	0.066	10.7	LOS B	0.2	1.6	0.61	0.82	49.9
All Vehicles		4040	3.2	0.635	0.2	NA	0.2	1.6	0.01	0.01	59.6

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Thursday PM Peak – Post Development

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Site Access_Weekday PM Peak_Post Development]**

Thursday PM Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	116	0.0	0.438	5.6	LOS A	0.0	0.0	0.00	0.08	57.5
2	T1	1540	4.1	0.438	0.1	LOS A	0.0	0.0	0.00	0.04	59.5
Approach		1656	3.8	0.438	0.5	NA	0.0	0.0	0.00	0.04	59.4
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
Approach		2434	2.8	0.635	0.1	NA	0.0	0.0	0.00	0.00	59.7
West: Site Access											
10	L2	45	0.0	0.078	10.2	LOS B	0.3	1.9	0.58	0.80	50.2
Approach		45	0.0	0.078	10.2	LOS B	0.3	1.9	0.58	0.80	50.2
All Vehicles		4135	3.2	0.635	0.4	NA	0.3	1.9	0.01	0.03	59.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Existing Conditions

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Site Access_Saturday Peak_Existing Conditions]**

Saturday Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	66	0.0	0.447	5.6	LOS A	0.0	0.0	0.00	0.05	57.8
2	T1	1643	2.5	0.447	0.1	LOS A	0.0	0.0	0.00	0.02	59.7
Approach		1709	2.4	0.447	0.3	NA	0.0	0.0	0.00	0.02	59.6
North: South Road											
8	T1	1697	2.4	0.442	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		1697	2.4	0.442	0.1	NA	0.0	0.0	0.00	0.00	59.9
West: Site Access											
10	L2	71	0.0	0.136	11.3	LOS B	0.5	3.4	0.65	0.85	49.5
Approach		71	0.0	0.136	11.3	LOS B	0.5	3.4	0.65	0.85	49.5
All Vehicles		3477	2.3	0.447	0.4	NA	0.5	3.4	0.01	0.03	59.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Post Development

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Site Access_Saturday Peak_Post Development]**

Satuday Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	183	0.0	0.479	5.6	LOS A	0.0	0.0	0.00	0.12	57.2
2	T1	1643	2.5	0.479	0.1	LOS A	0.0	0.0	0.00	0.05	59.4
Approach		1826	2.2	0.479	0.6	NA	0.0	0.0	0.00	0.06	59.1
North: South Road											
8	T1	1697	2.4	0.442	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
Approach		1697	2.4	0.442	0.1	NA	0.0	0.0	0.00	0.00	59.9
West: Site Access											
10	L2	71	0.0	0.124	10.5	LOS B	0.4	3.1	0.60	0.83	50.0
Approach		71	0.0	0.124	10.5	LOS B	0.4	3.1	0.60	0.83	50.0
All Vehicles		3594	2.3	0.479	0.6	NA	0.4	3.1	0.01	0.05	59.3

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

South Road and Newton Avenue Intersection

Thursday PM Peak – Existing Conditions

MOVEMENT SUMMARY

Site: 101 [South Road_Newton Avenue_Weekday PM Peak_Exiting Conditions]

Thursday PM Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	14	0.0	0.410	5.6	LOS A	0.0	0.0	0.00	0.01	58.2
2	T1	1540	4.1	0.410	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		1554	4.1	0.410	0.1	NA	0.0	0.0	0.00	0.01	59.8
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
9	R2	28	0.0	0.151	24.8	LOS C	0.4	2.8	0.89	0.95	41.8
Approach		2462	2.7	0.635	0.4	NA	0.4	2.8	0.01	0.01	59.4
West: Newton Road											
10	L2	22	0.0	0.041	10.7	LOS B	0.1	1.0	0.61	0.79	49.9
12	R2	1	0.0	1.000	4032.5	LOS F	2.1	14.6	1.00	1.02	0.9
Approach		23	0.0	1.000	193.5	LOS F	2.1	14.6	0.63	0.80	14.3
All Vehicles		4039	3.2	1.000	1.4	NA	2.1	14.6	0.01	0.01	58.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Thursday PM Peak – Post Development

MOVEMENT SUMMARY

Site: 101 [South Road_Newton Avenue_Weekday PM Peak_Post Development]

Thursday PM Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	14	0.0	0.410	5.6	LOS A	0.0	0.0	0.00	0.01	58.2
2	T1	1540	4.1	0.410	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		1554	4.1	0.410	0.1	NA	0.0	0.0	0.00	0.01	59.8
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
9	R2	37	0.0	0.195	25.7	LOS D	0.5	3.7	0.89	0.96	41.3
Approach		2471	2.7	0.635	0.5	NA	0.5	3.7	0.01	0.01	59.3
West: Newton Road											
10	L2	22	0.0	0.041	10.7	LOS B	0.1	1.0	0.61	0.79	49.9
12	R2	1	0.0	1.000	4030.4	LOS F	2.1	14.6	1.00	1.02	0.9
Approach		23	0.0	1.000	193.4	LOS F	2.1	14.6	0.63	0.80	14.3
All Vehicles		4047	3.2	1.000	1.5	NA	2.1	14.6	0.01	0.02	58.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Existing Conditions

MOVEMENT SUMMARY

Site: 101 [South Road_Newton Avenue_Saturday Peak_Exiting Conditions]

Saturday Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	18	0.0	0.434	5.6	LOS A	0.0	0.0	0.00	0.01	58.1
2	T1	1643	2.5	0.434	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		1661	2.5	0.434	0.1	NA	0.0	0.0	0.00	0.01	59.8
North: South Road											
8	T1	1697	2.4	0.442	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
9	R2	42	0.0	0.270	31.7	LOS D	0.7	5.2	0.92	0.99	38.7
Approach		1739	2.3	0.442	0.8	NA	0.7	5.2	0.02	0.02	59.1
West: Newton Road											
10	L2	64	0.0	0.129	11.6	LOS B	0.5	3.2	0.66	0.86	49.3
12	R2	1	0.0	1.000	4364.3	LOS F	2.2	15.7	1.00	1.02	0.8
Approach		65	0.0	1.000	81.8	LOS F	2.2	15.7	0.66	0.86	25.3
All Vehicles		3465	2.3	1.000	2.0	NA	2.2	15.7	0.02	0.03	58.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Post Development

MOVEMENT SUMMARY

Site: 101 [South Road_Newton Avenue_Saturday Peak_Post Development]

Saturday Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	18	0.0	0.434	5.6	LOS A	0.0	0.0	0.00	0.01	58.1
2	T1	1643	2.5	0.434	0.1	LOS A	0.0	0.0	0.00	0.01	59.8
Approach		1661	2.5	0.434	0.1	NA	0.0	0.0	0.00	0.01	59.8
North: South Road											
8	T1	1697	2.4	0.442	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
9	R2	60	0.0	0.385	34.4	LOS D	1.1	7.8	0.93	1.01	37.6
Approach		1757	2.3	0.442	1.2	NA	1.1	7.8	0.03	0.03	58.7
West: Newton Road											
10	L2	64	0.0	0.129	11.6	LOS B	0.5	3.2	0.66	0.86	49.3
12	R2	1	0.0	1.000	4354.3	LOS F	2.2	15.7	1.00	1.02	0.8
Approach		65	0.0	1.000	81.6	LOS F	2.2	15.7	0.66	0.86	25.3
All Vehicles		3483	2.3	1.000	2.2	NA	2.2	15.7	0.03	0.04	57.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

South Road and Norrie Avenue Intersection

Thursday PM Peak – Existing Conditions

MOVEMENT SUMMARY

▽ Site: 101 [South Road_Norrie Avenue_Weekday PM Peak_Existing Conditions]

Thursday PM Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	9	0.0	0.409	5.6	LOS A	0.0	0.0	0.00	0.01	58.2
2	T1	1540	4.1	0.409	0.1	LOS A	0.0	0.0	0.00	0.00	59.8
Approach		1549	4.1	0.409	0.1	NA	0.0	0.0	0.00	0.00	59.8
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
9	R2	45	0.0	0.215	24.0	LOS C	0.6	4.5	0.88	0.96	42.1
Approach		2479	2.7	0.635	0.6	NA	0.6	4.5	0.02	0.02	59.3
West: Norrie Avenue											
10	L2	27	0.0	0.050	10.6	LOS B	0.2	1.2	0.60	0.79	49.9
12	R2	4	0.0	1.000	1214.9	LOS F	2.3	15.8	1.00	1.05	2.9
Approach		32	0.0	1.000	171.2	LOS F	2.3	15.8	0.65	0.82	15.6
All Vehicles		4060	3.2	1.000	1.7	NA	2.3	15.8	0.01	0.02	58.2

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Thursday PM Peak – Post Development

MOVEMENT SUMMARY

▽ Site: 101 [South Road_Norrie Avenue_Weekday PM Peak_Post Development]

Thursday PM Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	46	0.0	0.419	5.6	LOS A	0.0	0.0	0.00	0.03	58.0
2	T1	1540	4.1	0.419	0.1	LOS A	0.0	0.0	0.00	0.02	59.7
Approach		1586	4.0	0.419	0.2	NA	0.0	0.0	0.00	0.02	59.7
North: South Road											
8	T1	2434	2.8	0.635	0.1	LOS A	0.0	0.0	0.00	0.00	59.7
9	R2	93	0.0	0.469	30.8	LOS D	1.6	11.2	0.92	1.03	39.1
Approach		2526	2.7	0.635	1.3	NA	1.6	11.2	0.03	0.04	58.6
West: Norrie Avenue											
10	L2	52	0.0	0.091	10.5	LOS B	0.3	2.3	0.60	0.82	50.0
12	R2	12	0.0	1.000	518.2	LOS F	2.5	17.8	1.00	1.10	6.3
Approach		63	0.0	1.000	103.6	LOS F	2.5	17.8	0.67	0.87	22.0
All Vehicles		4176	3.1	1.000	2.4	NA	2.5	17.8	0.03	0.04	57.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Existing Conditions

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Norrie Avenue_Saturday Peak_Existing Conditions]**

Saturday Peak - Existing Conditions
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	42	0.0	0.441	5.6	LOS A	0.0	0.0	0.00	0.03	58.0
2	T1	1643	2.5	0.441	0.1	LOS A	0.0	0.0	0.00	0.01	59.7
Approach		1685	2.4	0.441	0.2	NA	0.0	0.0	0.00	0.01	59.7
North: South Road											
8	T1	1697	4.0	0.446	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
9	R2	40	0.0	0.239	29.5	LOS D	0.7	4.8	0.91	0.98	39.6
Approach		1737	3.9	0.446	0.7	NA	0.7	4.8	0.02	0.02	59.2
West: Norrie Avenue											
10	L2	38	0.0	0.072	11.1	LOS B	0.3	1.8	0.62	0.83	49.6
12	R2	13	0.0	1.000	528.2	LOS F	2.8	19.8	1.00	1.11	6.2
Approach		51	0.0	1.000	140.4	LOS F	2.8	19.8	0.72	0.90	18.0
All Vehicles		3473	3.1	1.000	2.5	NA	2.8	19.8	0.02	0.03	57.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Post Development

MOVEMENT SUMMARY

▽ **Site: 101 [South Road_Norrie Avenue_Saturday Peak_Post Development]**

Saturday Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: South Road											
1	L2	103	0.0	0.457	5.6	LOS A	0.0	0.0	0.00	0.07	57.6
2	T1	1643	2.5	0.457	0.1	LOS A	0.0	0.0	0.00	0.03	59.6
Approach		1746	2.4	0.457	0.4	NA	0.0	0.0	0.00	0.04	59.4
North: South Road											
8	T1	1697	4.0	0.446	0.1	LOS A	0.0	0.0	0.00	0.00	59.9
9	R2	116	0.0	0.779	58.3	LOS F	3.3	22.8	0.98	1.18	30.2
Approach		1813	3.7	0.779	3.8	NA	3.3	22.8	0.06	0.08	56.3
West: Norrie Avenue											
10	L2	77	0.0	0.140	10.9	LOS B	0.5	3.6	0.62	0.84	49.7
12	R2	25	0.0	1.000	293.3	LOS F	3.2	22.4	1.00	1.18	10.3
Approach		102	0.0	1.000	80.8	LOS F	3.2	22.4	0.72	0.92	25.5
All Vehicles		3661	3.0	1.000	4.3	NA	3.3	22.8	0.05	0.08	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Site Access with Norrie Avenue

