Harley Dykstra

PLANNING & SURVEY SOLUTIONS

Development Application

Service Station

Lot 802 Albany Highway, Williams

Prepared by Harley Dykstra for *Saracen Properties Pty Ltd*

BUNBURY
21 Spencer Street, Bunbury WA 6230
PO Box 778, Bunbury WA 6231

T: 08 9792 6000
F: 08 9721 9611

E: bunbury@harleydykstra.com.au
www.harleydykstra.com.au

Albany Bunbury Busselton Kelmscott Perth

ACN 009 101 786 ABN 77 503 764 248

DOCUMENT CONTROL

Control Version	Date	Status	Distribution	Comment
A	28/06/18	Draft	Internal	QA
B	03/07/18	Draft	Client	Client Approval
C	30/08/18	Final	Client	Client Approval
D	30/10/18	Final	LG	For Approval

Prepared for: Saracen Properties Pty Ltd

Prepared by: DL

Reviewed by: LB

Date: 30/10/18

Job No: 21520 – Williams Service Station

Version: D

DISCLAIMER

CONTENTS

DOCUMENT CONTROL i

DISCLAIMER i

CONTENTS ii

1 INTRODUCTION 1

2 BACKGROUND & SITE CONTEXT 2

2.1 Property Location and Characteristics 2
2.2 Property Details 2
2.3Existing Development 3

3 PROPOSED DEVELOPMENT 4

3.1 Development Summary 4
3.2 Site Layout 4
3.3 Building Design 5

4 TOWN PLANNING & ENVIRONMENTAL CONSIDERATIONS 6

4.1 Shire of Williams Town Planning Scheme No. 2 6
4.2 Traffic Impact Assessment 6
4.2.1 Access and Egress 6
4.2.2 SWEPT Path Analysis 7
4.2.3 Car parking 7
4.3 Environmental Impact 7
4.4. Signage 8
4.5 Amenity Impact 8
4.5.1 Surrounding Land Use 8
4.5.2 Acoustics 8
4.5.3 Lighting 9
4.6. Stormwater Management 9
4.7 Services 9
4.7.1 Power 9
4.7.2 Reticulated Water 10
4.7.3 Reticulated Sewer 10
4.7.4 Telecommunications 10

5 CONCLUSION 11

APPENDIX A .....

Cirtificate of Title .....

APPENDIX B .....

Site Plan .....

(Drawings: 2150-02L & 21520-03K)
APPENDIX C
Proposed Service Station Elevations
APPENDIX D
Traffic Impact Assessment

1 INTRODUCTION

This report forms part of the Development Application for a Shell service station and associated coffee drive thru at Lot 802 Albany Highway, Williams (referred to as the 'subject property' within this report). The purpose of this report is to provide further detail and justification for the proposed application and to assist the Shire of Williams in determining this proposal.

The new Shell service station and coffee drive thru (the development) is anticipated to be a positive development for the township of Williams and is justified on the following grounds:

- It provides a modern, sophisticated service station designed for the needs to the William's community;
- It provides for a separated truck drive thru lane with associated fuel bowser and canopy to allow large trucks of up to 36.5m in length (B-Triple) to easily move through the site, rather than being forced to park on the opposite side of Albany highway and walk across the highway to obtain food and other service amenities;
- It is located along the Albany highway, just south of the Williams township so as to reduce any potential amenity impacts associated with B-triple movements (dust, noise, odor, lighting and visual amenity);
- It provides a modern convenience store with a rest area to service the existing traffic travelling north and south along Albany highway; and
- It provides a new coffee drive thru, designed to service the Williams Township and vehicle movements along Albany Highway.

For these reasons, it is respectfully requested that the Shire of Williams approve the proposed Shell service station and coffee drive thru on Lot 802 Albany Highway, Williams.

2 BACKGROUND & SITE CONTEXT

2.1 Property Location and Characteristics

The property is located on the outskirts of the Williams Township approximately 500m from the Pinjarra-Williams Road and Albany Highway intersection. The Albany Highway divides Lot 802 into two with the proposed Service Station to be developed on a portion of lot 802, east of the Albany Highway, as shown in the location Plan included as **Figure 1** below.

The entire property is cleared for farming purposes in conjunction with the surrounding farmland within the Shire of Williams. The proposed development will not inhibit the current use of the land with farming of the surrounding land to continue operation.

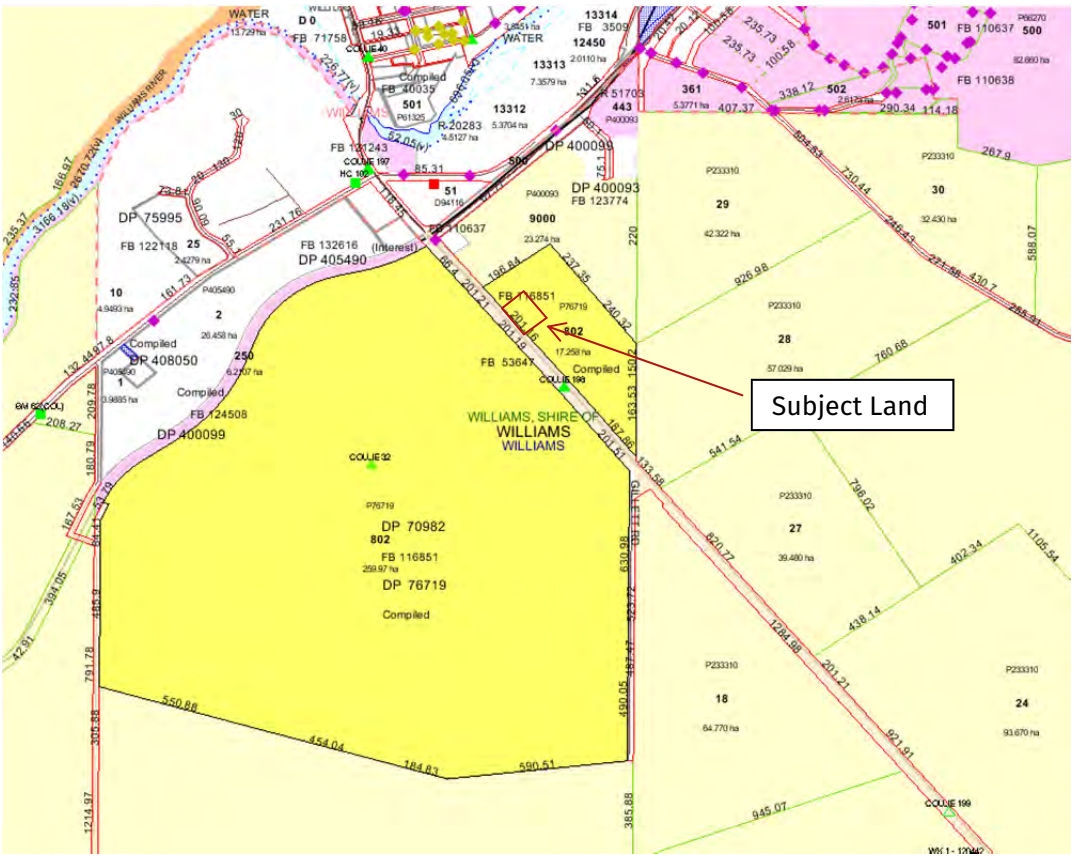


Figure 1: Location Plan of the proposed Service Station

2.2 Property Details

The property details which relate to the proposed development are detailed in table 1 below. A copy of the Certificate of Title is attached at **Appendix A.**

Lot:	Deposited Plan:	Volume/Folio:	Area:	Registered Proprietor :
802	DP 76719	2816/600	17.2575 Ha	David Alleyne Carter

Table 1: Lot 802 Land Owner Details

The location of the proposed Service Station will utilise 8190m^2 of the 17.2575ha site, adjacent to the Albany Highway, as shown in **Figure 1** (above).

2.3 Existing Development

The subject land is cleared for farming purposes. No existing buildings are required to be removed in order to support the proposed development

An existing animal underpass, which allows for the current land owner to move livestock between paddocks located on either side of Albany Highway, is situated adjacent to the northern boundary of the proposed development site (see **Appendix B**). The proposed development has been located further south along the Albany Highway to allow this existing underpass to continue its operation.

It is anticipated that the proposed development will be fenced along the northwestern, northeastern and southeastern boundaries, to the standard required for farming operations, prior to any future development onsite so as to allow the current farming operations to continue.

3 PROPOSED DEVELOPMENT

3.1 Development Summary

This application seeks a Development Approval for a Shell service station and coffee drive thru which contains the following components:

- Four (4) proposed refilling bowsers and associated canopy;
- A separate high-flow diesel refilling area with associated canopy which can accommodate 2 B-triple trucks at any one time;
- A convenience store with a total Gross Floor Area (GFA) of 175 m^2;
- Paved walkways to surround the proposed convenience store, coffee drive thru and associated rest area;
- A large 11.475m high illuminated pylon sign located adjacent to the Albany highway, with associated signage on both the exterior of the convenience store and fuel canopies;
- 14 car parking bays with one (2) bays reserved to be for ACROD parking;
- A separate heavy vehicle (B-double and B-triple truck) one way route at the rear of the site, to separate light and heavy vehicle movements;
- Heavy vehicle parking bays designed to accommodate both B-double and B-triple trucks with a maximum length of 36.5m;
- An easily accessible loading bay for deliveries to the proposed convenience store and coffee drive thru; and
- Access and egress in and out of the site via two large heavy vehicle crossovers located in the road reserve of Albany Highway.

The layout and design of the proposed service station is illustrated on both the site plan and elevations provided at **Appendix B** and **C** and is further detailed within the following sections of this report.

3.2 Site Layout

The site layout of the proposed development is detailed within **Appendix B** of this report. The proposed layout seeks to provide for ease of access primarily for B-Triple truck movement's, to be fully contained within the site while allowing for light vehicle movements to continue through the drive thru and be able to arrive and leave from the fuel bowsers without any associated traffic 'congestion'.

All proposed building locations in relation to adjacent boundaries are marked on the attached site plan (**Appendix B**). Further detail regarding the proposed access for B-triple trucks and other vehicle SWEPT path analysis throughout the site is detailed within Section 4.2 of this report and **Appendix D**.

3.3 Building Design

The proposed development is designed to service the needs of both passing traffic along Albany Highway and the Williams township. The proposed development is to consist of the following built elements:

- A 175m^2 convenience store to include:
  - 3 isles for sale of essential food, health and service products associated with a service station;
  - cool room for storage of cold beverages;
  - Internal Ablution facilities; and
  - Back of house (office/store)
- 2 enclosed bin storage areas;
- A 70m^2 coffee drive thru , with two service windows facing the proposed drive thru lane;
- A children's play area adjacent to the service station rest area;
- A light vehicle canopy with the height of 5.7m; and
- A heavy vehicle canopy built at a height of 6.5m.

The proposed development is to be built in accordance with the attached elevation plans as **Appendix C** of this report. Further detail into the built design of the proposed development may be determined at a building license stage.

4 TOWN PLANNING & ENVIRONMENTAL CONSIDERATIONS

4.1 Shire of Williams Town Planning Scheme No. 2

The subject property is zoned *Rural* by the Shire of Williams TPS No. 2. A 'Service Station' use is an 'AA' use within the *rural zone* meaning that the Council (or other determining authority) may, at its discretion, permit the use.

The Shire of Williams TPS No. 2 clearly defines a service station as:

Service Station: *means land and buildings used for the supply of petroleum products and motor vehicle accessories and for carrying out greasing, tire repairs and minor mechanical repairs and may include a cafeteria, restaurant or shop incidental to the primary use: but does not include transport depot, panel beating, spray painting, major repair to major vehicles, or wrecking of vehicles.*

The proposed coffee drive thru is permitted under the definition of a **Service Station** since it is a café, incidental to the primary use. Therefore, the proposed development meets the objectives of the Scheme.

4.2 Traffic Impact Assessment

A Traffic Impact Assessment (TIA), prepared by Transcore and attached as **Appendix D** of this report, provides technical planning rationale regarding the following transport elements:

- The requirement for Cross overs and slip lanes;
- Provisions for Heavy vehicle movement through the site;
- Light vehicle movement through the site; and
- Car parking.

These elements, and the TIA overall, is outlined in more detail in the following sections.

4.2.1 Access and Egress

Access and egress for the proposed development is to be via a two separate entry and exit cross over 19m and 20m wide respectively. The construction of sealed slip lanes along Albany Highway is deemed to not be necessary and is justified within the TIA report as follows.

> *… The proposed development will not increase traffic on any lanes on Albany Highway by more than 100 vph; therefore the impact on the Albany Highway is insignificant*

Further, the report notes the following regarding the efficiency of the proposed crossovers in allowing for efficient movement of traffic and the associated minimization of queuing times:

The Albany Highway cross over 1 and 2 will operate with an overall Level of Service category A during the afternoon peak hour for both post development and 2028 post development scenarios. The SIDRA results also indicate no queuing or delays occurring for turning traffic from Albany Highway and therefore there is no requirement for any turning lanes or slip lanes along Albany Highway.

In accordance with this recommendation from Transcore, it is anticipated that crossovers 1 and 2 will sufficiently support the current and future traffic volumes predicted to utilise this site. Therefore, future upgrade works to Albany Highway will not be required in order to support the proposed development.

4.2.2 SWEPT Path Analysis

Appendix C of the TIA report details the following SWEPT path analysis for the following vehicles:

- 12.5m Service Utility Truck;
- 19m Semi Trailer Truck;
- 36.5m B-Triple Truck; and
- Light vehicle (Car).

The SWEPT path analysis of the aforementioned vehicles confirms the site layout for the proposed development is able to safely support vehicle movements up to 36.5m in length.

4.2.3 Car parking

Section 8 of the TIA details the following regarding parking within the proposed development. The proposed development provides the following site parking:

- 14 car parking spaces with 2 ACROD bays;
- 3 truck parking zones:
  - 1 B-double truck parking bay;
  - 1 B-triple truck parking bay; and
  - 1 B-triple truck and extra spacing for smaller trucks zone.

Therefore, it may be concluded that the proposed parking provision is sufficient to accommodate the needs of the proposed development.

4.3 Environmental Impact

The proposed development seeks to minimize the impact on the natural environment in the following ways:

- Installation of modern Service Station holding tanks, double skinned walls, fitted with seepage alarms to prevent any subsoil contamination;
- All waste water collected onsite will be appropriately filtered to remove all hydrocarbon pollution from any fuel spills;

- An effluent disposal system will be appropriately designed and installed to the standard of the Shire of Williams; and
- All waste water will be contained within the development site.

Further, no wetland or associated high water table conditions are found to be present on this site which may enhance the probability of soil or waterway contamination.

4.4. Signage

Business signage will occur on several faces of the proposed development as shown on the elevations, attached at **Appendix C**.

The service station operator requires a 11.475m pylon sign to be constructed in accordance with the proposed service station. It is acknowledged that this development application seeks to obtain approval for an 11.475m high pylon sign, constructed to the standards as shown within the attached elevations. Further, due to the location of the proposed service station within its rural surrounds, the anticipated amenity impact of the above mentioned signage is determined to be minimal. Further explanation into the associated amenity impact of the proposed service station development is outlined in Section 4.5 below.

4.5 Amenity Impact

The proposed service station seeks to limit its impact on the surrounding amenity of the rural area in the following ways.

4.5.1 Surrounding Land Use

The proposed service station provides minimal impact on the surrounding land uses. The subject land is situated within rural farmland, with no conflicting land use within a 200m radius of the proposed Service Station. Lot 802 abuts Lot 9000 which is currently zoned light industrial under the Shire of Williams Town Planning Scheme No. 2. Future development within the Industrial zone will have no direct impact in the operation of the proposed Service Station but would complement this proposed use. The existing land use for Lot 802 will continue to operate for farming purposes with its operation to not be inhibited by the future development of the proposed Service Station.

4.5.2 Acoustics

The associated acoustic impacts associated with the proposed development are as follows:

- Heavy vehicles decelerating to enter the service station site;
- Increased traffic movement through the site (accelerating/decelerating);
- Releasing of air breaks as large B-Double and B-Triple trucks pull into the allocated parking bays;

- Idling of trucks or cars, waiting to be refueled; and
- The general operation of a Service Station equipment (pumps, air conditioning and fans).

The proposed development has been designed to be located as far away from any existing residential dwellings as possible to limit any impact acoustic impact. A small farmhouse, situated 200m away from the Albany highway and directly opposite the proposed development, is the only building directly impacted by this development. It is separated from the proposed Service Station by existing vegetation which lines Albany Highway and planted trees surrounding the farmhouse. Further, a separation distance of over 200m currently exists, removing any direct acoustic impact on this dwelling by the proposed Service Station. Therefore, the proposed Service Station's impact on the acoustic amenity of the surrounding land is to be minimal.

4.5.3 Lighting

The proposed Service Station will be extensively lit at night to allow customers to utilise the facility on a 24-hour basis. Due to the location of the proposed Service Station within its rural surroundings, the proposed lighting will cause a minimal loss of amenity to the surrounding farmland.

4.6. Stormwater Management

Drainage management shall include a suitable hydro-carbon interceptor to capture incidental spillages during tank filling and dispensing. Such systems form part of the design of all modern Service Station developments.

Hardstand areas, car parking and access ways shall be designed to ensure that any fuel spills are precluded from contact with uncontaminated storm water. Any liquid runoff within these areas will be directed to an oil/water separator for treatment.

The specific hydro-carbon interceptor which shall be installed to service the proposed development will be determined at a subsequent design stage which meets best practice methods for the capture and treatment of runoff and complies with all regulatory requirements.

4.7 Services

The proposed development is able to connect to all relevant services as detailed below.

