

APPLICATION ON NOTIFICATION – Category 2

Applicant:	Leyton Properties Pty Ltd
Development Number:	490/E008/19
Nature of Development:	Petrol filling station with associated shop, car parking and signage.
Development Type:	Merit
Subject Land:	Calton Road, Gawler East - Lot 9010 CT 6204/146 (Proposed Lot 2044 and 2050 in DA 490/D026/19)
Development Plan:	Gawler Development Plan
Zone / Policy Area:	Residential (Gawler East) Zone/ Mixed Use Centre Policy Area 3
Contact Officer:	Hannah Connell
Phone Number:	7109 7828
Consultation Start Date:	15 January 2020
Consultation Close Date:	5:00pm Monday, 3 February 2020
<p>During the notification period, hard copies of the application documentation can be viewed at the Department of Planning, Transport and Infrastructure, Level 5, 50 Flinders St, Adelaide, during normal business hours. Application documentation may also be viewed during normal business hours at the local Council office (if identified on the public notice).</p>	

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

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

Postal Address:

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

Street Address:

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

Email Address: scapreps@sa.gov.au

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

Applicant: Leyton Properties Pty Ltd
Development Number: 490/E008/19
Nature of Development: Petrol filling station with associated shop, car parking and signage
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Zone / Policy Area: Residential (Gawler East) Zone/ Mixed Use Centre Policy Area 3
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(Proposed lot 2044 and 2050 in DA 490/D026/19)
Contact Officer: Hannah Connell
Phone Number: 7109 7828
Close Date: 5:00pm Monday 3 February 2020

My Name: _____ My phone number: _____

Primary method(s) of contact: Email: _____
Postal Address: _____ Postcode: _____

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

- My interests are:**
(please tick one)
- owner of local property
 - occupier of local property
 - a representative of a company/other organisation affected by the proposal
 - a private citizen

The address of the property affected is: _____
Postcode _____

- My interests are:**
(please tick one)
- I support the development
 - I support the development with some concerns
 - I oppose the development

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

- I:** wish to be heard in support of my submission
(please tick one) do not wish to be heard in support of my submission
(Please tick one)
- By:** appearing personally
(please tick one) being represented by the following person
(Please tick one)

Signature: _____
Date: _____

DEVELOPMENT APPLICATION FORM

PLEASE USE BLOCK LETTERS

COUNCIL: Town of Gawler

APPLICANT: Leyton Property Pty Ltd

Postal Address: Level 1, 22-26 Vardon Ave
Adelaide SA 5000

Owner: Five Ames Farming Pty Ltd

Postal Address: 63 Gawler Terrace, Gawler South
SA 5118

BUILDER: N/A

Postal Address: _____

_____ Licence No: _____

CONTACT PERSON FOR FURTHER INFORMATION

Name: Kieron Barnes - Ekistics Planning & Design

Telephone: 7231 0286 [work] _____ [Ah]

Fax: _____ [work] _____ [Ah]

EXISTING USE: Vacant

FOR OFFICE USE

Development No: _____

Previous Development No: _____

Assessment No: _____

<input type="checkbox"/> Complying <input type="checkbox"/> Non Complying <input type="checkbox"/> Notification Cat 2 <input type="checkbox"/> Notification Cat 3 <input type="checkbox"/> Referrals/Concurrences <input type="checkbox"/> DA Commission	Application forwarded to DA Commission/Council on _____ / _____ / _____ Decision: _____ Type: _____ Date: _____ / _____ / _____
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	Decision required	Fees	Receipt No	Date
Planning:	_____	_____	_____	_____
Building:	_____	_____	_____	_____
Land Division:	_____	_____	_____	_____
Additional:	_____	_____	_____	_____
Development Approval				

DESCRIPTION OF PROPOSED DEVELOPMENT: Petrol filling station and shop with associated car park, landscaping, fencing and signage

LOCATION OF PROPOSED DEVELOPMENT: Proposed Lots 2044 and 2050 in DA 490/D026/19

House No: _____ Lot No: _____ Street: Calton Road Town/Suburb: Gawler East

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

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

LAND DIVISION:

Site Area [m²] _____ Reserve Area [m²] _____ No of existing allotments _____

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

BUILDING RULES CLASSIFICATION SOUGHT: _____ Present classification: _____

If Class 5,6,7,8 or 9 classification is sought, state the proposed number of employees: Male: _____ Female: _____

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


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

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

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

DEVELOPMENT COST [do not include any fit-out costs]: \$ 1,550,000

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

SIGNATURE: 

Dated: 27 / 11 / 19

ekistics

SPRINGWOOD PETROL FILLING STATION

Planning Statement

Prepared for:
Leyton Property

Date:
September 2019

ekistics

Proprietary Information Statement

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Document Control

Revision	Description	Author	Date
V1	Draft Planning Statement	KB	11 September 2019
V2	Final Planning Statement	KB	13 September 2019
V3	Amended Planning Statement	KB	22 November 2019

Approved by:



Date: 22 November 2019

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1. Executive Summary

Category	Details
PROJECT	Springwood Petrol Filling Station
ADDRESS OF SITE	Proposed Lots 2044 & 2050 in DA 490/D026/19 – Calton Road, Gawler East
CERTIFICATE OF TITLE	Volume 6205 Folio 146 (Parent title)
SITE AREA	4,075m ²
FRONTAGES	86.2m to Calton Road (approximately) 48.24 to the proposed collector road (approximately)
LOCAL GOVERNMENT	Town of Gawler
RELEVANT AUTHORITY	State Commission Assessment Panel
PRE-LODGEMENT PANEL MEETINGS	29 March 2019
DEVELOPMENT PLAN	Gawler (CT) (consolidated 18 July 2019)
ZONING	Residential (Gawler East) Zone
POLICY AREA/PRECINCT	Mixed Use Centre Policy Area 3
EXISTING USE	Vacant
PROPOSAL DESCRIPTION	Springwood petrol filling station with associated shop, car parking, landscaping and signage
AGENCY REFERRALS	Town of Gawler
PUBLIC NOTIFICATION	Category 2
APPLICANT	Leyton Property Pty Ltd
CONTACT PERSON	Kieron Barnes – Ekistics Planning and Design – (08) 7231 0286
OUR REFERENCE	00846

2. Introduction/Background

2.1 Preamble

Springwood is a 217.5 ha master planned community in Gawler East and Kalbeeba which, once completed, will feature approximately 1,750 residential allotments. Approximately 350 of these allotments have already been created (or are in the process of being created), while an additional 1,404 residential allotments will be created via separate land division applications that have been lodged with the State Commission Assessment Panel. In addition to the proposed residential allotments, eleven allotments will be created for commercial or educational purposes. This includes proposed Lots 2044 and 2050 in DA 490/D026/19 on which a petrol filling station will be located to serve the needs of the Springwood development and adjacent residential area to the north.

2.2 State Coordinator General Call-in

By letter dated 15 November 2018, the State Coordinator General advised that the State Commission Assessment Panel would be the relevant authority to assess all of the remaining portions of the Springwood development. This 'call-in' by the State Coordinator General was conditional on the development proceeding via a series of 'Development Packages'. The first Development Package, which was submitted to the State Commission Assessment Panel (SCAP) prior to 15 June 2019, included the following Development Applications:

- DA 490/D028/19 – 188 lots (Adjacent the existing SEA Gas 'Main Line Valve')

- DA 490/D025/19 – 22 lots (Environmental Audit Land East)
- DA 490/D027/19 – 22 lots (Environmental Audit Land West)
- DA 490/D026/19 (lodged with Town of Gawler) and DA960/D025/19 (lodged with The Barossa Council) – 1,181 lots (Balance of site)
- DA 490/E005/19 – Springwood ‘Sales Centre’ over proposed Lot 1006 in DA 490/D025/19; and
- DA 490/E006/19 – Springwood ‘Supermarket and Specialty Shops’ over proposed lot 2046 in DA 490/D026/19.

Development Package 2 includes this application for a petrol filling station as well as a separate application for a childcare centre on proposed Lot 2048.