Thursday PM Peak – Post Development

MOVEMENT SUMMARY

Site: 101 [Norrie Avenue_Site Access_Weekday PM Peak_Post Development]

Thursday PM Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Norrie Avenue											
5	T1	32	0.0	0.078	0.1	LOS A	0.4	2.6	0.10	0.43	55.7
6	R2	107	0.0	0.078	5.6	LOS A	0.4	2.6	0.10	0.43	54.1
Approach		139	0.0	0.078	4.3	NA	0.4	2.6	0.10	0.43	54.5
North: Site Access											
7	L2	41	0.0	0.041	5.6	LOS A	0.2	1.1	0.07	0.56	53.4
9	R2	17	0.0	0.041	6.1	LOS A	0.2	1.1	0.07	0.56	53.3
Approach		58	0.0	0.041	5.7	LOS A	0.2	1.1	0.07	0.56	53.4
West: Norrie Avenue											
10	L2	6	0.0	0.015	5.5	LOS A	0.0	0.0	0.00	0.13	57.3
11	T1	23	0.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.13	58.8
Approach		29	0.0	0.015	1.2	NA	0.0	0.0	0.00	0.13	58.5
All Vehicles		226	0.0	0.078	4.3	NA	0.4	2.6	0.08	0.42	54.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Saturday Peak – Post Development

MOVEMENT SUMMARY

Site: 101 [Norrie Avenue_Site Access_Saturday Peak_Post Development]

Satruday Peak - Post Development
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	OD Mov	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
East: Norrie Avenue											
5	T1	49	4.3	0.123	0.1	LOS A	0.6	4.4	0.13	0.43	55.6
6	R2	169	0.0	0.123	5.6	LOS A	0.6	4.4	0.13	0.43	54.0
Approach		219	1.0	0.123	4.4	NA	0.6	4.4	0.13	0.43	54.4
North: Site Access											
7	L2	64	0.0	0.066	5.6	LOS A	0.3	1.8	0.09	0.56	53.4
9	R2	26	0.0	0.066	6.5	LOS A	0.3	1.8	0.09	0.56	53.2
Approach		91	0.0	0.066	5.9	LOS A	0.3	1.8	0.09	0.56	53.3
West: Norrie Avenue											
10	L2	9	0.0	0.022	5.5	LOS A	0.0	0.0	0.00	0.13	57.2
11	T1	33	3.2	0.022	0.0	LOS A	0.0	0.0	0.00	0.13	58.8
Approach		42	2.5	0.022	1.2	NA	0.0	0.0	0.00	0.13	58.4
All Vehicles		352	0.9	0.123	4.4	NA	0.6	4.4	0.10	0.43	54.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Vehicle movement LOS values are based on average delay per movement.
Minor Road Approach LOS values are based on average delay for all vehicle movements.
NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

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ALDI Clovelly Park

Environmental Noise Assessment

S4217.18C4

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Prepared By	:	Chris Turnbull, MAAS
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INTRODUCTION

An environmental noise assessment has been made of the proposed ALDI supermarket and Chemist Warehouse located on South Road, Clovelly Park.

The closest noise sensitive receivers to the proposed development are the residences located immediately north of the site, and the residences located to the south and west of the site, on the opposite side of Norrie Avenue and Wingfield Street respectively. The locations of the closest residences and the proposed development are shown in Appendix A.

The assessment considers noise levels at noise sensitive locations from activity at the proposed facility. Specifically, the following noise sources have been considered:

- General car park activity and vehicle movements;
- Delivery activity;
- Operation of mechanical plant servicing the facility; and,
- Rubbish collection.

The assessment has been based on:

- *Neilson Architects'* drawings for "ALDI CLOVELLY PARK SOUTH ROAD CLOVELLY PARK, SA" *(*project number "2052") dated June 2018 including "DA01.1" revision "C", "DA02.3" revision "C", "DA02.4" revision "C", "DA03.1" revision "A", "DA03.2" revision "B", "DA03.3" revision "B", "DA08.1" revision "B", and "DA08.2" revision "B";
- Continuous noise measurements conducted at the subject site from 11 to 18 July 2018;
- The understanding that:
  - Trade will not occur at the site before 7:00am or after 10:00pm;
  - Delivery trucks will access the Aldi site at any time during the day or night;
  - All delivery trucks accessing the Aldi site will have down swept (low level discharge) exhausts, attenuated compressed air release and a noise level equivalent to that measured at the ALDI Derrimut distribution centre (Victoria, 2014), and,
  - The Aldi store's refrigeration units will operate at all times during the day and night, however air conditioning, fans and the compactor will not operate before 7:00am or after 10:00pm.
  - Chemist Warehouse deliveries will be via manually unloaded vans, and will only occur during trading hours;

- Implementation of all measures described in the ALDI SA, "Delivery & Loading Procedures" (Appendix D) to minimise noise. The procedure includes measures such as turning off the refrigeration and reversing beepers prior to entering the site, minimising truck movements on site, and turning off the truck during unloading.

This assessment summarises the prediction of noise from the proposed ALDI and Chemist Warehouse, compares the predictions with the relevant criteria, and provides indicative recommendations for acoustic treatment to ensure that the noise from the proposal does not detrimentally affect the amenity of the locality.

EXISTING ACOUSTIC ENVIRONEMENT

The development is well considered from an environmental noise perspective with the carpark located adjacent to a major road corridor such that vehicle movements within the carpark have minimal adverse impact. Additionally, store buildings have been located between many of the residences and the delivery areas. This provides shielding between the existing residences and the noise sources with the highest potential for an adverse impact.

To determine the existing noise environment at the residences, the noise level has been measured continuously over a 24 hour period at an equivalent setback distance from Norrie Avenue and South Road as the residences south of the site. The noise logging location is shown in Appendix A.

The noise logging was conducted from 11 to 18 July 2018 and collected continuous 15 minute measurements during the logging period. The results of the logging are provided in Appendix B, showing the background (L_{90}), average (L_{eq}) and maximum (L_{max}) noise levels during both the day time and night time assessment periods.

The results of the noise logging are typical of a residential area, dominated by distant traffic and intermittent increases in the noise level due to local vehicles on Norrie Avenue. Background noise levels during the proposed operating hours were no less than 47 dB(A) and 35dB(A) during the day (7am to 10pm) and night (10pm to 7am) periods respectively.

CRITERIA

Development Plan

The proposed site and residences immediately north of the site are located within a Local Centre Zone of the Marion Council Development Plan[1] (the Development Plan), while the other surrounding noise sensitive receivers are located within a Residential Zone of the Development Plan. The Development Plan has been reviewed and the following provisions are considered relevant to the noise assessment.

General Section – Interface Between Land Uses

OBJECTIVES

1 *Development located and designed to minimise adverse impact and conflict between land uses.*

2 *Protect community health and amenity from adverse impacts of development.*

3 *Protect desired land uses from the encroachment of incompatible development.*

PRINCIPLES OF DEVELOPMENT CONTROL

1 *Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:*

….

(b) Noise

…

2 *Development should be sited and designed to minimise negative impact on existing and potential future land uses desired in the locality.*

…

6 *Non-residential development on land abutting a residential zone should be designed to minimise noise impacts to achieve adequate levels of compatibility between existing and proposed uses.*

Noise Generating Activities

7 *Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant "Environment Protection (Noise) Policy" criteria when assessed at the nearest noise sensitive premises.*

8 *Development with the potential to emit significant noise (e.g. industry) should incorporate noise attenuation measures that prevent noise from causing unreasonable interference with the amenity of noise sensitive premises.*

[1] Consolidated 20 February 2018.

Environment Protection (Noise) Policy 2007

Principle of Development Control 7 from the Development Plan references the Environment Protection (Noise) Policy 2007, which provides goal noise levels to be achieved at residences from general activity at a site and specific provisions for other activity such as rubbish collection.

The Policy is based on the World Health Organisation Guidelines to prevent annoyance, sleep disturbance and unreasonable interference on the amenity of an area. Therefore, compliance with the Policy is considered to be sufficient to satisfy all provisions of the Development Plan relating to environmental noise.

General Activity

The Policy provides goal noise levels to be achieved at residences based on the principally promoted land use of the Development Plan Zones in which the noise source (the development) and the noise receivers (the residences) are located. Based on the land uses and the "development" nature of the project, the following goal noise levels are provided by the Policy to be achieved at residences:

- Within the Local Centre Zone (immediately North of the site):
  - An average (L_{eq}) 57 dB(A) during the day (7am to 10pm);
  - An average (L_{eq}) 50 dB(A) at night (before 7am or after 10pm); and,
  - A maximum (L_{max}) 60 dB(A) at night (before 7am or after 10pm).
- Within the Residential Zone (south and west of the site):
  - An average (L_{eq}) 52 dB(A) during the day (7am to 10pm);
  - An average (L_{eq}) 45 dB(A) at night (before 7am or after 10pm); and,
  - A maximum (L_{max}) 60 dB(A) at night (before 7am or after 10pm).

When measuring or predicting noise levels for comparison with the goal noise levels of the Policy, penalties may be applied for each characteristic of tone, impulse, low frequency and modulation of the noise source, however this must be considered within the context the existing acoustic environment. In this circumstance, a penalty has not been applied to the site given that there is significant noise from existing traffic on South Road generating higher noise levels than vehicle movement at the site.

Rubbish Collection

The Policy deals with rubbish collection by limiting the collection hours to the least sensitive period of the day. Division 3 of the Policy requires rubbish collection to only occur between the hours of 9am and 7pm on Sunday or public holiday, and between 7am and 7pm on any other day, except where it can be shown that the maximum (L_{max}) noise level from such activity is less than 60 dB(A).

ASSESSMENT

General Activity

Carpark Activity and Vehicle Movements

The noise from car park activity and vehicle movements on the site has been predicted at the nearby residences, based on noise measurements conducted at similar sites. These measurements account for the noise associated with:

- car park activity such as people talking as they vacate or approach their vehicles, the opening and closing of vehicle doors, vehicles starting, vehicles idling, and vehicles moving into and accelerating away from their park position; and,
- typical vehicle movement through a carpark.

Based on the predictions, the daytime requirements of the Policy will be achieved at all noise sensitive locations in the vicinity of the development with the following acoustic treatments:

- Construct 2.4m high "Colorbond" fences as shown in **PURPLE** in Figure 1 such that they are sealed airtight at all junctions, including at the ground and at the building wall; and,

Mechanical Plant

As is typical at the development application stage, the proposed cool room and air conditioning plant units have not yet been designed or selected. The assessment of the mechanical plant has therefore been based on previous noise measurements and procured data at similar facilities. The subsequent overall sound power level data for the following mechanical plant components are summarised in Appendix C:

- 3 x Daikin RX(Y)Q18TY1A air conditioning units; and,
- 3 x condenser units;

Based on the mechanical plant outlined above, the following acoustic treatments likely to be required in order to achieve the requirements of the Policy:

- Locate all mechanical plant within the proposed areas and construct the proposed barriers for the extent shown in **RED** in Figure 1 around the roof mounted mechanical plant to a minimum height of 1.0m above the tallest unit. The barrier should be constructed from a solid material such as sheet steel "Colorbond" or similar, and such that it is air tight at all joins. It is noted that a small gap may be required at the roof deck for drainage.

The noise level and any acoustic treatment associated with mechanical plant should be reviewed during the detailed design phase, should the final equipment selections have different sound power levels or should a different number of units be proposed to those specified within this report.

Deliveries

The noise from deliveries to the Aldi supermarket has been predicted based on specific noise measurements of ALDI trucks for each of the following processes, conducted in accordance with the ALDI SA "Delivery & Loading Procedures" (refer Appendix D) which include turning off the truck refrigeration equipment and reversing beepers:

- driving into a site;
- reversing into a loading dock and stopping the engine;
- unloading, and;
- starting the engine, accelerating and driving out of the site.

The noise from deliveries to Chemist Warehouse has been predicted based on previous noise measurements at a similar facility including:

- Delivery vans driving into a site, reversing into loading areas, being manually unloaded, and driving out of the site; and,
- Operation of refrigeration units on delivery vehicles.