4.7.1 Power

Existing underground power is currently located in the southern side of the Narrogin Road and Albany Highway intersection road reserve. Aerial power lines are located along the western side of the Albany Highway road reserve, opposite the Narrogin Road Albany Highway intersection. A connection to a power source may be established in order to fully service the proposed Service Station.

4.7.2 Reticulated Water

A reticulated water main is located in the eastern side of the Albany Highway road reserve. This service terminates at the southern corner of Lot 8, Albany highway. A connection to this service may be established if required by the proposed development.

4.7.3 Reticulated Sewer

A reticulated sewer main is located in the road reserve of both William Street and to the rear of Lots 8, 10, 12, 14, and 16 which abut the Albany Highway. However, since establishing a connection to this existing reticulated sewer line is not financially viable and since the soil is capable to support onside effluent disposal, the proposed development will seek to utilise this method of waste disposal. Effluent disposal will be in accordance with the Shire of Williams recommendations for onside effluent disposal and seek comply with all relevant health requirements.

4.7.4 Telecommunications

Telecommunication cabling is currently located in the western side of the Albany Highway road reserve. A connection to this service is available with the proposed development anticipated to establish a connection to this service at the appropriate time, post development.

5 CONCLUSION

Development approval is respectfully sought for the proposed Shell service station and associated coffee drive thru as detailed within this report. Approval is sought and justified on the following grounds:

1. The proposed service station is a discretionary land use within the Rural Zone and may be approved by the Shire of Williams;
2. The proposed development provides a modern service station design which allows for the efficient separation of heavy commercial vehicles and light vehicles with designated parking bays for each;
3. The proposed development site allows for large B-Triple trucks of 36.5m in length to park within the proposed development and easily move through the site without having to park along Albany highway in order to access the amenities of the service station;
4. Provides for a service station development on the outskirts of the Williams township which ensures all environmental and amenity impacts associated with a Service Station are minimized;
5. Provides the first coffee drive thru development within the township of Williams, to service all vehicle movements along Albany highway; and
6. Provides a new modern entry statement into the Williams Township.

For these reasons, it is respectfully requested that the Shire of Williams approve the future development of the Shell service station and associated coffee drive thru on Lot 802 Albany Highway, Williams.

APPENDIX A

CIRTIFICATE OF TITLE

WESTERN AUSTRALIA

REGISTER NUMBER	
802/DP76719	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
2	**19/5/2015**

VOLUME **2816** FOLIO **600**

RECORD OF CERTIFICATE OF TITLE

UNDER THE TRANSFER OF LAND ACT 1893

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 802 ON DEPOSITED PLAN 76719

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

DAVID ALLEYNE CARTER OF POST OFFICE BOX 31, WILLIAMS

(AF M340349) REGISTERED 15/7/2013

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. G516569 MORTGAGE TO PRIMARY INDUSTRY BANK OF AUSTRALIA LTD REGISTERED 30/6/1997.
2. M921975 EASEMENT BENEFIT FOR PIPELINE PURPOSES. SEE DEPOSITED PLAN 77034 AND INSTRUMENT M921975 REGISTERED 24/2/2015.
3. *N612905 CAVEAT BY SARACEN DEVELOPMENTS PTY LTD LODGED 2/5/2017.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF TITLE----------

STATEMENTS:

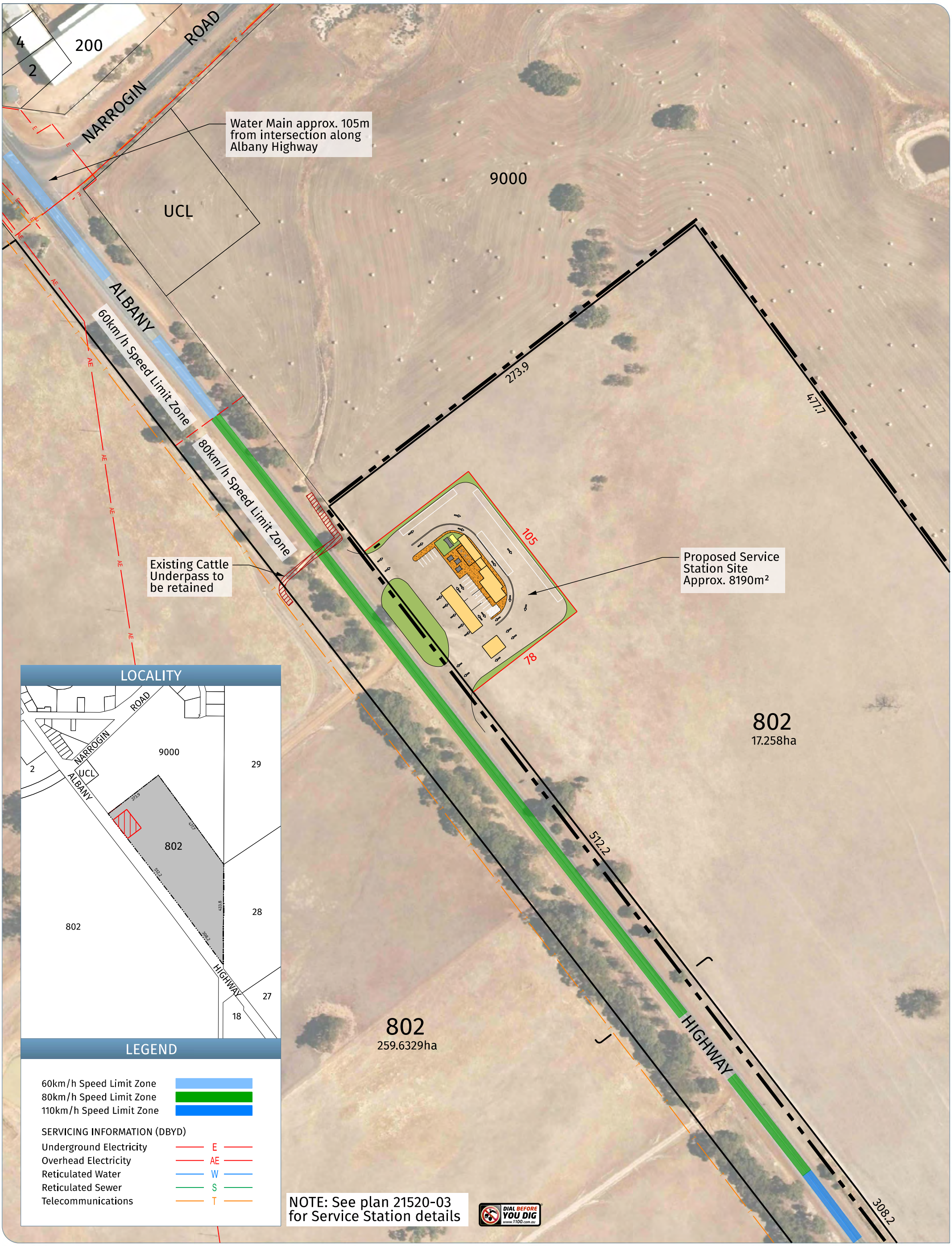
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP76719
PREVIOUS TITLE:	2780-329
PROPERTY STREET ADDRESS:	13254 ALBANY HWY, WILLIAMS.
LOCAL GOVERNMENT AUTHORITY:	SHIRE OF WILLIAMS

APPENDIX B

SITE PLAN

(DRAWINGS: 2150-02L & 21520-03K)



PROPOSED SERVICE STATION

SITE PLAN

Lot 802 Albany Highway, WILLIAMS

Plan No.	21520-02
Date	30/10/18
Drawn	JW
Checked	SB
Revision	L
Scale	1:2000@A3

0 20m 40m 60m

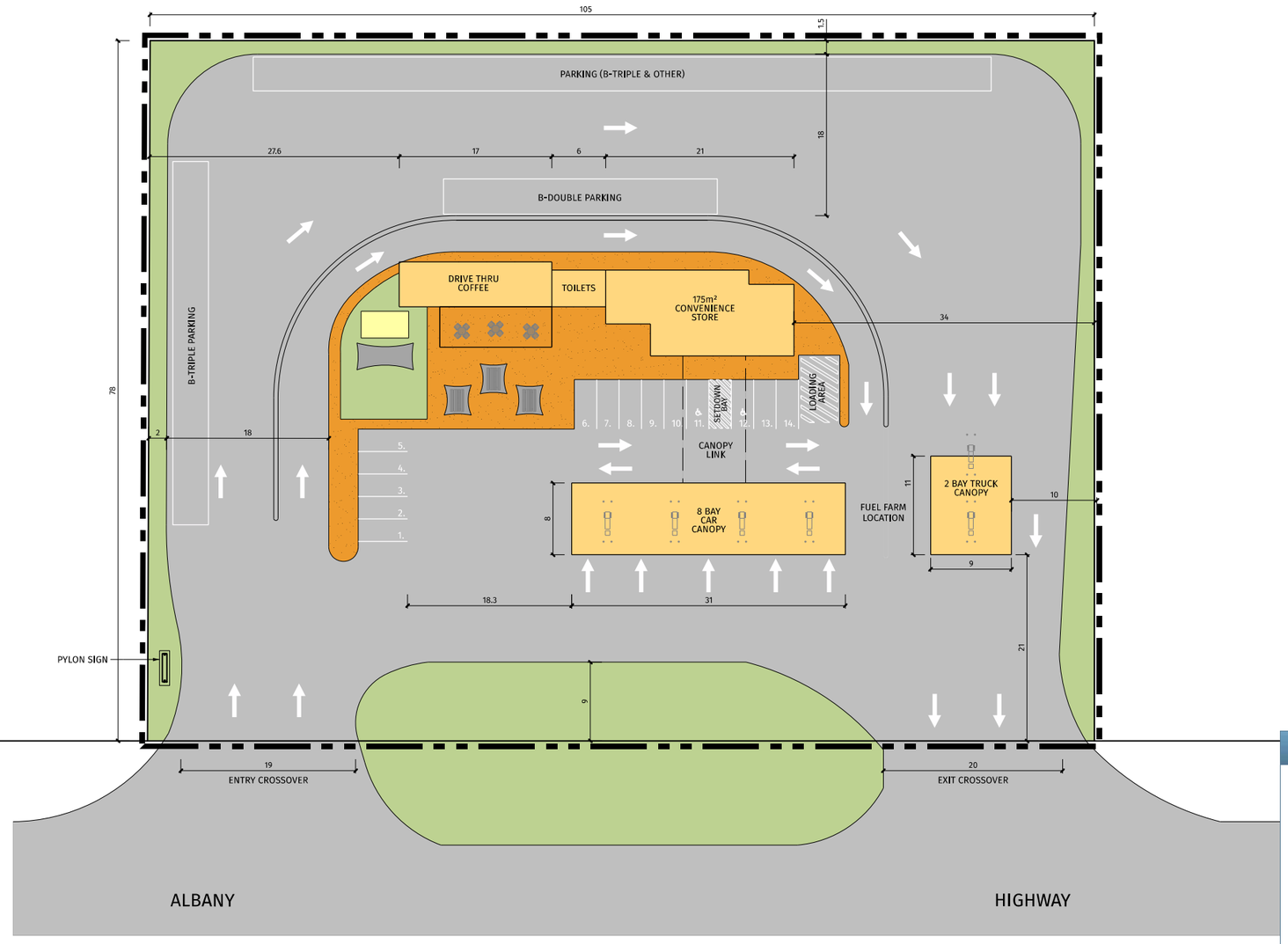
BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra
PLANNING & SURVEY SOLUTIONS

802
17.258ha

9000



802
259.6329ha

LEGEND

PROPOSAL DETAILS

- Subject Site Area (8190m²)
- Proposed Building
- Paving Walkways
- Soft Landscaping
- Truck Movements

PROPOSED SERVICE STATION

Lot 802 Albany Highway, WILLIAMS

Plan No.	21520-03
Date	25/10/18
Drawn	JW
Checked	SB
Revision	K
Scale	1:600@A3

BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

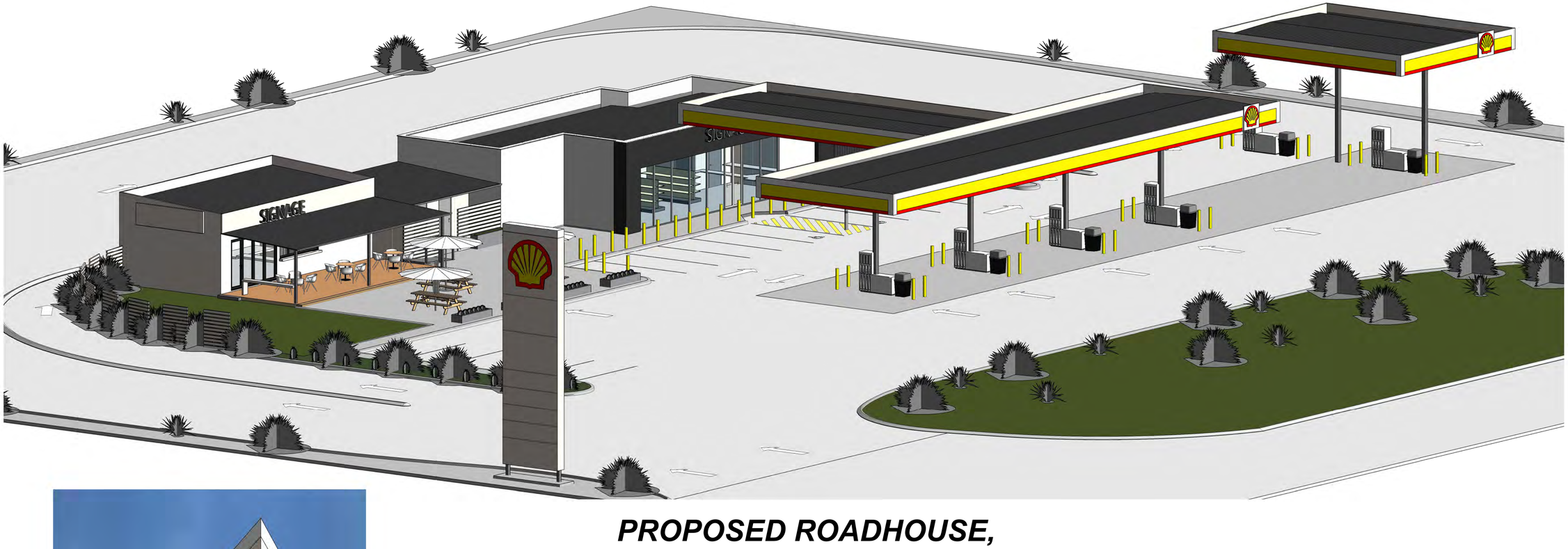
0 5m 10m 15m

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

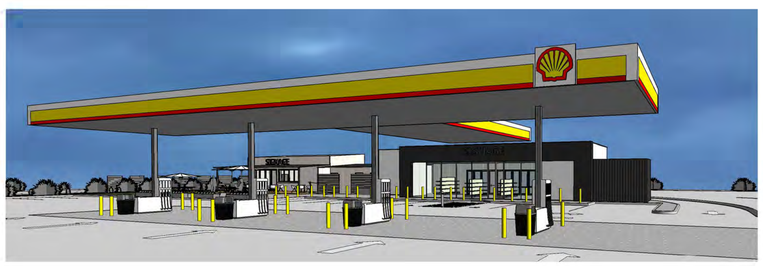
Harley Dykstra®
PLANNING & SURVEY SOLUTIONS

APPENDIX C

PROPOSED SERVICE STATION ELEVATIONS



PROPOSED ROADHOUSE,
LOT 802 ALBANY HIGHWAY, WILLIAMS, W.A., 6391.
SITE AREA = 8190 SQM
SARACEN PROPERTIES PTY LTD



General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

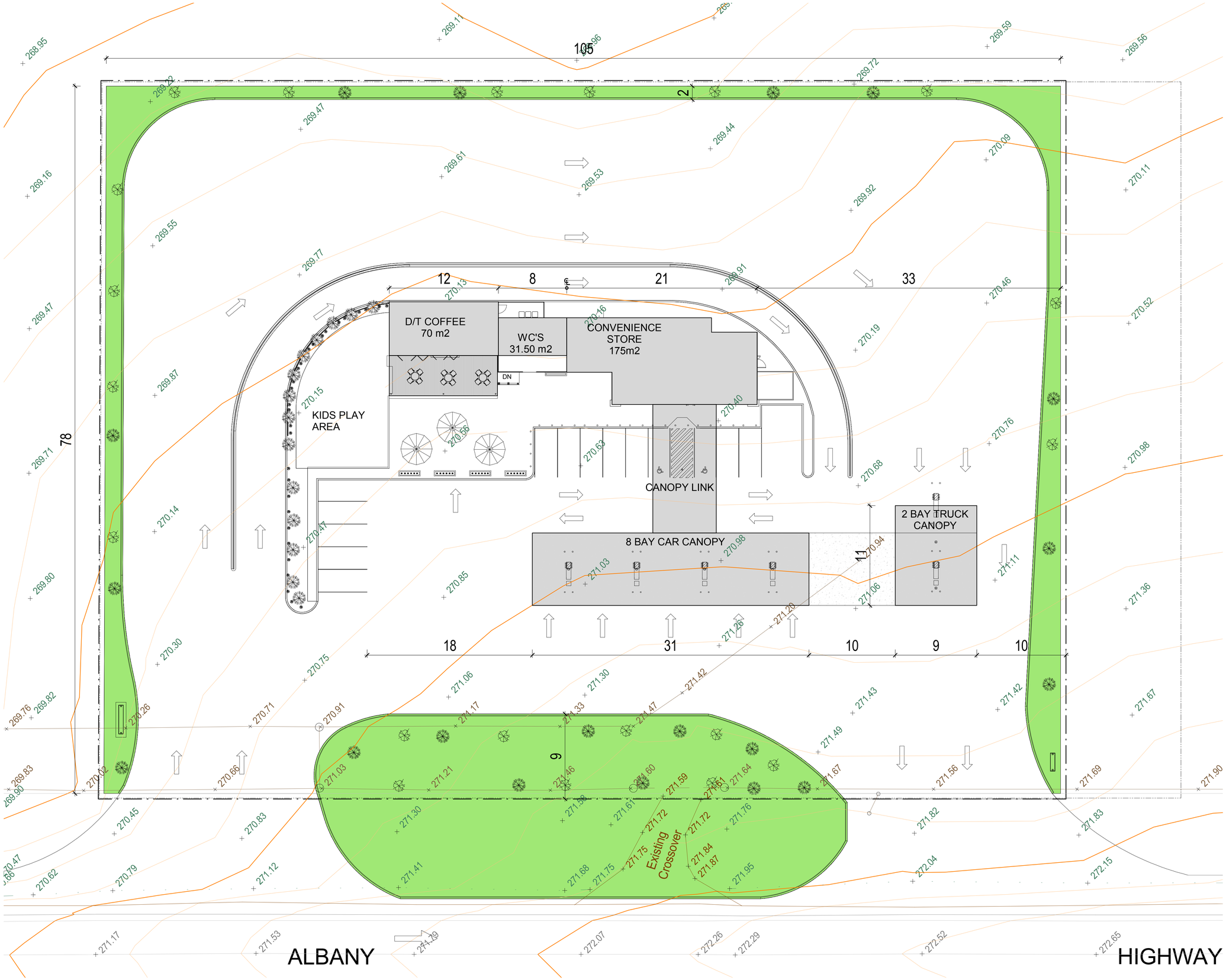
Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

