

APPLICATION FOR DEVELOPMENT APPROVAL



PROPOSED UNITED SERVICE STATION

LOT 116 (367) ALBANY HIGHWAY, ORANA

SEPTEMBER 2020

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1. INTRODUCTION

Ayton Baesjou Planning has been engaged by United Petroleum Pty Ltd to prepare and lodge an Application for Development Approval for a proposed Service Station on Lot 116 (367) Albany Highway, Orana, Albany.

The following Planning Report provides background information in support of the proposal, including location and site details, proposed development, a Transport Impact Statement and statutory planning context and assessment.

The subject land is zoned “Highway Commercial” under the provisions of the City of Albany Local Planning Scheme No. 1. A Service Station is an ‘A’ use, which means that the use is not permitted unless the local government has exercised its discretion by granting development approval after advertising the proposal for public comment.

The proposal will replace the existing Amity Tavern and Thirsty Camel drive in bottle shop and the Good Day Thai Takeaway which operates from a kiosk in the Tavern carpark.

The Transport Impact Statement anticipates that the peak hour traffic will primarily be “passing trade” and will not have an adverse impact on the surrounding area. There are no recorded mid-block crashes between January 2015 and 2019 on South Coast Highway along the proposed development site and only one minor incident on the north bound carriageway of Albany Highway between the intersections of South Coast Highway and Locke Street over the same period.

The Transport consultants conclude that they fully support the proposed development from a traffic and road safety viewpoint.

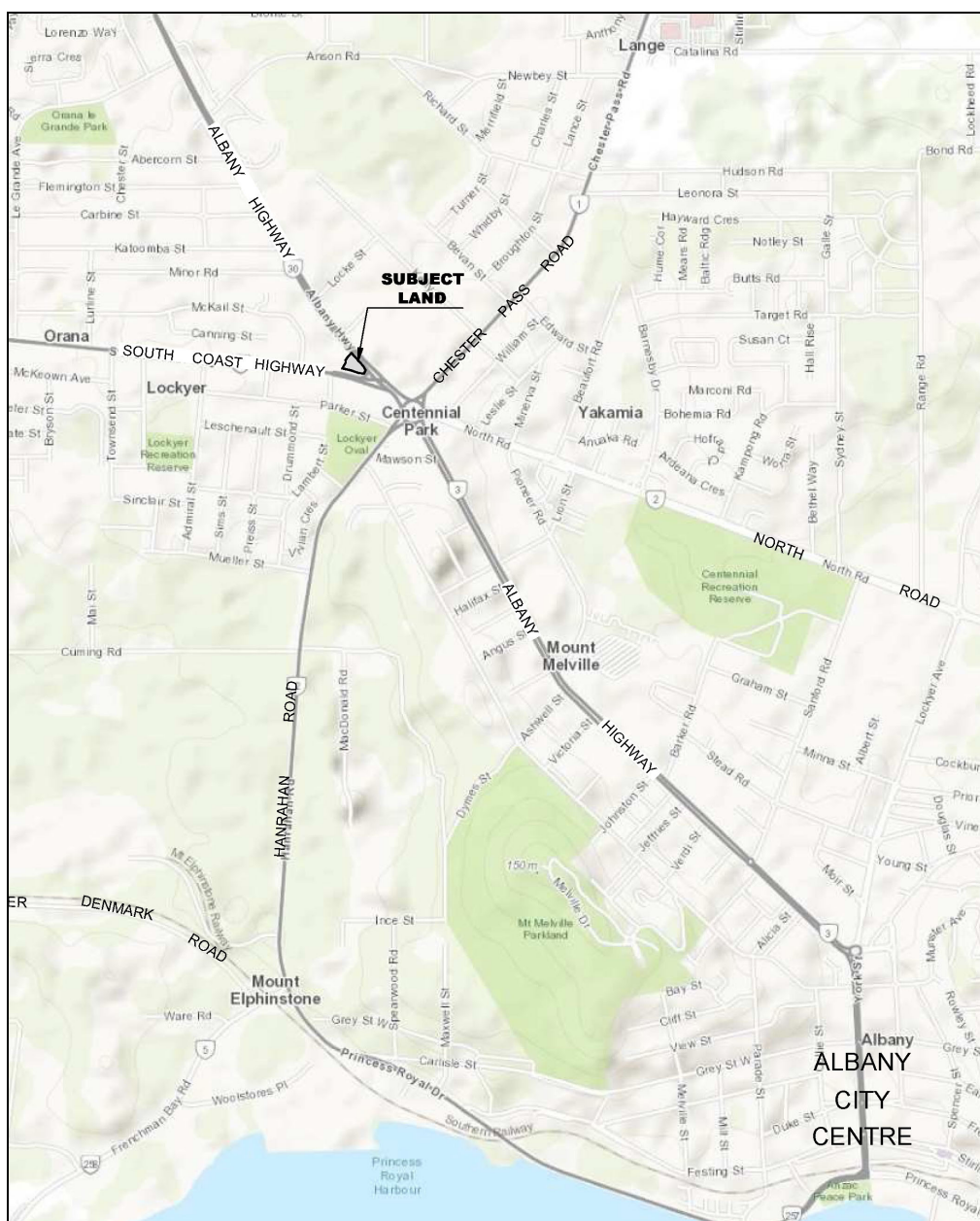
An acoustic assessment of noise emissions from the premises, which will operate 24 hours per day, concluded that, subject to screening of air conditioning units, the proposed development will comply with the requirements of the Environmental Protection (Noise) Regulations 1997.

Detailed consultation has been undertaken between the proponents, Main Roads WA (MRWA) and the City of Albany and both are supportive of the proposal.

2. BACKGROUND

2.1 Location

Lot 116 is located approximately 3 kilometres north west of the Albany CBD and is a triangular shaped site located at the intersection of Albany Highway and South Coast Highway in the suburb of Orana. Refer Location Plan below.



Location Plan

2.2 Site Description

The subject land is 3259m² in area and is owned by Barry David Oakley and Kerry Ann Oakley. A copy of the Certificate of Title for the property is attached in Appendix A.

The site is currently occupied by the Amity Tavern which incorporates a drive through bottle shop outlet and associated car parking. A small take away food kiosk is located within the car parking area on the south eastern side of the tavern.



Site Plan

Access to the site is currently provided by Albany Highway on the northern side of the site and South Coast Highway on the southern side. Both highways are dual carriageway with median strips which restrict access to left in and left out. There are two access points on Albany Highway consisting of an exit and entry and an exit only. Two exit and entry driveway accesses are located on South Coast Highway.

Both Albany Highway and South Coast Highway are classified as Primary Distributor Roads under Main Roads WA's (MRWA) Functional Road Hierarchy and are managed by MRWA.

Albany Highway is the main access to Perth metropolitan area to the north and locally, the main access to the residential suburb of McKail, the Orana Neighbourhood Shopping Centre, the South Regional TAFE, Orana Commercial area, Albany Airport and Mirambeena Industrial Estate.

South Coast Highway is the main access to Denmark and the South West to the west and locally provides access to the developing suburbs of Lockyer, Gledhow and McKail and the Mount Lockyer Primary School.

2.3 Surrounding Land Use

Land use in the immediate vicinity of the site consists of:

- The Ibis Styles Hotel which abuts the north western boundary. Immediately to the west of Ibis is a Local Centre consisting of a Chinese restaurant, Op Shop and a wedding/eveningwear shop. A former general store and newsagency has been vacant for many years and is currently occupied by the Op Shop.
- Single residential and grouped housing located on the south side of South Coast Highway; and
- To the north on the opposite side of Albany Highway, the land has been developed with commercial properties including Bunnings, Cameron’s Caravans and the Toyota car yard.

Refer Locality Plan below.



Locality Plan



Photo 1: View looking north showing access to site from South Coast Highway



Photo 2: View from south east showing access from Albany Highway.



Photo 3: View from north showing Amity Tavern and drive through bottle shop.



Photo 4: View of exit on to Albany Highway and adjoining Ibis Styles Hotel

3. PROPOSED DEVELOPMENT

Following demolition of the Amity Tavern and associated take away food kiosk, it is proposed to construct a United Petroleum service station on the subject land.

The existing Amity Tavern and drive through bottle shop, together with the take away food kiosk, will be replaced with a state-of-the-art service station catering for cars and other light vehicles.

An overall plan has been prepared by Hodge Collard Preston Architects which details the layout of the service station and is shown overleaf and includes the following components:

- a 300m² convenience store building which will incorporate a retail area of 150m².
- a fuel canopy providing shelter for twelve refuelling points arranged around three bowser islands.
- An underground fuel tank farm with fuel fill points.
- Sixteen car bays, including 1 disabled car bay.
- a service yard/bin storage area.
- extensive landscaping areas on either side of the convenience store building and around the main frontage to the site at the Albany Highway/South Coast Highway intersection.
- two pylon signs and signage associated with the convenience store building.
- revised access arrangements with two separate left in and left out driveways onto Albany Highway and a single left in and left out driveway onto South Coast Highway.

The modern design and striking colours will improve the visual amenity on this prominent site. Perimeter landscaping along both Albany Highway and South Coast Highway will break up the existing expansive area of bitumen hardstand. Refer attached plans in Appendix B.



117

PROPOSED CONVENIENCE
FFL:48.90
300m²

FUEL CANOPY
6 DISPENSERS

PROPOSED SITE PLAN
SCALE 1:200

GENERAL NOTES:

- DO NOT SCALE FROM DRAWINGS.
- ALL BOUNDARIES, LEVELS AND DIMENSIONS TO BE CONFIRMED ON SITE.
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONSULTANTS DRAWINGS.
- REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING ANY WORKS.
- KERB RAMPS AND TGSs TO BE IN ACCORDANCE WITH AS 1428.
- NIL STEP AT ENTRY DOORS TO PROVIDE CONTINUOUS PATH OF TRAVEL IN ACCORDANCE WITH AS 1428.
- MAX 1 IN 40 CAMBER AND CROSSFALLS TO ALL RAMPS AND WALKWAYS IN ACCORDANCE WITH AS 1428.
- ALL MATERIALS TO BE COMPLIANT WITH NCC & AS.



C	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	15.09.2020
B	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	08.09.2020
A	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	26.08.2020
revision/issue description		drawn	checked	date
project		description		
location		SITE PLAN		
checked		NP		
scale		date 18.08.2020		
1:200		project no 06.20		
A1		dwg no SK07		
		rev C		

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ALBANY Hwy, ALBANY W.A.

Hodge Collard Preston
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3.1 Car Parking

Twelve car bays are provided adjacent to the convenience store building, including a disabled bay. An additional four bays are provided for staff car parking at the eastern end of the site, together with a separate air/water bay. A total of twelve car bays are provided adjacent to the twelve refuelling points.

A loading and unloading bay is provided in association with a service yard and bin storage area on the southern side of the convenience store building.

A bicycle rack is located adjacent to the service yard/bin storage area and will provide for at least two bicycles as required by the planning scheme provisions.

3.2 Access Arrangements

A Transport Impact Statement has been prepared for the site by Donald Veal Consultants and is attached in Appendix C.

The access arrangements have been discussed with MRWA who have control of both South Coast Highway and Albany Highway and have advised that they are generally acceptable. Refer email in Appendix D.

The proposed two vehicular access ways onto Albany Highway will be appropriately sign posted and have been located to facilitate traffic flow into the site and ease access to the bowsers and customer car parking in front of the convenience store.

Staff car parking is located at the eastern end of the site. The exit onto Albany Highway is downstream of the entry point and will enable drivers to exit without crossing the path of entering vehicles. The single driveway onto South Coast Highway will cater for an estimated 20 to 30% of traffic and will accommodate exit movements for fuel trucks servicing the site.

Service deliveries to the site will comprise fuel delivered by 19 metre long articulated tanker trucks and smaller trucks servicing the convenience store and removing rubbish. Swept path analysis demonstrates how the fuel delivery trucks will access the site from Albany Highway and exit via South Coast Highway. The smaller delivery and rubbish removal trucks will be able to make use of any of the entry/exit combinations. Refer attached plans in Appendix B.

Anticipating concerns regarding the Albany Highway/South Coast Highway intersection, the consultants have analysed the potential impact of the proposal on the intersection. Given the layout of the site, they conclude that very little additional traffic is expected to pass through the intersection as customers are intercepted either downstream or upstream of the intersection. With regard to the potential for queuing to access the site from Albany Highway, the consultants estimate that peak hour patrons can readily be accommodated within the 12 bays with no queuing. On the rare occasion that vehicles do queue, there is adequate space to accommodate the entire peak hour forecast demand within the service station forecourt without impacting on the adjacent road network.

3.3 Convenience Store

The convenience store is 300m² in area and will include the customers' service area, office and amenities, storage and a retail area of 150m². The retail area will sell convenience goods such as food and drinks normally available at service stations.

3.4 Landscaping

A total of 800m² landscaping is provided around the periphery of the site where it will have the most visual impact. The largest areas are associated on either side and to the rear of the convenience store building which will provide a buffer to the Ibis Styles Hotel to the west. The landscaping area consists of 24.5% of the site and is in excess of the 10% area required by the City of Albany. A drainage swale is located in the landscape area in the north west corner of the site. It is 105m² in area and approximately 13% of the overall landscaped area.

A detailed landscape plan can be provided to the City of Albany as a condition of approval.

3.5 Signage

Two pylon signs 6m high are proposed, one in the south east corner of the site facing Albany Highway and the other in the south west corner facing South Coast Highway. As Council's Signs Policy specifies that only one pylon sign is permitted, it is requested that Council use its discretion, as set out in the Policy under the heading "Acceptable Deviation", to approve an additional sign.

The additional sign is requested as the access to the property will be by way of driveways from Albany Highway on the north side and South Coast Highway on the south side. Both are classified as Primary Distributor Roads and are dual carriageways in the vicinity of the site. Both signs are required as traffic trying to access the service station will be coming from opposite directions and one sign will not adequately inform drivers wishing to access the site. Given the size of the site and location of the signs it is considered they meet the objectives of the Signs Policy.

The rest of the signage is integrated with the architectural design of the building. Refer attached signage plan in Appendix B.

3.6 Stormwater and Wastewater Management

All stormwater will be contained on site and treated to the specification and satisfaction of Council. All potential contaminants will be separated from stormwater runoff for collection and removal off site by utilising a purceptor system.

Washrooms and toilets will be connected to the reticulated sewer system.

A detailed stormwater management plan has been prepared by JC Consulting Engineers and is attached in Appendix E.

3.7 Hours of Operation

It is proposed that the service station will be operated on a 24hour, 7 day a week basis and will require a total of 3 people to manage the facility.

3.8 Bushfire Management

As the site is not located within a "Bushfire Prone Area" no specific management guidelines are required.

3.9 Environmental Considerations: EPA Guidance 3 Separation Distances between Industrial and Sensitive land uses

The EPA's Guidance Statement No. 3 notes that service stations potentially have "gaseous, noise, odours and risk impacts". Separation distances of 50 metres for service stations operating during normal hours and 200 metres for a non- freeway service station operating 24 hours a day are nominated as a guide

While the existing development on the subject land consists of a tavern and take away food kiosk which attracts activity during the evening as well as the day, a 24 hour a day operation has the potential to further impact on the amenity of nearby residential dwellings and hotel accommodation. Consequently, an acoustic assessment of noise emissions has been carried out and confirms that the proposal complies with the Environmental Protection (Noise) Regulations, 1997 provided:

- Air conditioning units are screened from neighbouring residences (motel) to the north west.

(Refer Environmental Acoustic Assessment in Appendix F.)

The air conditioning units located on the roof of the convenience store have been fully screened from the hotel accommodation located to the north west.

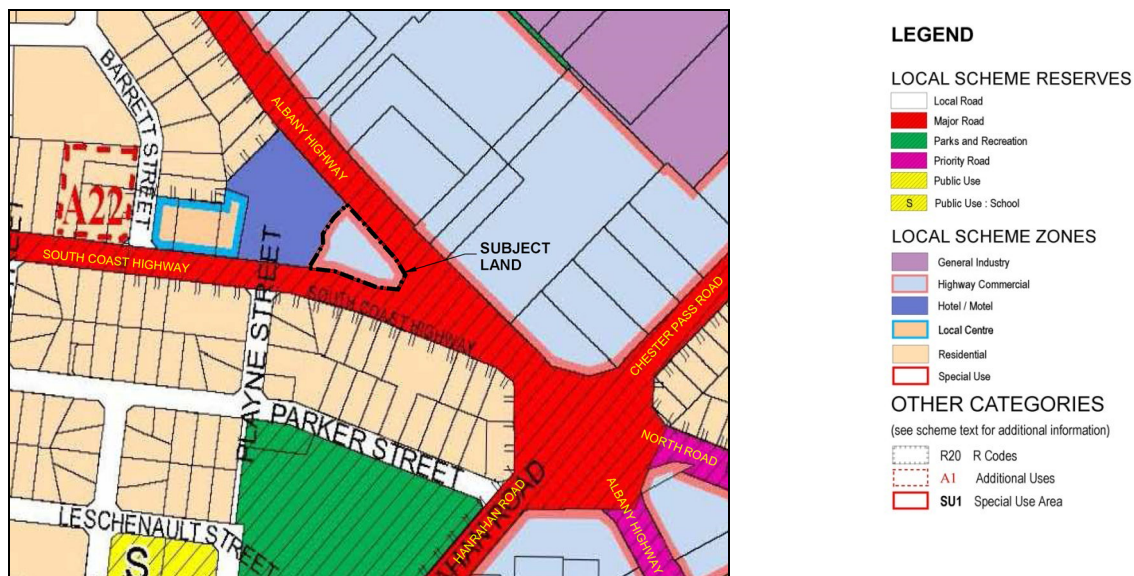
Note:

The two most recent service station approvals within the City of Albany which operate on a 24 hours/day, 7 days a week do not have a 200 metre setback from adjoining or nearby residential dwellings. The Liberty Oil service station immediately abuts residential property and the Shell service station on Lots 40 & 41 Albany Highway is located approximately 50 metres opposite residential dwellings on the south side of Albany Highway. It is evident that service stations in Albany and across the Perth Metropolitan area are located immediately adjoining residential properties and that they co-exist successfully in mixed commercial /residential settings. Potential issues relating to gaseous, odours and risk impacts have been ameliorated as a result of improved technology and regulations associated with modern service stations.

4. STATUTORY PLANNING

4.1 City of Albany Local Planning Scheme No. 1

The subject land is zoned ‘Highway Commercial’ under the provisions of the City of Albany Local Planning Scheme No. 1 (LPSNo1) and has frontage to both Albany Highway and South Coast Highway which are designated as ‘Major Road’. Refer Scheme map below.