The predictions of noise from deliveries have been based on a single ALDI delivery in any 15-minute period of the day or night, and a single Chemist Warehouse delivery in any 15-minute period of the day. In order to achieve the requirements of the Policy, it is recommended that the following acoustic treatment be incorporated into the site:

- Construct 2.4m high "Colorbond" fences as shown in **PURPLE** in Figure 1 such that they are sealed airtight at all junctions, including at the ground and at the building wall; and,
- Install 50mm thick acoustic insulation with a minimum density of 32 kg/m^3 to the ALDI loading area fence for the extent shown in Figure 1 as **GREEN**. The insulation should extend for the full practicable height of the fence and be should be installed in accordance with Figure 2. Other proprietary materials such as "Pyrotek Reapor" can be used in lieu of the detailed construction.

Figure 1: *Site plan and recommended acoustic treatments.*

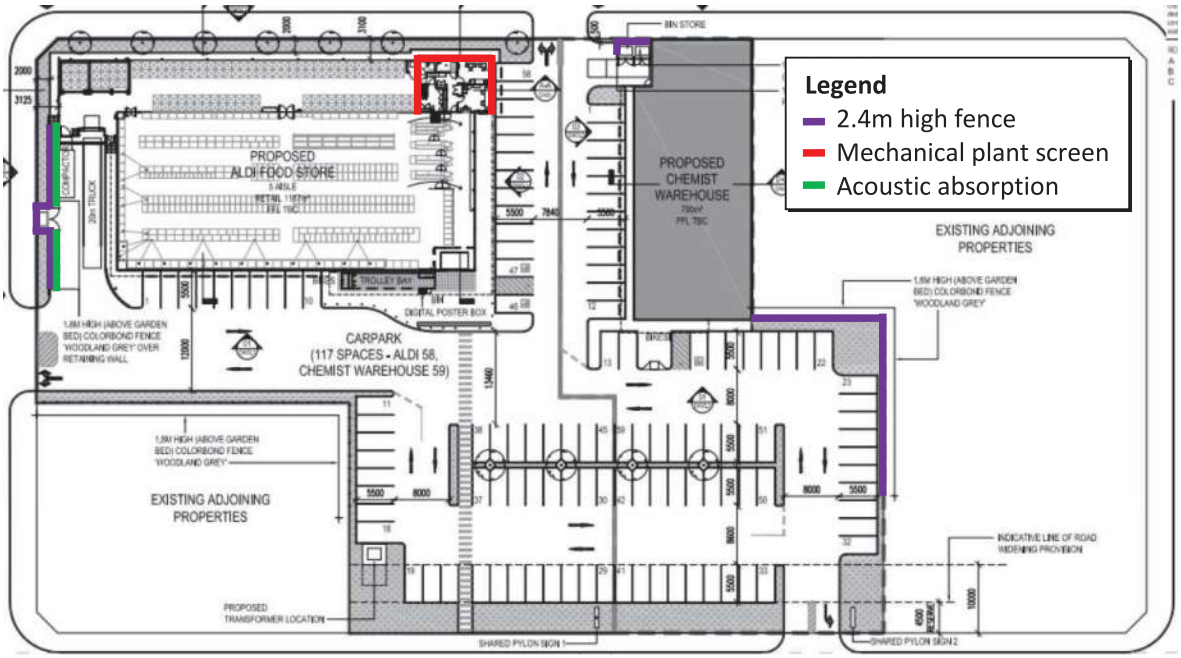
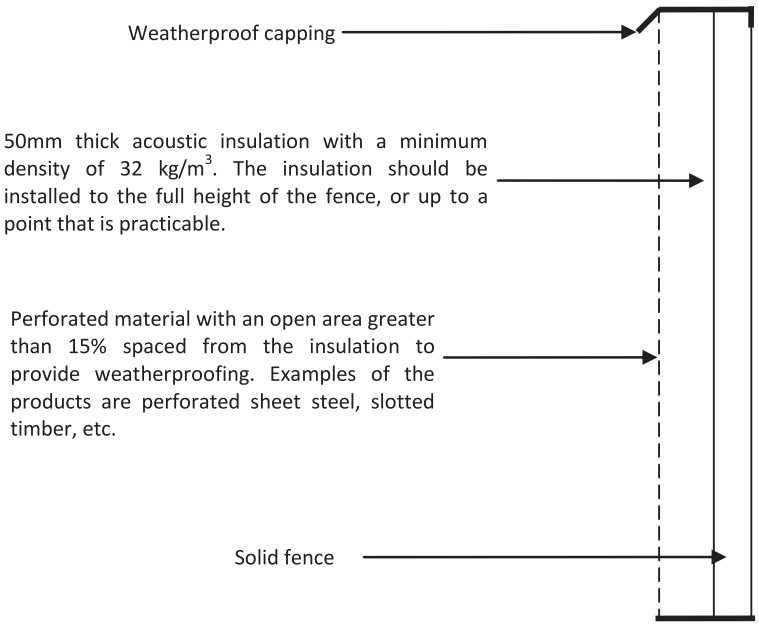


Figure 2: *Fence absorption construction detail.*



Compactor

The noise from compactor operation has been determined based on predictions provided in the Marshall Day Acoustics report "LT001 2010139 addendum ALDI Geelong West revised site plan" prepared for ALDI Geelong West.

Based on the predictions and the inclusion of the acoustic treatments for deliveries, the noise from compactor operation will achieve the daytime criteria of the Policy with no additional acoustic treatment.

Combined Noise Levels

The predicted noise level from all noise sources at the facility operating concurrently has been determined and with the inclusion of the acoustic treatments detailed in this report will achieve the relevant requirements of the *Environment Protection (Noise) Policy 2007* during the day and night.

Additionally, the maximum noise levels from ALDI deliveries during the night have been predicted to achieve the 60 dB(A) criterion of the Policy.

Rubbish Collection

To ensure there is not unreasonable interference from noise from rubbish collection, it is recommended that the hours of rubbish collection from the site be restricted to the hours of Division 3 of the *Environment Protection (Noise) Policy 2007*. That is, only between the hours of 9:00am and 7:00pm on a Sunday or public holiday, and 7:00am and 7:00pm on any other day.

CONCLUSION

An environmental noise assessment has been made of the proposed ALDI supermarket and Chemist Warehouse located on South Road, Clovelly Park.

The assessment considers noise at nearby residences from car park activity, vehicle movements, delivery activity, mechanical plant, and rubbish collection within the context of the surrounding acoustic environment to ensure the proposal does not adversely impact on the amenity of the locality.

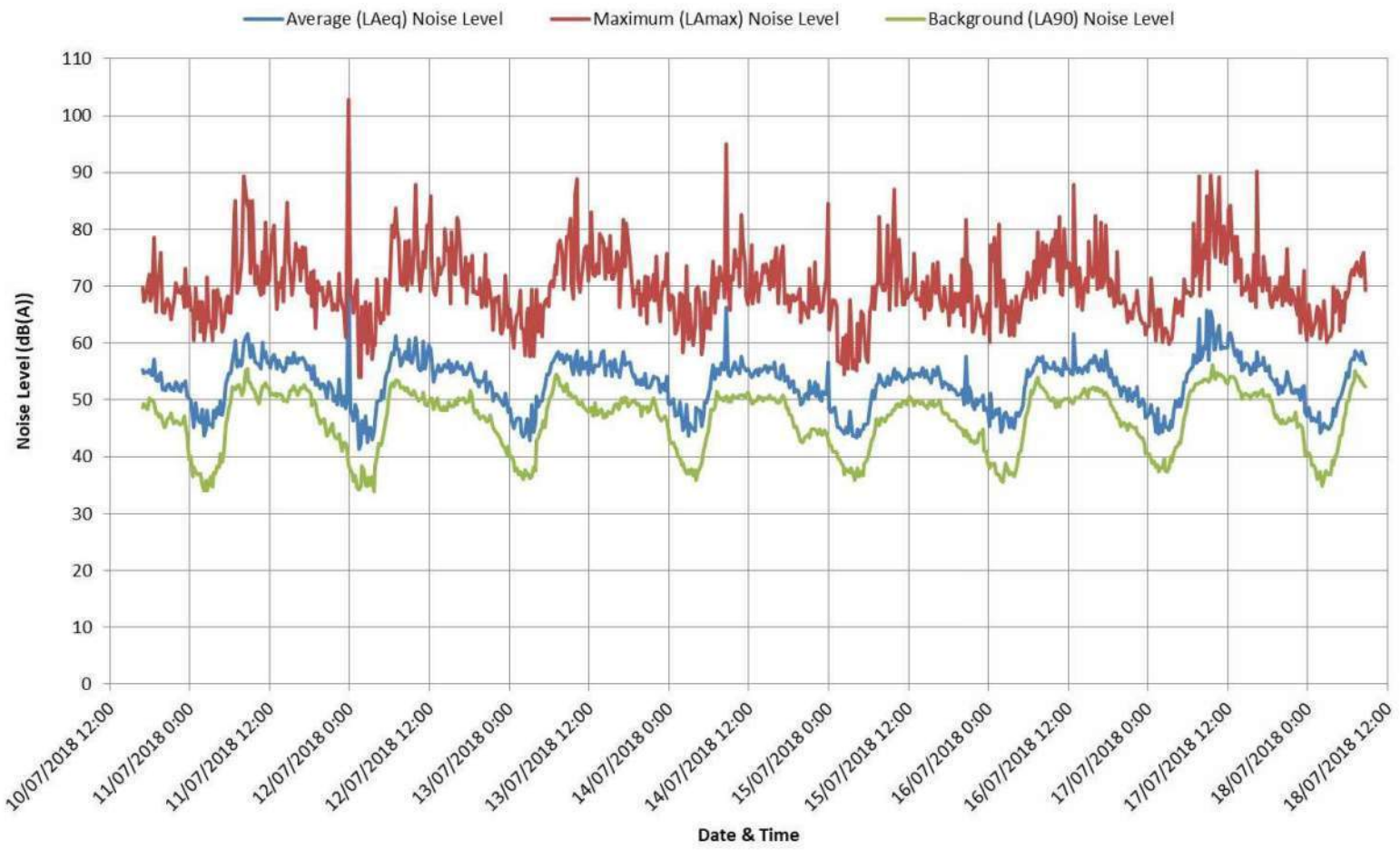
The predicted noise levels from the development will achieve the relevant requirements of the *Environment Protection (Noise) Policy 2007* subject to the treatments in this report, comprising;

- Specific fence heights and constructions;
- Installation of acoustic absorption on the ALDI delivery fence;
- Screening of ALDI mechanical plant; and,
- Restricting the times for rubbish collection.

It is therefore considered that the facility has been designed to *minimise adverse impact and conflict between land uses*, *avoid unreasonable interference on amenity*, and *will not detrimentally affect the locality by way of noise*, thereby achieving the relevant provisions of the Development Plan related to environmental noise.