2.3 Springwood Development

The Springwood development is proceeding in accordance with a Masterplan developed by Tract Consultants and will include a 'village centre' together with a supermarket and other speciality retail stores, various community uses and a school with large sporting grounds (see **Figures 2.1** and **2.2**).

Figure 2.1 Springwood Master Plan (Tract)



As a large master planned community, Springwood represents a significant economic investment and development for the Gawler Region and the State. Importantly, Springwood will result in significant employment generation and employment multipliers. It will also capitalise on significant embedded Government investment in infrastructure including the new ‘Gawler East Link Road’ (GELR) which will pass through the northern precinct of Springwood to service the proposed new Springwood Village Centre within which the petrol filling station will be located.

Figure 2.2 Springwood Place and Community Masterplan (Tract)



2.4 This Planning Statement

This planning statement provides information about the subject site and the proposed development while also addressing the merits of the proposal against the relevant provisions of the Gawler (CT) Development Plan – particularly the ‘Mixed Use Centre Policy Area 3’ of the ‘Residential (Gawler East) Zone’.

This planning statement has been informed by specialist advice which forms part of the application and is appended as follows:

- **Appendix 1:** Land Tenure Plan and Certificate of Title

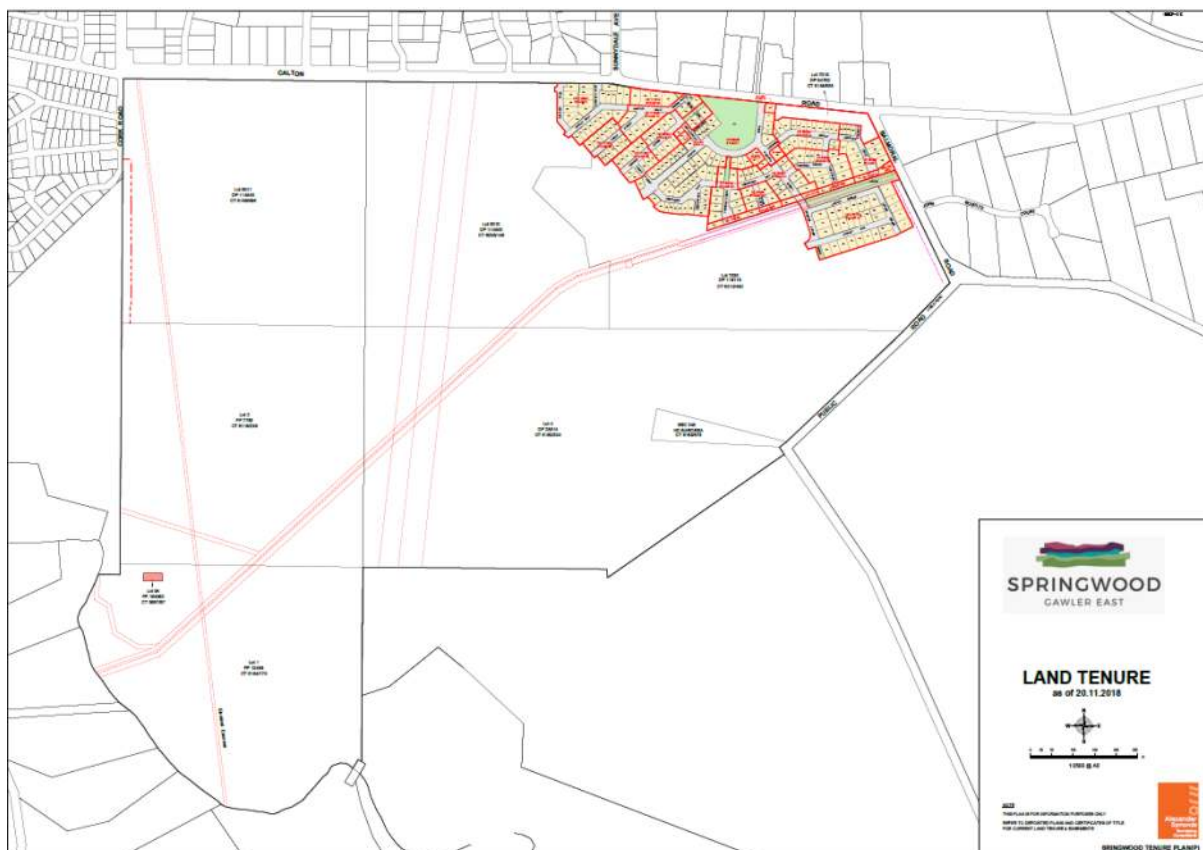
- **Appendix 2:** Proposed Plan of Division (DA No. 490/D026/19)
- **Appendix 3:** Proposed plans and elevations prepared by Brown Falconer Architects
- **Appendix 4:** Traffic Impact Assessment prepared by CIRQA Traffic Consultants
- **Appendix 5:** Environmental Noise Assessment prepared by Sonus
- **Appendix 6:** Stormwater Management Plan prepared by Sagero
- **Appendix 7:** Call-in letter from the State Coordinator General