A ‘Service Station’ is designated as an ‘A’ use in the ‘Highway Commercial’ zone, as set out in Table 1-Zoning Table of LPSNo1). An ‘A’ use means that “..... the use is not permitted unless the local government has exercised its discretion by granting development approval after giving notice in accordance with clause 64 of the deemed provisions.”

A service station is defined in the Land Use Definitions in Schedule 1 of the LPS as follows:

“service station means premises used for:

- (a) The retail sale of petroleum products, motor vehicle accessories and goods of an incidental/convenience retail nature; and*
- (b) The carrying out of greasing, tyre repairs and minor mechanical repairs to motor vehicles, but does not include premises used or transport depot, panel beating, spray painting, major repairs and wrecking.”*

The objectives of the 'Highway Commercial' zone are set out in Clause 4.2.11 of LPSNo1 as follows:

- (a) Provide along the main transport spines to the CBD, a range of services and activities that support the main CBD commercial areas including automotive trades, car sales, showrooms, vehicle servicing and repairs, storage and similar activities that cannot be accommodated in other commercial or industrial related zones;*
- (b) Ensure that the lot sizes, the built form and layout of the development is robust and adaptable, and the built form provides attractive, complementary street facades and adjoining developments promote the joint use of crossovers and parking areas; and*
- (c) Restrict the sizes and location of signs and encourage landscaping of front setbacks to improve the amenity of highway commercial areas.*

In relation to objective (a), it is considered the proposed 'Service Station' is an appropriate use within the 'Highway Commercial' zone, particularly given its location between two of Albany's Main Roads.

In relation to objective (b), the site is effectively a stand-alone site except for the adjacent Ibis Styles Hotel on its north western boundary. In this instance, rather than integrating the crossovers and parking areas with the hotel, the design concept aims to provide a buffer to the hotel and minimise the impact of access to and from the service station. Locating the convenience store building along the common boundary with a significant landscape buffer, will retain the amenity of the hotel and its access and car parking areas.

In relation to objective (c), the construction of a contemporary service station with the corporate colours associated with United Petroleum, together with over double the required landscaping area, provides an opportunity to significantly improve the appearance of this strategic site.

4.2 Scheme Provisions

Clause 5.5.9 of the Scheme text outlines five development provisions which apply to the 'Highway Commercial' zone and are reproduced below with associated responses.

(a) Development should utilise design elements and materials which break down the bulk of development and provide visual interest through the articulation of their built form.

Response: Service Station design is not a bulky form of development and as noted in Section 4.1 above, contemporary design and associated corporate colours and signage provides an opportunity to invigorate a drab commercial site sandwiched by two dual carriageways.

(b) Where the open storage of goods or materials is proposed and the goods and materials stored are, in the opinion of the Local Government, of an untidy nature and likely to give offence to adjoining landowners or have an adverse effect upon the general appearance of the area, the Local Government may require the owner or occupier to:

- (i) Restrict the height and areas to which goods and materials may be stored; and/or*
- (ii) Effectively screen the open storage area by a closed fence and/or the planting of trees and/or shrubs.*

Response: Outside storage is not a component of this proposal. An enclosed service yard and bin storage area is provided in order to address the intent of this provision.

(c) No goods are to be stored or services provided which extend beyond the land the subject of the development application.

Response: No goods are proposed to be stored or services provided which extend beyond the curtilage of this site.

(d) Any access/egress point(s) onto adjoining roads requires the approval of the relevant road control authority.

Response: Detailed consultation has been undertaken with MRWA and the City of Albany to ensure access/egress points are acceptable.

(e) Signage associated with an approved development should be incorporated into the fabric of buildings and structures on-site and the use of bunting should be avoided.

Response: Apart from two pylon signs, which are compatible with the commercial location of the site, all other signage is incorporated into the fabric of the buildings and structures. The use of bunting is not proposed.

4.3 Site and Development Requirements

Clause 5.8.1 outlines several requirements associated with Vehicle Access/Egress onto Major/Priority Roads and Loading and Unloading Areas.

As approval is required from either MRWA or City of Albany, consultation has taken place to ensure the proposed development is compliant.

Access driveways will be sealed and drained to prevent the export of materials from the lot onto the Major Road (Refer clause 5.8.1.2(6)).

Clause 5.8.1.11 requires an area to be provided for loading, unloading and servicing or receipt of goods. An enclosed service yard/bin storage area is located adjacent to the convenience store building with access designed to ensure it does not cause nuisance to adjoining land uses.

4.3.1 Parking Requirements.

Car parking and bicycle Parking requirements are set out in Clause 5.8.8 and table 5.

One car bay per pump plus one per employee and one per 20m² of retail area is required.

With twelve petrol pumps, 3 employees and 150m² of retail area, a total of twenty three car bays are required. Twelve car bays are provided adjacent to each of the twelve petrol pumps and an additional sixteen bays are provided for the convenience store and employees, resulting in a total provision of twenty eight car bays.

The convenience store requires parking for one bicycle per ten parking bays. As sixteen car bays are provided, a bicycle rack for at least 2 bicycles has been provided.

4.3.2 Site Requirements.

Clause 5.8.7 and Table 7 require the following site requirements for the 'Highway Commercial' zone:

Max. Plot Ratio	0.6
Front Setback	7.5
Rear Setback	Nil
Side Setback	Nil

The proposed development complies with these requirements with a Plot Ratio of 0.18, front setback 33m, rear setback between 0.5 to 4.4m, the side setback to South Coast Highway 7.5m to canopy and the setback to Albany Highway between 7.0 to 13.5m.

4.3.3 Landscape Requirements.

Clause 5.8.9 and table 8 require a landscaping area consisting of 10% of the site.

The development proposes to landscape approximately 24.5% of the site. A Landscaped drainage swale occupies approximately 13% of the landscaped area.

A detailed landscape plan will be provided at the detailed design stage and can form a condition of development approval.

4.3.4 Public Art

The City of Albany's Public Art Policy aims to:

Develop and promote community identity within the City of Albany by requiring commissioned public art works as part of private development projects within the City of Albany.

Commercial developments over the value of \$1,500,000 are required to allocate 1% of the estimated project cost for public art.

5. CONCLUSION

It is proposed to replace an existing commercial development on Lot 116 Albany Highway, consisting of a tavern, drive through bottle shop and take away food kiosk, with a service station and associated convenience store.

The site is zoned 'Highway Commercial' and is a strategic site being bounded on two sides by dual carriageways which are classified as Primary Distributor Roads. A service station is considered a compatible use given the objectives of the 'Highway Commercial' zone as set out in the City of Albany's LPSNo1 and in the context of the site itself.

A Transport Impact Statement has been prepared by a traffic consultant and based on their analysis they fully support the proposal from a traffic and road safety view point.

An acoustic assessment of noise emissions has been carried out and confirms that the proposal complies with the Environmental Protection (Noise) Regulations 1997.

Detailed consultation has been undertaken with the City of Albany and MRWA, both of whom have confirmed their general acceptance of the development.

The planning report provides a comprehensive assessment of the proposal in terms of the statutory planning framework and concludes that it complies with scheme provisions and relevant policies.

The development represents a significant financial investment in the City of Albany and will invigorate and improve the visual amenity of this prominent site.

It is respectfully requested that the Southern JDAP approve the Application for Development Approval.

Appendix A

Certificate of Title

WESTERN



AUSTRALIA

REGISTER NUMBER 116/D76236	
DUPLICATE EDITION N/A	DATE DUPLICATE ISSUED N/A

RECORD OF CERTIFICATE OF TITLE
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **1936** FOLIO **236**

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 116 ON DIAGRAM 76236

REGISTERED PROPRIETOR:
(FIRST SCHEDULE)

BARRY DAVID OAKLEY
KERRY ANN OAKLEY
BOTH OF 367 ALBANY HIGHWAY, ALBANY
AS JOINT TENANTS

(T J453541) REGISTERED 3/10/2005

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

1. *J453542 MORTGAGE TO BANK OF WESTERN AUSTRALIA LTD REGISTERED 3/10/2005.

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: 1936-236 (116/D76236)
PREVIOUS TITLE: 1851-748
PROPERTY STREET ADDRESS: 367 ALBANY HWY, ORANA.
LOCAL GOVERNMENT AUTHORITY: CITY OF ALBANY

NOTE 1: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING J453542
NOTE 2: N672574 SECTION 138D TLA APPLIES TO CAVEAT J823491

Appendix B

Development Plans



PROPOSED SITE PLAN
SCALE 1:200

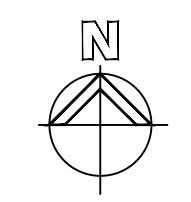
GENERAL NOTES:

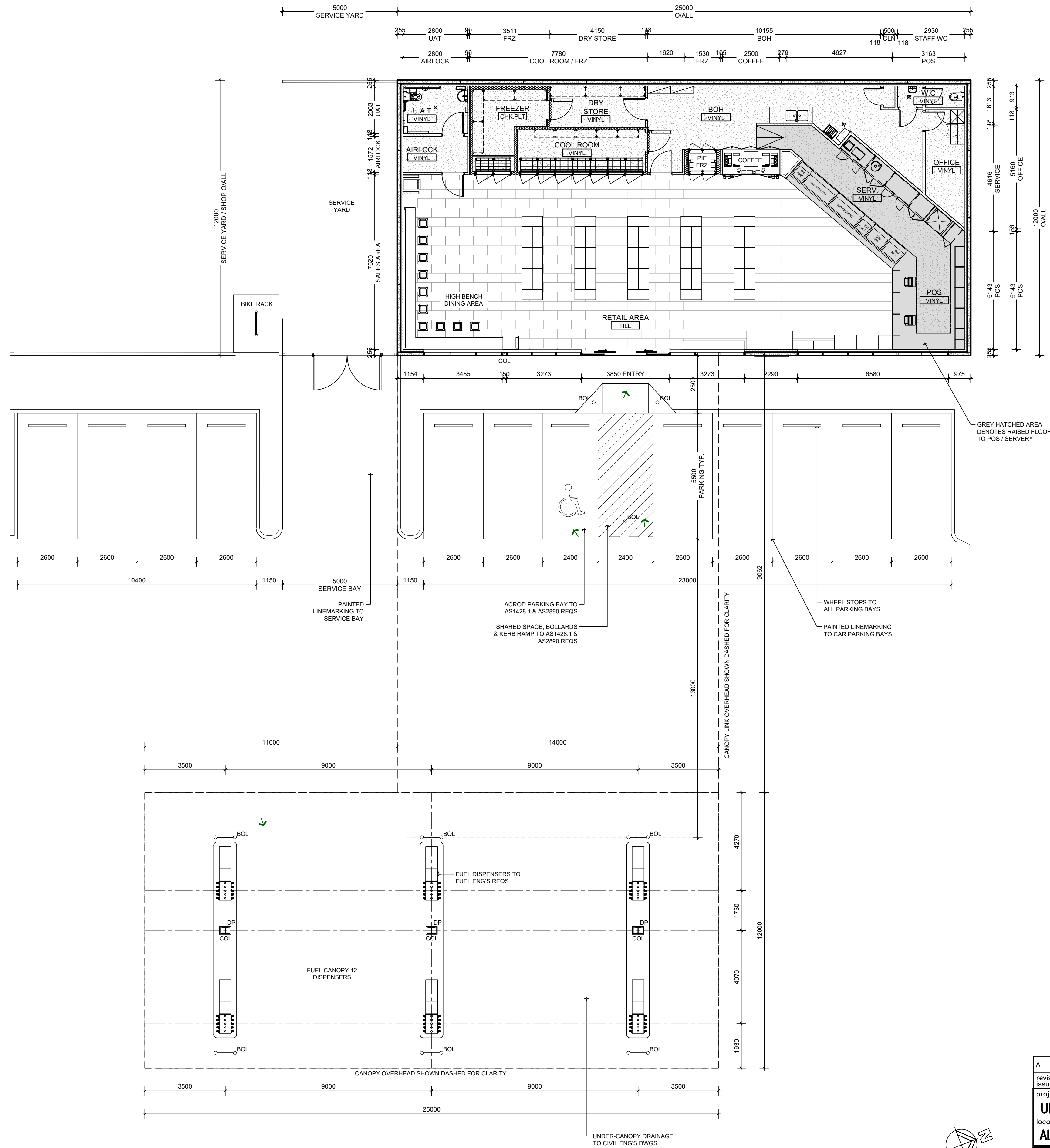
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- KERB RAMPS AND TGSs TO BE IN ACCORDANCE WITH AS 1428.
- NIL STEP AT ENTRY DOORS TO PROVIDE CONTINUOUS PATH OF TRAVEL IN ACCORDANCE WITH AS 1428.
- MAX 1 IN 40 CAMBER AND CROSSFALLS TO ALL RAMPS AND WALKWAYS IN ACCORDANCE WITH AS 1428.
- ALL MATERIALS TO BE COMPLIANT WITH NCC & AS.

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project		drawn	description	
location		MS	SITE PLAN	
		checked	NP	
scale		1:200	date 18.08.2020	
project no		06.20	dwg no SK07	
		A1	rev C	

Hodge Collard Preston
ARCHITECTS

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West Perth, WA 6005
PO Box 743, West Perth, WA 6872
Ph: (08) 9322 5144
Fax: (08) 9322 5740
Email: admin@hpcperth.com





PROPOSED FLOOR PLAN
SCALE 1:100

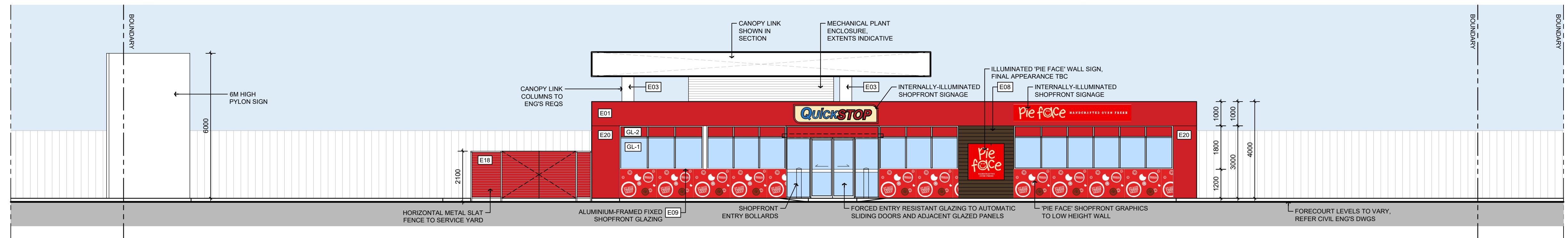
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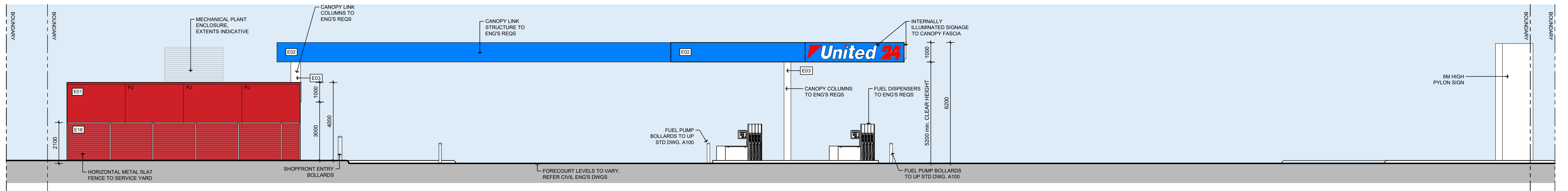
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revision/ issue	description	drawn	checked	date
project	UNITED SERVICE STATION	drawn	description	
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rev	A			

Hodge Collard Preston
ARCHITECTS

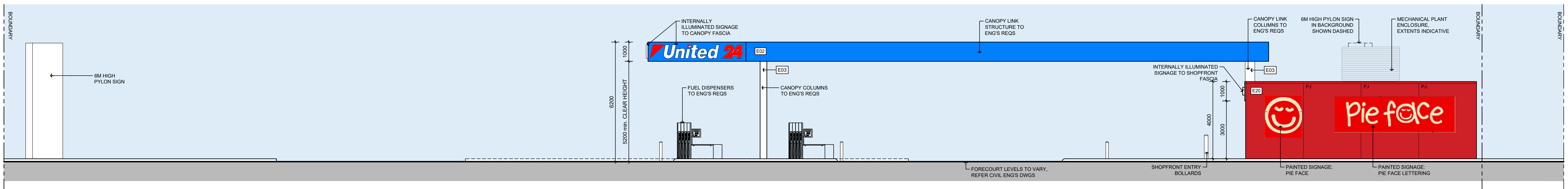
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Fax: (08) 9322 5740
Email: admin@hpcarch.com



CONTROL BUILDING SOUTH EAST ELEVATION
SCALE 1:100 @ A1



SOUTH WEST ELEVATION
SCALE 1:100 @ A1



NORTH EAST ELEVATION
SCALE 1:100 @ A1

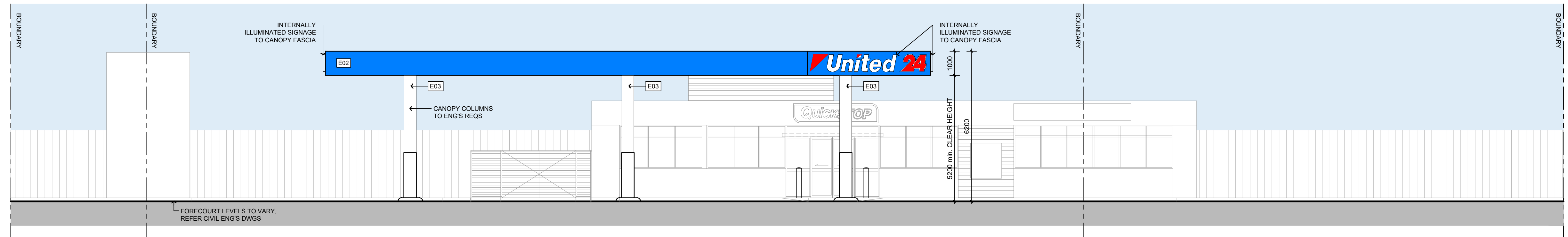
COLOUR LEGEND

- E01 E01 STORE FASCIA
ALUCOBOND UNITED RED
- E02 E02 CANOPY FASCIA
ALUCOBOND - UNITED BLUE
- E03 P1 - STEEL COLLUMN
ALUCOBOND UNITED WHITE CLADDING
- E08 P4 - PRECAST CONCRETE
DECO CLAD DECO WOOD ALUMINIUM CLADDING
HORIZONTAL V GROOVE PROFILE
COLOUR: NATURAL TEAK
- E09 P3 - DOORS & WINDOWS
POWDERCOATED WHITE
- E18 E18 - ALUMINIUM SLATS
DULUX COLORBOND RED
- E20 P5 - EXTERNAL WALLS
PAINT DULUX - UNITED RED
- GL-1 GL-1 CLEAR GLAZING TO CODE, NCC & RELEVANT STANDARDS
- GL-2 GL-2 CLEAR GLAZING TO CODE WITH RED VINYL BY UNITED