APPENDIX A: *Development Site Locality.*

APPENDIX B: *Existing Noise Levels 10 to 18 July 2018.*



APPENDIX C: *Noise Source Sound Power Level Data.*

Equipment/Activity		Sound Power Level
Carpark Activity and Vehicle Movements	Car movement	82 dB(A)
	General carpark activity	77 dB(A)
Mechanical Plant	Condenser	86 dB(A)
	Daikin RX(Y)Q18TY1A	70 dB(A)
Deliveries	Van movement	94 dB(A)
	Van unloading	86 dB(A)
	Truck forward	98 dB(A)
	Truck reverse	97 dB(A)
	Refrigeration unit	91 dB(A)
Compactor	Compactor	92 dB(A)

APPENDIX D: *ALDI Delivery & Loading Procedures*

ALDI SOUTH AUSTRALIA

DELIVERY & LOADING PROCEDURES

ALDI DELIVERY & LOADING PROCEDURES

- ALDI own, operate and control all of its supply and logistics via its purpose built Distribution Centre. South Australia's Distribution Centre is under construction in Regency Park.
- ALDI's supply chain and logistics operates on a palletised system. All products are delivered to our Distribution Centre on pallets. The same product is then loaded onto delivery trucks; delivered to the store and in many cases the same pallet is then located on the retail floor. This streamlined system of operation enables ALDI to position itself as a discount supermarket quite differently to its competitors.
- With all ALDI supplies delivered directly to our Distribution Centre, ALDI then undertake consolidated store deliveries to each store via its own fleet of trucks/trailers and ALDI employed drivers.
- ALDI Stores do not undertake "night fill" or store replenishment outside retail trading hours therefore the stores close and staff leave very shortly after retail close. Deliveries are however enabled to undertaken throughout a full 24 hour period to any store given the Distribution Centre operates 24/7 and our own truck and drivers are able to access and unload to a store without the store being open or trading.
- With the dedicated ALDI supply chain direct from our Distribution Centre to a store, only a maximum of two ALDI deliveries are undertaken within a 24 period to each store. The only exception is one bread delivery from a bakery supplier, which is undertaken in a small rigid truck, once per day.
- The ALDI truck movement, on any site, typically takes between 1 to 2 minutes, with the truck moving onto the site, stopping, reversing and engaging with the purpose built loading dock.
- The prime mover is always turned off during unloading.
- Given the palletised system and dedicated dock connection the total delivery period is on average 15 minutes from the moment the truck is docked. The unloading is undertaken by only one person being the ALDI truck driver.
- All products are unloaded from within the trailer directly inside the building using a manually operated pallet jack. (No forklifts are used and no external activity occurs outside the truck). The trailers are sealed and connected to the building via a dedicated dock leveller and dock curtain.
- The ALDI prime movers and trailers are purpose built to ALDI specifications.
    - All trailers are built with a reversing camera which is connected to a driver display in the cabin of the prime mover.
    - All trailers are also able to be controlled from within the cabin to turn-off the reversing beepers (if required) and the refrigeration units (if required).
- All ALDI loading docks are fitted with motion sensors and automatic lighting to ensure that night time deliveries benefit from appropriate surveillance including safe reversing manoeuvres without reversing beepers (where required).
- All drivers are briefed and aware of each site and any site specific circumstances or restrictions that are applicable for that store.
- If an acoustic assessment requires any specific noise management then either or both the refrigeration and reversing beepers can be turned off including any requirement to do so whilst transiting past any noise sensitive areas.
- As a result of the above, where other retailers cannot, ALDI consistently can comply with any prescribed operational or acoustic requirements of either the Environmental Protection Authority and any relevant local statutory requirements when performing night time deliveries.
- Coupled with the above where additional on-site acoustic mitigation measures are required/recommended ALDI will construct these to further alleviate and mitigate any potential noise interface issues i.e. Acoustic screens, fences and/or gates.

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- The ALDI truck movement, on any site, typically takes between 1 to 2 minutes, with the truck moving onto the site, stopping, reversing and engaging with the purpose built loading dock.
- The prime mover is always turned off during unloading.
- Given the palletised system and dedicated dock connection the total delivery period is on average 30 minutes from the moment the truck is docked. The unloading is undertaken by only one person being the ALDI truck driver.
- All products are unloaded from within the trailer directly inside the building using a manually operated pallet jack. (No forklifts are used and no external activity occurs outside the truck). The trailers are sealed and connected to the building via a dedicated dock leveller and dock curtain.
- The ALDI prime movers and trailers are purpose built to ALDI specifications.
    - All trailers are built with a reversing camera which is connected to a driver display in the cabin of the prime mover.
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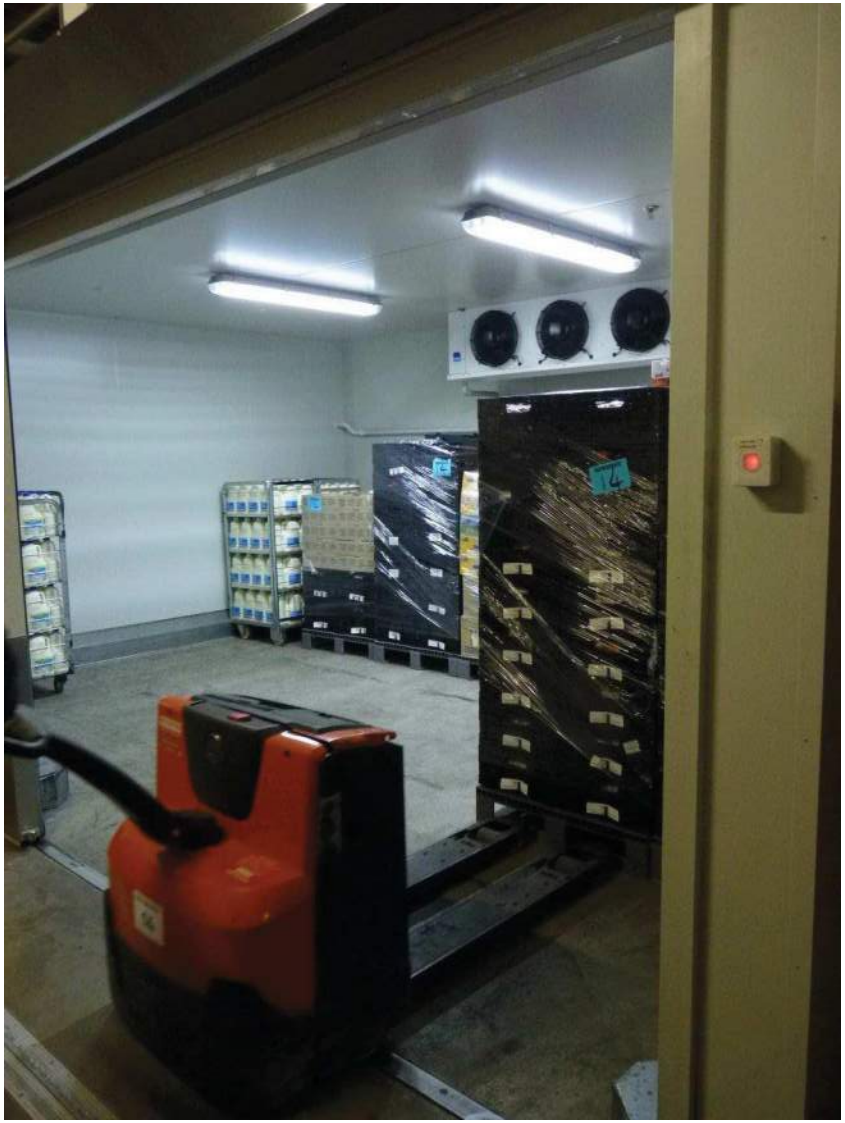

28 August 2018

Mr Nigel Uren
ALDI Stores
84 Gallipoli Drive
Regency Park SA 5010
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Our ref: ALDI Clovelly Park SMP
Revision: 2

ALDI and Chemist Warehouse, Clovelly Park - Stormwater Management Plan

1 Introduction

ALDI commissioned Drew Rudd Engineers to prepare a Stormwater Management Plan (SMP) for a proposed development on South Road, Clovelly Park. The proposed development is located between Norrie Avenue to the south, Wingfield Street to the west and South Road to the east and will consist of a new ALDI store and car parking facilities and a new Chemist Warehouse store and car parking facilities. The boundary (red dashed line) between the Aldi and Chemist Warehouse sites is shown in Image 1.

This stormwater management plan summarises how stormwater will be managed for the proposed development, as shown in Image 1 and Figure 1, Appendix A.

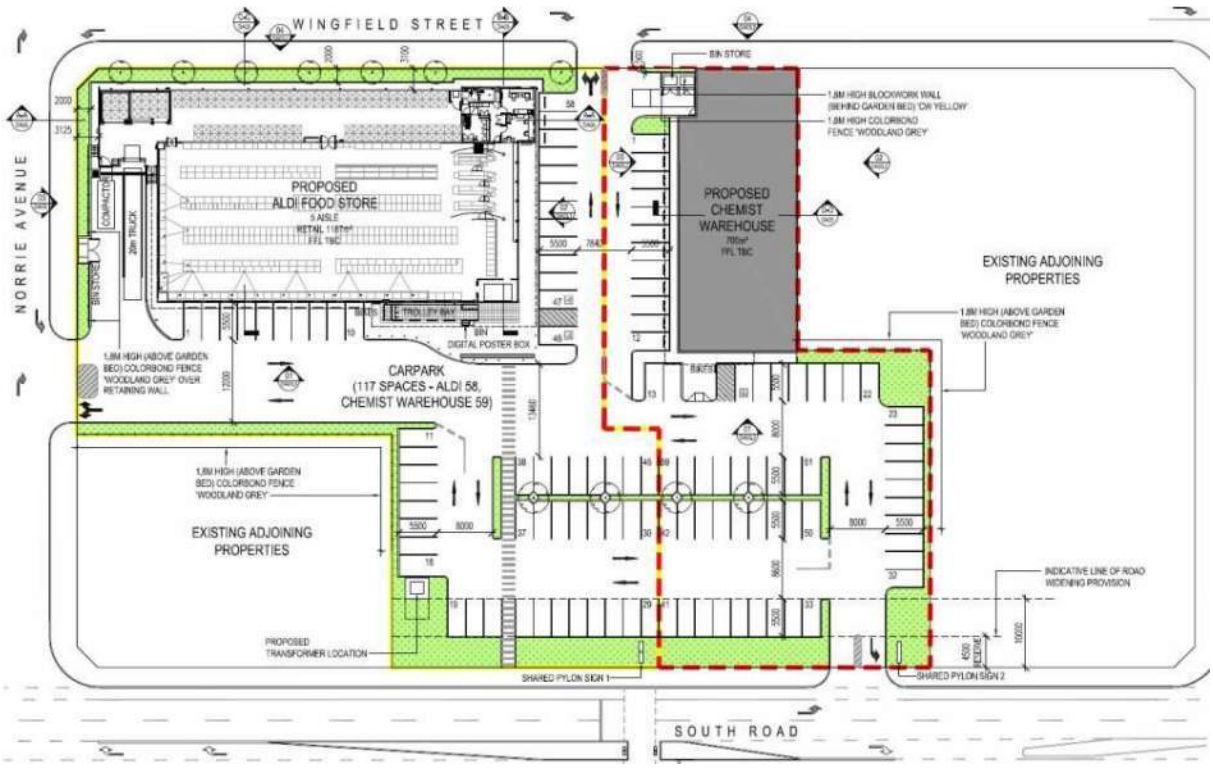


Image 1 – Proposed Development

2 Existing Stormwater System and Council Requirements

2.1 Existing Stormwater System

There is an existing single Side Entry Pit (SEP) on the western side of South Road, immediately to the south of the pedestrian crossing. At the time of writing this SMP, the pit was fully blocked and the invert level of the pit and pipes entering and exiting the pit could not be determined. The Department of Planning, Transport and Infrastructure (DPTI) have been contacted to arrange for cleaning of the SEP.

It is difficult to determine how much of the existing site discharges to South Road. The site was visited on the 7 June 2018 to assess the existing catchment area discharging to South Road. There are four known existing points of discharge to South Road. The existing catchment area discharging to South Road is shown in the blue outline in Image 2. It is estimated that approximately 1,260 m^2 of roof area discharges to South Road. The remainder of the site discharges to Norrie Avenue and Wingfield Street. Stormwater runoff discharges to the kerb, as there is no existing underground stormwater system in Norrie Avenue and Wingfield Street.

Image 2 – Existing Development Catchment Discharging to South Road

2.2 DPTI and Council Stormwater Management Requirements

DPTI have requested that the 100-year Average Recurrence Interval (ARI) post development flow rate discharging to South Road does not exceed the existing conditions 100-year ARI flow rate. The future South Road upgrade will require a 10 m wide strip of land along the boundary with South Road. DPTI have requested that no infrastructure is provided within the 10 m wide strip. The 10 m wide strip of land is shown in Image 1 and Figure 1, Appendix A.

Council's stormwater requirements for industrial and commercial developments is shown in Appendix B. Council also requested that:

- The design should include rain gardens in addition to gross pollutant, sediment and oil removal to help achieve EPA requirements.
- No stormwater discharge to the kerb is to exceed 20 L/s.

3 Proposed Stormwater Management Strategy

3.1 Adopted Floor Levels

Preliminary floodplain mapping of the Sturt River catchment, prepared by Southfront, shows that the southern residential portion of the site is inundated in a 100-year ARI storm event. The 100-year ARI flood inundation map is shown in Image 3. Image 3 shows that there is 0 to 0.1 m of inundation over the southern residential portion of the Aldi site. This area of flooding corresponds to the southern end of the proposed Aldi building. The existing surface level at the southern end of the proposed Aldi building is 32.60 m AHD. Assuming a flood depth of 100 mm and a freeboard of 300 mm, this equates to a minimum floor level of 33.00 m AHD. Therefore, a minimum floor level of 33.00 m AHD has been adopted for the proposed Aldi building.