PROJECT DETAILS

Project Number	0035-18
Sheet Size: A1 / Drawing Number	A001 / Rev 2
Date	OCTOBER 2018
Scale	
Drawn by	EL

30/Oct/2018 12:32:55 PM



SITE SURVEY

1 : 200

NORTH

SCALE 1:200

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

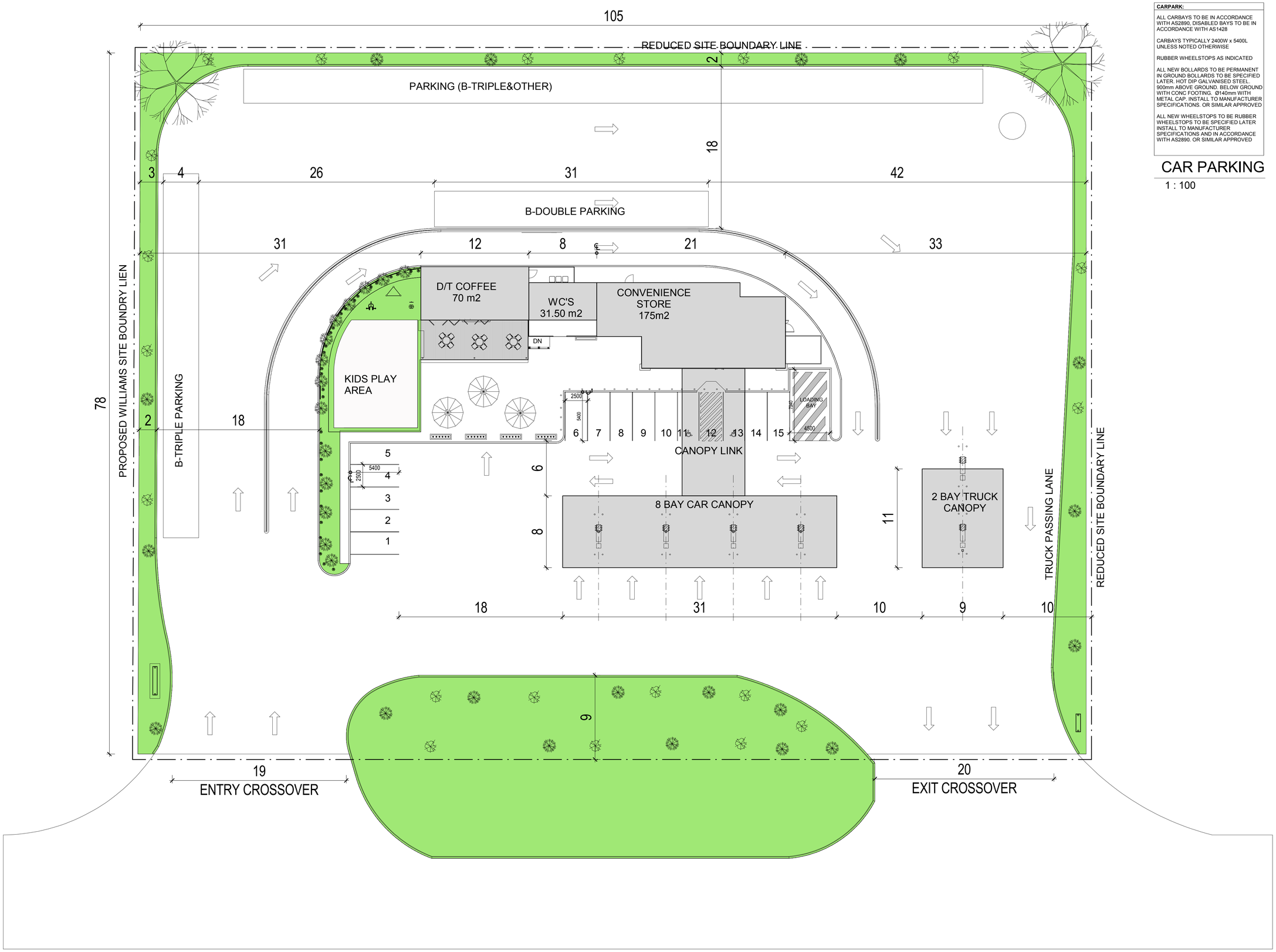
Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

SITE SURVEY

Project Number	0035-18
Sheet Size A1 / Drawing Number	A003
Rev	2
Date	OCTOBER 2018
Scale	1 : 200
Drawn by	EL

30/Oct/2018 12:34:56 PM



SITE PLAN

1 : 200

CARPARK:

ALL CARBAYS TO BE IN ACCORDANCE WITH AS2890, DISABLED BAYS TO BE IN ACCORDANCE WITH AS1428

CARBAYS TYPICALLY 2400W x 5400L UNLESS NOTED OTHERWISE

RUBBER WHEELSTOPS AS INDICATED

ALL NEW BOLLARDS TO BE PERMANENT IN GROUND BOLLARDS TO BE SPECIFIED LATER. HOT DIP GALVANISED STEEL. 900mm ABOVE GROUND. BELOW GROUND WITH CONC FOOTING. Ø140mm WITH METAL CAP. INSTALL TO MANUFACTURER SPECIFICATIONS. OR SIMILAR APPROVED

ALL NEW WHEELSTOPS TO BE RUBBER WHEELSTOPS TO BE SPECIFIED LATER INSTALL TO MANUFACTURER SPECIFICATIONS AND IN ACCORDANCE WITH AS2890. OR SIMILAR APPROVED

CAR PARKING

1 : 100

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

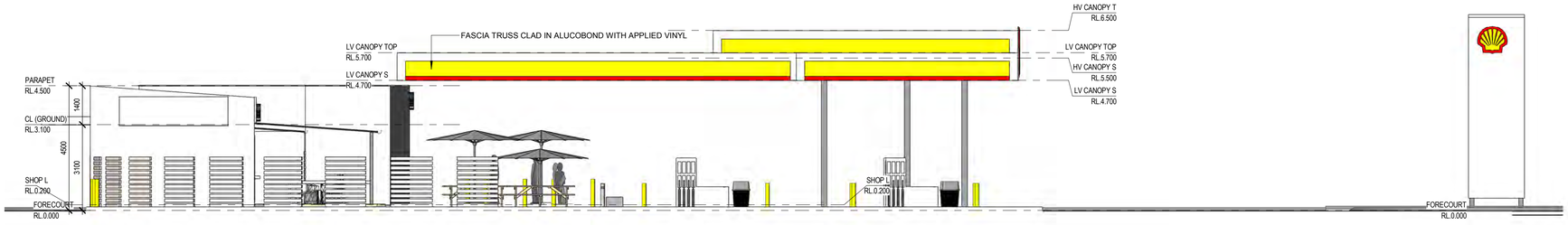
SITE PLAN

Project Number	0035-18
Sheet Size A1 / Drawing Number	A002 / Rev 2
Date	OCTOBER 2018
Scale	As indicated
Drawn by	EL

30/Oct/2018 12:34:08 PM

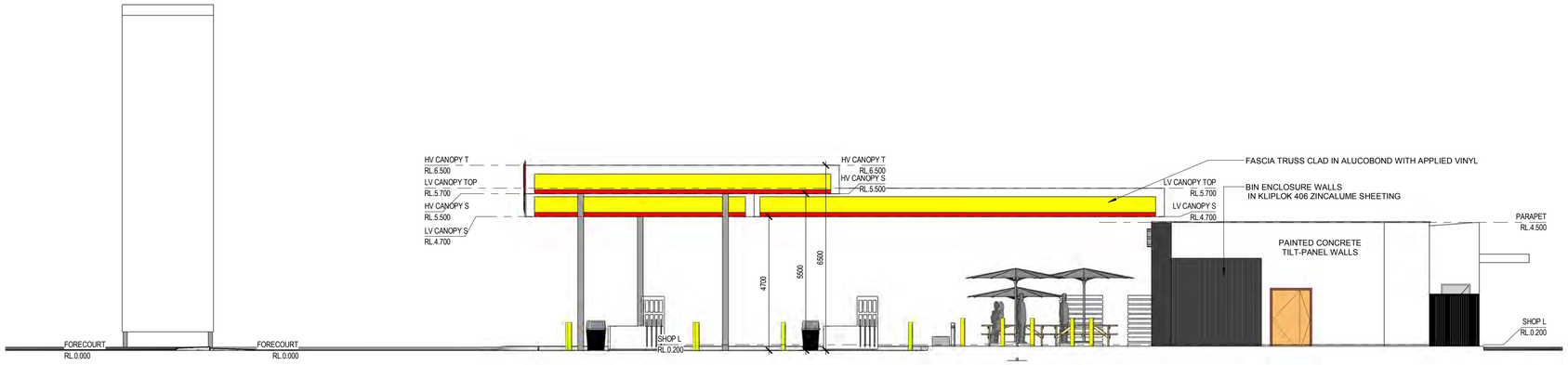
NORTH ELEVATION

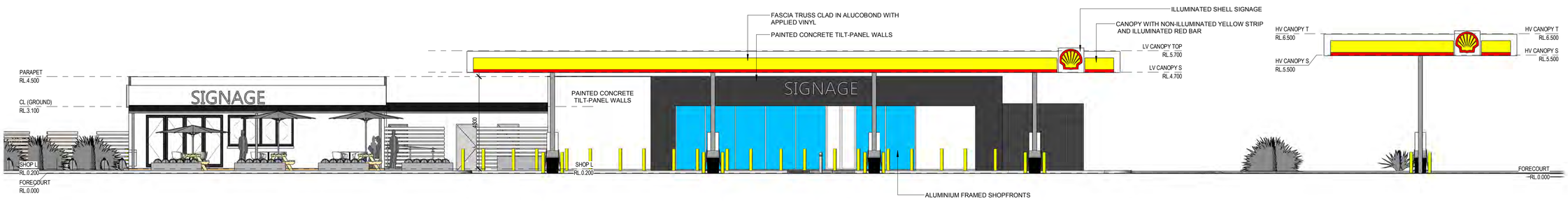
1 : 100



SOUTH ELEVATION

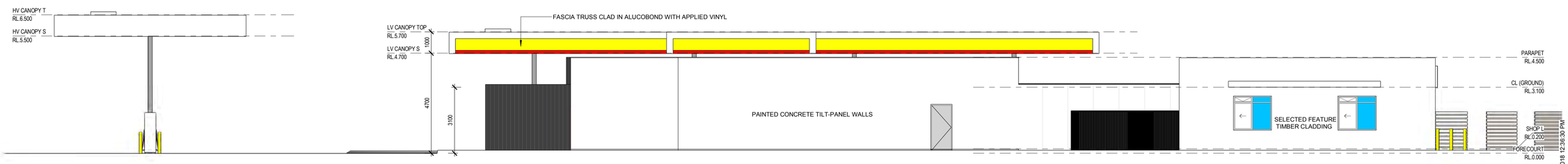
1 : 100





WEST ELEVATION

1 : 100



EAST ELEVATION

1 : 100

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

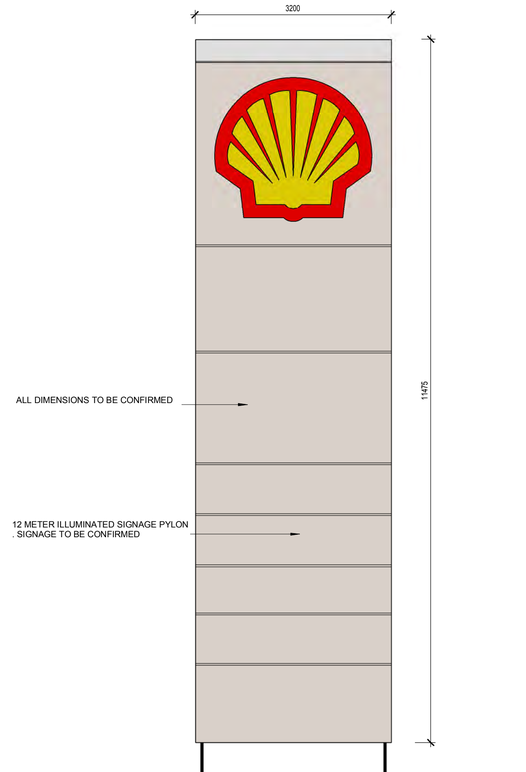
Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

OVERALL ELEVATIONS

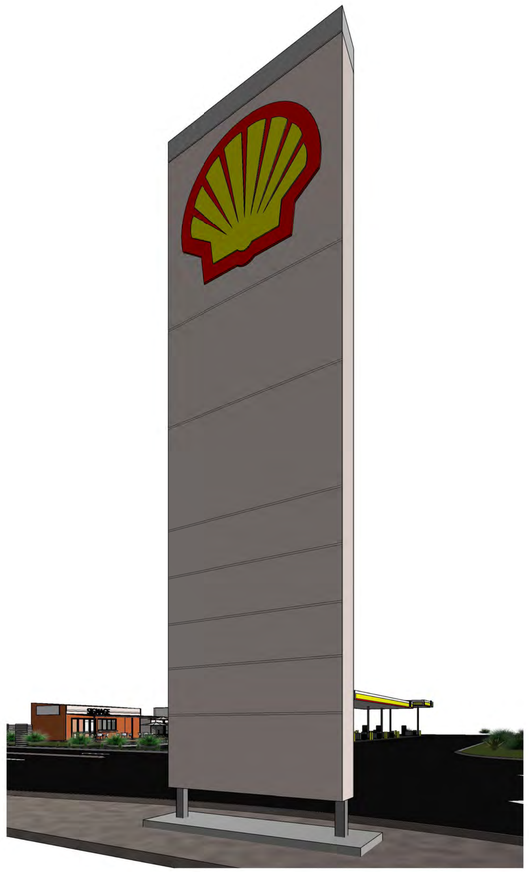
Project Number	0035-18
Sheet Size A1 / Drawing Number	A005 / Rev 2
Date	OCTOBER 2018
Scale	1 : 100
Drawn by	EL