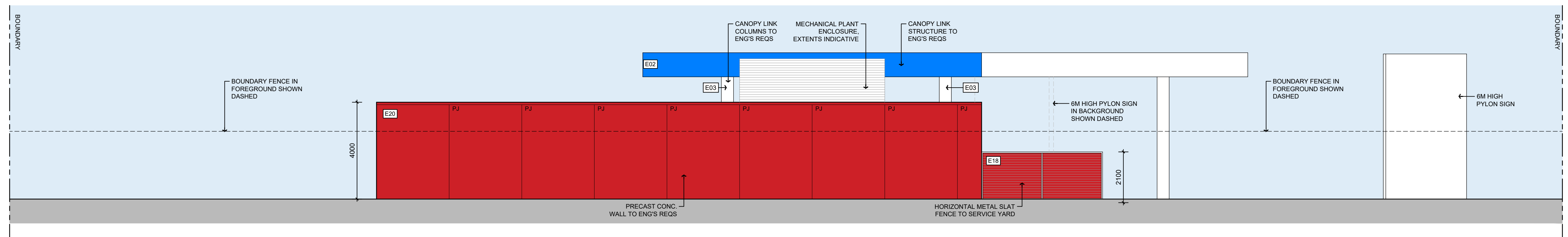
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A	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	26.08.2020
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project	UNITED SERVICE STATION	drawn	description	
location	ALBANY Hwy, ALBANY, W.A.	MS	PROPOSED ELEVATIONS	
		checked	PG 1	
scale	1:100 @ A1	NP	date	19.08.2020
		project no	06.20	dwg no
		rev	B	SK09

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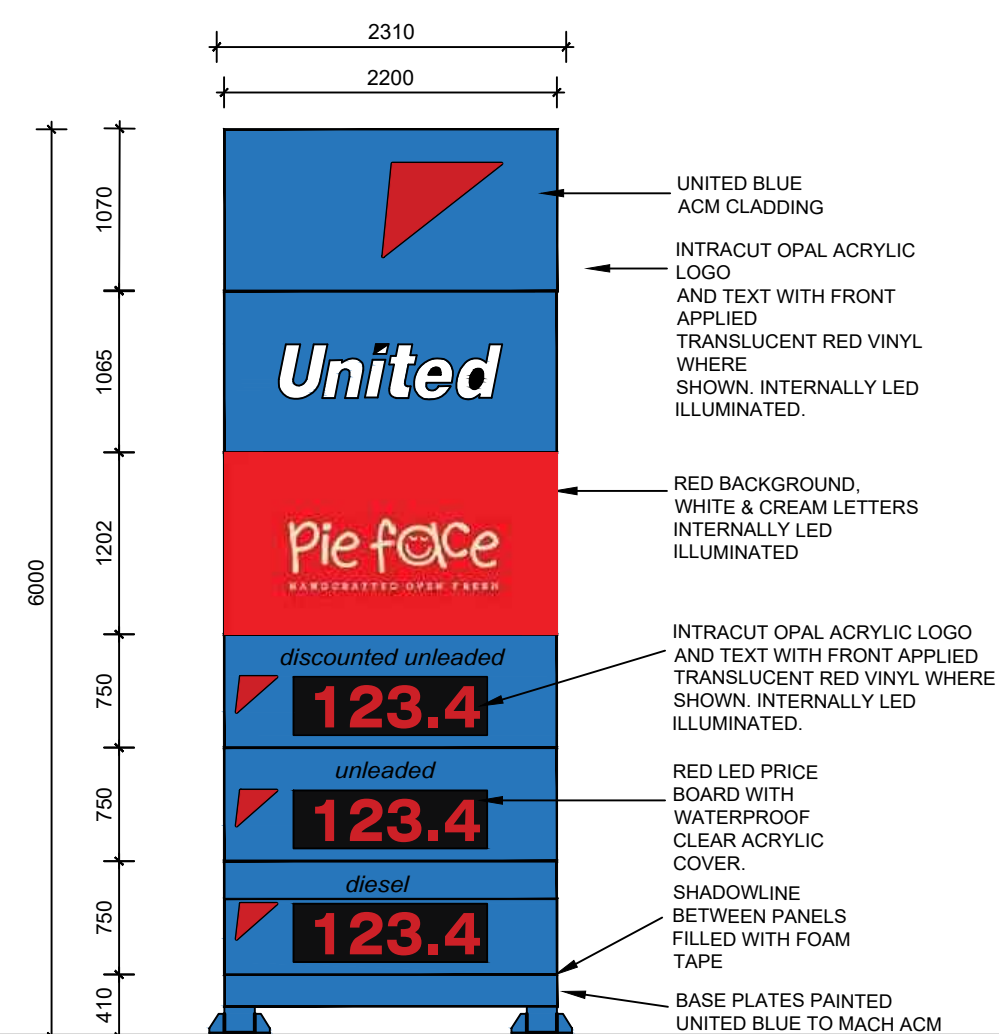
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NORTH WEST ELEVATION
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6M PYLON SIGN PLAN
SCALE 1:50 @ A1

NOTE: SIGNAGE INDICATIVE,
FINAL APPEARANCE TBC

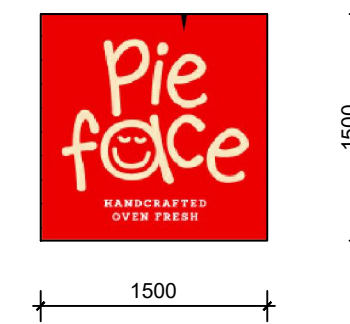


6M PYLON SIGN FACE ELEVATION
SCALE 1:50 @ A1

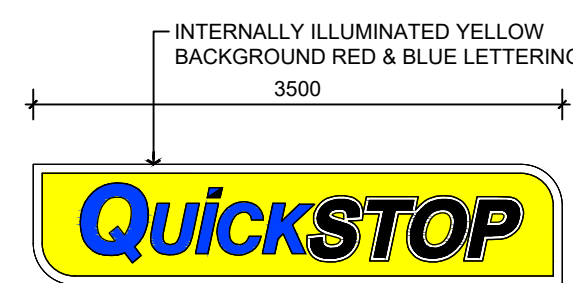
6M PYLON SIGN SIDE ELEVATION
SCALE 1:50 @ A1



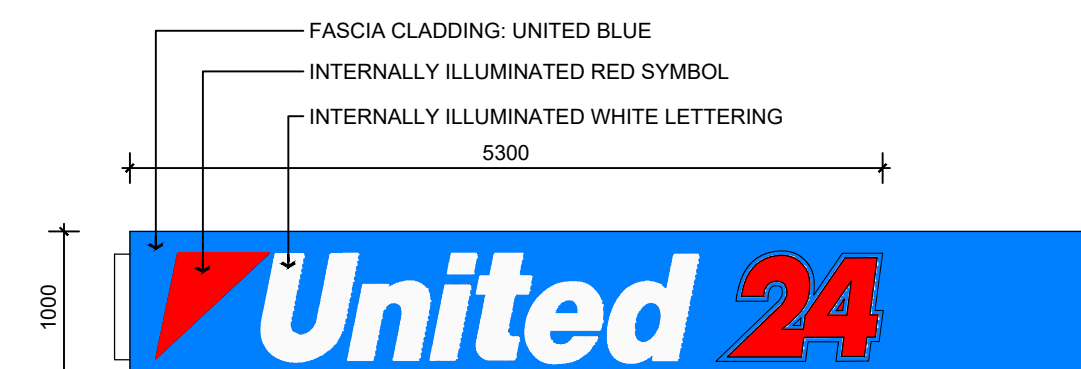
PIE FACE SIGN 01
BUILDING FRONT
SCALE 1:50 @ A1



PIE FACE SIGN 02
BUILDING FASCIA
SCALE 1:50 @ A1



QUICKSTOP SIGN
BUILDING FASCIA
SCALE 1:50 @ A1



FUEL CANOPY SIGN
CAR FUEL CANOPY FASCIA
SCALE 1:50 @ A1

COLOUR LEGEND

E01	STORE FASCIA	ALUCOBOND UNITED RED
E02	CANOPY FASCIA	ALUCOBOND - UNITED BLUE
E03	STEEL COLUMN	ALUCOBOND UNITED WHITE CLADDING
E08	PRECAST CONCRETE	DECO GLAD/DECO WOOD ALUMINIUM CLADDING HORIZONTAL V GROOVE PROFILE COLOUR: NATURAL TEAK
E09	DOORS & WINDOWS	POWDERCOATED WHITE
E18	ALUMINIUM SLATS	DULUX COLORBOND RED
E20	EXTERNAL WALLS	PAINT DULUX - UNITED RED
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revision/issue	description	drawn	checked	date
project	UNITED SERVICE STATION	drawn	MS	description PROPOSED ELEVATIONS
location	ALBANY Hwy, ALBANY, W.A.	checked	NP	PG 2
scale	1:100 @ A1	date	19.08.2020	project no
		dwg no	06.20	SK10
		rev	B	

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ARCHITECTS

Appendix C

Transport Impact Statement

Donald Veal

June 2020
Final

Proposed Service Station and Convenience Store
Development at 367 Albany Highway, Albany

Prepared For:
Mark Hunter

Transport Impact Statement
Report



DOCUMENT ISSUE AUTHORISATION

Issue	Rev	Date	Description	Author	Checked By	Approved By
0	0	25/05/2020	Draft Report	DNV	CHS	DNV
1	0	17/06/2020	FINAL	DNV	CHS	DNV

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Donald Veal Consultants Pty Ltd

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1 INTRODUCTION

1.1 BACKGROUND

This Transport Impact Statement has been prepared by Donald Veal Consultants (DVC) on behalf of Mark Hunter, with regard to a proposed Service Station and Convenience Store in the suburb of Orana, within the City of Albany. The site is located at the intersection of Albany Highway with South Coast Highway previously occupied by the Amity Tavern. The site location is shown in a local context in **Figure 1.1** and in more detail in **Figure 1.2**.



Figure 1.1: Site location – Local context Source: Google



Figure 1.2: Site location – Detailed Source: Google

1.2 SCOPE OF ASSESSMENT

This Transport Impact Statement has been prepared in accordance with the Western Australian Planning Commission's (WAPC) *Transport Assessment Guidelines for Developments Volume 4 Individual Developments* (August 2016).

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects of the development and that it would not have an adverse transport impact on the surrounding area.

It is expected that the vehicles generated during the peak hour will primarily be “passing trade”, the majority of which are already on the network. Hence the additional traffic generated is likely to be significantly less than 100 vehicles per hour.

The level of transport generation is therefore considered to be that of a ‘moderate impact’ development. A “moderate impact” development is one that generates between 10 - 100 *additional* vehicle trips in the development’s peak hour. Thus, only a brief Transport Impact Statement is required.

2 CURRENT SITUATION

2.1 LAND USE

The site measures 3,259m² in area and currently occupied by the Amity Tavern Drive Through operated by the Thirsty Camel Bottleshops and also the Good Day Thai Takeaway outlet that operates from a kiosk type building within the car park area (see **Photos 1 & 2**). The only adjoining property to this site is the Ibis Styles Hotel, Bar and Grill. The main car park area of the hotel segregates the buildings from the shared boundary by a minimum of 27m (see **Figure 1.2**).



Photo 1: Drive Through Bottle shop



Photo 2: Good Day Thai Food Takeaway Outlet

2.2 LOCAL ROAD NETWORK

The road network in the immediate vicinity of the site consists primarily of Albany Highway on the north side of the site and South Coast Highway on the south side. These highways are both dual carriageways in the vicinity of the site and restrict all access movements to left in and left out. The site has four driveway accesses; two on Albany Highway and two on South Coast Highway.

2.3 ROAD HIERARCHY CLASSIFICATION

Both Albany Highway and South Coast Highway are classified as a Primary Distributor Roads under Main Roads Western Australia’s (MRWA) Functional Road Hierarchy as shown in **Figure 2.1**, and are therefore managed by MRWA.

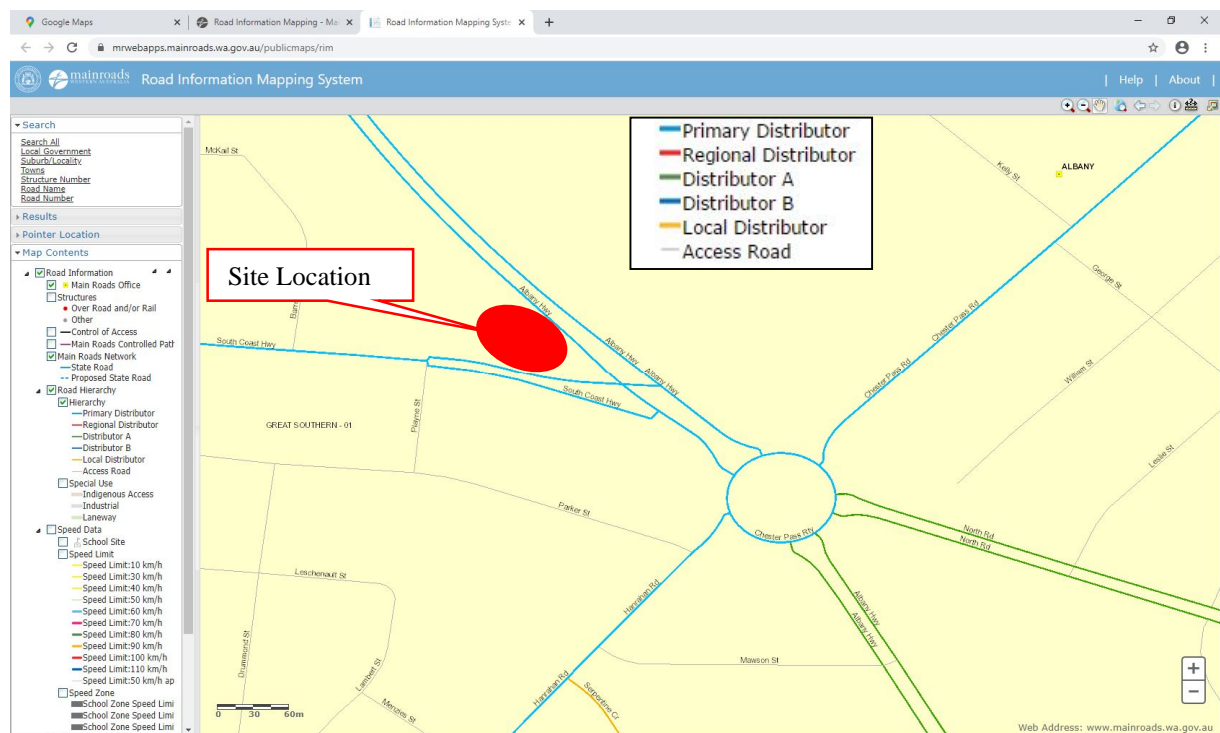


Figure 2.1: Road hierarchy of surrounding road network Source: MRWA

2.4 CRASH HISTORY

According to MRWA’s CARS database, there has been one recorded midblock crash on the northbound carriageway of Albany Highway between the intersections of South Coast Highway and Locke Street in the latest reporting period which is between January 2015 to December 2019. This involved a motorised wheelchair on the footpath being struck by a vehicle turning left into a driveway and causing minor property damage only. Two other midblock crashes occurred on the southbound carriageway. Refer **Appendix A**.

There were no recorded midblock crashes during this period on South Coast Highway alongside the proposed development site.

2.5 EXISTING TRAFFIC VOLUMES AND SPEED LIMIT

The latest available daily traffic volumes for Albany Highway and South Coast Highway were sourced from the MRWA Traffic Map and **Table 2.1** summarises average weekday traffic (AWT) data (Monday to Friday average).

Table 2.1: Existing Traffic Data (Average Weekday Traffic in Vehicles per Day (vpd))

Road Name	Year	% Heavy Vehicles Combined	Eastbound / Southbound Total	Westbound / Northbound Total	Combined Total
Albany Highway (Site 15445)	2017/18	7.3%	14,035	9,514	23,549
South Coast Highway (Site 15446)	2016/17	4.4%	3,394	3,446	6,840

Source: MRWA Traffic Map

Note the traffic directly passing the site is northbound on Albany Highway (9,514 vpd) and eastbound on South Coast Highway (3,394 vpd).

Hourly traffic volumes for each highway are shown in **Figures 2.2 and 2.3**.

The posted speed limit on both Albany Highway and South Coast Highway is 60 km/h.