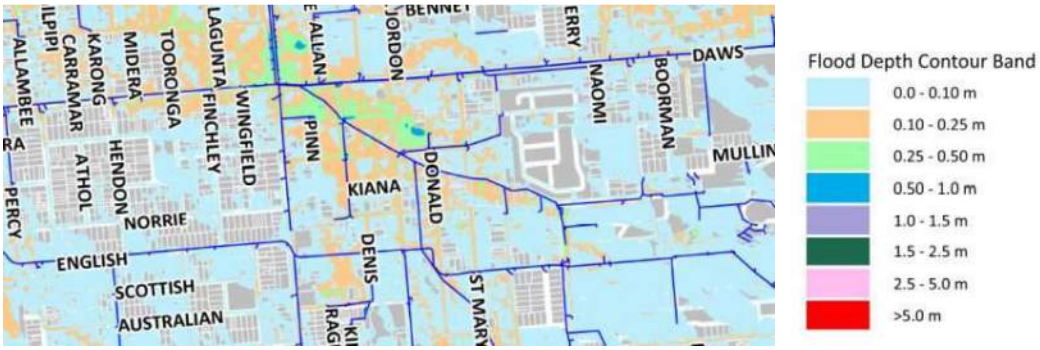


Image 3 – Existing Conditions 100-year ARI Floodplain Mapping

3.2 Stormwater Management Strategy – Aldi Site

The proposed stormwater management strategy is shown in Figure 1, Appendix A and includes:

- Stormwater runoff from the Aldi building roof will discharge to an underground detention basin in the Aldi carpark. The underground detention storage will reduce peak 5 and 100-year ARI flow rates from the Aldi roof area. A high early discharge arrangement will be used for the underground detention storage. The High early discharge pit will be located at the north west corner of the building with overflows from the high early discharge weir being directed to the

underground detention storage at the north east end of the building. Stormwater will be gravity fed to the kerb on Wingfield Street.

- Stormwater runoff from the pathway on the western side of the Aldi building will discharge to the landscaped area along the western boundary. This will promote infiltration of stormwater in the vegetated area.
- Three low points will be provided in the proposed Aldi carpark. The low points will provide detention storage on the surface of the car park. A Rocla First Defense – High Capacity separator will be provided prior to discharging to the existing side entry pit on South Road. The First Defense - High Capacity separator has internal components designed to remove and retain gross debris, total suspended solids and hydrocarbons.
- The proposed driveway and car parking area between the proposed Aldi and Chemist Warehouse buildings will discharge to a Rocla First Defense – High Capacity separator, prior to discharging to the Wingfield Street kerb.

3.3 Stormwater Management Strategy – Chemist Warehouse Site

A vegetated basin will be provided in the north west corner of the Chemist Warehouse car parking area to provide detention storage and stormwater quality improvement for stormwater runoff from the proposed car park and building roof. Stormwater runoff from the vegetated basin will discharge to the kerb on South Road. It is noted that the basin will need to be planted with species that can tolerate both wetting and drying, because the outlet will be at the surface level of the basin and there is insufficient depth to provide subsoil drainage.

4 Hydrology and Hydraulics

4.1 Existing Conditions Flow Rates

The proposed Aldi site area is approximately 5,375 m^2 and the proposed Chemist Warehouse site area is approximately 3,047 m^2. Both sites have a mix of existing residential and commercial areas. A summary of the existing residential and commercial areas is shown in Table 1. The residential areas on each site are shaded green in Image 4.

Table 1 – Existing Aldi and Chemist Warehouse Residential and Commercial Areas

Site	Existing Residential Area (m2)	Existing Commercial Area (m2)
Aldi	2,427	2,948
Chemist Warehouse	796	2,251

Council's exiting conditions flow rate calculation requirements include:

- Any Industrial/Commercial Redevelopments in Existing Residential Zones must conform to:
  - 5 Year ARI Runoff Coefficient 0.25
  - 100 Year ARI Runoff Coefficient 0.45

- Any Industrial/Commercial Redevelopments in Existing Industrial/Commercial Zones must conform to:
    - 5 Year ARI Runoff Coefficient 0.65
    - 100 Year ARI Runoff Coefficient 0.85

The 5 and 100-year ARI, 10 minute storm duration rainfall intensities are 59.1 mm /h and 125 mm/h, respectively.

The Rational Method was used to calculate the 5 and 100-year ARI existing conditions flows for each site, which are shown in Table 2.

Table 2 – Existing Aldi and Chemist Warehouse 5 and 100-year ARI Flow Rates

Site	Existing 5-year ARI Flow Rate (L/s)	Existing 100-year ARI Flow Rate (L/s)
Aldi	41	125
Chemist Warehouse	27	79
Total	68	204

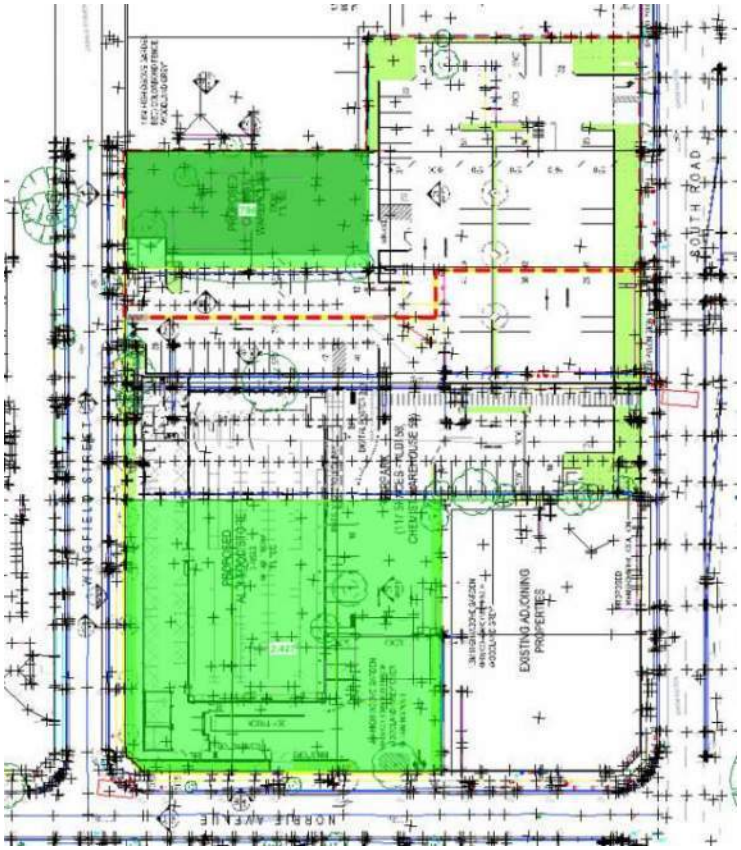


Image 4 – Existing Residential and Commercial Areas

4.2 Post Development Catchment Plan

Catchments for each inlet pit are shown in Figure 1, Appendix A.

A summary of the post development catchment areas and percentage impervious fractions is shown in Table 3. The catchment IDs are shown in Figure 1, Appendix A.

Table 3 –Post Development Catchment Areas and % Impervious

Catchment ID	Total Area (m^2)	Pervious Area (m^2)	% Impervious
cGIP1	784	90	89%
cGIP2	897	159	82%
cGIP3	785	72	91%
cGIP4	303	39	87%
cAldiRoof	1923	0	100%
cWing3	240	136	43%
cFD-3HC (1)	716	0	100%
cWing	226	16	93%
cChemRoof	701	0	100%
cChemBas	1708	244	86%
cSouth	147	64	56%

4.3 DRAINS Modelling

A DRAINS model (hydrologic and hydraulic modelling software) was established to calculate the 5 and 100-year ARI post development peak discharges from the site. The following data was input and assumptions made to establish the post development DRAINS model:

- The post development site land use is shown in Table 3.
- Paved and grassed area depression storages equal 1 mm and 10 mm respectively.
- Soil type equals 2 (moderate infiltration rates) to account for rainfall losses in landscaped areas.
- Antecedent Moisture Condition (AMC) equals 2.
- The Aldi underground detention basin elevation versus storage relationship is shown in Image 5.

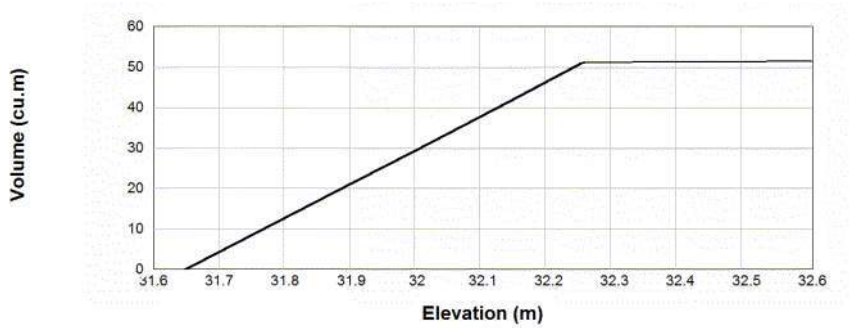


Image 5 – Aldi Underground Basin Elevation Versus Storage Relationship

- The Chemist Warehouse vegetated basin elevation versus storage relationship is shown in Image 6. The elevation versus storage relationship includes ponding in the car park up to the overflow level of 32.25 m AHD.

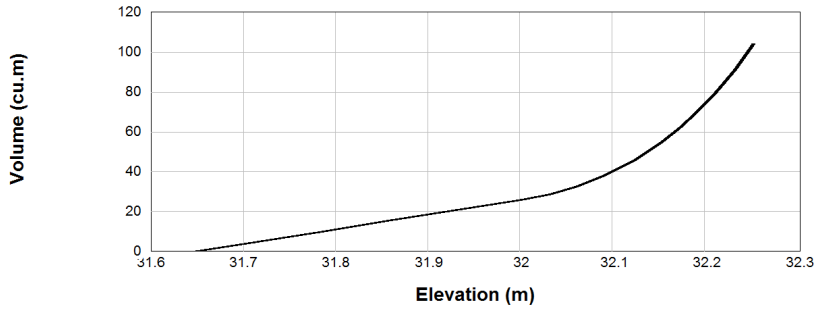


Image 6 – Chemist Warehouse Vegetated basin Elevation Versus Storage Relationship

- Stormwater runoff from the loading dock will be pumped to GIP 3, shown in Figure 1, Appendix A at a rate of 4 L/s. Temporary ponding can be expected in the loading dock in storm events exceeding a 5-year ARI.
- Aldi high early discharge pit has a DN65 mm orifice with a DN150 mm outlet pipe at an invert level of 31.65 m AHD. The weir level in the high early discharge pit has been set at 32.45 m AHD. The weir length is 900 mm, which is the internal dimension of the high early discharge pit.
- Chemist Warehouse vegetated basin has a DN150 mm pipe outlet at an invert level of 31.65 m AHD.
- GIP1 has a DN130 mm orifice with a DN225 mm outlet pipe at an invert level of 31.09 m AHD.
- GIP2 has a DN140 mm orifice with a DN225 mm outlet pipe at an invert level of 31.185 m AHD.
- GIP3 has a DN120 mm orifice with a DN225 mm outlet pipe at an invert level of 31.41 m AHD.

4.3.1 Post Development DRAINS Modelling Results

The post development DRAINS model was simulated for a range of storm durations for the 5 and 100-year ARI storm events, using Bureau of Meteorology, 2016 Intensity Frequency Duration data and temporal patterns. The post development 5 and 100-year ARI flow rates from the ALDI and Chemist Warehouse sites are shown in Table 4. The results in Table 4 show that:

- No 5-year ARI discharge to the kerb is in excess of 20 L/s.
- The 5-year ARI post development flow rate is equal to the existing 5-year ARI allowable flow rate.
- The 100-year ARI post development flow rate is 89 L/s less than the existing 100-year ARI allowable flow rate.

Table 4 – 5 and 100-year ARI Post Development DRAINS Modelling Results

Point of Discharge	5-year ARI Flow (L/s)	100-year ARI Flow (L/s)
South Road Existing SEP (Aldi)	25	26
South Road Kerb (Chemist Warehouse)	12 (Pipe) + 2 (Overland) = 14	16 (Pipe) + 4 (Overland) = 20
Wingfield Street 1 (Aldi)	8	8 (Pipe) + 13 (Overland) = 21
Wingfield Street 2 (Shared)	12 (Pipe) + 6 (Overland) = 18	25 (Pipe) + 16 (Overland) = 41
Wingfield Street 3	3	7
Total =	68	115

The DRAINS model layout and 5 and 100-year ARI post development DRAINS modelling results are shown in Appendix C.