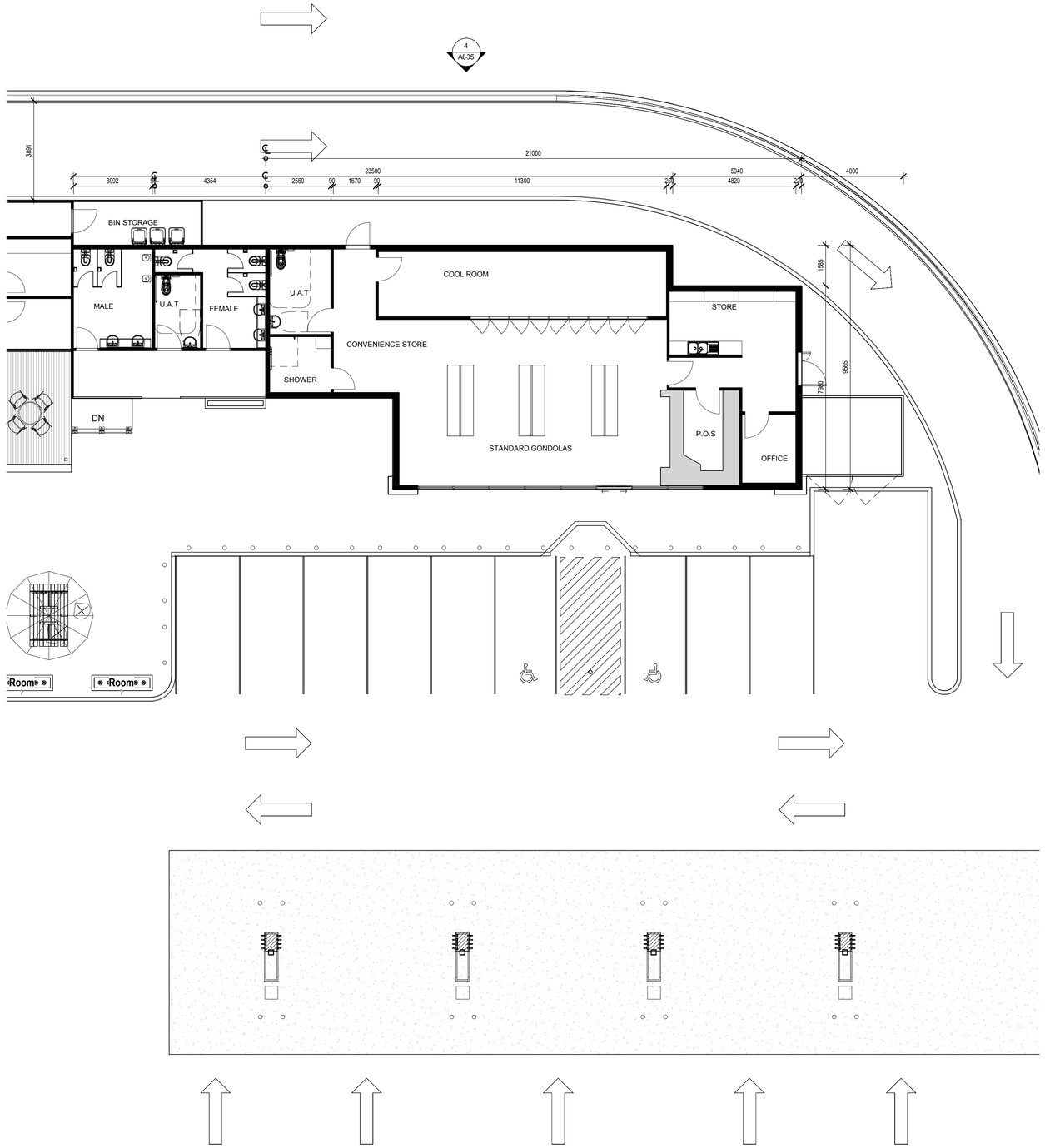
30/Oct/2018 12:06:39 PM



SIGNAGE PYLON ELEVATION

1 : 50





GROUND FLOOR PLAN

1 : 100

NORTH

0 2 4 6 8 10 15 20 30

SCALE 1:200

30/Oct/2018 12:35:46 PM

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

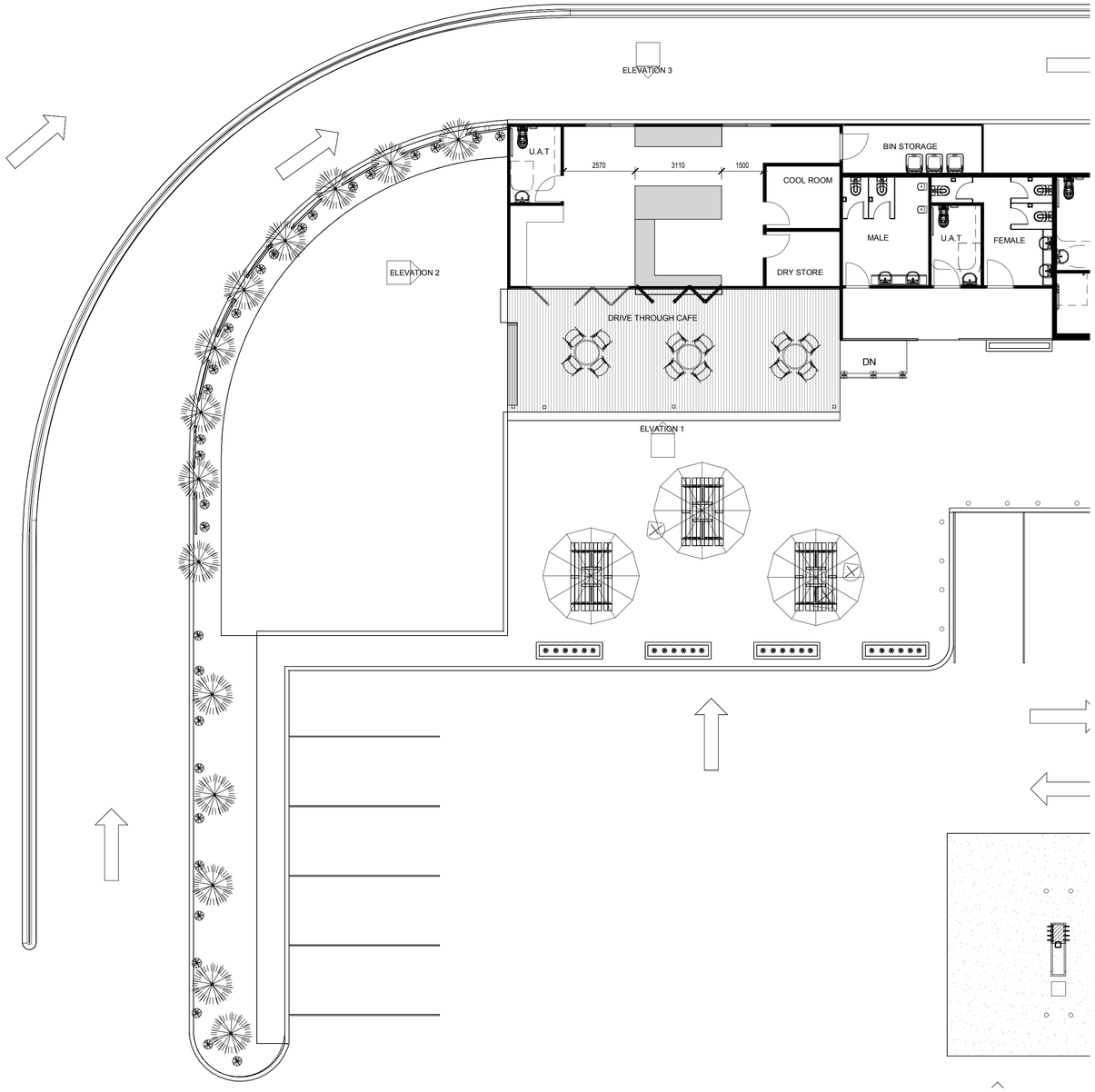
SARACEN PROPERTIES PTY LTD

Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

CONVENIENCE STORE FLOOR PLAN&SIGNAGE

Project Number	0035-18
Sheet Size A1 / Drawing Number	A004 / Rev 2
Date	OCTOBER 2018
Scale	As indicated
Drawn by	EL



TAKE-AWAY COFFEE PLAN

1 : 100

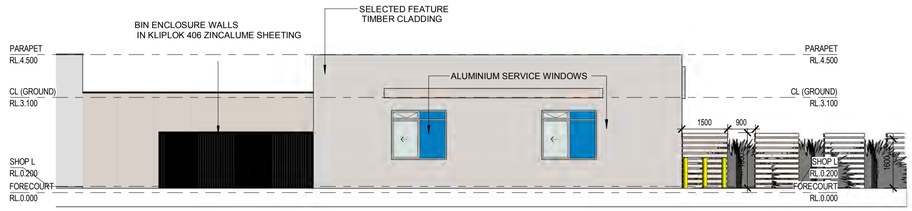
NORTH

0 2 4 6 8 10 15 20 30

SCALE 1:200

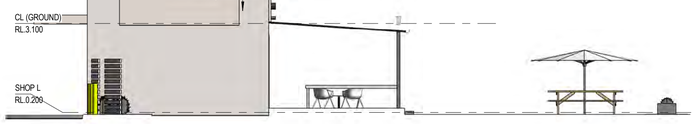
Elevation 1

1 : 100



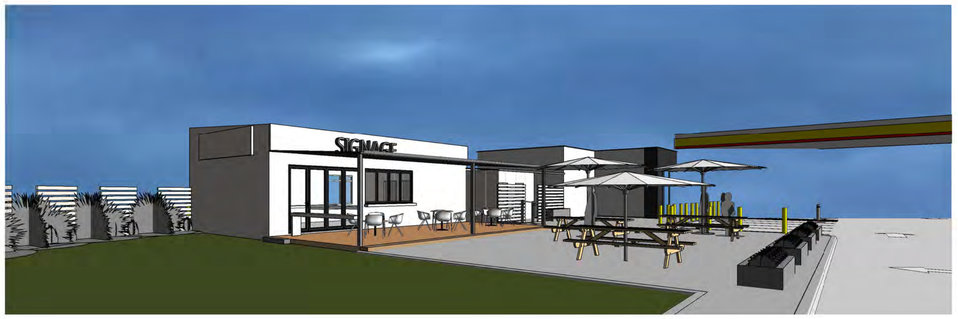
Elevation 2

1 : 100



Elevation 3

1 : 100



General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

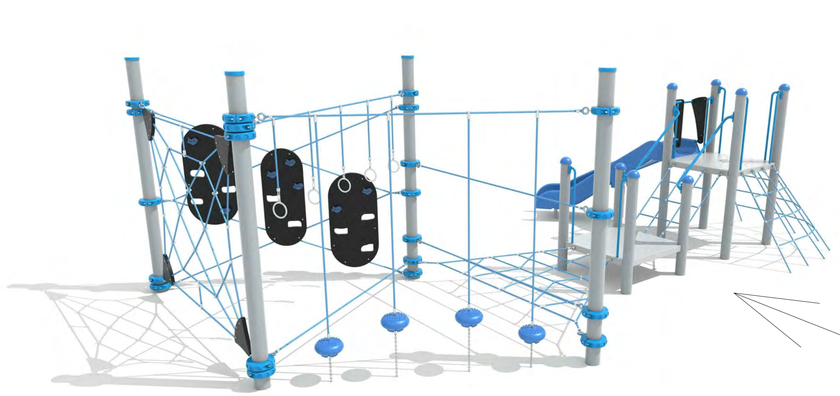
Site

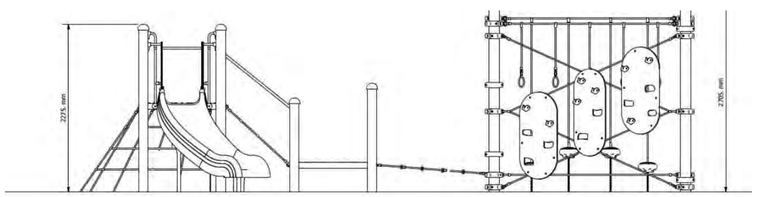
LOT 802 ALBANY Highway, WILLIAMS,
W.A., 6391.

TAKE-AWAY COFFEE

Project Number	0035-18
Sheet Size A1 / Drawing Number	A006 / Rev 2
Date	OCTOBER 2018
Scale	1 : 100
Drawn by	EL

30/Oct/2018 12:37:05 PM

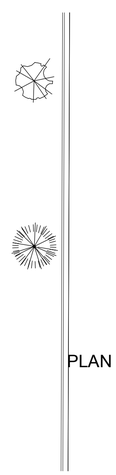




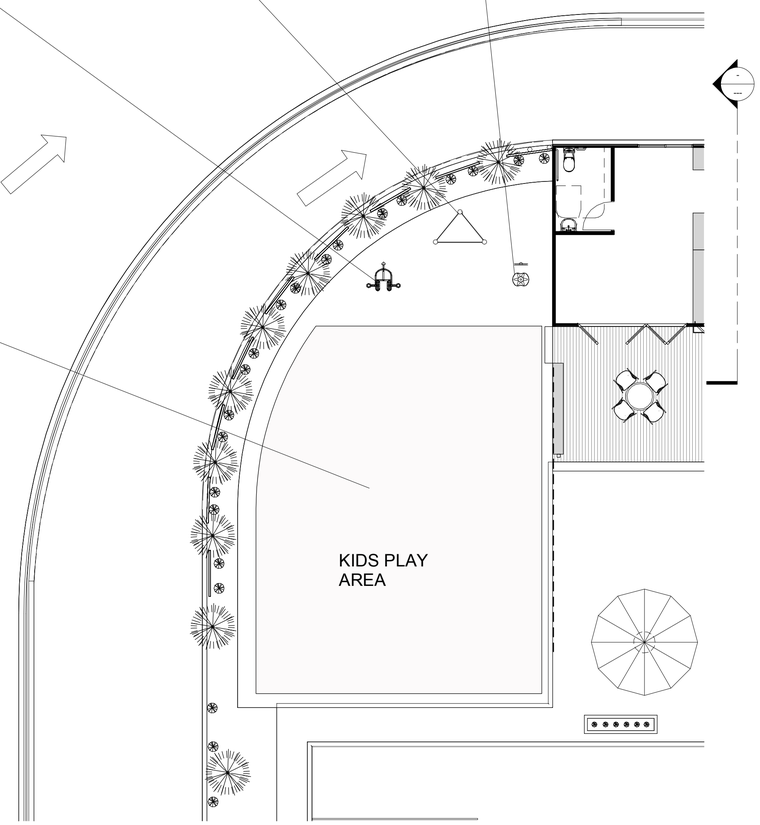
ELEVATION

PLAY GROUND FLOOR

1 : 100



PLAN



30/Oct/2018 12:39:55 PM

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

PLAY GROUND

Project Number		0035-18	
Sheet Size A1	Drawing Number	A008	Rev 2
Date		OCTOBER 2018	
Scale		1 : 100	
Drawn by		EL	

LANDSCAPING LEGEND

1 LARGE SHRUB - KANGEROO PAWS (ANIGOZANTHOS FLAVIDUS RED)

2 NATIVE GROUND COVER - GREVILLEA LANIGERA

3 NATIVE GROUND COVER - WESTRINGIA FRUTICOSA 'MUNDI'

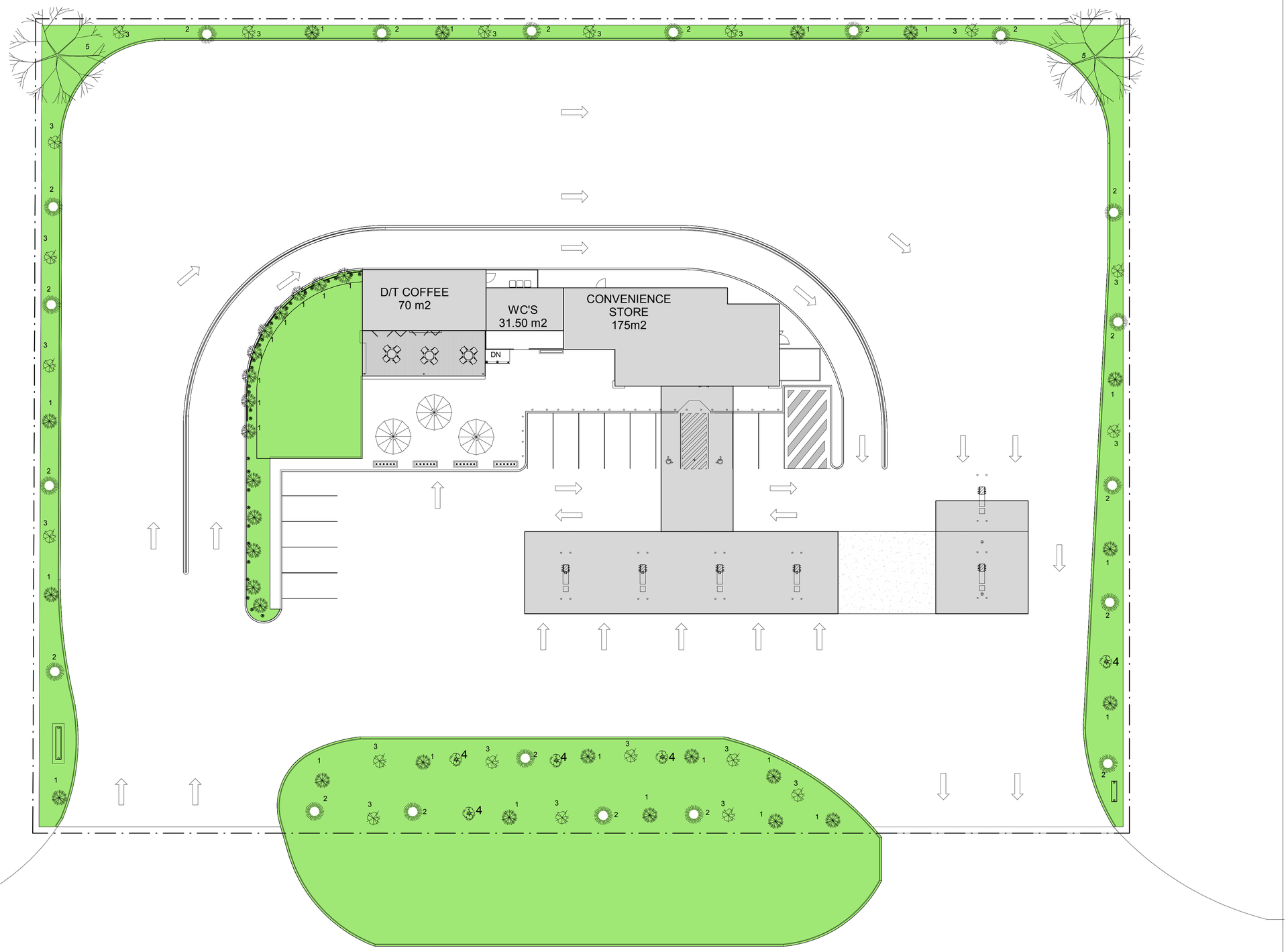
4 SMALL SHRUB - EREMOPHILA NIVEA (EREMOPHILA NIVEA)

5 MATURE TREES - CORYMBIA MACULATA (SPOTTED GUM)

*NOTE:
- MULCH - 'NATURES MIX' BLEND OF COMPOST AND MARRI CHIPS TO ALL LANDSCAPED AREAS - NO LAWNS
- BOLLARDS TO BE PLACED STRATEGICALLY ALONG **PINJARRA ROAD** BOUNDARY TO PREVENT TRAFFIC FROM CROSSING OVER VERGE AND ONTO **PINJARRA ROAD**.
- RETICULATION INSTALLED TO ALL PLANTED AREAS VIA ATU SYSTEM - REFER TO HYDRAULIC ENGINEER'S DRAWINGS FOR DETAILS.