3. The Subject Site and Locality

3.1 The Subject Land

Currently, the subject land forms part of Allotment 9010, Deposited Plan 114845 in Certificate of Title Volume 6205 Folio 146 (refer to **Appendix 1**). Allotment 9010 forms part of a number of titles which are being developed for the broader Springwood development (see **Figure 3.1** below and **Appendix 1**).

Figure 3.1 Land Tenure Plan



There are a number of easements affecting the Allotment 9010 including (but not limited to):

- A 275kV transmission line within a 100m wide ElectraNet easement that runs in a north-south direction;

- A DN750 MSCL potable water main, known as the Barossa Trunk Main, is located within a 10.06m wide easement running through the south-eastern corner of the land; and
- A 450mm diameter high pressure gas transmission pipeline, owned and operated by SEA Gas, is located within a 15m wide easement that runs parallel to the Barossa Trunk Main.

It is noted that the ElectraNet easement runs along the western edge of the subject site. However, the proposed development will not encroach or affect the easement in any way.

3.2 The Subject Site

While the subject land currently forms part of Allotment 9010 in Deposited Plan 114845, the subject site comprises proposed Allotments 2044 and 2050 in Development Application 490/D026/19 see **Figures 3.2 and 3.3**.

Figure 3.2 Associated land division – subject site is Lots 2044 and 2050



Figure 3.3 Associated land division (enlargement) – subject site is Lots 2044 and 2050



Proposed Lots 2044 and 2050 have a combined area of 4,075m² and an irregular shape. The subject site has a maximum depth of 50.37m and a maximum width of 94.53m.

The subject site, which previously formed part of the nearby quarry, is currently vacant. A significant amount of earthworks has occurred in the vicinity of the site as a consequence of the previous quarrying activities and development of earlier stages of Springwood. Some vegetation in the form of small trees, shrubs and groundcovers is present on the site. In addition, the Plan of Division prepared by Alexander Symonds identifies one Regulated Trees (shown in blue) on the site (see **Figures 3.2** and **3.3**). It is understood that this Regulated Tree, along with a number of others within the broader development, will be removed as part of the associated land division application to enable development in the Springwood Town Centre to proceed.

The subject site will sit on a prominent corner at the junction of the Springwood north-south collector road and Calton Road (see **Figure 3.4**).

Figure 3.4 Subject site



3.3 The Locality and Surrounding Development

The locality features a range of land uses including the former quarry and associated activities to the west and south of the site, residential development to the north and east and farmland further to the south. South of Calton Road, the locality forms part of the master planned Springwood development. For this reason, the nature and character of the locality will be transformed over the coming years to create a vibrant residential community supported by a range of facilities and services within a proposed 'village centre'.

The former quarry, which forms a major element in the existing locality, was historically associated with the excavation of sand. More specifically, excavated sand was processed on-site through a washing plant where silt and clay were separated from the sand and deposited into a series of sedimentation and drying ponds. The material was periodically excavated from the pond and stockpiled on-site or sold as a product. It is understood that sand mining activities ceased operations in 2000.