The existing conditions 100-year ARI peak flow rate to South Road was calculated to be 61 L/s. The post development DRAINS modelling results, in Table 4, show that the peak 100-year ARI flow rate to South Road is 46 L/s.

A summary of the depth of ponding in the basins and car park for the 5 and 100-year ARI storm events is shown in Table 5. The extent of ponding in a 100-year ARI storm event is shown in Figure 1, Appendix A.

Table 5 – 5 and 100-year ARI Post Development Ponding Levels in Basins and Car Parks

Location	Surface Level (m AHD)	5-year ARI Ponding Level (m AHD)	100-year ARI Ponding Level (m AHD)
Aldi Underground Basin	32.60 (overflow level)	31.72	32.61
Chemist Warehouse Basin	31.65	31.90	32.13
GIP1	32.35	32.38	32.45
GIP2	32.32	32.41	32.47
GIP3	32.50	32.57	32.65
GIP4	31.75	31.45	31.88

4.4 Stormwater Quality Improvement

Grated inlet pits will be used throughout the site to reduce the risk of gross pollutants entering the underground stormwater pipe system and increasing the risk of blocking orifices.. Rocla First Defense – High Capacity separators will be provided prior to discharging to the existing side entry pit on South Road and to the kerb on Wingfield Street, to treat the shared driveway and car parking. The First Defense - High Capacity separator has internal components designed to remove and retain gross debris, total suspended solids and hydrocarbons.

The Chemist Warehouse vegetated basin will treat stormwater runoff from the roof and surrounding car park area. The Aldi underground detention basin will provide some sediment removal benefits.

A MUSIC model was established to simulate the proposed stormwater quality improvement strategy. MUSIC nodes provided by Rocla were used for the First Defense treatment devices. The MUSIC model was simulated using Adelaide, 6-minute rainfall data. The MUSIC model layout and treatment train effectiveness are shown in Appendix D.

The MUSIC model results compared against standard stormwater quality targets are shown in Table 6.

Table 6 – MUSIC Modelling Results Compared to Standard Targets

Pollutant	Standard % Reduction Target	Actual % Reduction
Total Suspended Solids (TSS)	80	78.3
Total Phosphorus (TP)	60	46.7
Total Nitrogen (TN)	45	22.6

The MUSIC modelling results show that the TSS target reduction is close to the target, however the TP and TN target reductions have not been achieved. Constraints placed on the site by future road widening works associated with the South Road upgrade limit opportunities to meet the TP and TN target reductions. We consider that the stormwater quality improvement measures provided in the proposed stormwater management strategy, considering the site constraints, are adequate.

4.4.1 Vegetation Selection

The Chemist Warehouse vegetated basin will be prone to water logging, which will require plant species that can tolerate both water logging and dry conditions throughout the year. The landscaped area should be planted extensively; at a density of 5 plants/m^2, depending on the growth form. Shrubs and trees should be planted at a density of < 1 plant/m^2. A higher density of planting should be provided at locations where stormwater enters the vegetated basin. Rock ballast will also be required at inflow points to the vegetated basin to reduce the risk of erosion. Some typical plant species that are high in nitrogen removal are shown in Image 7. Mulch is not recommended as it has a tendency to float and block outlets.

Objective	Effective
Nitrogen removal	· *Baumea juncea* · *Baumea rubiginosa* · *Carex appressa* · *Carex tereticaulis* · *Ficinia nodosa* · *Goodenia ovata* · *Juncus amabilis* · *Juncus flavidus* · *Juncus pallidus* · *Juncus subsecundus* · *Melaleuca ericifolia* · *Melaleuca incana* · *Melaleuca lateritia*

Image 7 – High Nitrogen Removal Plant Species (CRC for Water Sensitive Cities)

5 Maintenance

The following inspection and maintenance measures are recommended to maintain the integrity of the proposed stormwater system:

- Inspection of sediment, gross pollutant and oil build up in the Rocla First Defense units, every 3 months for the first year to determine the cleaning frequency. Cleaning and maintenance should also be undertaken in accordance with the manufacturer's specifications.
- Inspection of all pits to check that orifices are not blocked. Pits should be inspected every 3 months or after rainfall events totalling 20 mm or more to ensure that there are no blockages or sediment build up restricting the performance of the orifices.
- Inspection and removal of gross pollutants at grated inlet pits.
- Inspections to check for an excess of sediment, erosion or boggy conditions in the vegetated basin. Excess sediment should be removed to as close to original design levels as possible and erosion should be repaired by filling with sandy loam material and rock ballast if erosion continues to be a high risk.
- Regular pruning and weeding to remove any foreign species and any diseased plantings, to promote new growth.
- Monitor vegetation closely during the first year to ensure plants are becoming established and have sufficient water. Some irrigation may be required to establish new plants. Dead plants should be replaced with new plants.

Routine maintenance inspections should be undertaken every month and/or after rainfall events totalling 20 mm or more.

6 Conclusion

A stormwater management strategy has been developed for the proposed ALDI and Chemist Warehouse developments. The stormwater management strategy:

- Reduces the post development 5 and 100-year ARI flows to the existing 5 and 100-year ARI flows from the site.
- Satisfies DPTI requirements to limit 100-year ARI post development flows to existing conditions flow rates discharging to South Road.
- Satisfies Council's requirements to limit 5-year ARI post development discharges to the kerb to less than 20 L/s.
- Reduces the risk of gross pollutants, sediment, nutrients and oil discharging from the site by using grated inlet pits throughout the site, installing Rocla First Defense sediment and oil removal devices and providing a vegetated basin to treat stormwater runoff from the Chemist Warehouse roof and car park areas.

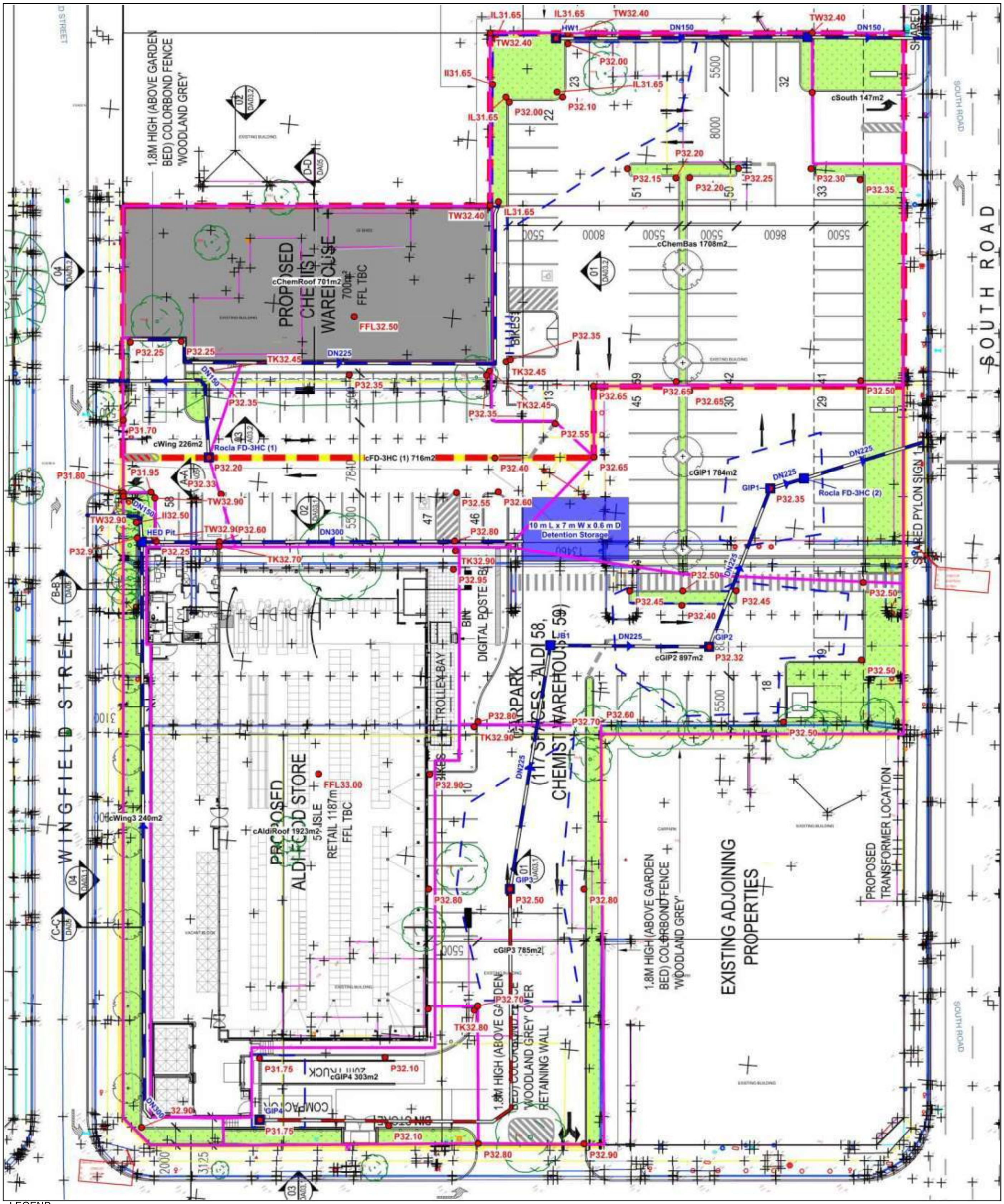
If you have any queries regarding this report please contact the undersigned on 0422 150 775.

Yours faithfully
Drew Rudd Engineers

Dean Nobbs
Senior Civil Engineer
0422 150 775

Appendix A – Figures

Figure 1 – Stormwater Management Plan



LEGEND

Design Level | Chequer Plate Drain | Proposed SW Pit | Proposed Rising Main | Proposed SW Pipe | Catchments | 100yr Extent of Ponding | Aldi Roof Detention

1:400

GRID N

Map projection: Universal Transverse Mercator
Horizontal datum: Geocentric Datum of Australia 1994
Grid: Map Grid of Australia, Zone 54

DREW RUDD ENGINEERS

Aldi
Clovelly Park

Stormwater Management Plan

15 | August 2018

job no. ADL0192
rev no. C

Figure 01

Appendix B – Council Requirements

Guidelines for Stormwater Requirements – Industrial and Commercial Developments

CITY OF MARION INFRASTRUCTURE DEPARTMENT

Guidelines for Stormwater Requirements – Commercial/Industrial Development

Revision Date : 15 December 2006

Stormwater drainage calculations are to be carried out by a qualified engineering consultant as per the guidelines given in Australian Rainfall and Runoff –Volume 1
The following methods may be adopted :

Rational Method Time-Area Runoff Method Modelling Programs such as ILSAX or DRAINS

For Development North of Seacombe Road, a detention/retention system must be provided to cater for the balance between the proposed discharge from the commercial/industrial development and the allowable discharge using Council's coefficients as per Note 1 below.

IMPORTANT NOTE : The Detention System must incorporate an above ground or below ground Detention Tank. The Car Park can only be used as a secondary form of detention

REFERENCE : This guideline is to be read in conjunction with the Marion (City) Development plan Consolidated 10 November 2005 and Council's Brochure – "Stormwater Detention"

<u>INFORMATION TO BE SUPPLIED WITH DEVELOPMENT APPLICATION INCLUDE A SITE PLAN AND STORMWATER CALCULATIONS</u>

SECTION A : SITE PLAN

(a) A Site Plan to a scale of 1:100 or 1:200 indicating floor plans, pervious and impervious areas.
(b) Provide as a minimum the following Reduced levels on the site plan :
- Floor Level of the proposed Buildings.
- Design Surface Level across the front property boundary.
- Design Surface Level of the driveway/s at the front property boundary.
- Invert Level of the Kerb and Water Table.