PLANT QUANTITIES TOTAL = **141 PLANTS**
- LARGE SHRUBS 1 = 53 SHRUBS (KANGAROO PAWS)
- GROUND COVER SHRUB 2 = 34 SHRUBS (GREVILLEA LANIGERA)
- GROUND COVER SHRUB 3 = 44 SHRUBS (WESTRINGEA)
- SMALL SHRUB 4 = 10 SHRUBS (EREMOPHILA NIVEA)
- MATURE TREES 5 = 5 TREES (SPOTTED GUM)

LANDSCAPING LEGEND
1 : 100



LANDSCAPING
1 : 200

General Notes:

1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS.
3. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER SCALE DRAWINGS.
4. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORK.
5. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL CONSULTANT DRAWINGS AND THE SPECIFICATIONS.

Revision Schedule

No.	Description	Date
A	DRAWING FIRST ISSUE	19/09/2018
1	RETAIL &TAKEAWAY CAFE LOCATION CHANGED&ADD TOILET	20/10/2018
2	ASHPALT AREA INCREASED&CAFE LAYOUT ELEVATION CHANGED	29/10/2018

EXZO DRAFTING

Project Description

Proposed Roadhouse,
LOT 802 ALBANY
HIGHWAY, WILLIAMS,
W.A., 6391.
SITE AREA = 8190 SQM

Project Status

Project Status

Client

SARACEN PROPERTIES PTY LTD

Site

LOT 802 ALBANY Highway, WILLIAMS, W.A., 6391.

LANDSCAPING PLAN

Project Number	0035-18
Sheet Size	A1
Drawing Number	A007
Rev	2
Date	OCTOBER 2018
Scale	As indicated
Drawn by	EL

30/Oct/2018 12:37:56 PM

APPENDIX D

TRAFFIC IMPACT ASSESSMENT

Proposed Service Station and Drive Though Coffee Outlet

Lot 802 Albany Highway, Williams

Transport Impact Assessment

PREPARED FOR:
Saracen Properties

October 2018

Document history and status

Author	Revision	Approved by	Date approved	Revision type
Mao Zhu	r01	B Bordbar	31/07/18	Draft
Mao Zhu	r01a		02/08/18	Final
Mao Zhu	r01b	M Rasouli	30/10/18	Revised Final
Mao Zhu	r01c		30/10/18	Revised Final

File name: t18.141.mz.r01c

Author: Mao Zhu

Project manager: Behnam Bordbar

Client: Saracen Properties

Project: Lot 802 Albany Highway, Williams

Document revision: r01c

Project number: t18.141

TABLE OF CONTENTS

1.0 SUMMARY 1

2.0 INTRODUCTION 2

3.0 EXISTING SITUATION 3

3.1 EXISTING SITE USE, ACCESS AND PARKING 3
3.2 EXISTING SITE TRAFFIC GENERATION 3
3.3 SURROUNDING ROAD NETWORK AND TRAFFIC MANAGEMENT ON FRONTAGE ROADS 4
3.4 EXISTING TRAFFIC VOLUMES ON ROADS AND MAJOR INTERSECTIONS 4
3.5 HEAVY VEHICLES 4

4.0 DEVELOPMENT PROPOSAL 6

4.1 PROPOSED SITE USE 6
4.2 PROPOSED ACCESS FOR ALL MODES 6

5.0 CHANGES TO SURROUNDING TRANSPORT NETWORKS 8

6.0 INTEGRATION WITH SURROUNDING AREA 9

7.0 TRAFFIC ASSESSMENT 10

7.1 ASSESSMENT YEARS AND TIME PERIODS 10
7.2 DEVELOPMENT GENERATION AND DISTRIBUTION 10
7.2.1 PROPOSED DEVELOPMENT TRAFFIC GENERATION 10
7.3 TRAFFIC FLOWS 15
7.4 ANALYSIS OF DEVELOPMENT ACCESSES 18
7.5 IMPACT ON SURROUNDING ROADS 18
7.6 IMPACT ON NEIGHBOURING AREAS 19
7.7 TRAFFIC NOISE AND VIBRATION 19

8.0 PARKING 20

9.0 PROVISION FOR HEAVY VEHICLES 21

10.0 CONCLUSIONS 22

APPENDIX A: PROPOSED SITE PLAN

APPENDIX B: SIDRA OUTPUTS

APPENDIX C: SWEPT PATH ANALYSIS

REPORT FIGURES

Figure 1: location of the subject site 2
Figure 2: Subject site from Albany Highway looking southeast 3
Figure 3: Existing heavy vehicle road network (RAV 7 Network) 5
Figure 4: Proposed development crossovers 7
Figure 5: Passing trade component – Saturday midday peak hour traffic for the proposed development 12
Figure 6: Additional (non-passing trade) component - Saturday midday peak hour traffic for the proposed development 13
Figure 7: Total peak hour traffic generated by the proposed development –Saturday midday peak hour 14
Figure 8: Existing traffic flows near the subject site – Saturday midday peak hour 15
Figure 9: Post-development traffic flows near the subject site – Saturday midday peak hour 16
Figure 10: Estimated 10-year total post-development traffic flows near the subject site – Saturday midday peak hour 17

REPORT TABLES

Table 1: SIDRA results for the Albany Highway crossover 1 – Saturday midday period – (2018 Post Development) 27
Table 2: SIDRA results for the Albany Highway crossover 2 – Saturday midday peak period – (2018 Post Development) 27
Table 3: SIDRA results for the Albany Highway crossover 1 – Saturday midday peak period – (2028 Post Development) 28
Table 4: SIDRA results for the Albany Highway crossover 2 – Saturday midday peak period – (2028 Post Development) 28

1.0 Summary

This Transport Impact Assessment (TIA) is prepared by Transcore with respect to the proposed service station and a drive through coffee outlet within a portion of Lot 802 Albany Highway, Williams, in the Shire of Williams.

The net additional traffic as a result of the proposed development is estimated to be approximately 40 vph during the critical peak hour. This level of traffic generation is relatively minimal and as such would have insignificant impact on Albany Highway.

The proposed development layout has been assessed with respect to the largest size trucks which are permitted on Albany Highway in this vicinity, fuel tanker and service vehicle entry, egress and circulation. Swept path analysis confirms that the proposed entry and egress arrangements and the site layout facilitate safe and efficient vehicle circulation through the site.

The SIDRA Network analysis undertaken as part of the Transport Impact Assessment confirms satisfactory operation of the subject site crossovers on Albany Highway for the post-development and 10 years post-development scenarios.

2.0 Introduction

This Transport Impact Assessment has been prepared by Transcore on behalf of Saracen Properties. The subject of this report is the proposed service station and a drive through coffee outlet within portion of Lot 802 Albany Highway, Williams, in the Shire of Williams.

As shown in Figure 1, the subject site is bound by Albany Highway to the west and vacant lands to the immediate north, east and south.

The subject site is located within an existing farm.

Key issues that will be addressed in this report include the traffic generation of the proposed development, capacity analysis of the site crossovers, access and egress system for light and heavy vehicles, and site circulation for the largest size trucks which are permitted on Albany Highway in this vicinity and expected to access the site.

Figure 1: location of the subject site

3.0 Existing Situation

3.1 Existing Site Use, Access and Parking

As detailed in Figure 1, Figure 2 & site plan in Appendix A, the subject site is located within an existing farm.

Figure 2: Subject site from Albany Highway looking southeast

3.2 Existing Site Traffic Generation

The subject site is presently a farm and generates negligible traffic.

3.3 Surrounding Road Network and Traffic Management on Frontage Roads

Albany Highway

Albany Highway in the vicinity of the subject site is a single lane undivided road. Albany Highway operates under a posted speed limit of 80km/h in this vicinity and is classified as a *Primary Distributor* road in the Main Roads WA *Functional Road Hierarchy*.

3.4 Existing Traffic Volumes on Roads and Major Intersections

Albany Highway

Traffic count data obtained from Main Roads WA indicates that Albany Highway south of Pinjarra Williams Road carried more traffic over the weekend and the average weekend traffic flow was 3,701 vpd in 2013/2014. The same data indicates the weekend peak hour occurred between 11:15AM and 12:15PM in the morning and between 12:15PM and 1:15PM in the afternoon with 377vph and 392vph respectively. The same Main Roads WA classified counts indicates 11.2% heavy vehicles (weekend) on Albany Highway.

3.5 Heavy Vehicles

Albany Highway adjacent to the subject site is classified as RAV Network 7 as shown in Figure 3.

RAV Networks 7 permits access by various heavy vehicle combinations up to 36.5m long road train.

Figure 3: Existing heavy vehicle road network (RAV 7 Network)

4.0 Development Proposal

4.1 Proposed Site Use

The proposed development is for a service station with convenience store and a drive through coffee outlet comprising:

- Light vehicle canopy with 8 fuelling points for light vehicles;
- 2 High flow diesel filling points for heavy vehicles with a separate truck canopy;
- Convenience store building (175m^2);
- Take-away coffee outlet (85m^2);
- One dedicated truck parking bay for 27.5m B-double trucks only;
- One dedicated truck parking bay for 36.5m B-triple trucks only;
- Dedicated truck parking area for heavy vehicles;
- One Service bay for convenient store; and
- 15 car parking spaces.

The proposed site layout separates light and heavy vehicle movements internally which improves traffic flow and safety. The layout of the proposed development is shown in the site plan included in Appendix A.

4.2 Proposed Access for all Modes

Vehicle access to the proposed development is proposed via a 19m wide entry only crossover and a 20m wide exit only crossover on Albany Way. The widths of the proposed crossovers are a reflection of the largest size vehicle expected to use this site.

Figure 4 shows the location of the proposed development crossovers. It is proposed that crossover 1 operates as entry only and crossover 2 operates as exit only. It is recommended that appropriate signage be implemented at each of these crossovers to delineate the operational nature of these crossovers.

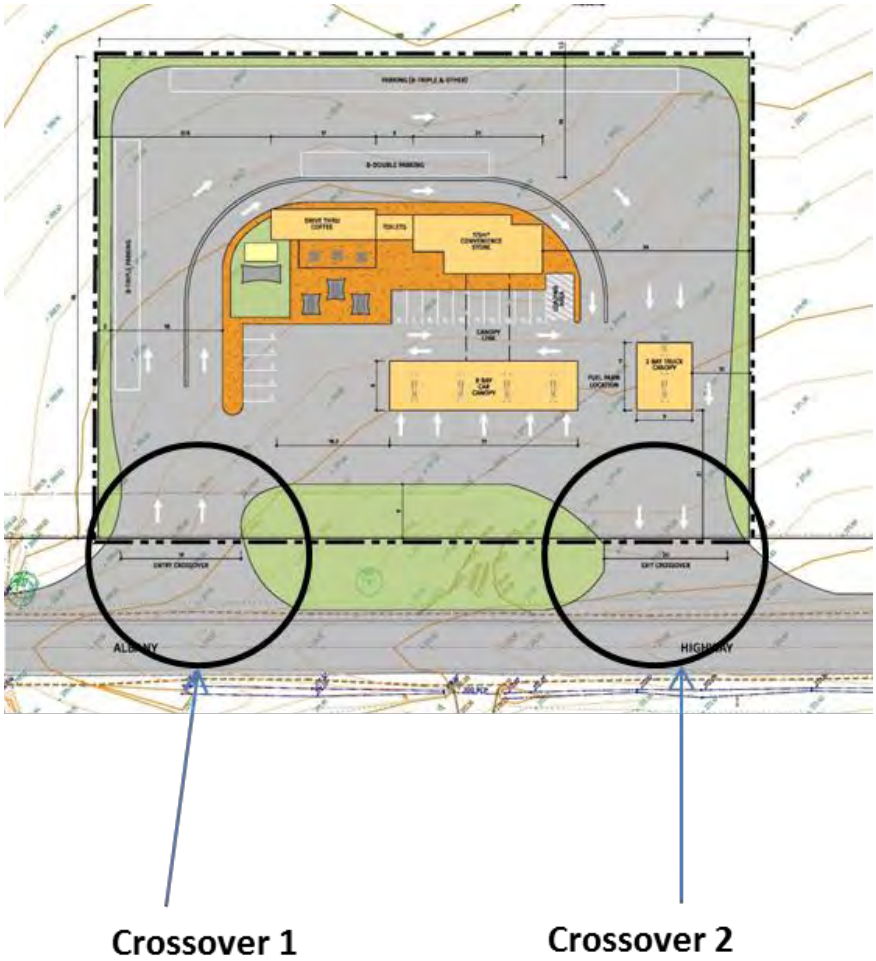


Figure 4: Proposed development crossovers

5.0 Changes to Surrounding Transport Networks

There are no plans for upgrades or modifications to Albany Highway through Williams Town site at present.

6.0 Integration with Surrounding Area

The layout of the proposed development and the location of the crossovers are considered appropriate for the area. Access and egress is proposed via the proposed crossovers on Albany Highway.

7.0 Traffic Assessment

7.1 Assessment Years and Time Periods

The assessment years that have been adopted for this analysis are immediately post-development for the interim scenario (2018) and 2028 for the 10-year post development scenario.

The proposed development is expected to generate highest traffic movements during the weekly peak hour periods of the adjacent road network.

Review of Main Roads WA traffic count data indicates that the weekly peak traffic hour on Albany Highway south of Pinjarra Williams Road is between 12:15PM and 1:15 PM in the Saturday midday with 392vph.

7.2 Development Generation and Distribution

7.2.1 Proposed Development Traffic Generation

The traffic volume that would be generated by the proposed development has been estimated using trip generation rates derived from:

- ITE Trip Generation Manual 10th Edition

Accordingly, the trip rates which were used to estimate the proposed development traffic generation are as following:

<u>Gasoline/Service Station with Convenience Market (945) – Regular Fuelling Points</u>

- Saturday Peak hour: 19.28 trips per fuelling point.
- Weekday: 205.36 trips per fuelling point.

<u>Gasoline/Service Station with Convenience Market (945) – Heavy Vehicle Fuelling Point Adjusted Trip Rates</u>

The trip rates provided in the ITE Manual are for regular fuelling points. It is expected that the heavy vehicle fuelling points will generate significantly less traffic.

As the majority of service station patronage relies on passing trade (assumed to be 80% in this instance), the trip generation of the truck fuelling points will be influenced by the percentage of heavy vehicles on the adjacent road network. As detailed in Section 3.1 of this report, Albany Highway comprises of about 11.2% heavy vehicles in the vicinity of the subject site.

The passing trade component of trip generation for regular fuelling points was multiplied by 11.2% to establish the passing trade trips for heavy vehicles. No adjustment is proposed to the 20% non-passing trips associated with heavy vehicles. Accordingly, the adjustment factor to trip rate is calculated as following:

(Eq1) ***Adjustment Factor = (0.8 x 0.112) + (0.2 x 1) = <u>0.29</u>***

The adjustment factor derived in Equation 1 implies that the heavy vehicle fuelling points are estimated to generate 29% of the regular fuelling point traffic. Accordingly, the adjusted trip rates for the heavy vehicle fuelling points are as following:

- Saturday peak hour: 5.59 trips per fuelling point.
- Weekday: 59.55 trips per fuelling point.

<u>Coffee/donut shop with drive-through window (937) – 1000 Square Feet Gross Floor Area</u>

- Saturday peak hour: 87.70 trips per 1000 Sq. Feet Gross Floor Area.
- Weekday: 820.38 trips per 1000 Sq. Feet Gross Floor Area.

For this development 50% of cross trade is assumed for coffee shop drive thru (50% of coffee trips are already buying fuel).

Accordingly, it is estimated that the proposed development would generate approximately 2137 vehicular trips per day (both inbound and outbound) with approximately 205 trips during Saturday peak hours.

For this development 80% passing trade is assumed. This assumption is based on the location of the proposed development on Albany Highway.

The net addition of traffic when accounting for passing trade is **+428vpd (daily), +40vph (peak hour)** on the surrounding road network.

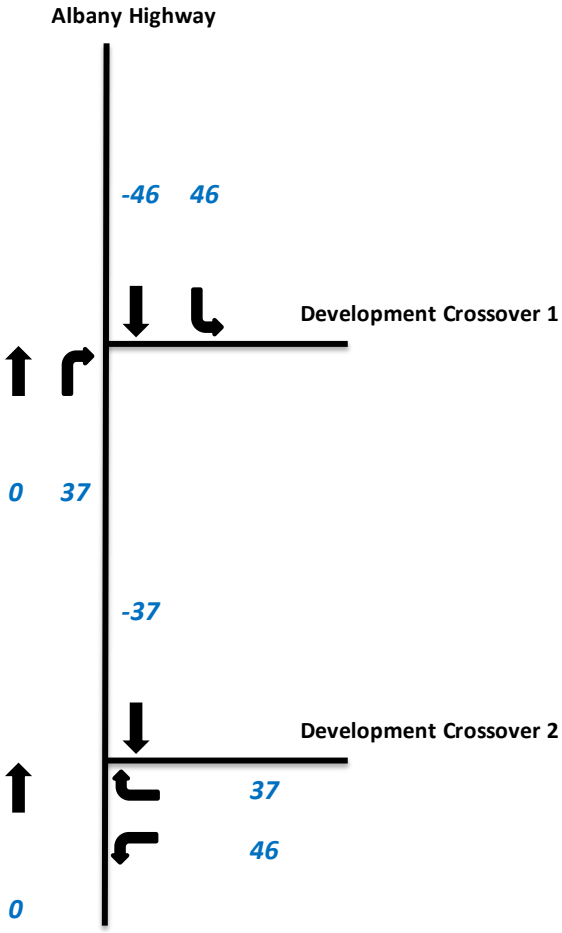
The directional split of inbound and outbound trips for the proposed development is estimated to be about 50/50 for inbound/outbound trips during the peak hours.