Beyond the former quarry, the natural topography of the site comprises undulating hills which increase in gradient towards the South Para River which runs roughly in an east-west direction through the central portion of the Springwood development.

Major infrastructure within the locality includes:

- The Gawler East Link Road (under construction);
- An above-ground 750mm diameter Barossa Trunk Main;
- SEA Gas pipeline and associated 'Main Line' valve; and
- 275kV overhead electricity power lines within a 100m wide easement.

Beyond the Springwood development, low-density residential development is located on the northern side of Calton Road and on the western side of Cheek Avenue. Further west is the Gawler Town Centre which features a traditional 'high street' and contains the main shopping, administrative and cultural facilities for the Council area. **Figure 3.5** identifies the key features of the locality.

Figure 3.5 Subject Site and Surrounds

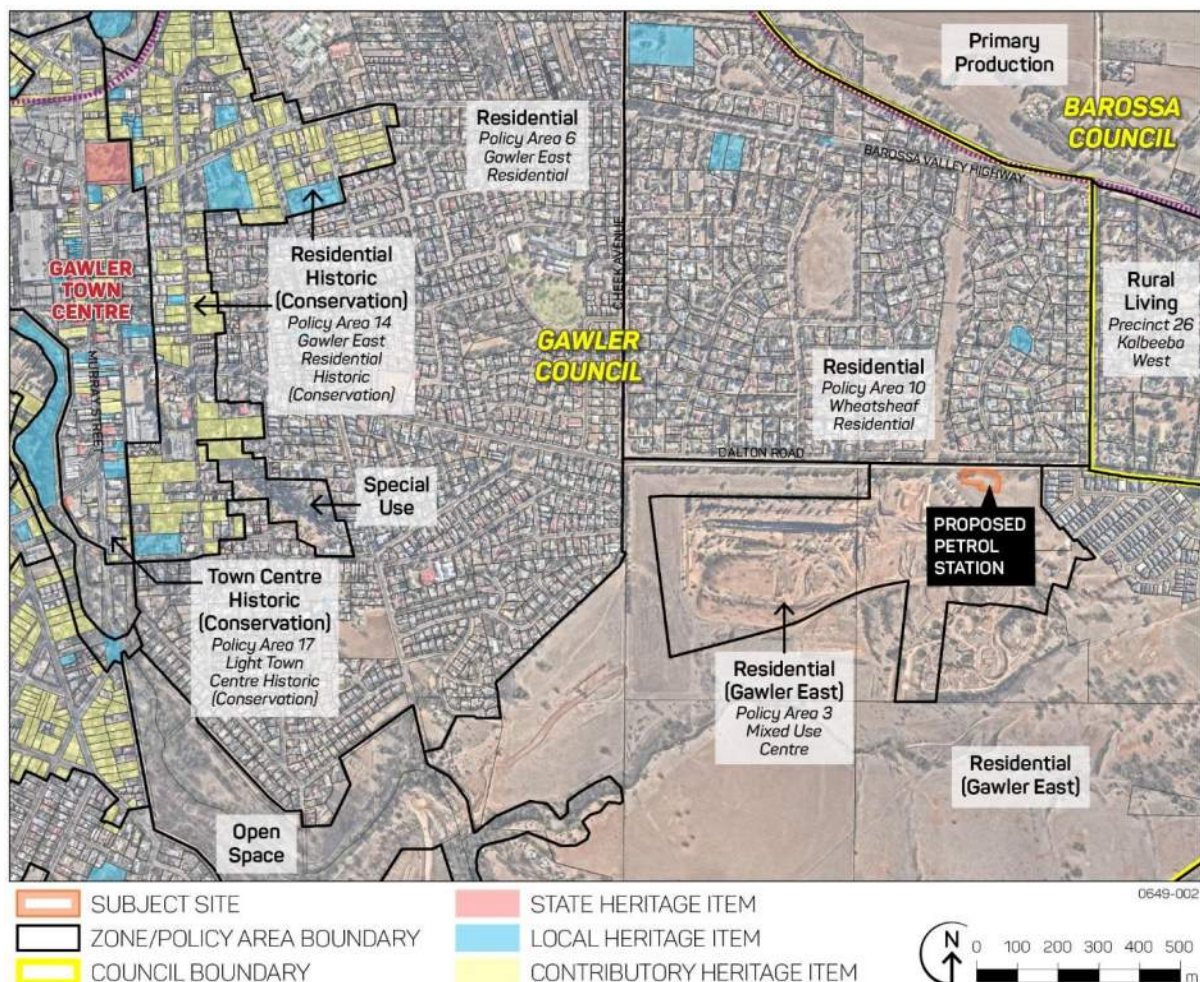


Figure 3.6 Future residential areas of the Springwood development (looking south-west)



4. Proposed Development

4.1 Land Use, Built Form, Access and Signage

The proposed development involves the construction of a new petrol filling station along with an associated shop, signage, car parking, retaining walls, fencing and landscaping. As with most modern service stations, the petrol filling elements of the facility will operate 24 hours per day and seven days per week.

A copy of the architectural plans and elevations prepared by Brown Falconer architects are contained within **Appendix 3**. Key features of the development are summarised below:

- A single storey shop and control building with:
 - » A flat roof design generally comprising pre-cast concrete walls;
 - » A roof height of 6.3 metres;
 - » A variety of materials and treatments on the walls including face brick, painted pre-cast concrete, concrete panels with 25mm deep rebated grooves, expressed joint compressed fibre cement and powder coated aluminium window frames with fixed glazing;
 - » A gross leasable floor area of 194m² which will include a servery, coolroom, toilet, store room and office;
- A service yard and bin store on the western side of the shop which will be used for the storage of bins and other products related to the operation of the facility;