(c) Details of the surface flow path and details of pipes, channels and sumps with respective sizes, grades, invert and surface levels.
(d) Locations of the discharge points at the kerb and water table
(e) If approval is received to connect to existing DTEI/Council Side Entry Pits or Pipes, indicate the location and a detail drawing of the connection point.
(f) Locations of the detention/retention tanks including above ground or below ground & dimensions.
(g) Locations of the proposed orifice size for the detention/retention system and its relative location to the detention tank (with respect to height above or below ground)
(h) Locations of the interception device (gross pollutant trap) for oil, grease, litter, sediment etc

If Developer proposes any Secondary Surface Storage in a Carpark Area, include the following on the site plan:

(i) Provide Reduced Levels on the perimeter of the carpark
(j) Maximum Ponding Depth at the low point of the carpark

IMPORTANT NOTE : Failure to provide all information may delay the processing of the application

SECTION B : STORMWATER CALCULATIONS

It is the responsibility of the engineering consultant to provide legible and detailed calculations. Each formulae, along with all constants, variables and substitutions used must be clearly written and defined. Council officers should not be required to decipher or interpret shorthand calculations. If these are presented, the consulting engineer will be requested to resubmit the calculations.

The following detailed calculations are to be forwarded:

(a) Allowable Council Discharge Calculation using Council's coefficients for the proposed development for both the 5 Year ARI and 100 Year ARI
(b) Post Site Development Discharge Calculations as per Australian Rainfall and Runoff –Vol 1, for the proposed development for both the 5 Year ARI and 100 Year ARI for various storm durations
(c) Determination of the detention/retention system including above ground or below ground, make, model, size, dimensions and capacity to cater for the balance of the discharge to remain on site
(d) Determination of the orifice size for the detention/retention system
(e) Details of the interception device (gross pollutant trap) for oil, grease, litter, sediment etc
(f) Details of the discharge points at the kerb and water table including location and flow rate at each
(g) Type of jointing method when discharging to existing DTEI/Council Side Entry Pits or Pipes
(h) For secondary surface storage in a carpark, please provide prism calculations necessary for determining the potential surface storage in the carpark
(i) The following parameters as per the numbered points are to be used in the calculations:

1. Allowable Council Stormwater Discharge

To cater for Council's existing drainage infrastructure, Stormwater runoff must be controlled from the total site area to the flows determined using the following coefficients.

1.1 Site Time of Concentration

To determine the allowable discharge rate from the site, a storm duration equal to the travel time from the furthermost point on the site to the adjacent road or existing Council Drainage System is to be used consistently throughout the calculations.

(NOTE: It is reasonable to assume that for a standard site :- Time of Concentration = 10 minutes.
If a different figure is to be used, please state the reasoning for the variation to the the 10 minutes.)

1.2 Determine the Allowable Council Stormwater discharge for the entire site area using the following coefficients as per the Zone required

1.2.1 Any Industrial/Commercial Redevelopments in **Existing Residential Zones must conform to:**

- 5 Year ARI Runoff Coefficient 0.25
- 100 Year ARI Runoff Coefficient 0.45

OR

1.2.2 Any Industrial/Commercial Redevelopments in **Existing Industrial/Commercial Zones must conform to:**

- 5 Year ARI Runoff Coefficient 0.65
- 100 Year ARI Runoff Coefficient 0.85

2. Post Site Development Discharge

2.1 Site Time of Concentration

As per 1.1 above

2.2 Post Site Development Coefficients

In determining the actual post site development discharge from the site, the following coefficients are to be used:

Roof Areas	C_{5R} = 0.9	C_{100R} = 1.0
Impervious Ground Service	C_{5I} = 0.75	C_{100I} = 0.9
Pervious Area	C_{5P} = 0.1	C_{100P} = 0.12

Where Modelling Programs (i.e. ILSAX/ DRAINS) are used, the following percentages are to be used to determine the allowable site discharge.

Directly Connected	80%
Supplementary Paved	10%
Pervious Area	10%

2.3 Determining Volume of Detention

The actual post site development discharge is now compared with the allowable site discharge as determined by the Council's runoff coefficients in Part 1 above. Where actual site discharge for the new development exceeds the allowable discharge, the difference must be contained/managed using a stormwater retention/detention installation.

The following checks need to be undertaken for detention systems:

2.3.1 Various storm durations (between 10 and 360 minutes as required) for both the 5 year and 100 year ARI's shall be checked and compared to the 1 in 5 year value and the 1 in 100 year value calculated in Part 1 above. This is to determine and confirm the maximum required retention/detention volumes. The results are to be presented in a Table.

2.3.2 Inflow/outflow hydrographs shall be used to determine the necessary volume of retention/detention. Hydrographs should also indicate site outflows that reflect the use of submersible pumps, restrictor orifices or any other device or system (including time delays on automatic pumps) commonly used in stormwater retention/detention. The hydrographs shall be presented as Figures.

The design must cater for repeat storm events. A sealed retention system that does not allow stormwater to escape or discharge will eventually become full. Stormwater runoff from subsequent storm events will only bypass the system and consequently the site discharge will cease to comply with Council requirements.

2.3.3 Sites greater than 1 hectare

For sites greater than 1 ha the peak outflow from the detention device needs to be checked to ensure that the outflow after 90 minutes for the critical storm duration used to size the storage is not greater than the flow that would arise from a 90 minute storm event based on an undetained catchment with a runoff coefficient of 0.25 in Residential Zones or 0.65 in Industrial/Commercial Zones.

3. Details of Detention Systems

3.1 Final Size of Detention Tank required

The Final size of the Detention Tank depends on its location and the volume of water entering the tank from specific run off areas. Please indicate

- where the volume of water is entering the tank from the Proposed Site Drainage System,
- the calculations to determine that volume of water,
- if the detention tank is above ground or below ground.

3.2 Orifice Size Required for Above Ground Detention Tank or from Car Park Sump to the Kerb

Please indicate

- the derived orifice head in metres, used in the calculations,
- the calculation to determine the outflow of water from the tank or sump to ensure Note 4 below is not exceeded.

Note: Outflow = {0.6 x (area of proposed orifice m^2) x [(2 x 9.81 x head in metres)$^{1/2}$]} x 1000

3.3 Pump Size for below ground detention tank

Please indicate

- the make model and number of pumps,
- the outflow from the detention tank in litres/sec,
- if a time delay device is required to ensure that maximum allowable point discharge rates are not exceeded as described in Note 4 below,
- and show calculations to derive how full the tank must be prior to the pump starting operation.

4. Discharge from the site to the Kerb and Watertable

shall not exceed 20 litres/sec at any one point for a 1 in 5 year storm event (ie if it is greater than 20 l/s then there must be 2 or more discharge points). Please show calculations of the

- the total flow to each discharge point such that it does not exceed 20 L/s at any point in time during or after the storm duration,
- the size and type of pipe from the property boundary to the kerb and watertable.

5. Connections to Council's Drainage System

In certain circumstances, the Council may allow a stormwater connection into the existing underground drainage system in the street where provided. For information on the Council's underground drainage infrastructure, please contact the Council's City Assets Department. Approval to connect must be sought from the Council and specific details of the connection must be provided.

6. Connections to Department forTransport, Energy & Infrastructure (DTEI) Drainage System

Approval from DTEI's Metropolitan Region ph. 8226 8222 is to be obtained for any stormwater connection to an existing Side Entry Pit on the following Main Arterial Roads :

Cross Road	Lonsdale Road	Majors Rd	Ocean Boulevard	South Road
Daws Road	Main South Road	Morphett Rd	Reynella Bypass	Southern Expwy

Diagonal Rd Marion Road Oaklands Rd Seacombe Road Sturt Road

7. Interception Device (Gross Pollutant Trap)

Runoff from impervious ground surfaces is to be directed to a stormwater treatment system capable of removing litter, sediment, grease, oil and other substances are capable of contaminating stormwater prior to discharging to the Council drainage system. The treatment system may consist of interception devices and is to be regularly cleaned and maintained by the property owner for the life of the development.

8. Soil Erosion and Sediment Control Structures

Soil Erosion and Sediment Control Structures should be implemented on the site in accordance with the EPA Code of practice for the building and construction industry.

EXAMPLE OF STORMWATER CALCULATIONS

In order for Council to check the calculations quickly please provide the calculations in the following headings and format showing all formulas and variables:

Covering Page

Site Stormwater Management Calculations

For the proposed Development

At – (insert Address including Street Number and Lot Number)

Development Application Number –

Prepared for – (insert Name of Developer and Company)

Prepared by – (insert Name of Consultant and Company)

Calculation Pages

It is the responsibility of the engineering consultant to provide legible and detailed calculations. Each formula, along with all constants, variables and substitutions used must be clearly written and defined. Council officers should not be required to decipher or interpret shorthand calculations. If these are presented, the consulting engineer will be requested to resubmit the calculations.

1. Allowable Council Stormwater Discharge (ACS)

1.1 Site Time of Concentration

State Time of Concentration – 10 minutes OR reasons if other than 10 minutes

1.2 Determine the Allowable Council Stormwater (ACS) discharge for the entire site area using the following coefficients as per the Zone required

State Council Zoning of Development site – Residential, Commercial, Industrial, Other (state)
State the relevant Council Run Off coefficients – 1 in 5 & 1 in 100 (0.25 & 0.45 or 0.65 & 0.85)

Methodology Used – (Rational Method, Time-Area Runoff Method, Modelling Programs such as ILSAX or DRAINS)
Total Site Areas – indicate dimensions used and the total for each of the following in m^2:
Total Area of Allotment =

Q_5(ACS) = FCIA = m^3/sec=
Where F = 1/360 , C= (0.25 or 0.65) , I= Intensity mm/hr, A= area hectare

Q_{100}(ACS) = FCIA = m^3/sec=
Where F = 1/360 , C= (0.45 or 0.85) , I= Intensity mm/hr, A= area hectare

ACS = Allowable Council Stormwater Discharge

2.Post Site Development Discharge (PSD)

2.1 Site Time of Concentration
State (figure as per 1.1 above)

2.2 Post Site Development Coefficients

Sub Area Names (for example)		Runoff Coefficients	
A_{R1} - Roof Existing Building	=	C_{5R} = 0.9	C_{100R} = 1.0
A_{R2} - Roof Proposed Building	=		
A_{I1} - Impervious Rear CarPark	=	C_{5I} = 0.75	C_{100I} = 0.9
A_{I2} - Impervious Front CarPark	=		
A_P - Pervious Areas	=	C_{5P} = 0.1	C_{100P} = 0.12

Q_5(PSD) = F (Roof$C_{5R}A_R$ + Impervious$C_{5I}A_I$ + Pervious$C_{5P}A_P$) I
State all variables

Q_{100}(PSD) = F (Roof$C_{100R}A_R$ + Impervious$C_{100I}A_I$ + Pervious$C_{100P}A_P$) I
State all variables

PSD = Post Site Development Discharge

2.3 Determining Volume of Detention
2.3.1 Various storm durations – Show calculations and present a summary of the results in a Table.
2.3.2 Inflow/outflow hydrographs - The hydrographs shall be presented as Graphs and Figures.
2.3.3 Sites greater than 1 hectare – Show calculation if required

3.Details of Detention Systems
Show required information and calculations under the following headings
3.1 Final Size of Detention Tank required
3.2 Orifice Size Required for Above Ground Detention Tank or from Car Park Sump to the Kerb
3.3 Pump Size for below ground detention tank

4.Discharge from the site to the Kerb and Watertable - Show required information and calculations