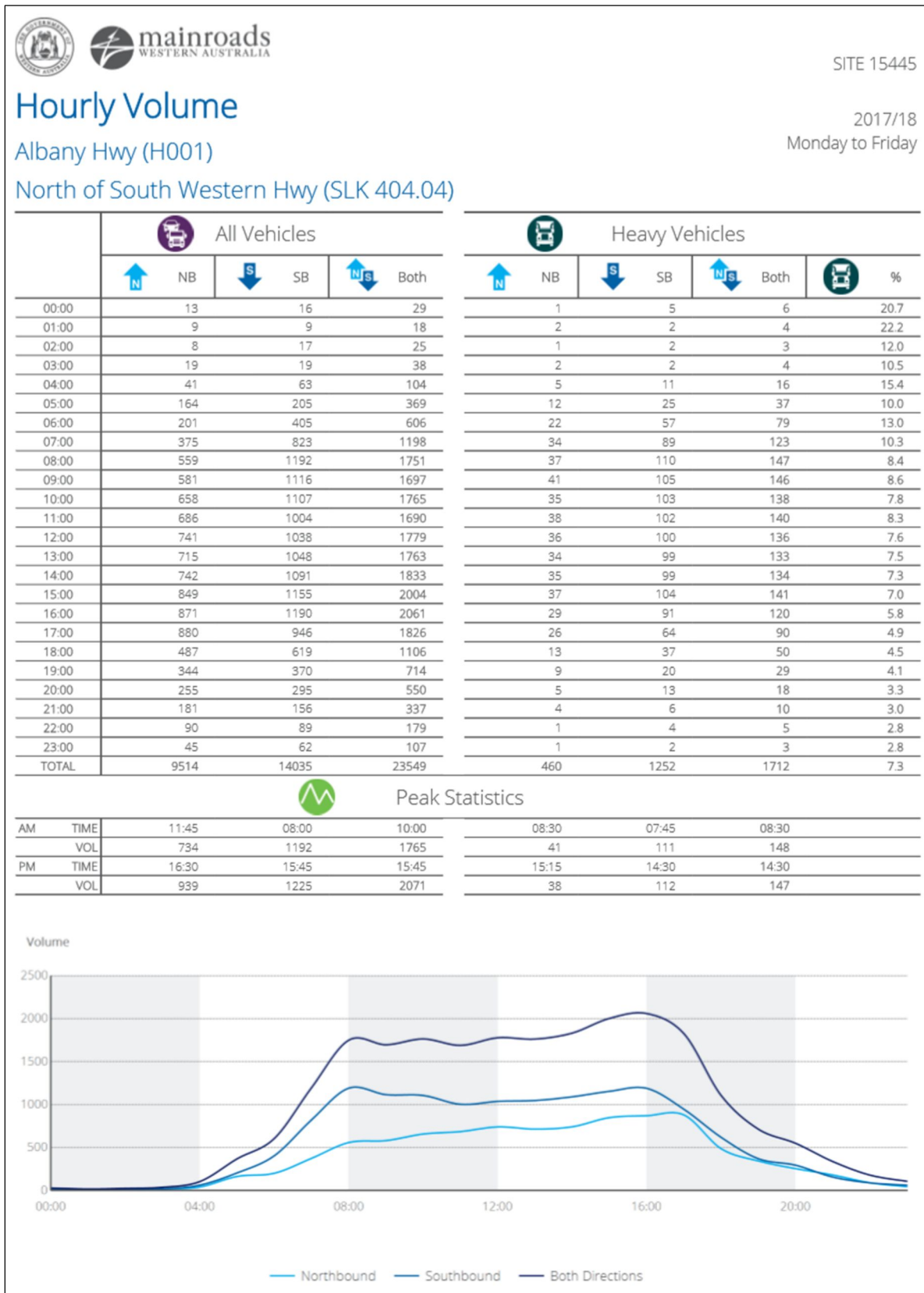


Figure 2.2: Hourly Traffic Volumes on Albany Highway *Source: MRWA Traffic Map*

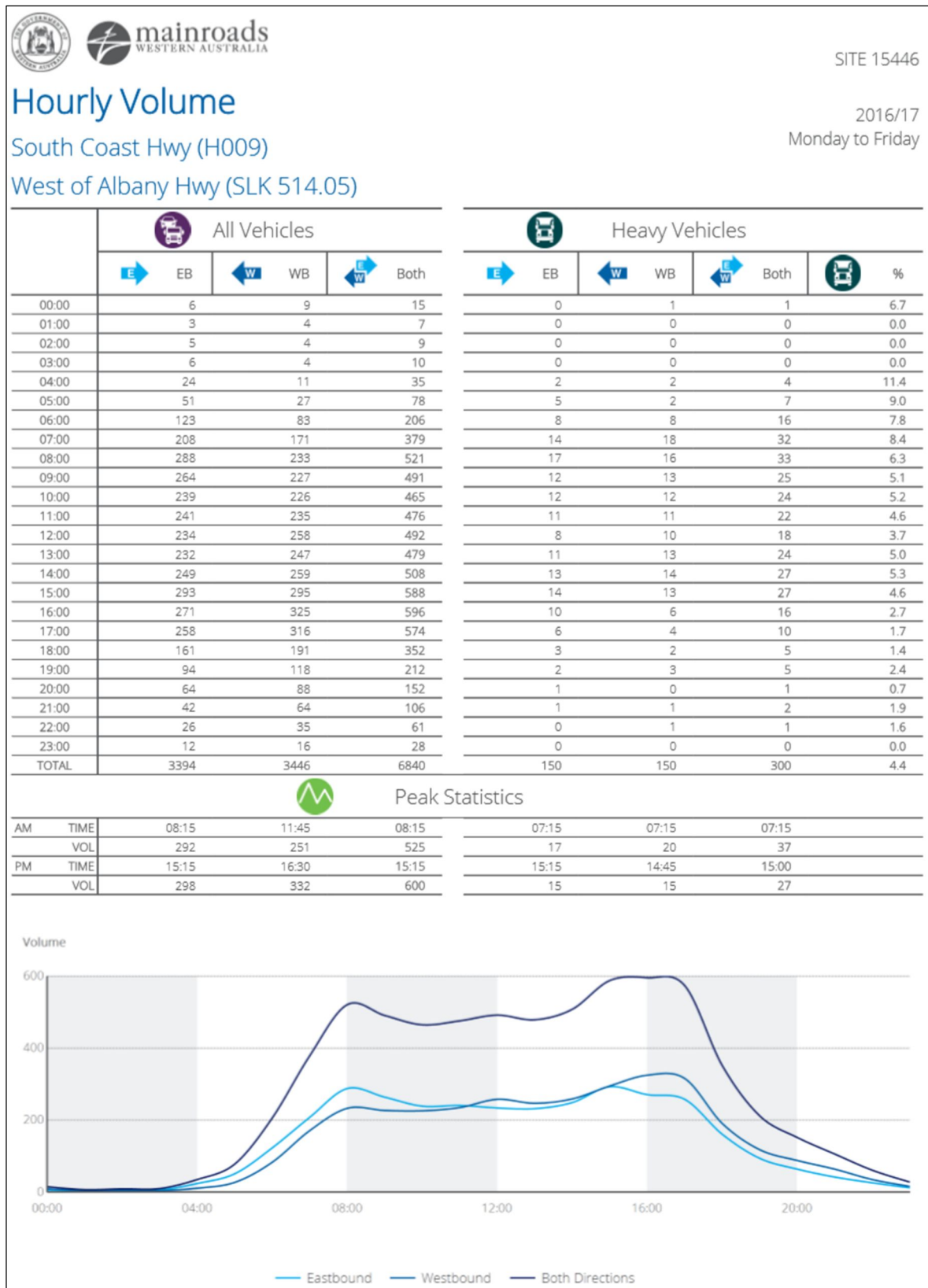


Figure 2.3: Hourly Traffic Volumes on South Coast Highway *Source: MRWA Traffic Map*

2.6 PLANNED CHANGES TO THE ROAD NETWORK

DVC is aware of the planned introduction of the Albany Ring Road that will connect Albany Highway and South Coast Highway through to Hanrahan Road and onto the Albany Port area. See **Figure 2.4**. This ring road will take many of the heavy truck movements away from the vicinity of the site but unlikely to significantly impact the volume of passing trade attracted to the proposed development.

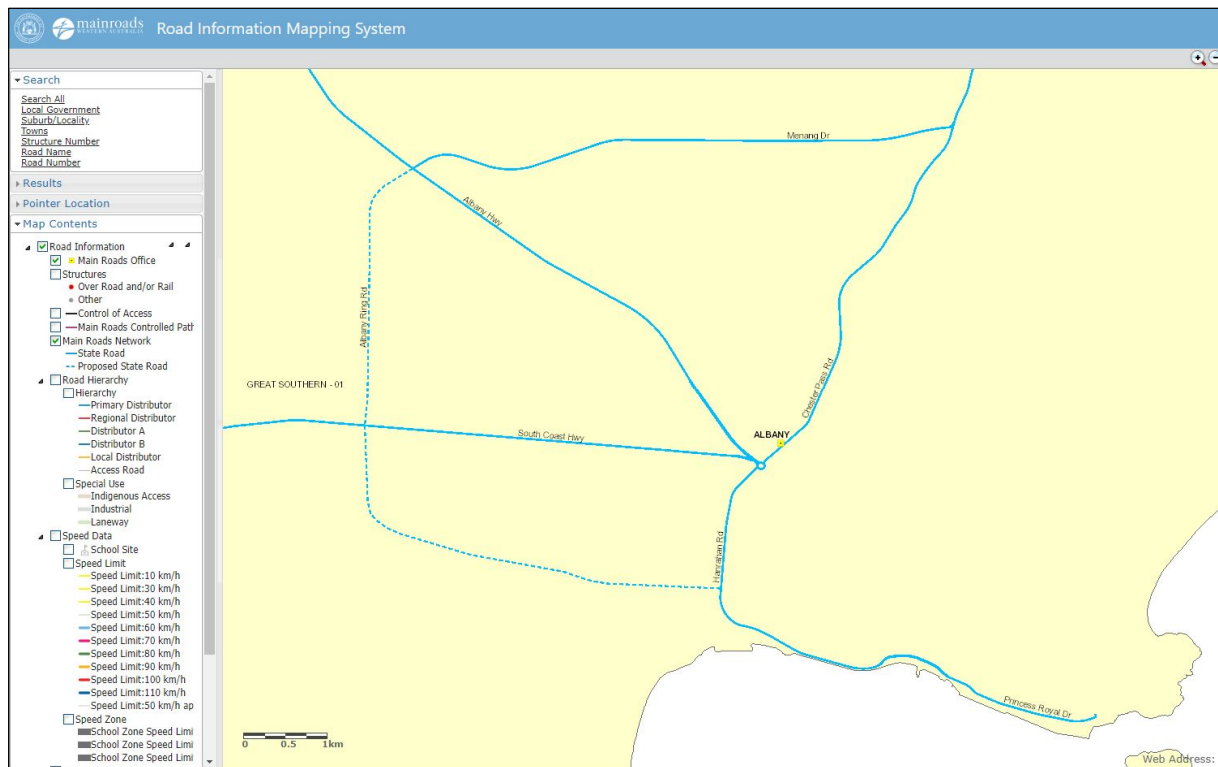


Figure 2.4: Route of planned Albany Ring Road Source: MRWA

3 PROPOSED DEVELOPMENT

3.1 DEVELOPMENT PROPOSAL

The proposed development will consist of a service station and convenience store. The forecourt canopy will shelter 12 refuelling points for cars and other light vehicles arranged in tandem. Hence two vehicles will be able to fill up, one behind the other, each side of three bowser islands (2 x 2 x 3 = 12 bowsers).

The general layout is shown in **Figure 3.1**, whilst full development plans are attached in **Appendix B**.

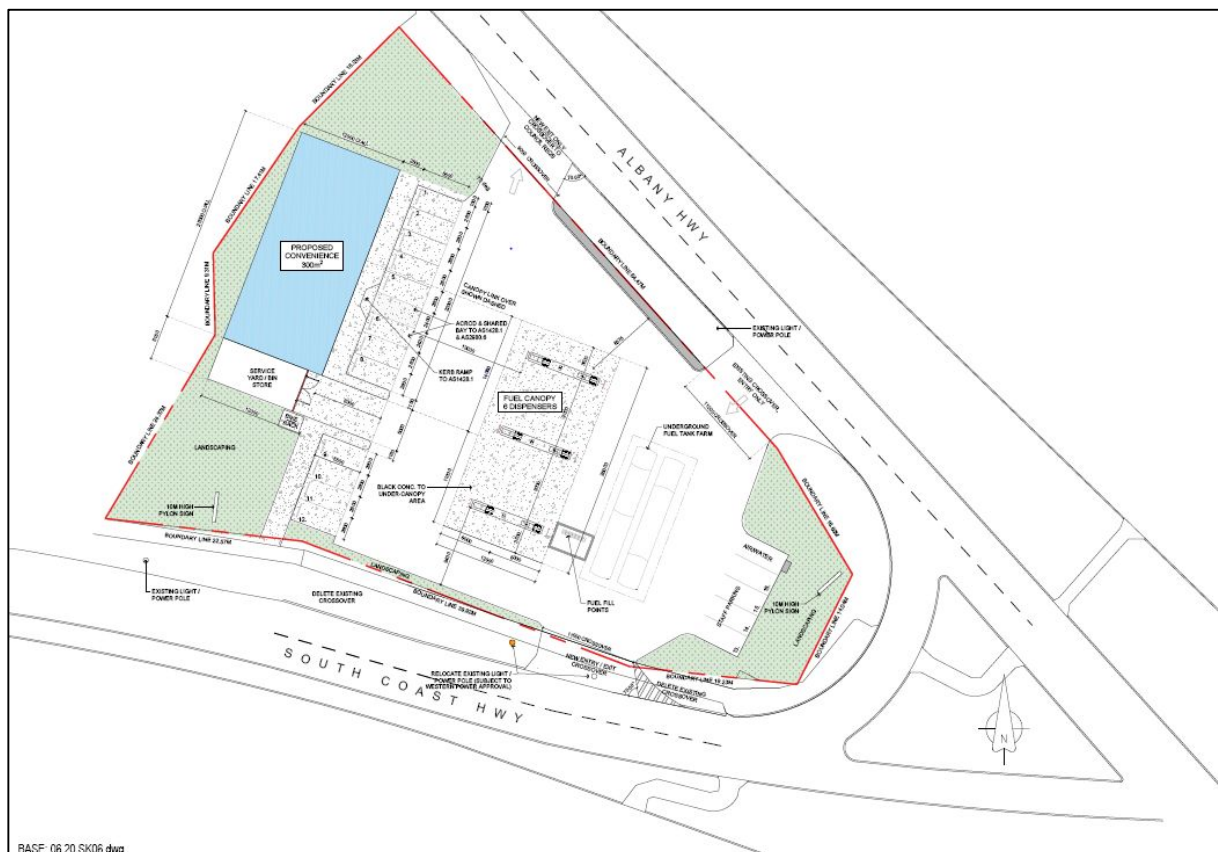


Figure 3.1: Proposed Site Layout Source: DVC amendments to Hodge Collard Preston Architects base drawing

3.2 ACCESS ARRANGEMENTS AND VISIBILITY

Three vehicular access ways are proposed to service the development, namely, separate left in and left out driveways onto Albany Highway and a single left in/left out driveway onto South Coast Highway, as shown in **Figure 3.1**. These will be appropriately signposted and have been located to facilitate traffic flow into the site, orderly access to the bowsers and customer parking fronting the convenience store. The exit driveway onto Albany Highway is downstream of the entry point and enables drivers to exit without crossing the path of entering vehicles. The single driveway onto South Coast Highway is expected to cater for about 20 to 30% of traffic and also accommodate the exit movements for fuel trucks servicing the site.

Visibility is good at all three proposed accesses as illustrated in **Photos 3 to 7**.



Photo 3: Visibility upstream from proposed site entry driveway off Albany Highway



Photo 4: Visibility downstream from proposed site driveways off Albany Highway



Photo 5: Visibility upstream from proposed site exit driveway onto Albany Highway



Photo 6: Visibility upstream from proposed driveway onto South Coast Highway



Photo 7: Visibility downstream from proposed driveway onto South Coast Highway

3.3 LIAISON AND MRWA APPROVAL

The proposed development has been discussed with both the City of Albany and MRWA, both of whom are supportive of the proposal. In discussions with MRWA (Mr Brad Lenton, Network Manager for the Great Southern Region), support was expressed for the three access driveways and the general layout of the site subject to a more in-depth assessment of the formal application.

3.4 INTERNAL LAYOUT

The internal layout of the site has been designed to optimise exposure to passing traffic, reduce noise exposure to neighbouring properties and ease traffic flow through the facility. DVC has undertaken swept path analysis for the fuel tanker delivery to the site entering off Albany Highway and exiting onto South Coast Highway as shown in **Figure 3.2**. Convenience store deliveries and waste collection access is illustrated in **Figure 3.3** which shows the swept path of a 12.5m rigid truck. These are shown to scale in **Appendix C**.

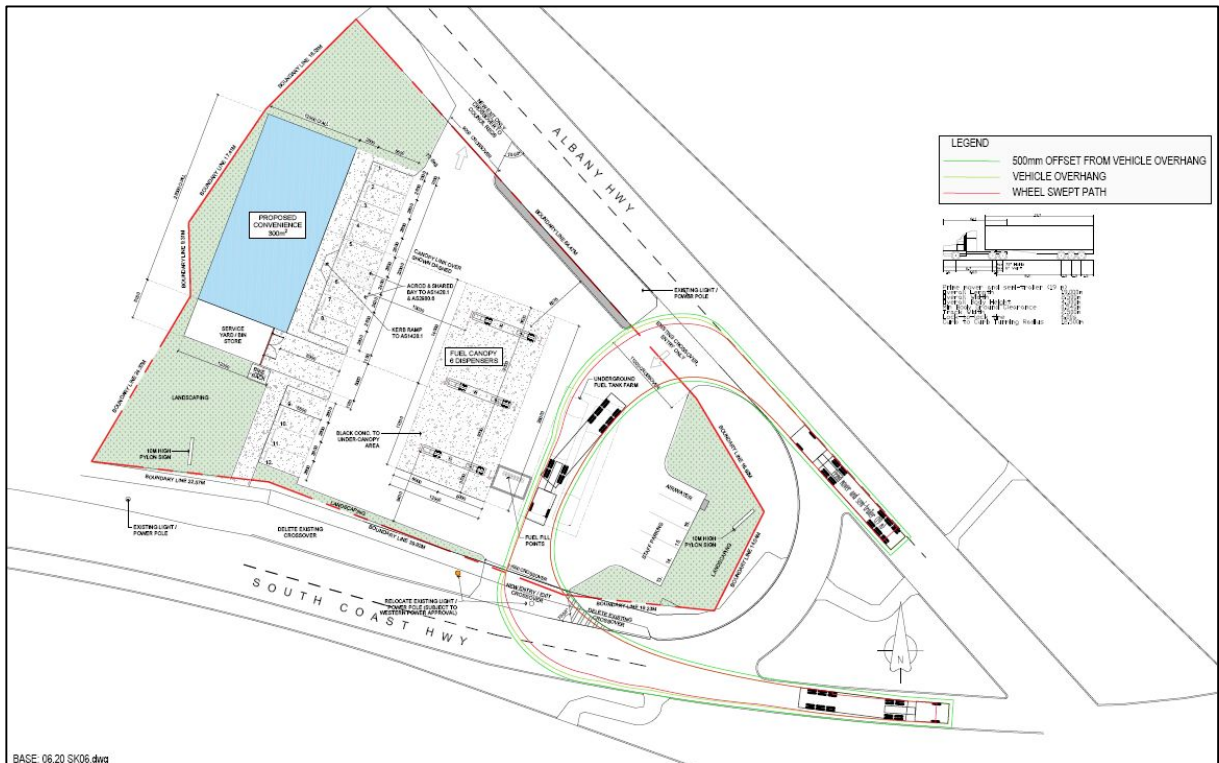


Figure 3.2: Tanker Swept Path Source: DVC amendments to Hodge Collard Preston Architects base drawing