- A 6.7 metre high fuelling canopy consisting of a flat roof design with pre-finished metal cladding (coloured 'white') below an internally illuminated fascia blue band to provide shelter over the eight double-sided fuel bowsers;
- A new crossover to the proposed north-south collector road providing left-in, right-in and left out movements;
- A new crossover to Calton Road left in, right in and left out movements;
- Two 110 kilolitre, below-ground fuel tanks to be situated to the east of the vehicle fuel pumping canopy comprising the following;
 - » Double walled fibreglass tanks;
 - » Automatic Tank Gauge System;
 - » Double walled fuel lines;
 - » Pressure leak detection system to AS4897-2008, The Design Installation and Operation of Underground Petroleum Storage Systems; and
 - » Stage 1 Vapour Recovery System (VR1).
- 10 customer parking spaces (including one parking space for people with a disability) to be placed near the entrance to the Shop;
- Two bike parking rails;
- Earthworks generally in the form of excavation to create appropriate levels for the proposed development;
- Retaining walls along the southern and western boundaries to accommodate the proposed excavation and which vary in height up to approximately 2.4 metres in height;
- A 1.8 metre high Colorbond fence located along a portion of the southern and western boundaries above the retaining wall and a 1.8m high aluminium picket fence located on a portion of the southern boundary;
- Signage in the form of:
 - » One internally illuminated double sided pylon sign measuring 10m in height and 2.74m in width positioned near the access to Calton Road;
 - » Two internally illuminated 'Mobil' canopy signs measuring 1.06m by 2.7m to be located on each elevation of the fuelling canopy;
 - » One internally illuminated 'Eat + Drink + Relax' flat wall sign measuring 1.8m by 6.63m to be located on the eastern elevation of the shop (facing the collector road);
 - » Two internally illuminated 'X Convenience' signs measuring 1.8m by 5.61ms to be located on the northern and southern elevations of the shop;
 - » One internally illuminated 0.87m high 'X' corporate logo sign to be located on the northern elevation of the shop;

- » One internally illuminated 'Coffee Station' and 'SmokesExpress' flat wall signs measuring 0.9m by 2.52m and 0.33m by 2.07m respectively to be located on the eastern elevation of the shop; and
- Landscaping around the site including mass plantings of bushes and shrubs along the road frontages and around the buildings.