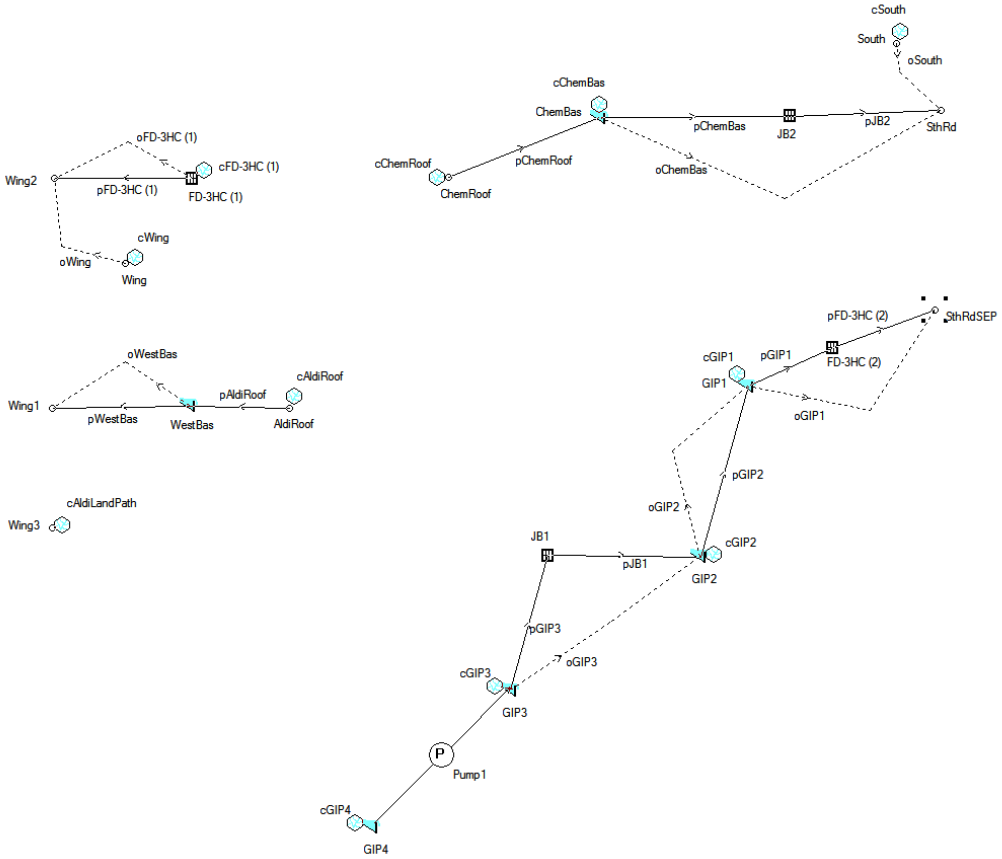
5.Connections to Council's Drainage System - Complete if required

6.Connections to DTEI Drainage System - Attach approval letter

7.Interception Device (Gross Pollutant Trap) – Provide details of proposed make, model, size

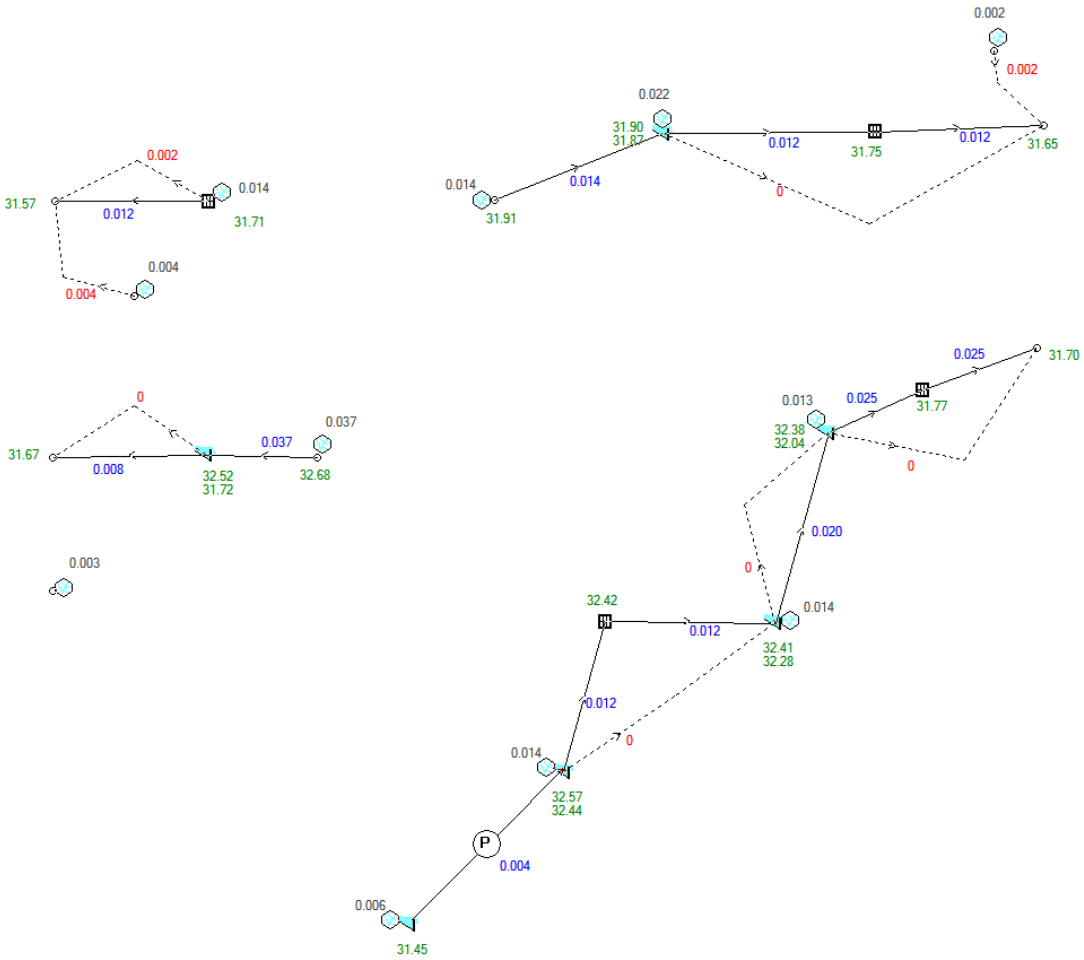
8.Soil Erosion and Sediment Control Structures – Provide details of measures to be undertaken

Appendix C – DRAINS Model Results

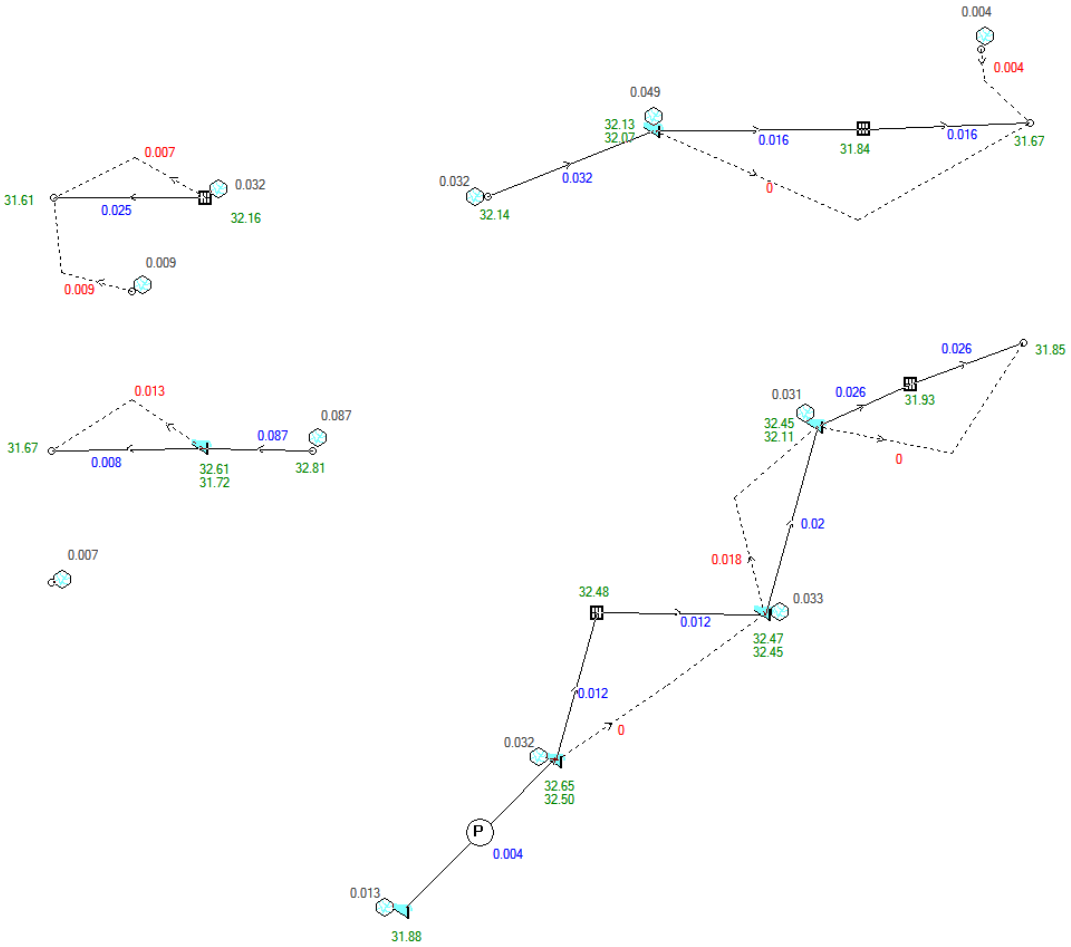


Post Development DRAINS Model Layout (above)

ALDI Clovelly Park Development

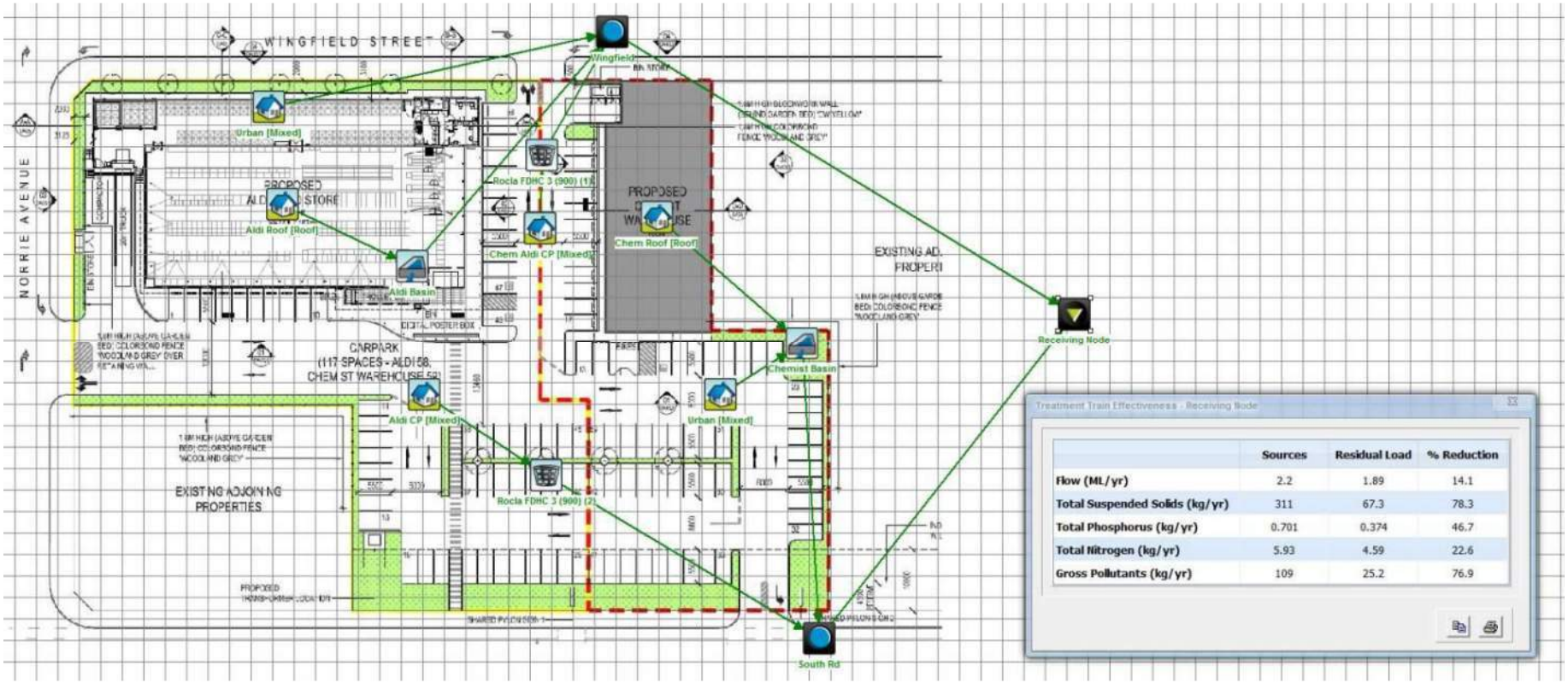


Post Development 5-year ARI DRAINS Model Results (above)



Post Development 100-year ARI DRAINS Model Results (above)

Appendix D – MUSIC Model Results



	Sources	Residual Load	% Reduction
Flow (ML/yr)	2.2	1.89	14.1
Total Suspended Solids (kg/yr)	311	67.3	78.3
Total Phosphorus (kg/yr)	0.701	0.374	46.7
Total Nitrogen (kg/yr)	5.93	4.59	22.6
Gross Pollutants (kg/yr)	109	25.2	76.9