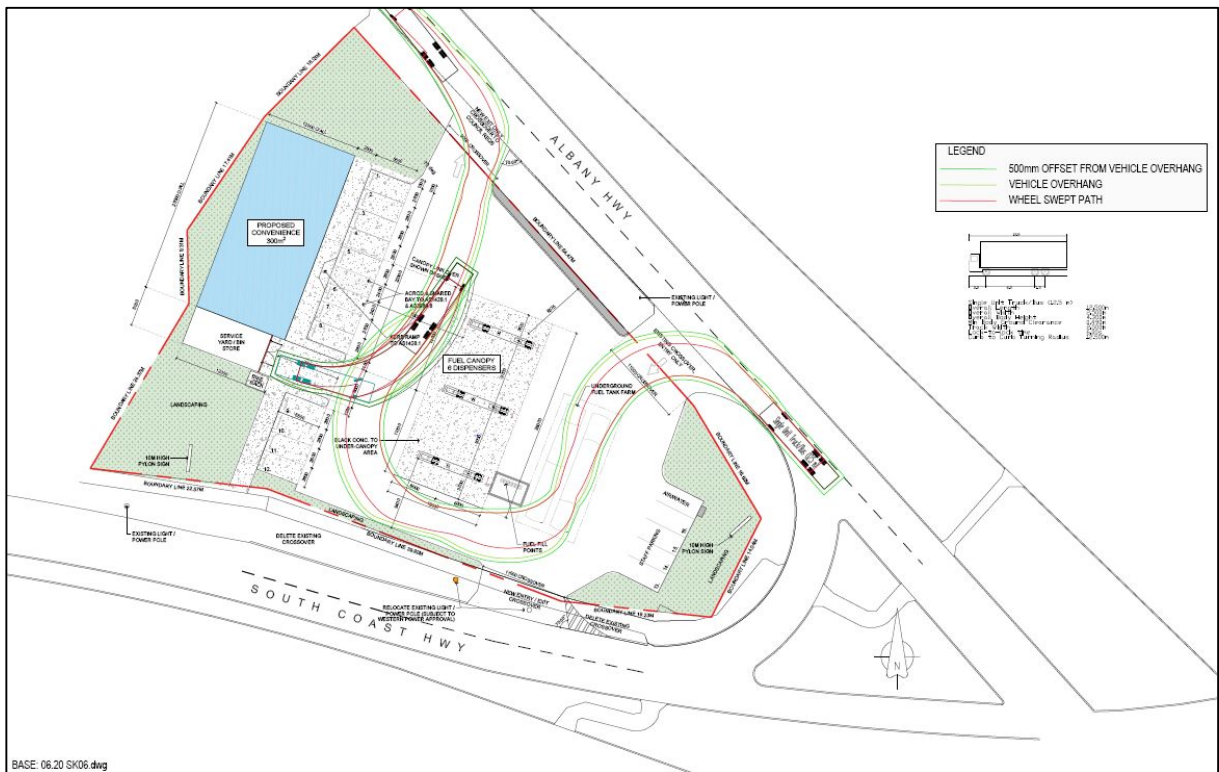


Figure 3.3: 12.5 Rigid Vehicle Swept Path Source: DVC amendments to Hodge Collard Preston Architects base drawing

4 TRAFFIC ASSESSMENT

In order to assess the potential traffic impacts associated with the site, a traffic generation and distribution exercise was undertaken.

4.1 TRIP GENERATION

Research data suggests that approximately 56 % of urban service station trips are typically passing trade and hence already on the road network. Previously sourced data suggests that an average of 1.5% of all vehicles passing a service station will visit the site. However, given the availability of alternative service stations just south of the site (Puma and United) and almost opposite on the southbound side of Albany Highway (Shell), it is expected that the majority of generated trips will be from the adjacent carriageway only and not an aggregate of both carriageways.

Other often-quoted trip generation research (refer **Appendix A**) uses trip rates per bowser. The Institution of Transportation Engineers (ITE) Trip Generation Rates Handbook (USA publication) uses 13.4 trips/hour/bowser but this would equate to an unrealistic level of 161 trips in the peak hour (say 80 inbound and 80 outbound) meaning 7% of all passing vehicles would enter the service station in the peak hour.

Another source often used is the Roads Transport Authority (RTA) (NSW publication) which uses site area and GFA of the convenience store. One method estimates the evening peak hour trips as $0.04 \times \text{site area in m}^2 + 0.3 \times \text{GFA of the convenience store}$. In this case the equation forecasts $(0.04 \times 3259 + 0.3 \times 300)$ 220 trips or 19% of all trips passing the site. Its other method is $0.66 \times \text{store area}$ or (0.66×300) 198 trips or 17% of all passing traffic. Both of these estimates result in unrealistically high percentages of all passing traffic entering the site.

Generous trip generation estimates have therefore been based on 2% of northbound traffic on Albany Highway and 2% of eastbound traffic on South Coast Highway, and zero in the opposing directions.

The daily and peak hour traffic volumes on Albany Highway and South Coast Highway are shown in **Figures 2.2 and 2.3**. These show very similar volumes of passing traffic for the afternoon peak hours of 3-4pm (1142 vph), 4-5pm (1142 vph) and 5-6pm (1138 vph). The highways in the city bound direction carry significantly less traffic in the morning peak hours.

The daily and PM peak hour trips forecast to be generated by the development are shown in **Table 4.1**.

Table 4.1: Daily and Peak Hour Trip Generation

Land Use	Daily		PM Peak hour		AM Peak hour	
	Attraction rate	No. of vehicles	Peak hour factor	No. of vehicles	Peak hour factor	No. of vehicles
Service Station & Convenience Store	2 % of Albany Highway NB traffic	190	2% of 871	17	2 % of 559	11
	2 % of South Coast Highway EB traffic	68	2 % of 271	5	2 % of 288	6
Total trips		258 in & 258 out	Total trips	22 in & 22 out	Total trips	17 in & 17 out

4.2 TRAFFIC DISTRIBUTION

The Service Station & Convenience Store traffic generated by the proposed development, as detailed in **Table 4.1**, has been distributed onto the surrounding road network to show the expected increases in movements at the driveways to the development. These are shown in **Figure 4.1**.

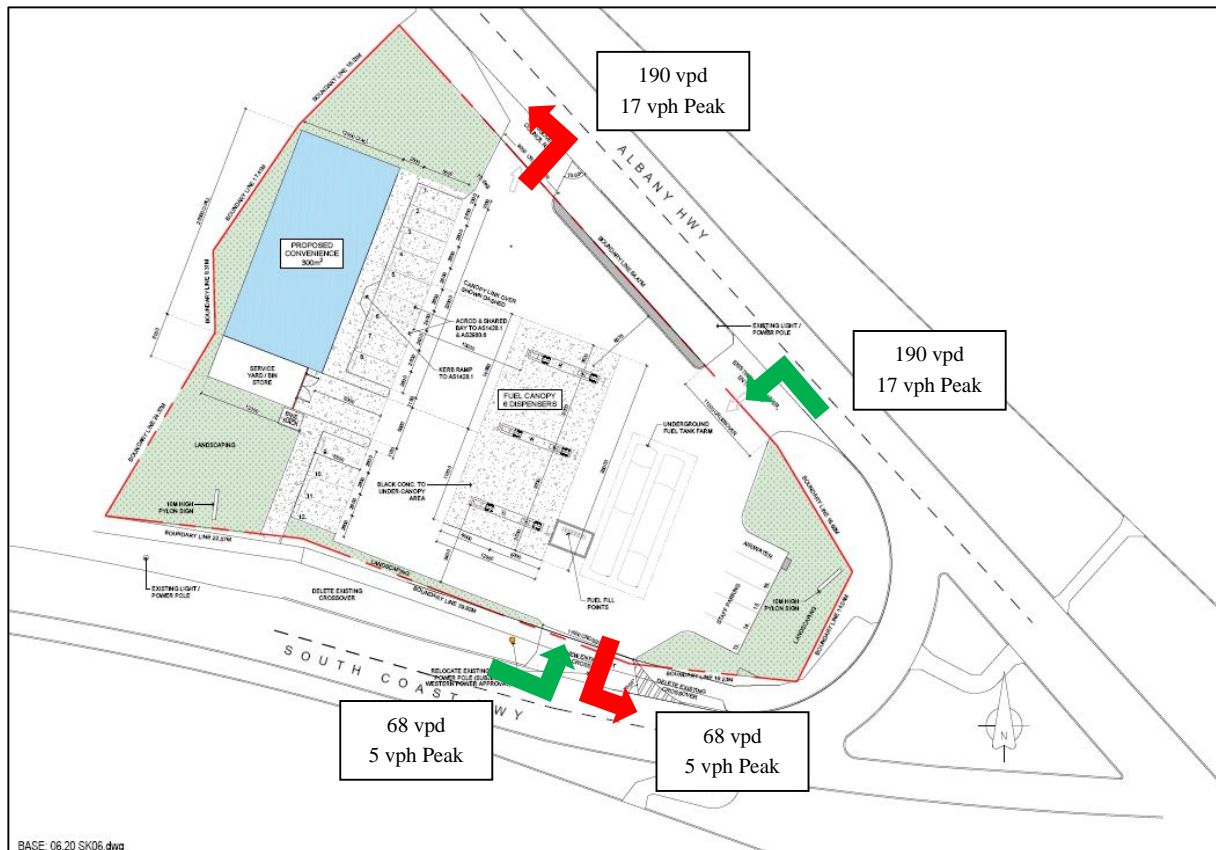


Figure 4.1: Forecast Daily and PM peak hour turning movements to and from the development

These traffic forecasts will have no significant impact on the volume of traffic through the existing intersections in the vicinity as most customers will visit the site enroute to their destination. There will be a small proportion of customers who exit in a different direction and may, in any case, balance each other out. No reductions have been made for existing traffic volumes that will be displaced by the closure of the existing businesses operating on the site.

4.3 INTERSECTION ANALYSIS

The layout of the site is such that very little additional traffic is expected to pass through the intersection of Albany Highway with South Coast Highway as a result of this development as customers are intercepted either downstream or upstream of the intersection. Hence there is negligible traffic impact and under WAPC's Transport Impact Assessment Guidelines, no detailed technical analysis is therefore required.

5 OTHER ISSUES

5.1 SERVICE DELIVERIES

Service deliveries to the site will include fuel for the service station and various goods for the convenience store. Refuelling tankers would access the site via the Albany Highway and exit via South Coast Highway. Smaller delivery trucks could make use of any of the entry/exit combinations. An air/water bay for customers is also shown.

Fuel will be delivered to the site by 19m long articulated tanker trucks. Their swept path is shown in **Figure 3.2** and **Appendix C**. The delivery route must be clearly conveyed to the refueling tanker drivers.

A loading bay has been provided alongside the main building for smaller delivery trucks. Such vehicles will be able to pull forward, before reversing into this bay. The service yard has been set back from the store front to enable the doors to open without blocking the pedestrian path route. Swept path analysis for this activity is shown in **Figure 3.3** and **Appendix C**.

5.2 RUBBISH COLLECTION

Rubbish collection would be undertaken from within the site and not along the road verge. Rubbish bins are shown to be located on the southern side of the building. The entering and exiting movements of the garbage truck would then be similar to those for the service delivery vehicles shown in **Figure 3.3**.

5.3 PARKING

The City of Albany Planning Scheme No. 1 requires that the proposed service station development provide 1 bay per pump plus 1 per employee plus 1 per 20m² of retail area. We are advised that the store will have 150m² of retail area and the development will have up to 3 staff at any one time. This equates to a parking requirement of 11 bays being 8 for the retail area plus 3 for staff. Parking for customers at the bowsers is provided adjacent to each pump. The development provides a total parking supply of 16 on-site car bays (including 1 ACROD bay). The proposed parking supply is considered suitable for the development and compliant with the planning scheme requirements.

The planning scheme also requires provision for parking 1 bicycle per 10 parking bays for a convenience store. Hence provision for parking at least 2 bicycles on site is required. A bicycle rack has been included in the design, south of the service yard with path access from South Coast Highway.

5.4 ON SITE QUEUING

As a worst-case scenario, we have assumed 50% of the PM peak patrons arrive in a 15-minute period, that is 11 vehicles. These could all readily be accommodated within the 12 bowsers with no queuing. With a typical turnover of around 7 minutes per customer, there is unlikely to be any significant queuing at this site. If on rare occasions demand was such that vehicles did queue, there is adequate space to accommodate the entire peak hour forecast demand within the service station forecourt without impacting the adjacent road network. Vehicle storage capacity is therefore considered to be adequate as such queuing should not block the driveway accesses.

6 SUSTAINABLE TRANSPORT

6.1 PEDESTRIANS & CYCLISTS

Footpaths exist on both sides of South Coast Highway in the vicinity of the site. A footpath link through to the convenience store is included in the design to provide a safe route for any customers visiting on foot or bicycle.

6.2 PUBLIC TRANSPORT

Whilst it is not expected that many patrons or staff will arrive by public transport, there are services and bus stops in the vicinity of the site. Bus route 808 runs northbound on Albany Highway from the city centre to Lancaster Road and returning through the residential street in Lockyer as shown in **Figure 6.1**. Bus stops are located 300m north on Albany Highway northbound, directly opposite for southbound and 565m west of the site on South Coast Highway.

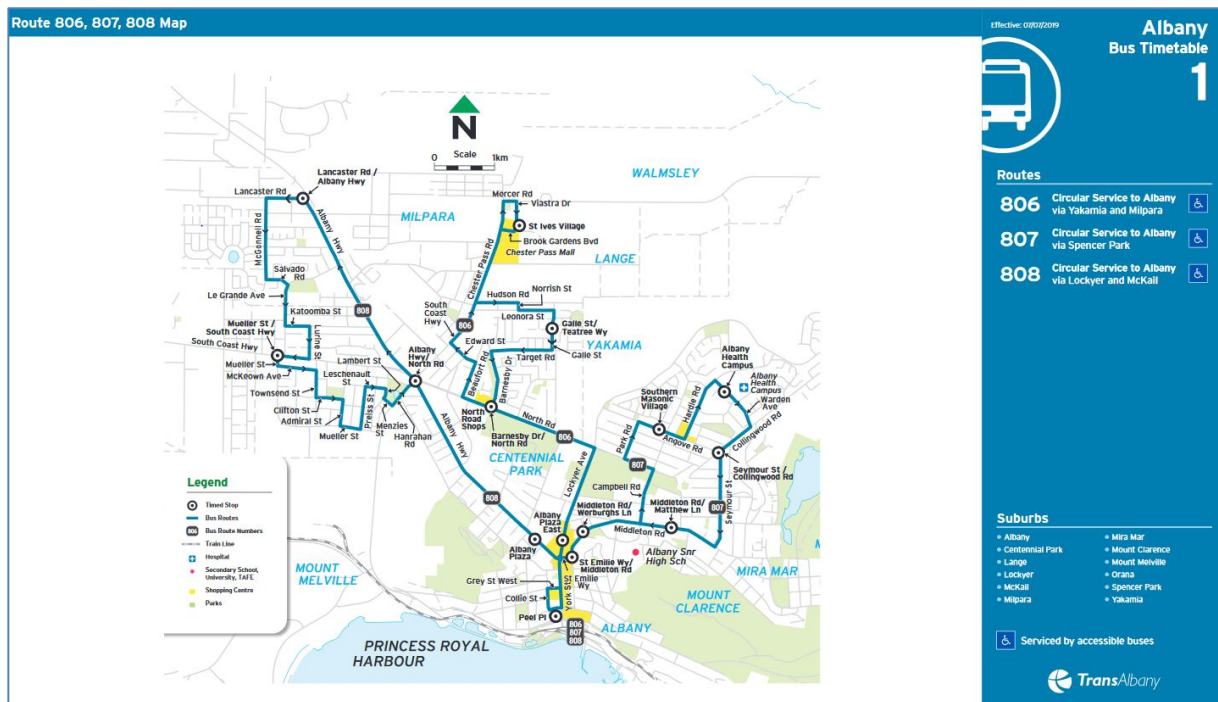


Figure 6.1: Bus Route Map

7 SUMMARY

This Transport Impact Statement has been prepared by Donald Veal Consultants (DVC) on behalf of Mark Hunter, with regard to a proposed Service Station in the suburb of Orana. The site is located at the intersection of Albany Highway with South Coast Highway, in the City of Albany.

The proposed development will consist of a service station and convenience store. A forecourt canopy is proposed for 12 refuelling points for cars and other light vehicles to the front of the convenience store.

Following discussions with MRWA, it has been agreed, subject to detail, that two access points will be provided on Albany Highway (one left inbound only and one left outbound only) plus a left in/left out single driveway onto South Coast Highway.

Trip generation estimates have taken into account the road layout noting that both adjacent roads are dual carriageways in the vicinity of the site thereby restricting all access to left in and left out movements. Furthermore, account has been taken of other service stations close by and the volume of passing traffic on both highways. We have therefore based the traffic generation for the site on 2% of northbound traffic on Albany Highway plus 2% of eastbound traffic on South Coast Highway. Thus, throughout the day, around 516 trips forecast (258 in/ 258 out). In the AM peak hour 34 trips are expected and 44 in the PM peak hour.

These movements typically intercept passing trade with less than half expected to be generated trips, especially during the peak hours. This is considered to represent a low to moderate traffic impact under WAPC's Transport Impact Assessment Guidelines, and no detailed technical analysis is therefore required.

Service deliveries to the site will include fuel for the service station and various goods for the convenience store. The refuelling tankers will be required to enter off Albany Highway and exit onto South Coast Highway. Other service vehicles have the option of using any combination of the entry and exit crossovers. A loading bay has been provided alongside the main building for smaller delivery trucks. Such vehicles will be able to pull forward, before reversing into this bay. Rubbish collection would be undertaken from within the site and not along the road verge. Rubbish bins are shown to be located on the southern side of the building.

The development provides a total parking supply of 16 on-site car bays (including 1 ACROD) plus bicycle parking. The proposed parking supply is considered suitable for the development.

Vehicle storage capacity is considered to be adequate for customer vehicles and as such queuing should not block the driveway accesses.

Based on this analysis, we fully support the proposed development from a traffic and road safety viewpoint.