Two traffic distributions have been modelled for the Saturday peak hours:

- Passing trade traffic as detailed in Figure 5.
- Non-passing trade traffic as detailed in Figure 6.

The total proposed development traffic is detailed in Figure 7. The development traffic distribution modelled in this report has been established by considering the catchment area of the proposed development, existing traffic patterns and the traffic routes.

Total Passing Trade Traffic

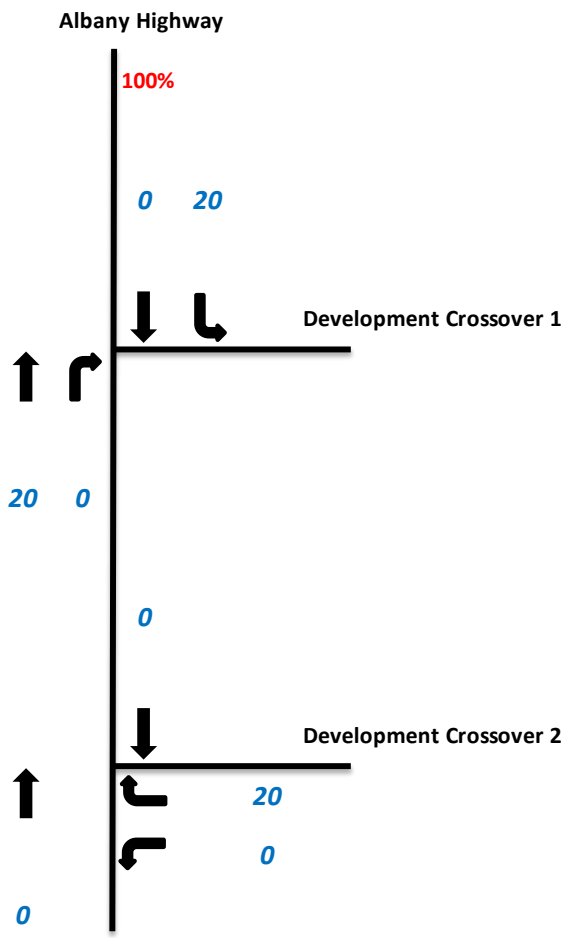


Passing Trade

	in	out
SAT	*83*	*83*

Figure 5: Passing trade component – Saturday midday peak hour traffic for the proposed development

Non-Passing Trade Traffic

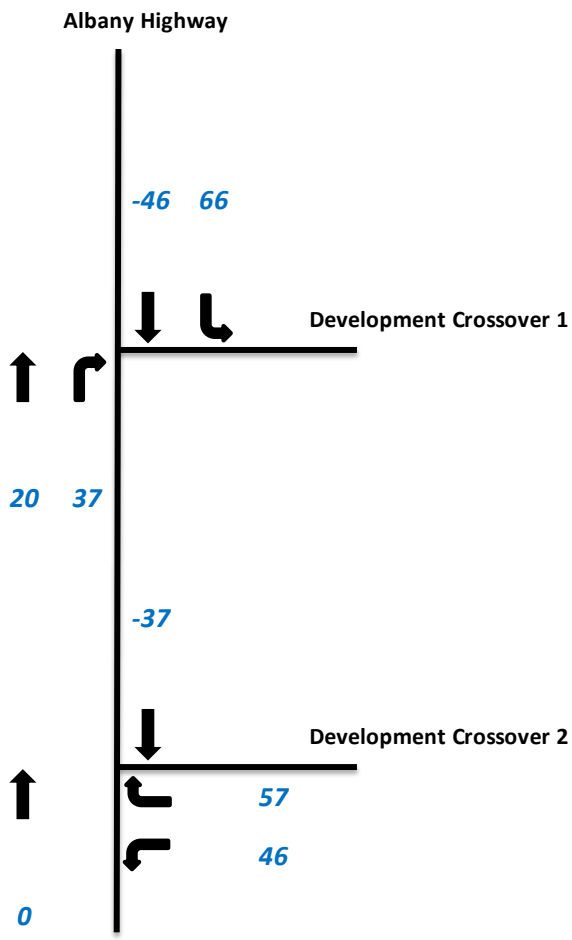


Non-Passing Trade

	in	out
PM	20	20

Figure 6: Additional (non-passing trade) component - Saturday midday peak hour traffic for the proposed development

Total Development Traffic



Total Development Traffic

	in	out
SAT	*103*	*103*

Figure 7: Total peak hour traffic generated by the proposed development – Saturday midday peak hour

7.3 Traffic Flows

The existing traffic flows used as a base for traffic assessment are presented in Figure 8. The existing traffic volumes were derived from Main Roads WA traffic counts.

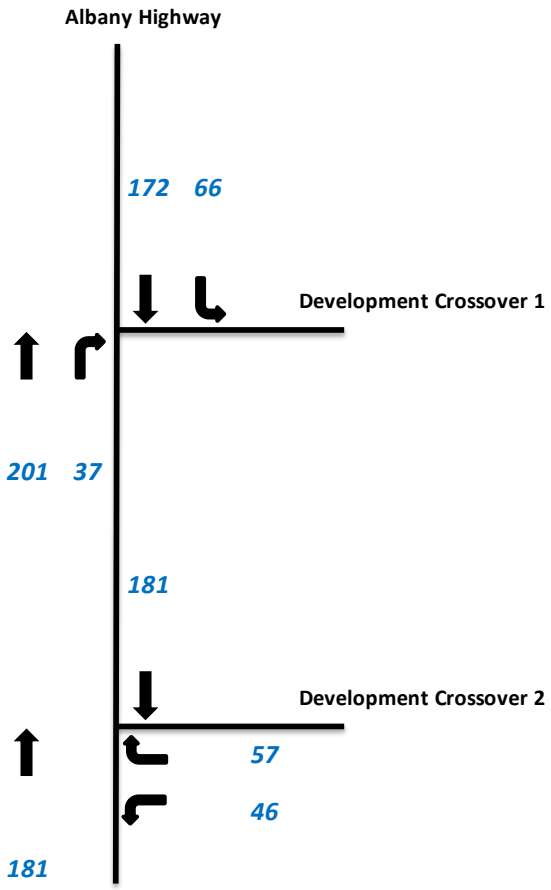
Figure 8: Existing traffic flows near the subject site – Saturday midday peak hour

The combined base and development traffic volumes for the post-development scenario are presented in Figure 9.

To approximate the 10-year post development traffic on Albany Highway a conservative traffic growth of 20% was applied to through traffic on Albany Highway.

The total ten-year post-development traffic volumes are presented in Figure 10.

Total Post-Development Traffic

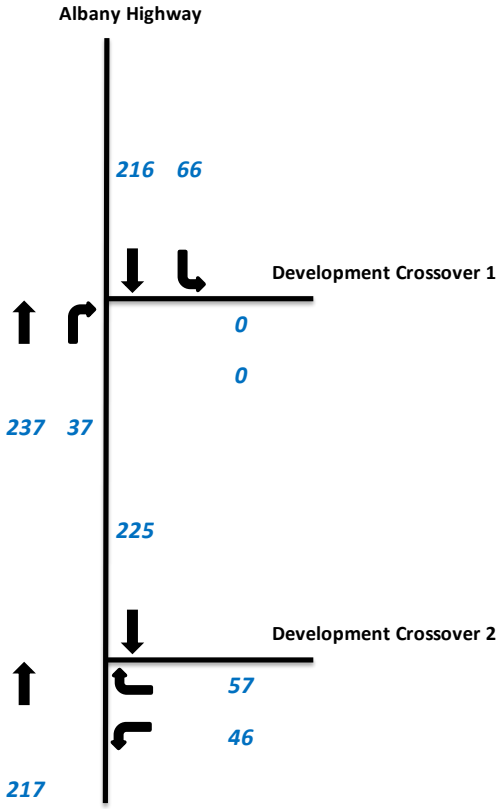


Total Post-Development Traffic

	in	out
SAT	*103*	*103*

Figure 9: Post-development traffic flows near the subject site – Saturday midday peak hour

Total 2028 Post Development Traffic



Total 10 year Post-Development Traffic

	in	out
SAT	103	103

Figure 10: Estimated 10-year total post-development traffic flows near the subject site – Saturday midday peak hour

7.4 Analysis of Development Accesses

The operation of the Albany Highway development crossovers were analysed for the post-development and year 2028 scenarios for the weekend midday peak hours. The midday peak hour was selected for the analysis as it represents the critical peak hour with the highest traffic volumes.

A SIDRA Network model was developed for the development crossovers in order to assess their operations in the post-development and 2028 scenarios.

SIDRA is an intersection modelling tool commonly used by traffic engineers for all types of intersections. SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

- **Degree of Saturation (DoS)**: is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for varied traffic flow up to one for saturated flow or capacity.
- **Level of Service (LoS)**: is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of service, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).
- **Average Delay**: is the average of all travel time delays for vehicles through the intersection.
- **95% Queue**: is the queue length below which 95% of all observed queue lengths fall.

The results of the SIDRA analysis are attached in **Appendix B** and they indicate that the Albany Highway crossover 1 and crossover 2 will operate with an overall LoS A during the midday peak hour for both post development and 2028 post development scenarios. The SIDRA results also does not indicate significant queue or delays for turning traffic from Albany Highway and therefore there is no requirement for any turn lanes on Albany Highway.

7.5 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road, but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any

section of road where the structure plan traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

The proposed development will not increase traffic flows anywhere near the quoted WAPC threshold to warrant further detailed analysis. As detailed in Section 7, the proposed development will not increase traffic on any lanes on Albany Highway by more than 100vph therefore the impact on the Albany Highway is insignificant.

7.6 Impact on Neighbouring Areas

The traffic generated by the proposed development is not expected to significantly affect surrounding areas and the road network has been designed to accommodate this type of development traffic.

7.7 Traffic Noise and Vibration

It generally requires a doubling of traffic volumes on a road to produce a perceptible 3dB (A) increase in road noise. The proposed development will not increase traffic volumes on surrounding roads anywhere near this level.

8.0 Parking

The proposed development provides 15 car parking spaces in front of the convenience store.

3 truck parking zones are provided within the site:

- 1 B-double truck parking bay;
- 1 B-triple truck parking bay; and
- 1 B-triple truck and extra spacing for smaller trucks zone.

The proposed development also provides additional vehicle parking spaces at the fuel bowers (8 light vehicle fuelling positions and 2 heavy vehicle fuelling positions).

It is therefore considered that the proposed parking provision is sufficient to accommodate the needs of the proposed development.

9.0 Provision for Heavy Vehicles

Heavy vehicles, fuel tankers and service vehicles are proposed to enter the site via the Albany Highway northern crossover 1 and exit the site onto Albany Highway via the proposed southern crossover 2.

36.5m B-triple truck

Albany Highway in this vicinity is classified as RAV network 7 in Main Road's WA Vehicle Description and as such it is anticipated that the largest trucks which might use this site would be 36.5m in length.

Therefore, turn path analysis has been undertaken for the 36.5m B-triple vehicles to enter the site from Albany Highway northern crossover, circulate through the truck parking area and filling canopies and exit the site onto Albany Highway via southern crossover.

It is proposed to provide a truck parking area in the northern portion of the site and a truck parking area in the western portion of the site, and turn path analysis was undertaken to confirm satisfactory circulation.

27.5m B-double truck

It is also proposed to provide a dedicated 27.5m B-double truck parking area and turn path analysis was undertaken to confirm satisfactory access, egress and circulation.

19m fuel tanker, 12.5m service truck

It is anticipated that 19m tankers will be used for fuel deliveries and 12.5m service trucks will be used for other deliveries and waste collection. Turn path analysis confirms satisfactory circulation of these vehicles.

The results of the turn path analysis are included in Appendix C.

10.0 Conclusions

This Transport Impact Assessment has been prepared by Transcore on behalf of Saracen Properties. The subject of this report is the proposed service station with a convenience store and a drive through coffee outlet within the portion of Lot 802 Albany Highway, Williams, in the Shire of Williams.

The proposed crossovers facilitate efficient and convenient vehicular entry and egress to and from the subject site. The proposed site layout separates light and heavy vehicle movements internally which improves traffic flow and safety.

The net additional traffic as a result of the proposed development is estimated to be approximately 40 vph during the Saturday midday peak hour. This level of traffic generation is relatively minimal and as such would have insignificant impact on Albany Highway.

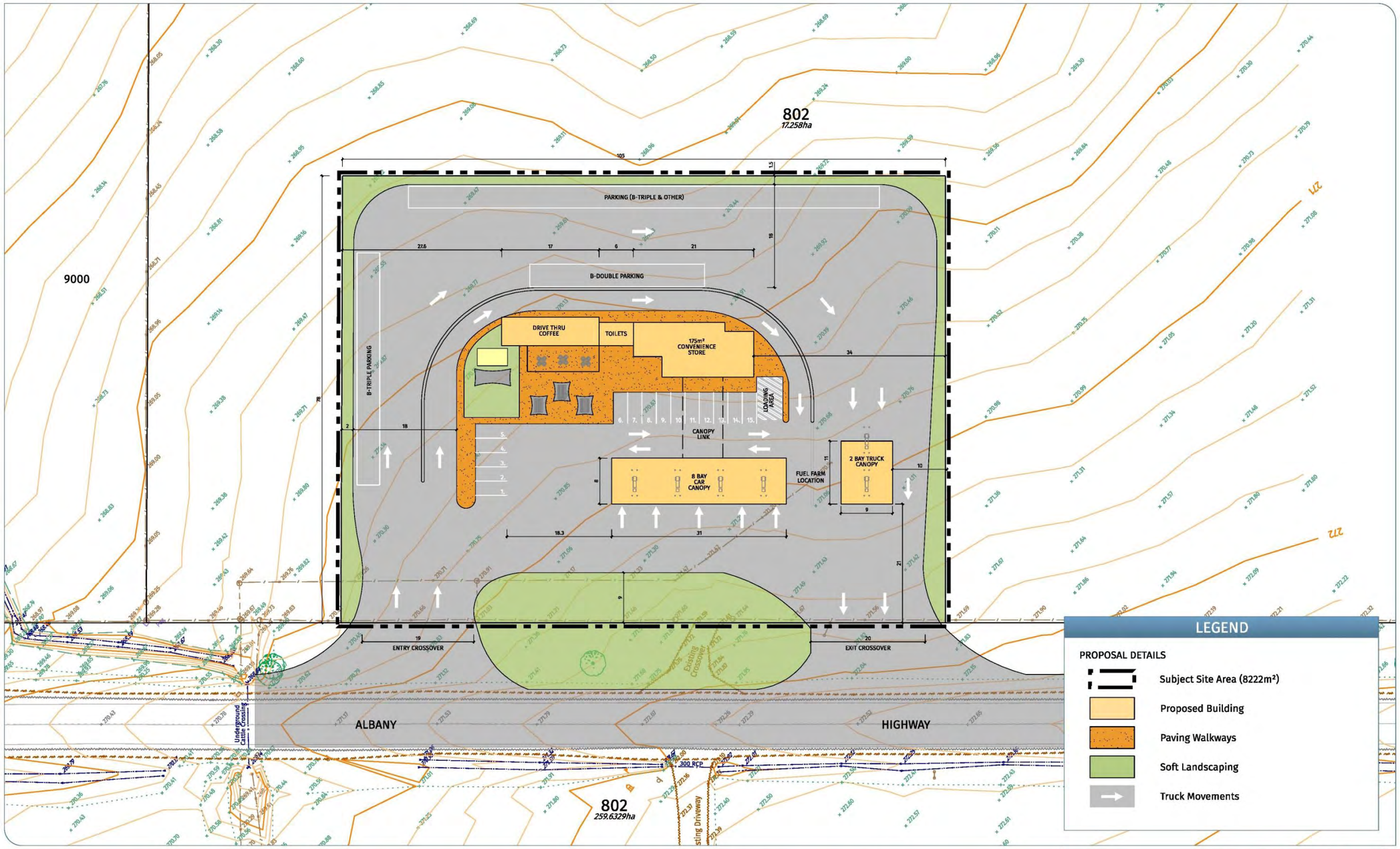
The operation of the proposed crossovers has been analysed with SIDRA Network modelling. The result of the modelling indicates both crossovers will operate with LoS A during post and 10 year post development scenarios. The SIDRA results also indicate marginal queue or delay for turning traffic from Albany Highway and therefore there is no requirement for any turn lanes on Albany Highway.

The proposed car parking is considered to satisfactorily meet the needs of the proposed development.

In conclusion, the findings of this Transport Impact Assessment are supportive of the proposed development.

Appendix A

PROPOSED SITE PLAN



PROPOSED SERVICE STATION

Lot 802 Albany Highway, WILLIAMS

Plan No. | 21520-03
Date | 25/10/18
Drawn | JW
Checked | SB
Revision | K

Scale | 1:600@A3

0 5m 10m 15m

BUNBURY OFFICE:
21 Spencer Street,
BUNBURY WA 6230
T: 08 9792 6000
E: bunbury@harleydykstra.com.au
W: www.harleydykstra.com.au
ALBANY | BUNBURY | BUSSELTON | FORRESTDALE | PERTH

NOTE: This plan has been prepared for planning purposes. Areas, Contours and Dimensions shown are subject to survey

Harley Dykstra
PLANNING & SURVEY SOLUTIONS

Appendix B

SIDRA OUTPUTS

SIDRA Network model layout – 2018 and 2028 post development

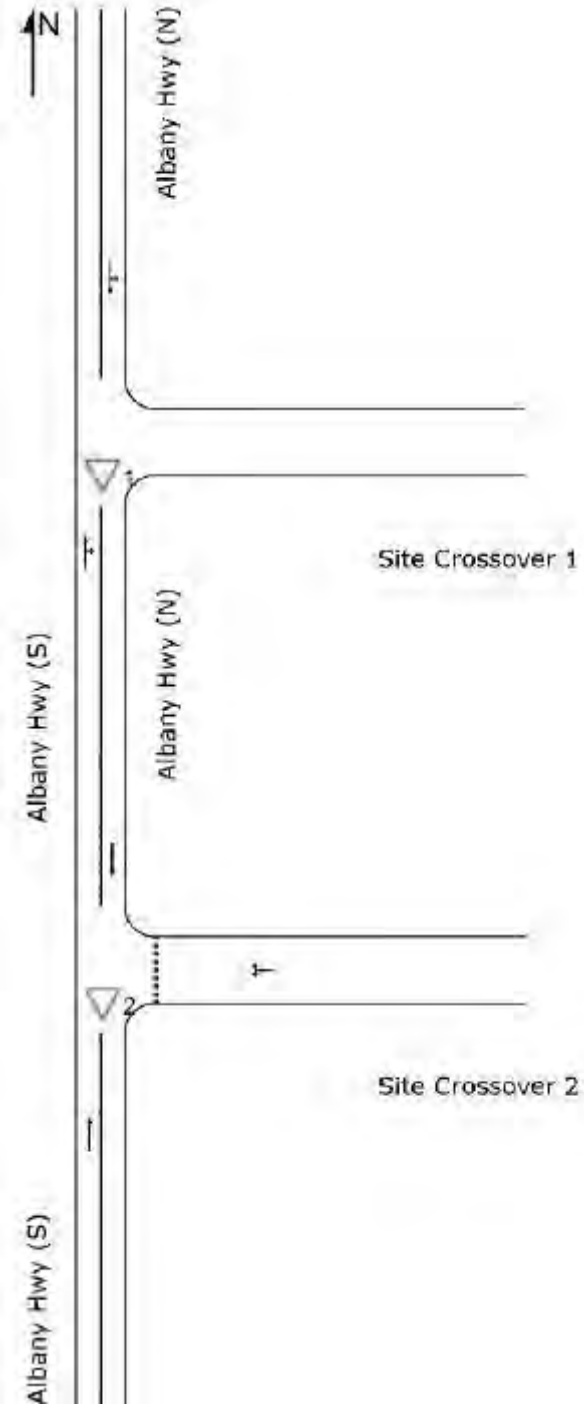


Table 1: SIDRA results for the Albany Highway crossover 1 – Saturday midday period – (2018 Post Development)

MOVEMENT SUMMARY

Site: 1 [Albany Hwy crossover 1 SAT Peak]

Network: N101 [2018 Post-development SAT Peak Hour]

Albany Hwy crossover
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival 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	Aver. No. Cycles	Average Speed km/h
South: Albany Hwy (S)														
2	T1	212	11.2	212	11.2	0.158	0.3	LOS A	0.3	3.1	0.15	0.10	0.15	76.7
3	R2	39	11.2	39	11.2	0.158	5.7	LOS A	0.3	3.1	0.15	0.10	0.15	55.2
Approach		251	11.2	251	11.2	0.158	1.1	NA	0.3	3.1	0.15	0.10	0.15	75.7
North: Albany Hwy (N)														
7	L2	69	11.4	69	11.4	0.150	7.3	LOS A	0.0	0.0	0.00	0.18	0.00	60.7
8	T1	181	11.7	181	11.7	0.150	0.0	LOS A	0.0	0.0	0.00	0.18	0.00	73.8
Approach		251	11.6	251	11.6	0.150	2.0	NA	0.0	0.0	0.00	0.18	0.00	69.5
All Vehicles		501	11.4	501	11.4	0.158	1.6	NA	0.3	3.1	0.07	0.14	0.07	72.4

Table 2: SIDRA results for the Albany Highway crossover 2 – Saturday midday peak period – (2018 Post Development)

MOVEMENT SUMMARY

Site: 2 [Albany Hwy crossover 2 SAT Peak]

Network: N101 [2018 Post-development SAT Peak Hour]

Albany Hwy crossover
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival 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	Aver. No. Cycles	Average Speed km/h
South: Albany Hwy (S)														
2	T1	191	11.2	191	11.2	0.113	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		191	11.2	191	11.2	0.113	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
East: Site Crossover 2														
4	L2	48	11.4	48	11.4	0.105	0.7	LOS A	0.4	3.0	0.34	0.32	0.34	50.3
6	R2	60	0.0	60	0.0	0.105	2.6	LOS A	0.4	3.0	0.34	0.32	0.34	15.7
Approach		108	5.1	108	5.1	0.105	1.8	LOS A	0.4	3.0	0.34	0.32	0.34	42.8
North: Albany Hwy (N)														
8	T1	191	11.4	191	11.4	0.111	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	80.0
Approach		191	11.4	191	11.4	0.111	0.0	NA	0.0	0.0	0.00	0.00	0.00	80.0
All Vehicles		489	9.9	489	9.9	0.113	0.4	NA	0.4	3.0	0.08	0.07	0.08	72.5

Table 3: SIDRA results for the Albany Highway crossover 1 – Saturday midday peak period – (2028 Post Development)

MOVEMENT SUMMARY

Site: 1 [Albany Hwy crossover 1 SAT Peak - 2028] **Network: N101 [2028 Post-development SAT Peak Hour]**

Albany Hwy crossover
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival 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	Aver. No. Cycles	Average Speed km/h
South: Albany Hwy (S)														
2	T1	249	11.2	249	11.2	0.182	0.3	LOS A	0.4	3.4	0.15	0.09	0.15	76.8
3	R2	39	11.2	39	11.2	0.182	6.1	LOS A	0.4	3.4	0.15	0.09	0.15	55.4
Approach		288	11.2	288	11.2	0.182	1.1	NA	0.4	3.4	0.15	0.09	0.15	75.9
North: Albany Hwy (N)														
7	L2	69	11.4	69	11.4	0.177	7.3	LOS A	0.0	0.0	0.00	0.15	0.00	61.2
8	T1	227	11.7	227	11.7	0.177	0.0	LOS A	0.0	0.0	0.00	0.15	0.00	74.6
Approach		297	11.6	297	11.6	0.177	1.7	NA	0.0	0.0	0.00	0.15	0.00	70.9
All Vehicles		585	11.4	585	11.4	0.182	1.4	NA	0.4	3.4	0.07	0.12	0.07	73.3

Table 4: SIDRA results for the Albany Highway crossover 2 – Saturday midday peak period – (2028 Post Development)

MOVEMENT SUMMARY

Site: 2 [Albany Hwy crossover 2 SAT Peak - 2028] **Network: N101 [2028 Post-development SAT Peak Hour]**

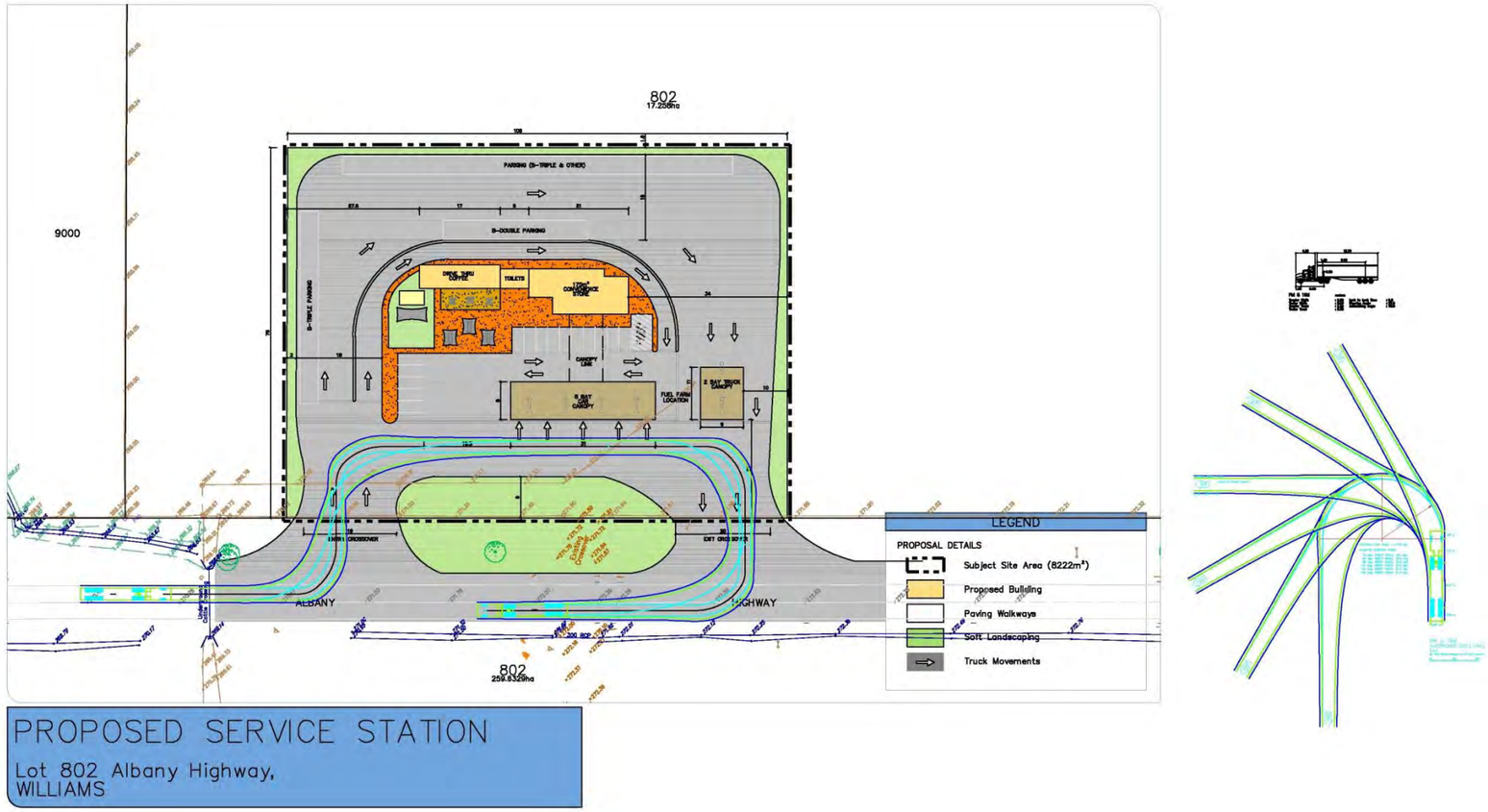
Albany Hwy crossover
Site Category: (None)
Giveway / Yield (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Arrival 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	Aver. No. Cycles	Average Speed km/h
South: Albany Hwy (S)														
2	T1	228	11.2	228	11.2	0.135	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
Approach		228	11.2	228	11.2	0.135	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.9
East: Site Crossover 2														
4	L2	48	11.4	48	11.4	0.114	1.0	LOS A	0.4	3.2	0.39	0.38	0.39	49.9
6	R2	60	0.0	60	0.0	0.114	3.2	LOS A	0.4	3.2	0.39	0.38	0.39	15.1
Approach		108	5.1	108	5.1	0.114	2.2	LOS A	0.4	3.2	0.39	0.38	0.39	42.2
North: Albany Hwy (N)														
8	T1	237	11.4	237	11.4	0.138	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	79.9
Approach		237	11.4	237	11.4	0.138	0.0	NA	0.0	0.0	0.00	0.00	0.00	79.9
All Vehicles		574	10.1	574	10.1	0.138	0.4	NA	0.4	3.2	0.07	0.07	0.07	73.4