APPENDIX A – TRAFFIC DATA

Client Name: Mark Hunter

Project Name: 367 Albany Highway, Albany TIS

MRWA CARS Extract

Detailed Crash History																														
Road	Road Name	SLK	CMV	True Dist	Intersection	Day	Time	Severity	Crash No.	Type	Light Cond	Road Cond	Speed Limit	Traffic Control	Road Feature	Road Alignment	Speed Factor	MR Nature	Location	RUM	Unit	Unit Type	From Dir	To Dir	Veh/Ped Move	First Object Hit	Second Object Hit	Third Object Hit	Target Impact Point	
H001	Albany Hwy	403.69	L	403.22	LOCKE ST (015417)	Tuesday	1815	PDO Major	20180 24830	Intersection	Daylight	Dry	60	No Sign Or Control	Median Opening	Straight		Right Angle	On Cway	12:Intr: Right Thru	Colliding	Car	E - LOCKE ST	N - ALBANY HWY	Swing Wide: Right Turn At Intx					
Locke St Intersection																														
H001	Albany Hwy	403.69	L	403.22	LOCKE ST (015417)	Tuesday	1815	PDO Major	20180 24830	Intersection	Daylight	Dry	60	No Sign Or Control	Median Opening	Straight		Right Angle	On Cway	12:Intr: Right Thru	Target	Utility	S - ALBANY HWY	N - ALBANY HWY	Straight Ahead: Not Out Of Control				Side	
Locke St Intersection																														
H001	Albany Hwy	403.77	L	403.30		Thursday	1245	PDO Minor	20161 48304	Midblock	Daylight	Dry	60	No Sign Or Control		Straight		Rear End	On Cway	31:Same Dir: Same Lane Rear End	Colliding	4WD (Not Car Design)	N	S	Overtaking: Passing On Left					
Southbound carriageway																														
H001	Albany Hwy	403.77	L	403.30		Thursday	1245	PDO Minor	20161 48304	Midblock	Daylight	Dry	60	No Sign Or Control		Straight		Rear End	On Cway	31:Same Dir: Same Lane Rear End	Target	Car	N	S	Straight Ahead: Not Out Of Control				Side	
Southbound carriageway																														
H001	Albany Hwy	403.82	L	403.35		Monday	0855	PDO Major	20192 87073	Midblock	Daylight	Wet	60	No Sign Or Control		Straight		Rear End	On Cway	31:Same Dir: Same Lane Rear End	Colliding	Station Wagon	N	S	Straight Ahead: Not Out Of Control					
Southbound carriageway																														
H001	Albany Hwy	403.82	L	403.35		Monday	0855	PDO Major	20192 87073	Midblock	Daylight	Wet	60	No Sign Or Control		Straight		Rear End	On Cway	31:Same Dir: Same Lane Rear End	Target	Car	N	S	Stopped: To Avoid Veh				Rear	
Southbound carriageway																														
H001	Albany Hwy	404.03	L	403.56		Tuesday	1400	PDO Minor	20183 55834	Midblock	Daylight		60	No Sign Or Control	Driveway					Sidewalk	40:Manoeuv: Other	Colliding	4WD (Not Car Design)	E	S	Turning: To Make Left Turn				
Northbound carriageway																														
H001	Albany Hwy	404.03	L	403.56		Tuesday	1400	PDO Minor	20183 55834	Midblock	Daylight		60	No Sign Or Control	Driveway					Sidewalk	40:Manoeuv: Other	Target	Motorised Wheelchair	S	N	Straight Ahead: Not Out Of Control				Side
Northbound carriageway																														
H001	Albany Hwy	404.08	L	403.60	SOUTH COAST HWY (000306)	Friday	1330	Medical	20151 58431	Intersection	Daylight	Dry	60	No Sign Or Control	3-way Intr: (T-junction)	Curve		Rear End	On Cway	33:Same Dir: Same Lane Right Rear	Colliding	Car	N - SOUTH WESTERN HWY	S - ALBANY HWY	Straight Ahead: Not Out Of Control					
SCH intersection																														
H001	Albany Hwy	404.08	L	403.60	SOUTH COAST HWY (000306)	Friday	1330	Medical	20151 58431	Intersection	Daylight	Dry	60	No Sign Or Control	3-way Intr: (T-junction)	Curve		Rear End	On Cway	33:Same Dir: Same Lane Right Rear	Target	Station Wagon	N - SOUTH WESTERN HWY	S - ALBANY HWY	Stopped: Prepared To Turn Right				Rear	
SCH intersection																														

ITE Trip Generation Rates

Description/ITE Code		Units	ITE Vehicle Trip Generation Rates (peak hours are for peak hour of adjacent street traffic unless highlighted)								Expected Units	Total Generated Trips			Total Distribution of Generated Trips						
			Weekday	AM	PM	Pass-By	AM In	AM Out	PM In	PM Out		Daily	AM Hour	PM Hour	AM In	AM Out	Pass-By	PM In	PM Out	Pass-By	
Walk-in Bank 911	KSP ²	NA	NA	12.13			NA	NA	44%	56%		0	NA	0	NA	NA	0	0	0	0	
Drive-in Bank 912	Drive-in Lanes	139.25	9.44	27.41			47%	58%	42%	49%	51%		0	0	0	0	0	0	0	0	
Drive-in Bank 912	KSP ²	148.15	12.35	25.82			47%	56%	44%	50%	50%		0	0	0	0	0	0	0	0	
Hair Salon 918	KSP ²	NA	1.21	1.45			100%	0%	17%	83%		0	0	0	0	NA	0	0	0	0	
Copy, Print & Express Ship Sore 920	KSP ²	NA	2.78	7.41			75%	25%	44%	56%		0	0	0	0	0	0	0	0	0	
Copy, Print & Express Ship Sore 920	Employees	NA	1.50	4.00			75%	25%	44%	56%		0	0	0	0	0	0	0	0	0	
Drinking Place 925	KSP ²	NA	NA	11.34				NA	NA	66%	34%		0	NA	0	NA	NA	0	0	0	
Quality Restaurant 931	KSP ²	89.95	0.81	7.49			44%	NA	NA	67%	33%	3.4	302	3	25	NA	NA	1	9	5	11
Quality Restaurant 931	Seats	2.86	0.03	0.26			44%	NA	NA	67%	33%	120.0	343	4	31	NA	NA	2	12	6	14
High Turnover/Sit Down Rest 932	KSP ²	127.15	11.52	11.15			43%	52%	48%	59%	41%		0	0	0	0	0	0	0	0	
High Turnover/Sit Down Rest 932	Seats	4.83	0.47	0.41			43%	52%	48%	57%	43%		0	0	0	0	0	0	0	0	
Fast Food w/o Drive Thru 933	KSP ²	716.00	43.87	26.15			60%	40%	51%	49%			0	0	0	0	0	0	0	0	
Fast Food w/o Drive Thru 933	Seats	42.12	NA	2.13				NA	NA	64%	36%		0	NA	0	NA	NA	0	0	0	
Fast Food with Drive Thru 934	KSP ²	496.12	49.35	33.48			50%	51%	49%	52%	48%		0	0	0	0	0	0	0	0	
Fast Food with Drive Thru 934	Seats	19.52	1.32	0.94			50%	53%	47%	53%	47%		0	0	0	0	0	0	0	0	
Fast Food Drive Thru Only 935	KSP ²	NA	NA	153.85			89%	NA	NA	54%	46%		0	NA	0	NA	NA	0	0	0	
Coffee/Donut Shop w/o Drive Thru 936	KSP ²	NA	117.23	40.75			51%	49%	50%	50%			0	0	0	0	0	0	0	0	
Coffee/Donut Shop w/ Drive Thru 937	KSP ²	818.58	110.75	42.93			51%	49%	50%	50%			0	0	0	0	0	0	0	0	
Coffee/Donut Drive Thru Only 938	KSP ²	1800.00	303.33	75.00			89%	50%	50%	50%	50%		0	0	0	0	0	0	0	0	
Bread/Bagel Shop w/o Drive Thru 939	KSP ²	NA	70.22	28.00			47%	53%	50%	50%			0	0	0	0	0	0	0	0	
Bread/Bagel Shop w/ Drive Thru 940	KSP ²	NA	36.92	19.56			50%	50%	50%	50%			0	0	0	0	0	0	0	0	
Quick Lube Vehicle Shop 941	Service Bays	40.00	3.00	5.19			67%	33%	55%	45%			0	0	0	0	0	0	0	0	
Automobile Care Center 942	Service Bays	12.48	1.52	2.17			68%	32%	NA	NA			0	0	0	0	0	0	NA	NA	
Automobile Care Center 942	KSP ²	15.86	2.94	3.38			65%	35%	50%	50%			0	0	0	0	0	0	0	0	
Automobile Parts & Service Center 943	KSP ²	NA	NA	4.46				NA	NA	42%	58%			0	NA	NA	0	0	0	0	
Gasoline/Service Station 944	Fuel Position	168.56	12.16	13.87			42%	51%	49%	50%	50%	8.0	1,348	97	111	29	28	41	32	32	47
Serv Station w/ Conven.Mkt 945	Fuel Position	162.78	10.16	13.38			56%	50%	50%	50%	50%	8.0	1,302	81	107	18	18	46	24	24	60
Serv Stat w/Conv.Mkt & Carwash 946	Fuel Position	152.84	11.93	13.94			51%	49%	51%	49%			0	0	0	0	0	0	0	0	
Self-Service Carwash 947	Stalls	108.00	8.00	5.54			50%	50%	51%	49%			0	0	0	0	0	0	0	0	
Automated Car Wash 948	KSP ²	NA	NA	14.12				NA	NA	51%	49%		0	NA	0	NA	NA	0	0	0	

RED Rates = CAUTION - Use Carefully - Small Sample Size
Green Rates = Peak Hour of Generator - (no peak rate for the rush hour of adjacent street traffic)
Blue Rates = Saturday Daily total - (no weekday daily rate)

*Pass-By % are Rates from Weekday PM Peak Period
 *The Total Pass-By Trips will be Distributed: 50% IN / 50 % OUT

RTA Trip Generation Rates

3.6.2 Service stations and convenience stores.

Rates.

Evening peak hour vehicle trips = 0.04 A(S) + 0.3 A(F).

or.

Evening peak hour vehicle trips = 0.66 A(F)
 Average vehicle trips (9 pm-12 midnight) = 0.6 A(F).

where.

Guide to Traffic Generating Developments. October 2002 Issue 2 3-7

Section 3 – Land Use Traffic Generation

A(S) = area of site (m²).
 A(F) = gross floor area of convenience store (m²).

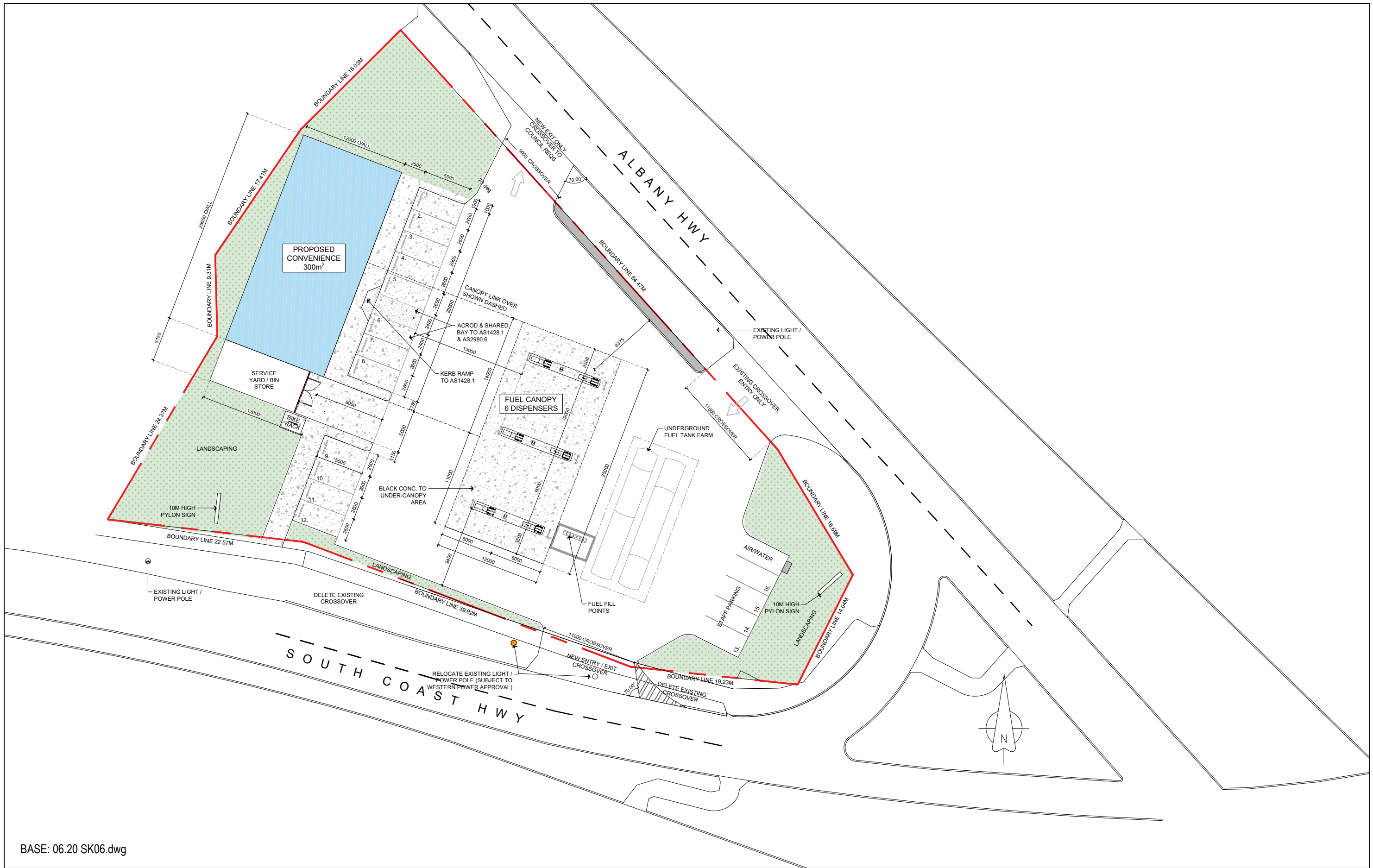
Factors.

For standard service stations without convenience store facilities, A(F) should be taken as zero. Thus, the evening peak hour generation is 0.04 A(S). Neither the late night generation rate nor the alternative rate applies for the evening peak hour generation based solely on gross floor area.

Daily trip generation rates depend on the site's operating hours. For example, at one convenience store surveyed over 24 hours, the total daily trip generation was 19 times the evening peak hour generation. For trips associated with fuel sales, the total daily trip generation was 17 times the evening peak hour generation.

The proportion of fuel trips to store trips can vary substantially depending upon the location of the service station and the time of day. Convenience stores surveyed in 1990, indicated that the average percentage of total trips between 3.00 and 6.00 pm for fuel, was 46% (whether goods were purchased as well or not). Between 9.00 pm and 12.00 am the equivalent figure was 29%. Further information on site and hourly variations can be found in the *Land Use Traffic Generation - Data and Analysis 19: Convenience Stores report.*

APPENDIX B – SITE LAYOUT PLAN



BASE: 06.20 SK06.dwg

Project
367 ALBANY HIGHWAY, ALBANY

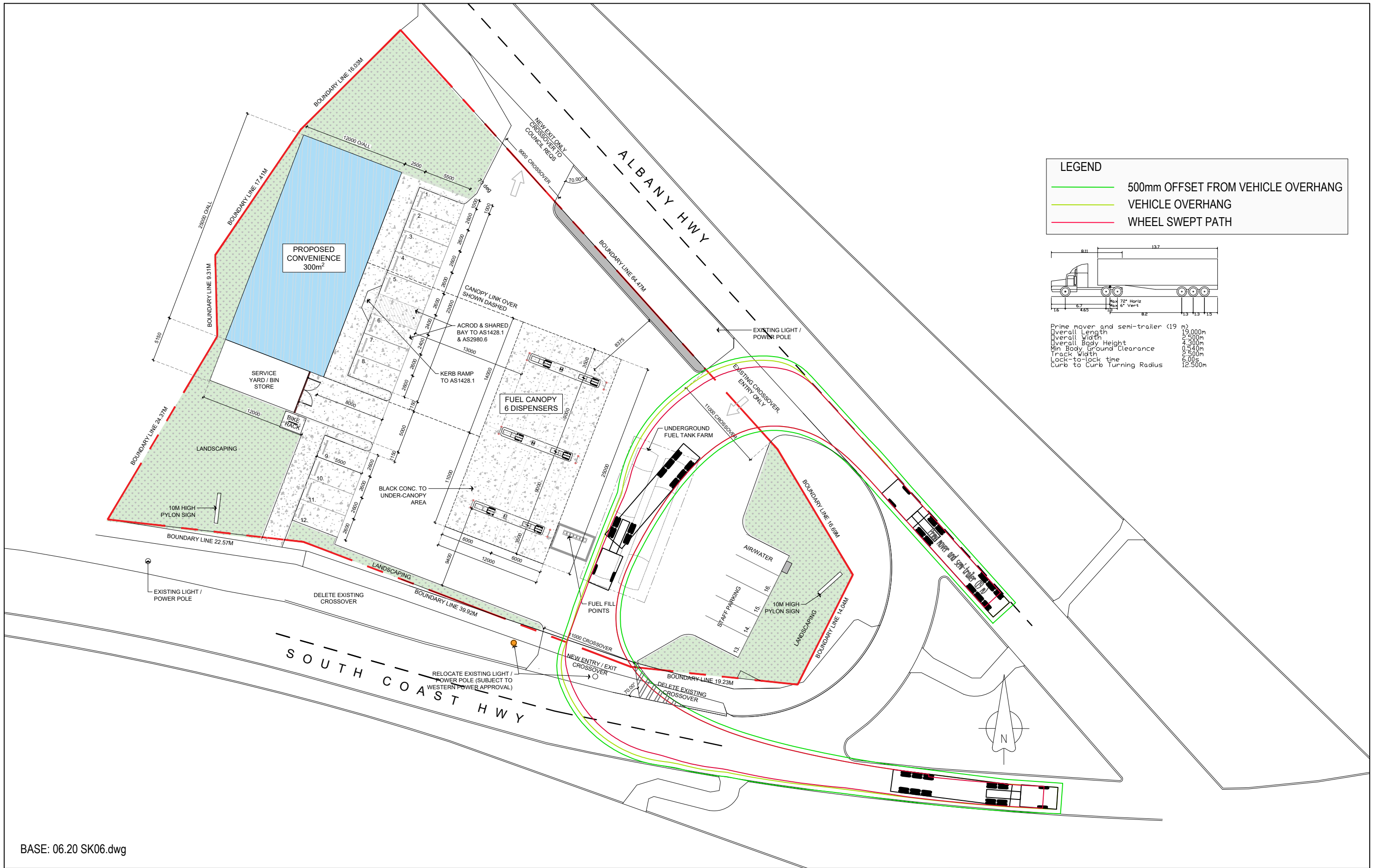
Title
SITE LAYOUT

Client
MARK HUNTER & BENNY RONCIO

Designed	DNV	25.05.2020
Drawn	GTT	25.05.2020
Checked	DNV	25.05.2020
Approved		
Scale	1:400 AT A3	

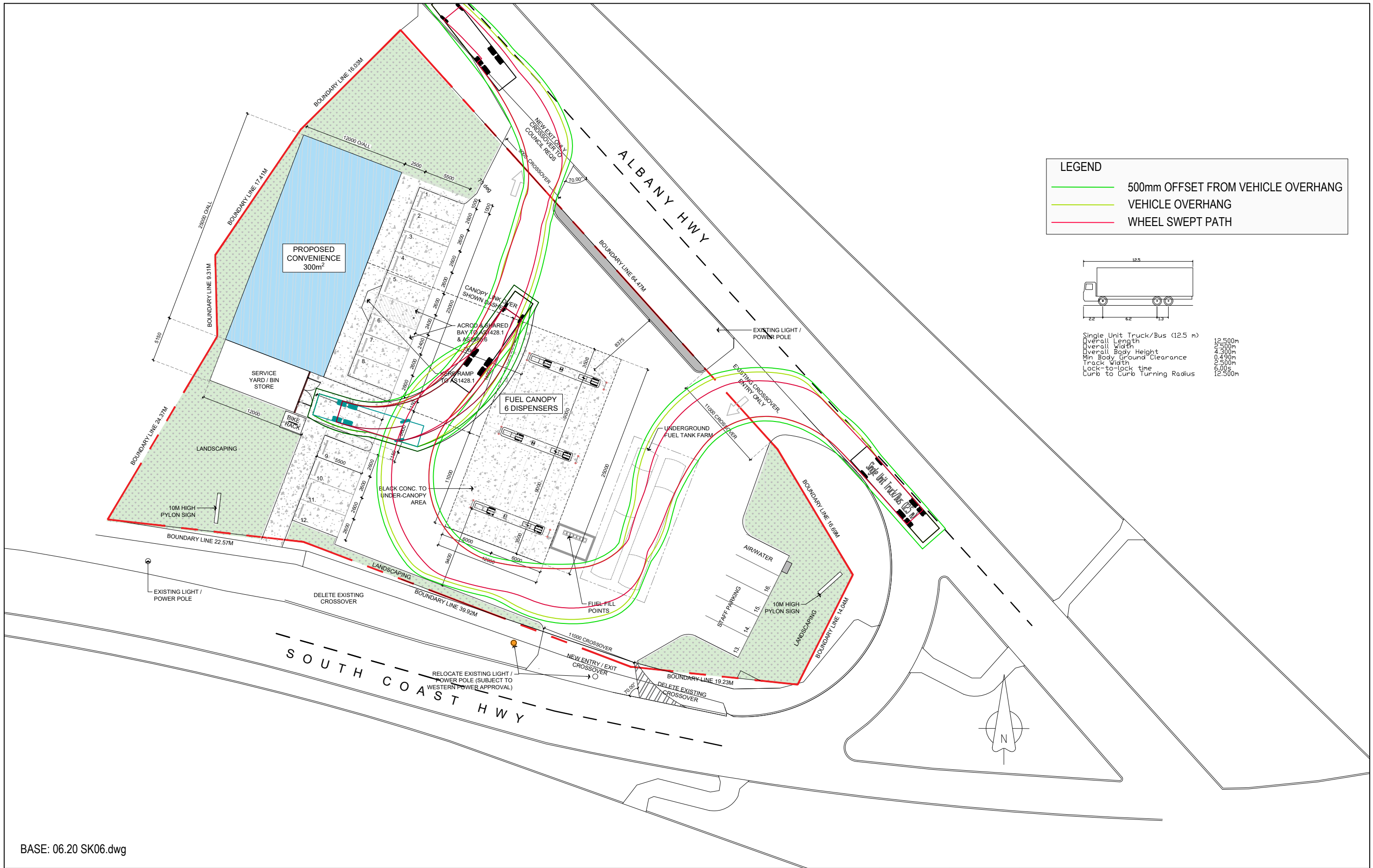
Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076		
Project Number	Drawing File Name	
Z752	DVC-Z752	Drawing Number
		SK4
		Revision
		01

APPENDIX C – SWEPT PATH ANALYSIS

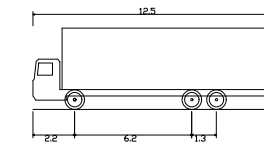


BASE: 06.20 SK06.dwg

Project 367 ALBANY HIGHWAY, ALBANY	Designed	DNV	25.05.2020	Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076	
	Drawn	GTT	25.05.2020		
Title SITE LAYOUT WITH SWEEP PATH OF SEMI-TRAILER 19m AT 5KM/H	Checked	DNV	25.05.2020	Project Number Z752	Drawing File Name DVC-Z752
	Approved				
Client MARK HUNTER & BENNY RONCIO	Scale	1:400 AT A3		Drawing Number SK5	Revision



LEGEND	
	500mm OFFSET FROM VEHICLE OVERHANG
	VEHICLE OVERHANG
	WHEEL SWEEP PATH



Single Unit Truck/Bus (12.5 m)	12.500m
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.490m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

BASE: 06.20 SK06.dwg

Project 367 ALBANY HIGHWAY, ALBANY	Designed DNV 25.05.2020	Donald Veal Consultants 6 Burgess Street Midland WA 6056 Telephone +61 8 9274 7076	
Title SITE LAYOUT WITH SWEEP PATH OF TRUCK 12.5m AT 5KM/H	Drawn GTT 25.05.2020		
Client MARK HUNTER & BENNY RONCIO	Checked DNV 25.05.2020	Project Number Z752	Drawing File Name DVC-Z752
	Approved	Drawing Number SK6	Revision
	Scale 1:400 AT A3		

Appendix D

MRWA Email

From: LENTON Brad (On Leave) <brad.lenton@mainroads.wa.gov.au>
Sent: Wednesday, 3 June 2020 9:05 AM
To: Donald Veal <donald.veal@dvcworld.com>
Subject: RE: Development Proposal for 367 Albany Highway - TIS Report drawings

Hi Don

Thank you for your email of 2 June 2020 regarding the proposed development of 367 Albany Highway, Orana.

I advise that the access points shown on the submitted plans are generally acceptable to Main Roads GSR. Please note final approval will be subject but not limited to the approval of the City of Albany.

I trust that this is acceptable, however should you wish to discuss this matter further please feel free to contact me.

Regards

Brad Lenton
NETWORK MANAGER
Great Southern Region
p: +61 8 9892 0595 | m: +61 417 910 662
w: www.mainroads.wa.gov.au



Appendix E

Stormwater Management Plan






JC Consulting Engineers

STORMWATER DRAINAGE DESIGN CRITERIA:
 A) 1 YR ARI EVENT ONSITE STORAGE CAPACITY
 B) 5 YR ARI PRE-DEVELOPMENT FLOW RATE FOR CONNECTION TO COUNCIL/MRWA DRAINAGE SYSTEM
 C) 100 YR ARI FOR OVERLAND FLOW PATH

SOIL TYPE DETAILS (DESKTOP STUDY):
 Based on Geological Survey of WA (Mt Barker-Albany Sheet SI 50-11 and Part of Sheet SI 50-15), the site is overlain with: SAND – white, grey or brown; commonly contains iron pisoliths and overlies laterite. Estimated permeability coefficient, $k=0.5\text{m/day}$

GROUNDWATER TABLE (DESKTOP STUDY):
 Department of Water Map show groundwater level nearby at approximately 10-15m below existing groundline (to be confirmed). Potential for perched groundwater above clay or rock layer below sand layer.

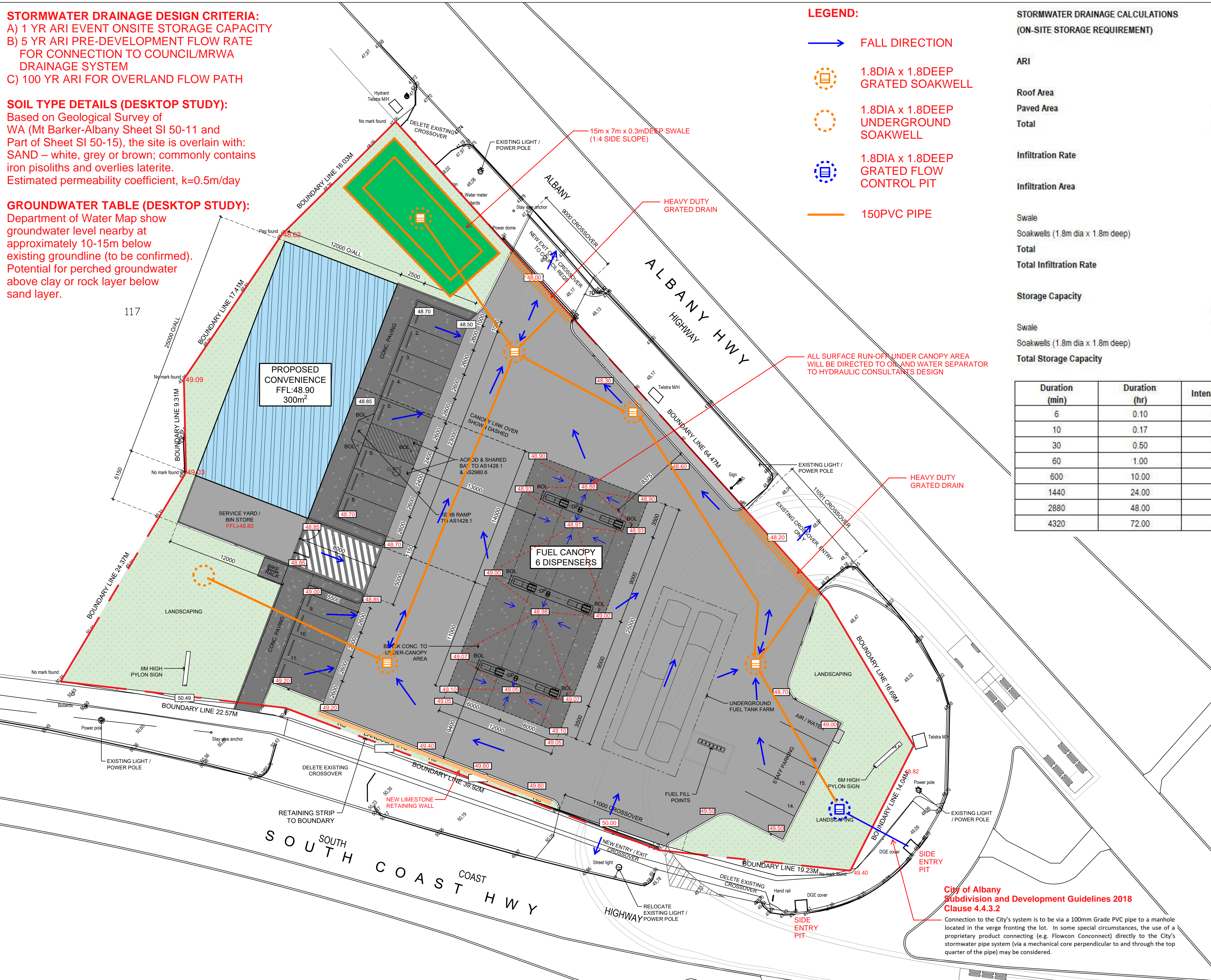
LEGEND:

-  FALL DIRECTION
-  1.8DIA x 1.8DEEP GRATED SOAKWELL
-  1.8DIA x 1.8DEEP UNDERGROUND SOAKWELL
-  1.8DIA x 1.8DEEP GRATED FLOW CONTROL PIT
-  150PVC PIPE

STORMWATER DRAINAGE CALCULATIONS (ON-SITE STORAGE REQUIREMENT)

ARI	1:1	AEP 63.2			
		Runoff Coefficient			
Roof Area	600	1.00			
Paved Area	1831	0.90			
Total	2431	0.92			
Infiltration Rate	0.5	m/day (estimated)			
Infiltration Area					
	Qty	Length	Width	Total	
Swale	1	15.00	7.00	105.00	
Soakwells (1.8m dia x 1.8m deep)	7	0.60	0.60	2.52	
Total				107.52	sqm
Total Infiltration Rate				53.76	m3/day
Storage Capacity					
	Length	Width	Depth	Qty	Volume (m3)
Swale	15.00	7.00	0.3	1	24.44
Soakwells (1.8m dia x 1.8m deep)	2.54	1.8		7	32.05
Total Storage Capacity					56.49

Duration (min)	Duration (hr)	Intensity (mm/hr)	Inflow Volume (m3)	Infiltration Volume (m3)	Net Volume for Onsite Storage (m3)	Excess Volume (m3)
6	0.10	52.70	11.85	0.22	11.62	NIL
10	0.17	40.30	15.10	0.37	14.73	NIL
30	0.50	20.80	23.38	1.12	22.26	NIL
60	1.00	13.50	30.35	2.24	28.11	NIL
600	10.00	3.36	75.53	22.40	53.13	NIL
1440	24.00	1.88	101.43	53.76	47.67	NIL
2880	48.00	1.14	123.01	107.52	15.49	NIL
4320	72.00	0.85	136.92	161.28	NIL	NIL



City of Albany
 Subdivision and Development Guidelines 2018
 Clause 4.4.3.2
 Connection to the City's system is to be via a 100mm Grade PVC pipe to a manhole located in the verge fronting the lot. In some special circumstances, the use of a proprietary product connecting (e.g. Flowcon Conconnect) directly to the City's stormwater pipe system (via a mechanical core perpendicular to and through the top quarter of the pipe) may be considered.

JCCE
 JC Consulting Engineers

JUDE CUBONG
 MIEAust CP Eng (4198579), NER, RPEQ

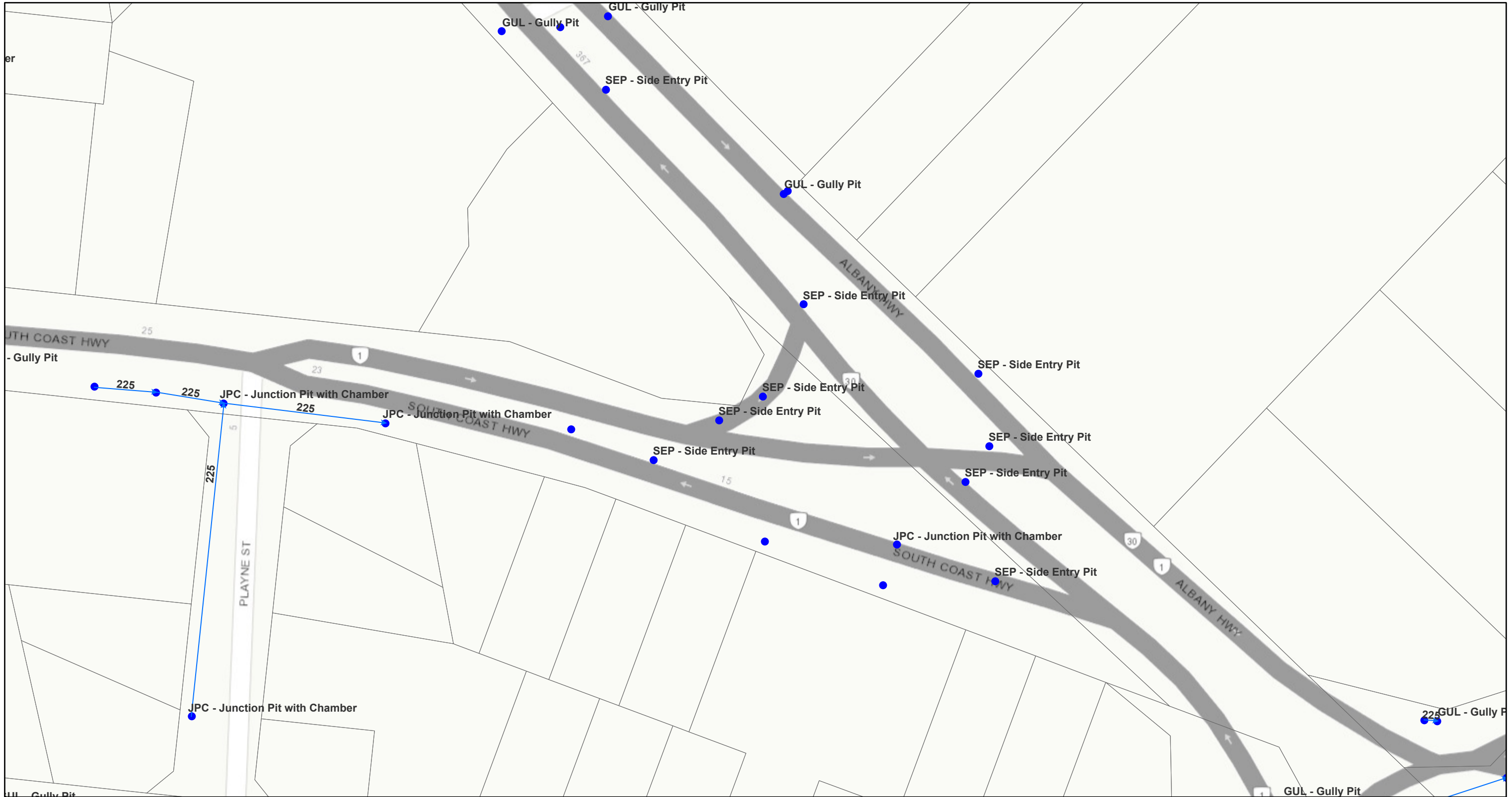
16-SEP-2020

PROPOSED SITE PLAN
 SCALE 1:200

- GENERAL NOTES:**
- DO NOT SCALE FROM DRAWINGS.
 - ALL BOUNDARIES, LEVELS AND DIMENSIONS TO BE CONFIRMED ON SITE.
 - ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONSULTANTS DRAWINGS.
 - REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING ANY WORKS.
 - KERB RAMP AND TGSs TO BE IN ACCORDANCE WITH AS 1428.
 - NIL STEP AT ENTRY DOORS TO PROVIDE CONTINUOUS PATH OF TRAVEL IN ACCORDANCE WITH AS 1428.
 - MAX 1 IN 40 CAMBER AND CROSSFALLS TO ALL RAMPS AND WALKWAYS IN ACCORDANCE WITH AS 1428.
 - ALL MATERIALS TO BE COMPLIANT WITH NCC & AS.