Appendix C

SWEPT PATH ANALYSIS



Lot 802 Albany Hwy, Williams

Main Roads WA: 19.0m Semi-Trailer

Truck Circulation

LEGEND

Vehicle Body

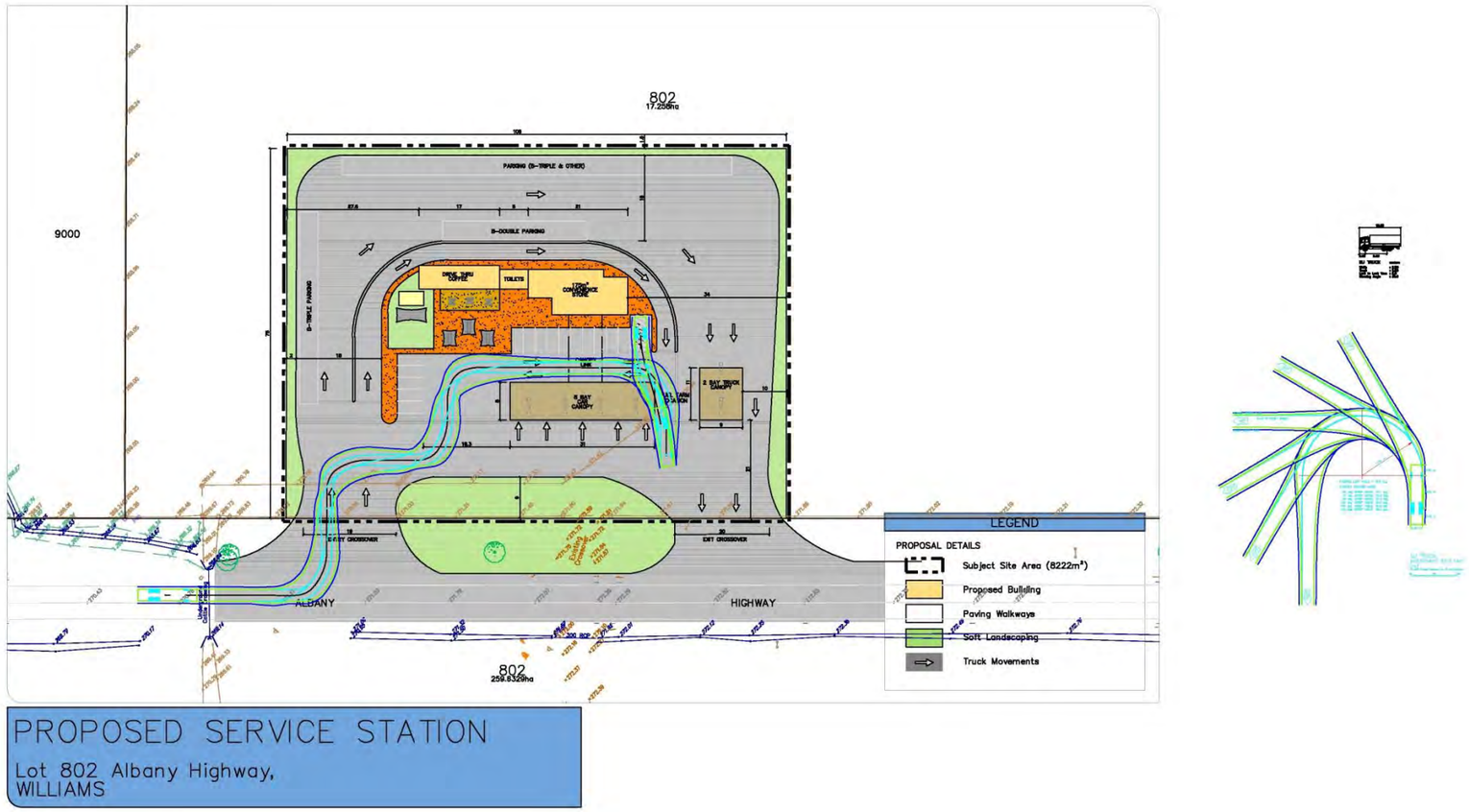
Wheel Path

500mm Clearance

t18.141.sk22a

29/10/2018

Scale: 1:1000 @ A3



Lot 802 Albany Hwy, Williams

Main Roads WA: 12.5m SU Truck

Service Truck Entry

LEGEND

Vehicle Body

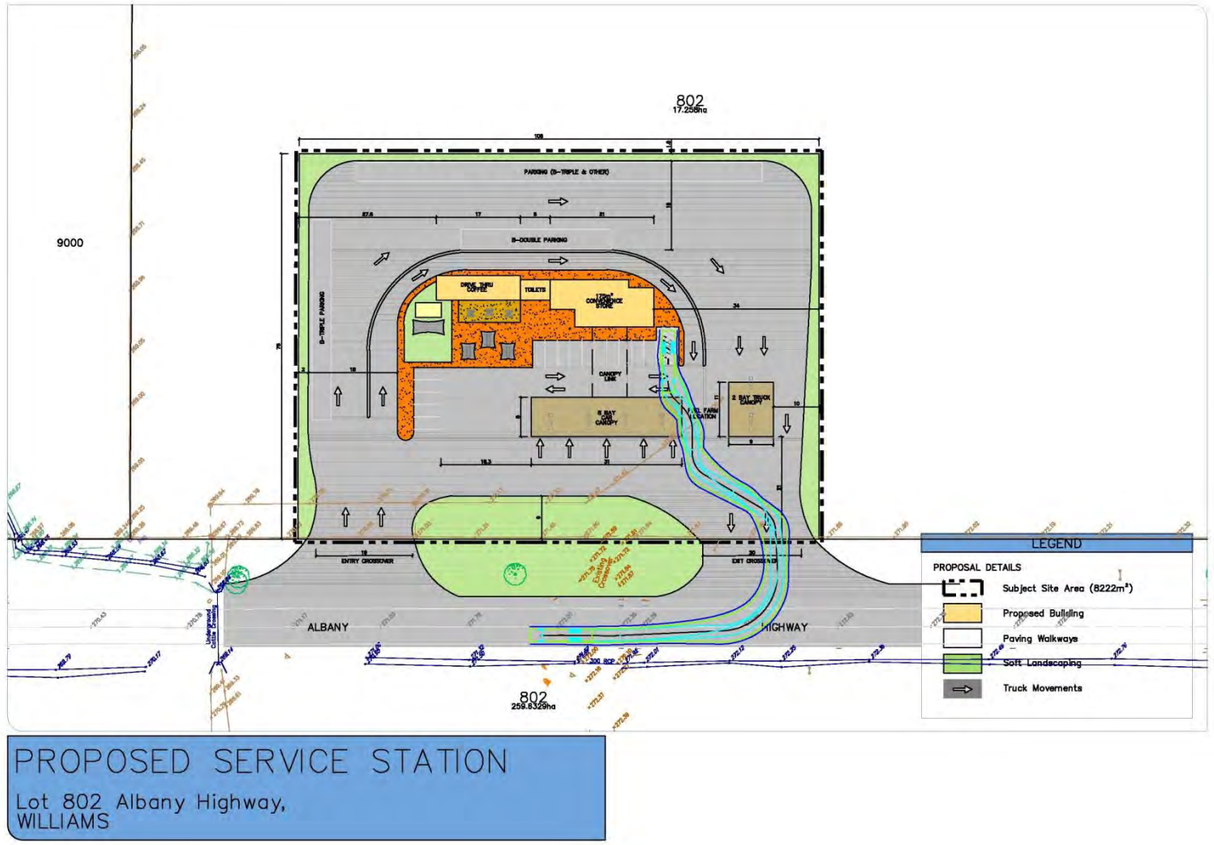
Wheel Path

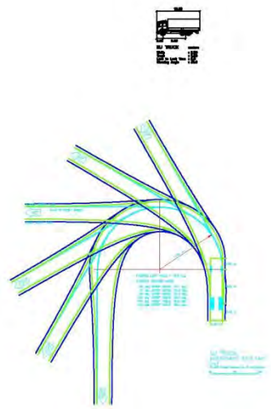
500mm Clearance

t18.141.sk23a

29/10/2018

Scale: 1:1000 @ A3





Lot 802 Albany Hwy, Williams

Main Roads WA: 12.5m SU Truck

Service Truck Exit

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t18.141.sk24a

29/10/2018

Scale: 1:1000 @ A3

Lot 802 Albany Hwy, Williams

Main Roads WA: B99 Car

Car Circulation

LEGEND

Vehicle Body

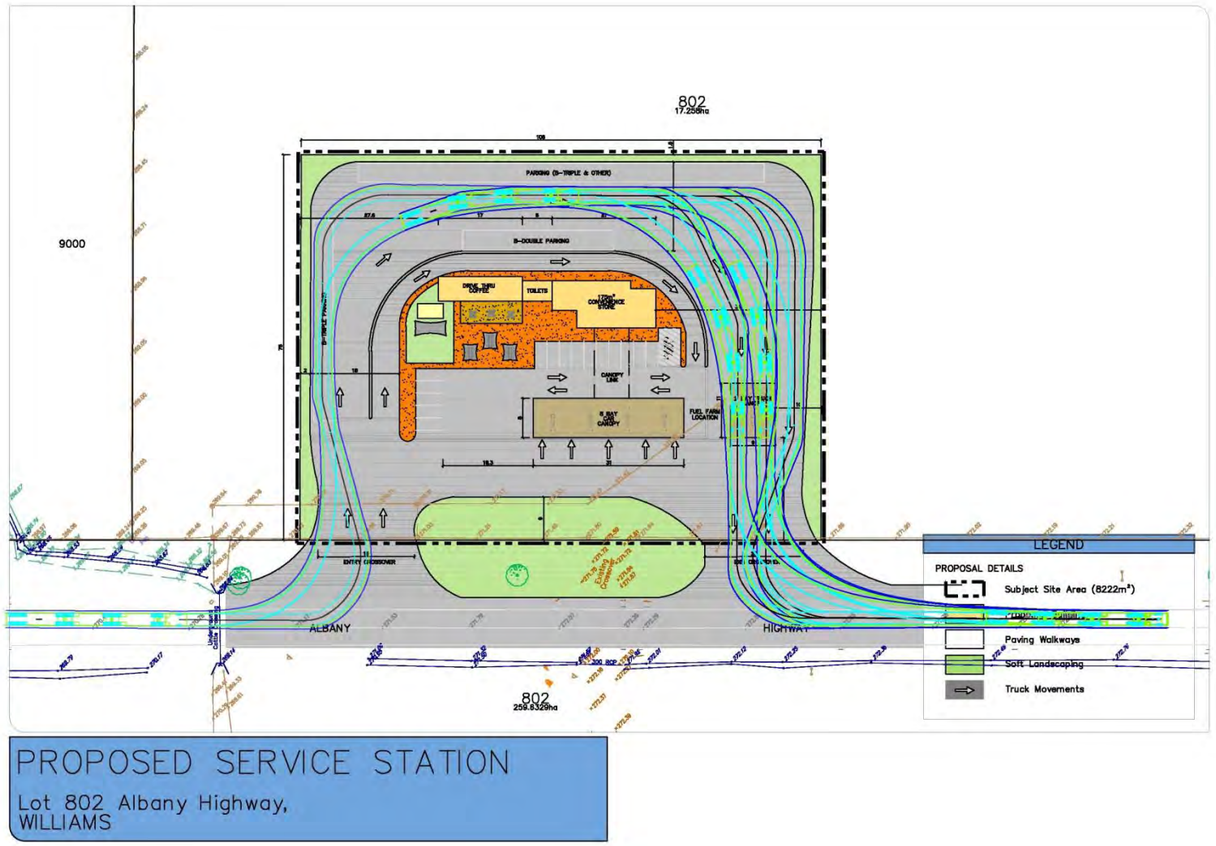
Wheel Path

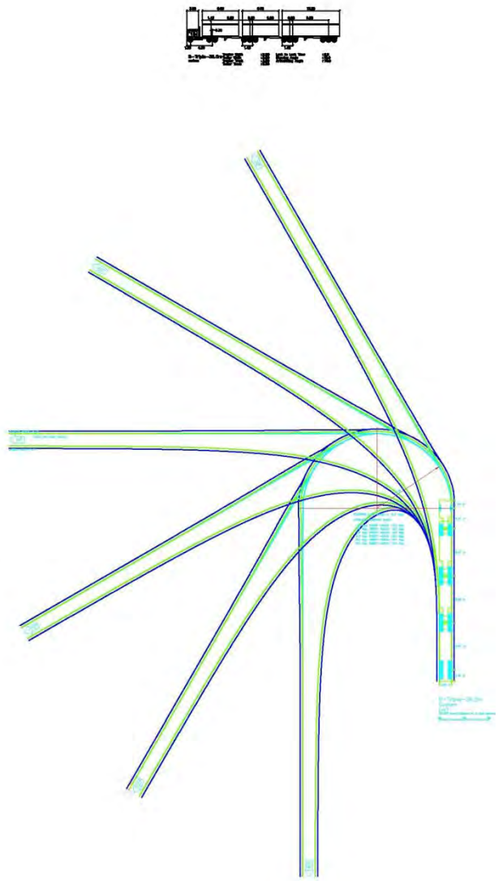
300mm Clearance

t18.141.sk25a

29/10/2018

Scale: 1:500 @ A3





Lot 802 Albany Hwy, Williams

Main Roads WA: 36.5m B-Triple Truck

Truck Circulation

LEGEND

Vehicle Body

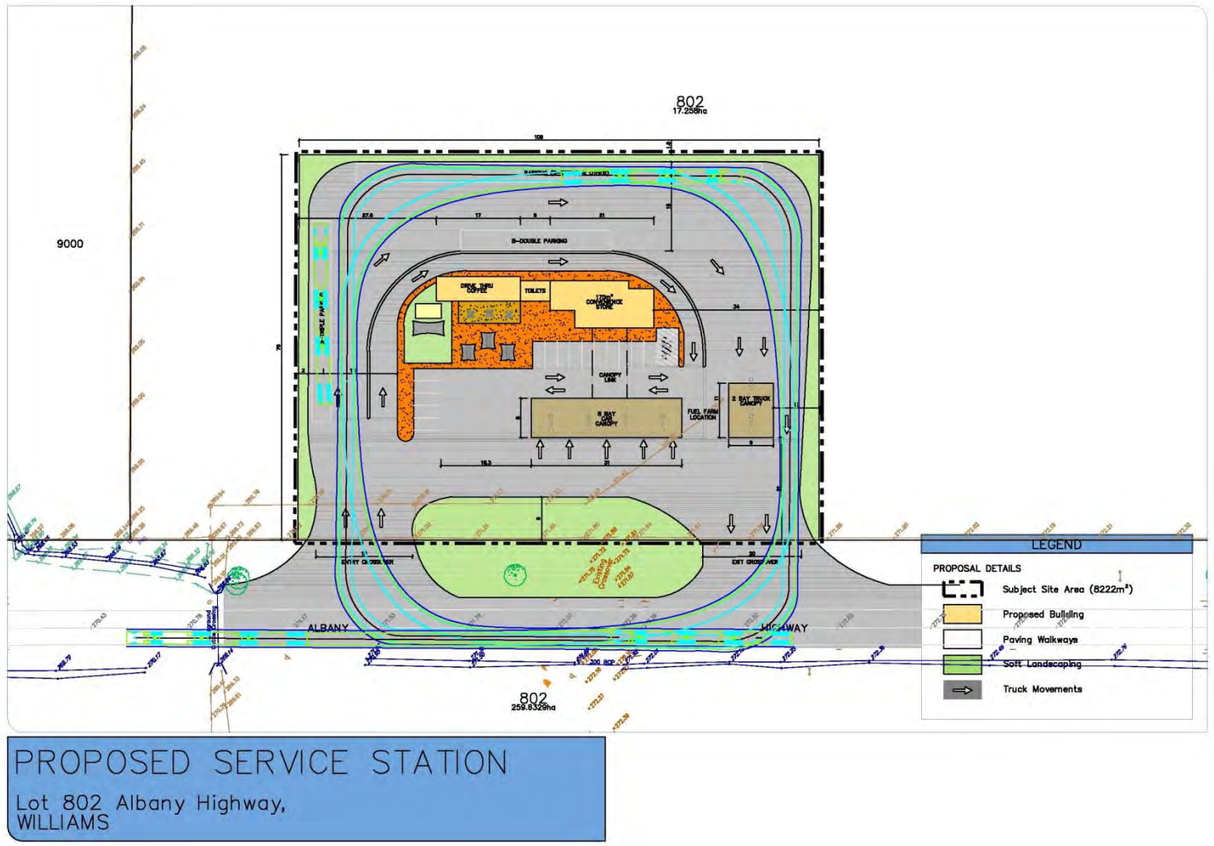
Wheel Path

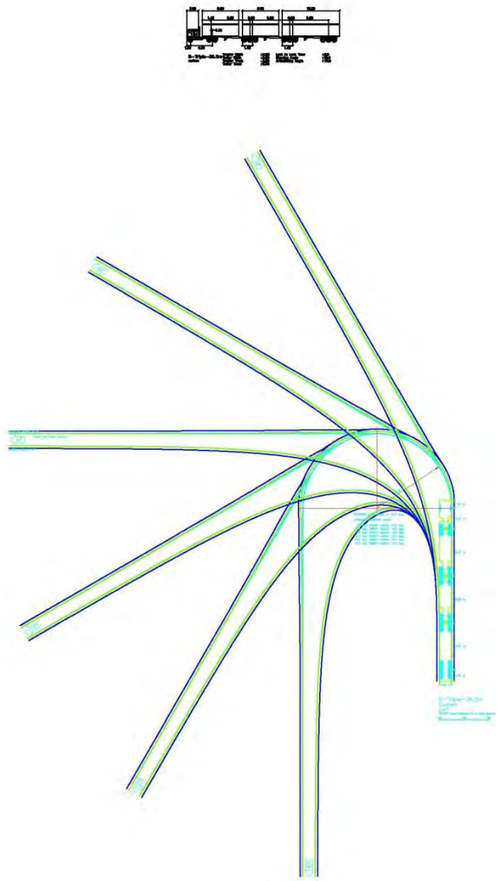
500mm Clearance

t18.141.sk30b

29/10/2018

Scale: 1:1000 @ A3





Lot 802 Albany Hwy, Williams

Main Roads WA: 36.5m B-Triple Truck

Truck Circulation

LEGEND

Vehicle Body

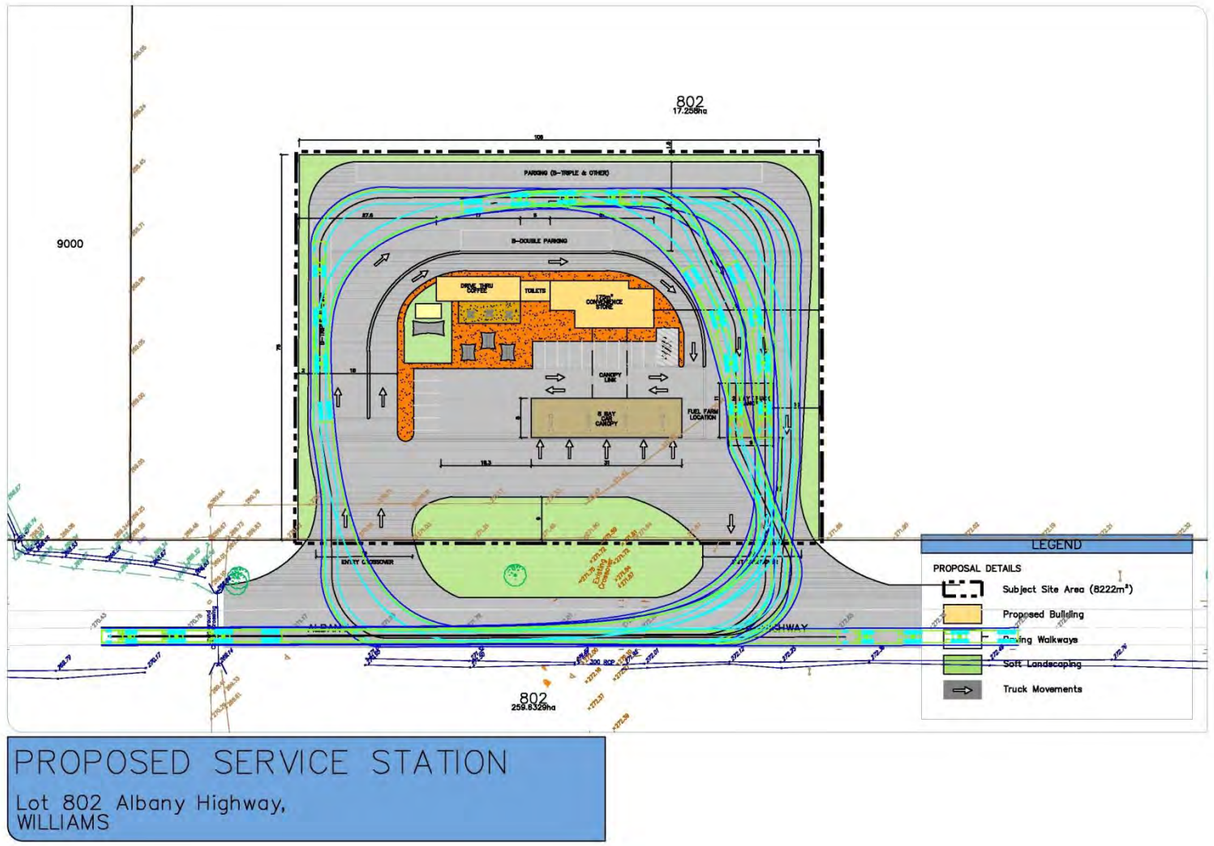
Wheel Path

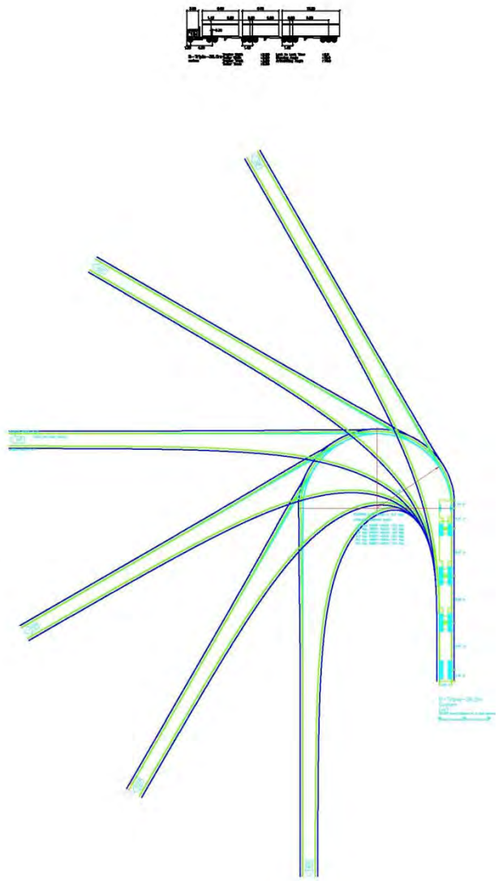
500mm Clearance

t18.141.sk31a

29/10/2018

Scale: 1:1000 @ A3





Lot 802 Albany Hwy, Williams

Main Roads WA: 36.5m B-Triple Truck

Truck Circulation

LEGEND

Vehicle Body

Wheel Path

500mm Clearance

t18.141.sk32a

29/10/2018

Scale: 1:1000 @ A3