B	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	08.09.2020
A	ISSUE FOR DEVELOPMENT APPROVAL	MS	NP	26.08.2020
revision/issue	description	drawn	checked	date
project	description	drawn	checked	date
UNITED SERVICE STATION		MS	NP	
location		checked	NP	
ALBANY Hwy, ALBANY W.A.		scale	date	18.08.2020
Hodge Collard Preston ARCHITECTS		1:200	project no	06.20
		dwg no	skw	07
		rev		B

City of Albany Stormwater Network



9/15/2020, 11:39:40 PM

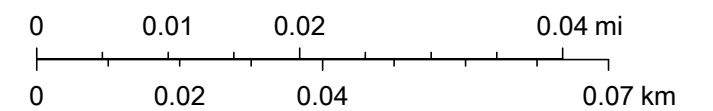
DRAINAGE PIPES

→ LONGITUDINAL - Longitudinal

• Pits

□ Cadastre

1:1,128



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community



Location

Label: Not provided

Latitude: -35.0018 [Nearest grid cell: 35.0125 (S)]

Longitude: 117.8631 [Nearest grid cell: 117.8625 (E)]

IFD Design Rainfall Intensity (mm/h)

Issued: 16 September 2020

Rainfall intensity for Durations, Exceedance per Year (EY), and Annual Exceedance Probabilities (AEP).
[FAQ for New ARR probability terminology.](#)

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	91.0	102	139	168	199	245	284
2 min	80.0	89.4	122	147	174	211	240
3 min	70.6	78.9	107	129	153	186	213
4 min	63.3	70.6	96.3	116	137	168	193
5 min	57.4	64.1	87.5	105	125	153	176
6 min	52.7	58.9	80.3	96.8	115	141	163
10 min	40.3	45.0	61.6	74.3	88.1	109	127
15 min	31.9	35.6	48.8	59.0	70.0	86.5	101
20 min	26.8	30.0	41.0	49.6	58.9	72.8	84.8
25 min	23.3	26.1	35.8	43.2	51.3	63.3	73.7
30 min	20.8	23.3	31.9	38.5	45.7	56.4	65.5
45 min	16.2	18.1	24.7	29.8	35.3	43.3	50.0
1 hour	13.5	15.1	20.6	24.8	29.3	35.8	41.3
1.5 hour	10.6	11.8	16.0	19.2	22.6	27.5	31.5
2 hour	8.87	9.90	13.4	16.0	18.8	22.8	26.1
3 hour	6.96	7.75	10.4	12.5	14.6	17.6	20.1
4.5 hour	5.46	6.08	8.17	9.72	11.4	13.7	15.7
6 hour	4.60	5.12	6.87	8.17	9.54	11.5	13.2
9 hour	3.58	3.99	5.37	6.40	7.48	9.10	10.5
10 hour	3.36	3.74	5.04	6.01	7.03	8.57	9.88
12 hour	2.99	3.33	4.50	5.38	6.31	7.71	8.92
18 hour	2.29	2.56	3.48	4.19	4.95	6.11	7.12
24 hour	1.88	2.10	2.89	3.50	4.16	5.17	6.05
30 hour	1.61	1.80	2.49	3.03	3.62	4.53	5.31
36 hour	1.41	1.58	2.20	2.68	3.22	4.05	4.76
48 hour	1.14	1.28	1.79	2.20	2.66	3.36	3.96
72 hour	0.846	0.951	1.33	1.65	2.00	2.53	2.99

Appendix F

Environmental Acoustic Assessment

Herring Storer Acoustics



PROPOSED DEVELOPMENT

**LOT 116 (# 367) ALBANY HIGHWAY
ORANA**

ENVIRONMENTAL ACOUSTIC ASSESSMENT

SEPTEMBER 2020

OUR REFERENCE: 26296-1-20244



DOCUMENT CONTROL PAGE

**ENVIRONMENTAL ACOUSTIC ASSESSMENT
PROPOSED FUEL STATION; ALBANY**

Job No: 20244

Document Reference : 26296-1-20244

FOR

AYTON BAESJOU PLANNING

DOCUMENT INFORMATION

Author:	Tim Reynolds	Checked By:	Paul Daly
Date of Issue:	09 September 2020		

REVISION HISTORY

Revision	Description	Date	Author	Checked

DOCUMENT DISTRIBUTION

Copy No.	Version No.	Destination	Hard Copy	Electronic Copy
1	1	Ayton Baesjou Planning Attn : Nick Ayton Email : Nick@aytonbaesjou.com.au		✓

This report has been prepared in accordance with the scope of services and on the basis of information and documents provided to Herring Storer Acoustics by the client. To the extent that this report relies on data and measurements taken at or under the times and conditions specified within the report and any findings, conclusions or recommendations only apply to those circumstances and no greater reliance should be assumed. The client acknowledges and agrees that the reports or presentations are provided by Herring Storer Acoustics to assist the client to conduct its own independent assessment.

CONTENTS

1.	INTRODUCTION	1
2.	SUMMARY	1
3.	CRITERIA	2
4.	MODELLING	4
5.	RESULTS	5
6.	ASSESSMENT	5
6.1	L _{A10} Noise Emissions – Mechanical Services	5
6.2	L _{A1} Noise Emissions – Air Compressor	6
6.3	L _{AMax} Noise Emission – Tyre Inflator Beep	6
6.4	L _{AMax} Noise Emission – Vehicle Door Closing	7

APPENDICIES

A	Plan
---	------

1. INTRODUCTION

Herring Storer Acoustics were commissioned by Ayton Baesjou Planning to undertake an acoustic assessment of noise emissions associated with the proposed fuel station to be located at the corner of Albany and South Coast Highways, Albany.

This report assesses noise emissions from the premises with regards to compliance with the requirements of the *Environmental Protection (Noise) Regulations 1997*. It is understood that the development consists of a service station, therefore, noise sources considered as part of this assessment include :

- Mechanical Services;
- Tyre Inflator (alarm); and
- Car and truck doors closing.

We note that from recent information received from the DWER, the bitumised area would be considered as a road, thus noise relating to the “propulsion and braking” of motor vehicles is exempt from the *Environmental Protection (Noise) Regulations 1997*. We note that these noise sources, as listed below, are rarely critical in the determination of compliance.

For reference, the plans of the proposed development are attached in Appendix A.

2. SUMMARY

As the service station would be open 24 hours per day, noise received at the neighbouring noise (highly) sensitive premises from the development needs to comply with the appropriate assigned noise levels for the night period.

The assessment indicates that noise emissions from car and truck doors closing would be assessed against the assigned L_{AMax} noise level.

Finally, noise from the mechanical services that would occur for more than 10% of the time, hence noise received at the neighbouring premises needs to comply with the assigned L_{A10} noise levels.

From the analysis undertaken, noise emissions from the proposed development has been assessed to comply with the requirements of the *Environmental Protection (Noise) Regulations 1997*, provided :

- Air conditioning condensing units are screened from the neighbouring residences (Motel) to the north west.

3. CRITERIA

The allowable noise level for noise sensitive premises in the vicinity of the proposed Facility site is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 and 8 stipulate maximum allowable external noise levels or assigned noise levels that can be received at a premise from another premises. For residential premises, this noise level is determined by the calculation of an influencing factor, which is then added to the base levels shown below. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern. The base noise levels for residential premises and the assigned noise levels for industrial premises are listed in Table 3.1.

TABLE 3.1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF

Note: L_{A10} is the noise level exceeded for 10% of the time.
 L_{A1} is the noise level exceeded for 1% of the time.
 L_{Amax} is the maximum noise level.
 IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

“impulsiveness” means a variation in the emission of a noise where the difference between L_{Apeak} and L_{Amax(Slow)} is more than 15 dB when determined for a single representative event;

“modulation” means a variation in the emission of noise that –

- (a) is more than 3 dB L_{AFast} or is more than 3 dB L_{AFast} in any one-third octave band;
- (b) is present for more at least 10% of the representative assessment period; and
- (c) is regular, cyclic and audible;

“tonality” means the presence in the noise emission of tonal characteristics where the difference between –

- (a) the A-weighted sound pressure level in any one-third octave band; and
- (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as L_{Aeq,T} levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as L_{ASlow} levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 3.2 below.

TABLE 3.2 - ADJUSTMENTS TO MEASURED LEVELS

Where tonality is present	Where modulation is present	Where impulsiveness is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

Note: These adjustments are cumulative to a maximum of 15 dB.

For this development, the closest residential premises of concern are located, as shown on Figure 3.1 below.



FIGURE 3.1 – AREA AROUND PROPOSED DEVELOPMENT

At the above neighbouring residences, the Influencing Factor has been determined to be +8 dB. Thus, the assigned noise levels for these residences are as listed in Table 3.3.

TABLE 3.3 - ASSIGNED OUTDOOR NOISE LEVEL

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises : Highly sensitive area	0700 - 1900 hours Monday to Saturday	53	63	73
	0900 - 1900 hours Sunday and Public Holidays	48	58	73
	1900 - 2200 hours all days	48	58	63
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	43	53	63

Note: L_{A10} is the noise level exceeded for 10% of the time.
 L_{A1} is the noise level exceeded for 1% of the time.
 L_{Amax} is the maximum noise level.

4. MODELLING

Modelling of the noise propagation from the proposed development was carried out using an environmental noise modelling computer program, "SoundPlan". Calculations were carried out using the EPA worst case weather conditions as stated in the Environmental Protection Authority's "Draft Guidance for Assessment of Environmental Factors No.8 - Environmental Noise".

Noise emissions from the development, include:

- Mechanical services;
- Air compressor;
- Tyre inflator alarm indicator; and
- Vehicle doors closing.

The calculations were based in the sound power levels listed in Tables 4.1 and 4.2.

TABLE 4.1 – GENERAL SOUND POWER LEVELS

Item of Equipment	Sound Power Level, (dB(A))
Car Door	87
Tyre Inflator Alarm	88
Air Compressor	84

TABLE 4.2 – MECHANICAL SERVICES NOISE LEVELS

Plant Item	Sound Power Level dB(A)
Air Conditioning Condensing Units	1 at 68
	1 at 75
Refrigeration condensing units	1 at 82
	1 at 74

With regards to noise emissions, the following are noted:

- 1 Noise associated with the mechanical services does not take into account any diversity of operation. Such diversity would occur during the night period. Thus, this is a conservative assessment. At this stage of the project, the mechanical service has not been design. Therefore, the noise sources have been based on designs used for the same or similar tenancies.
- 2 It has been assumed that the mechanical services would be located in the south west corner of the roof, located behind a parapet wall or screening. Screening to extend 0.6 m above the top of the condensing units and returns to extend to the front of the units.

5. RESULTS

Calculations were undertaken to all the residences, including the first floor of the motel to the north west, as noted on Figure 3.1. However, to simplify the assessment, only the noise received at the worst case location has been listed in Table 5.1.

TABLE 5.1 – WORST CASE CALCULATED NOISE LEVELS

Item	Calculated Noise Levels (dB(A))			
	Mechanical services	Air Compressor	Tyre Inflator	Door Closing
Motel to North West	37	16	39	41
Residences to South	36	15	45	46

[] Includes +10 dB(A) penalty for impulsiveness.

Noise emissions from the noise sources would need to comply with the following criteria :

- L_{A10} - Mechanical service.
- L_{A1} - Air Compressor.
- L_{AMax} - Tyre inflator alarm and car doors closing.

6. ASSESSMENT

The following provided the acoustic assessment for the noise sources requiring compliance, as listed in Table 5.1.

6.1 L_{A10} NOISE EMISSIONS – MECHANICAL SERVICES

Noise emissions from the mechanical services would be steady state and would operate for the majority of time. Hence noise received from the mechanical services needs to comply with the assigned L_{A10} noise level.

Given the resultant noise level at the residences and likely background noise level associated noise from vehicles travelling along Blair Street, we believe that it is unlikely that noise received at the neighbouring residences would be tonal. However, again to be conservative, a +5 dB(A) penalty has been applied to the calculated noise level associated with the combined noise from the mechanical services and voices. Table 6.1 lists the characteristics that should be included in the assessable noise level.

**TABLE 6.1 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{A10} NOISE LEVELS, dB(A)
MECHANICAL SERVICES**

Location	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Motel to North West	34	+5	-	-	39
Residences to South	33	+5	-	-	38

Table 6.2 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the mechanical services.

**TABLE 6.2 – ASSESSMENT OF L_{A10} NOISE LEVEL EMISSIONS
 MECHANICAL SERVICES**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Motel to North West	39	Night Period	43	Complies
Residences to South	38	Night Period	43	Complies

6.2 L_{A1} NOISE EMISSIONS – AIR COMPRESSOR

Noise emissions from the air compressor would be occur for less than 10% of the time. Hence noise received from the mechanical services needs to comply with the assigned L_{A1} noise level.

Based on the definitions of tonality, noise emissions from the air compressor, being an L_{A1} and being present for less than 10% of the time, would not be considered tonal. Thus, no penalties would be applicable, and the assessment would be as listed in Table 5.1.

Table 6.3 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the mechanical services.

**TABLE 6.3 – ASSESSMENT OF L_{A1} NOISE LEVEL EMISSIONS
 AIR COMPRESSOR**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{A10} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Motel to North West	16	Night Period	53	Complies
Residences to South	15	Night Period	53	Complies

6.3 L_{AMAX} NOISE EMISSION – TYRE INFLATOR ALARM

Noise emissions from tyre inflator alarm (beep) indicator needs to comply with the assigned L_{AMax} noise level. As the critical period for compliance for this source is the night period, this scenario includes noise emissions from the sources associated with L_{AMax} noise levels. However, under the Regulations, each of these sources needs to be considered individually, it is the highest calculated noise levels used for assessment, rather than the cumulative overall noise levels.

Noise associated with the closing of a tyre inflator alarm indicator could be both tonal and impulsive. Thus, to be conservative, both the +5 dB(A) penalty for tonality and the +10 dB(A) penalty for impulsiveness have been applied.

Table 6.4 list the characteristics that should be included and the assessable noise levels and the assessable noise level for tyre inflator alarm indicator.

**TABLE 6.4 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{AMAX} NOISE LEVELS, dB(A)
TYRE INFLATOR INDICATOR**

Locations	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Motel to North West	39	+5	-	+10	54
Residences to South	45	+5	-	+10	60

Table 6.5 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the truck doors closing.

**TABLE 6.5 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS
TYRE INFLATOR INDICATOR**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Motel to North West	54	Day Period	73	Complies
		Sunday / Public Holiday Day Period	73	Complies
		Evening Period	63	Complies
		Night Period	63	Complies
Residences to south	60	Day Period	73	Complies
		Sunday / Public Holiday Day Period	73	Complies
		Evening Period	63	Complies
		Night Period	63	Complies

We note that the volume associated with the tyre inflator beeper is adjustable. Thus, based on the above assessment, with the noise associated with the tyre inflator alarm set to 72 dB(A) at 1 metre, compliance with the regulations would be achieved.

6.4 L_{AMAX} NOISE EMISSION – VEHICLE DOOR CLOSING

Noise emissions from a car door closing on site need to comply with the assigned L_{AMax} noise level. As the critical period for compliance for this source is the night period, this scenario includes noise emissions from the sources associated with L_{AMax} noise levels. However, under the Regulations, each of these sources needs to be considered individually, it is the highest calculated noise levels used for assessment, rather than the cumulative overall noise levels.

Noise associated with the closing of a car door could be impulsive and to be conservative, a +10 dB(A) penalty for impulsiveness would be applied.

Table 6.6 list the characteristics that should be included and the assessable noise levels and the assessable noise level for car doors closing.

**TABLE 6.6 – APPLICABLE ADJUSTMENTS AND ASSESSABLE L_{AMAX} NOISE LEVELS, dB(A)
VEHICLE DOOR**

Locations	Calculated Noise Level, dB(A)	Applicable Adjustments to Measured Noise Levels, dB(A)			Assessable Noise Level, dB(A)
		Where Noise Emission is NOT music			
		Tonality	Modulation	Impulsiveness	
Motel to North West	41	-	-	+10	51
Residences to South	46	-	-	+10	56

Table 6.7 shows the applicable Assigned Noise Levels, and assessable noise level emissions associated for the scenarios associated with the car doors closing.

**TABLE 6.7 – ASSESSMENT OF L_{AMAX} NOISE LEVEL EMISSIONS
VEHICLE DOOR**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable Assigned L_{AMax} Noise Level (dB)	Exceedance to Assigned Noise Level (dB)
Motel to North West	51	Night Period	63	Complies
Residences to South	56	Night Period	63	Complies

From the above assessments, it can be seen that noise received at the neighbouring residences, even using a conservative analysis, complies with the requirements of the *Environmental Protection (Noise) Regulations 1997*, provided :

- Mechanical services are screened from the neighbouring residences (motel) to the north west.

APPENDIX A

PLAN



PROPOSED SITE PLAN
SCALE 1:200

GENERAL NOTES:

1. DO NOT SCALE FROM DRAWINGS
2. ALL BOUNDARIES, LEVELS AND DIMENSIONS TO BE CONFIRMED ON SITE
3. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ALL CONSULTANTS DRAWINGS
4. REPORT ANY DISCREPANCIES TO THE ARCHITECT PRIOR TO COMMENCING ANY WORKS
5. KERB RAMP AND TOSIN TO BE IN ACCORDANCE WITH AS 1428
6. NO STEP AT ENTRY DOORS TO PROVIDE CONTINUOUS PATH OF TRAVEL IN ACCORDANCE WITH AS 1428
7. MAX 1 IN 40 CAMBER AND CROSSFALLS TO ALL RAMPS AND WALKWAYS IN ACCORDANCE WITH AS 1428
8. ALL MATERIALS TO BE COMPLIANT WITH NCC & AS



A	ISSUE FOR DEVELOPMENT APPROVAL	MS	MP	26.08.2020
Project	United Service Station	Drawn	Checked	DATE
Location	ALBANY Hwy, ALBANY W.A.	MS	MP	18.08.2020
		MS	MP	06.20
		MS	MP	SK07
		MS	MP	A

Hodge Collard Preston
ARCHITECTS

1:200
A1

18.08.2020
06.20
SK07
A