Figure 4.1 3D view from the corner of Calton Rd and the proposed Collector Rd (Brown Falconer Architects)



4.2 Stormwater Management

A Stormwater Management Report has been prepared by Sagero and is attached to this Planning Statement as **Appendix 6**. The Stormwater Management Report outlines the proposed methodology to manage water across the site and complements the overall Stormwater Management Plan for the entire Springwood development which has been submitted with the land division applications.

Importantly, the stormwater management plan includes the installation of a Class 1 separator and treatment device such as a SPEL Purceptor which will treat stormwater, separate oils, grease and hydrocarbons, contain any spills and ensure that the pollutant reduction targets stipulated by Council and EPA will be satisfied.

In addition, three detention tanks each with a capacity of 23m³ will be positioned after the SPEL Purceptor and prior to the managed discharge of treated water into the street water table on Calton Road.

5. Procedural Requirements

5.1 Relevant Authority

By letter dated 15 November 2018 and pursuant to Schedule 10(20) of the *Development Regulations 2008*, the State Coordinator General has assigned the State Commission Assessment Panel (SCAP) as the relevant Planning Authority.

5.2 Nature of Development

Based on the various components of the development described within Section 4.1 of this report, the development application is perhaps best described as follows:

Petrol filling station (24 hour operation) with associated shop, fuel canopy, car parking, signage, retaining walls, fencing and landscaping.

The development proposes the establishment of a ‘petrol filling station’ and ‘shop’ which are both defined within Schedule 1 of the *Development Regulations 2008*:

petrol filling station means land used for the purposes of fuelling motor vehicles and may include any associated land for the servicing of motor vehicles, or for the sale of goods where the area used for the sale of goods is not greater than 50 square metres, but does not include a motor repair station;

shop means—

- (a) premises used primarily for the sale by retail, rental or display of goods, foodstuffs, merchandise or materials; or
- (b) a restaurant; or
- (c) a bulky goods outlet or a retail showroom; or
- (d) a personal service establishment,

but does not include—

- (e) a hotel; or
- (f) a motor repair station; or
- (g) a petrol filling station; or
- (h) a plant nursery where there is no sale by retail; or
- (i) a timber yard; or
- (j) service trade premises; or
- (k) service industry;

Pursuant to the Procedural Matters section of the Residential (Gawler East Zone), the application is neither a 'Complying' nor 'Non-complying' form of development. Therefore, this Development Application is to be assessed as a '**Consent use**' on its merits against the relevant provisions of the Gawler (CT) Development Plan.

5.3 Public Notification

Principle of Development Control (PDC) 45 of the Residential (Gawler East) Zone provides the following guidance in relation to public notification:

PDC 45 *Categories of public notification are prescribed in Schedule 9 of the Development Regulations 2008.*

Further, the following forms of development (except where the development is non-complying) are designated:

Category 1

Fencing (including a combination of fencing and retaining walls) up to a maximum height of 2.8 metres

Category 2

All development listed within Principle of Development Control 1 of the Residential (Gawler East) Zone, Mixed Use Policy Area 3 and Local Centre Policy Area 19.

Fencing (including a combination of fencing and retaining walls) with a height in excess of 2.8 metres.

We note that Schedule 9 of the *Development Regulations 2008* does not specifically assign a category of notification for a petrol filling station and shop in the Residential (Gawler East) Zone. Therefore, it is necessary to refer to the lists of envisaged forms of development contained within PDC 1 of the Zone and PDC 1 of the Policy Area to determine the correct category of notification. PDC 1 of the Mixed Use Centre Policy Area 3 lists a 'petrol filling station' and a 'shop' as envisaged forms of development. In addition, PDC 45 of the Zone indicates that fencing and retaining walls with a combined height exceeding 2.8m is a Category 2 form of development. Therefore, the proposal constitutes a '**Category 2**' form of development.

5.4 Agency Referrals

Pursuant to Schedule 8 of the Development Regulations, the proposed development does not trigger any referrals to Government Agencies. However, given that SCAP is the relevant Authority, the proposal will be referred to the Town of Gawler for comments.

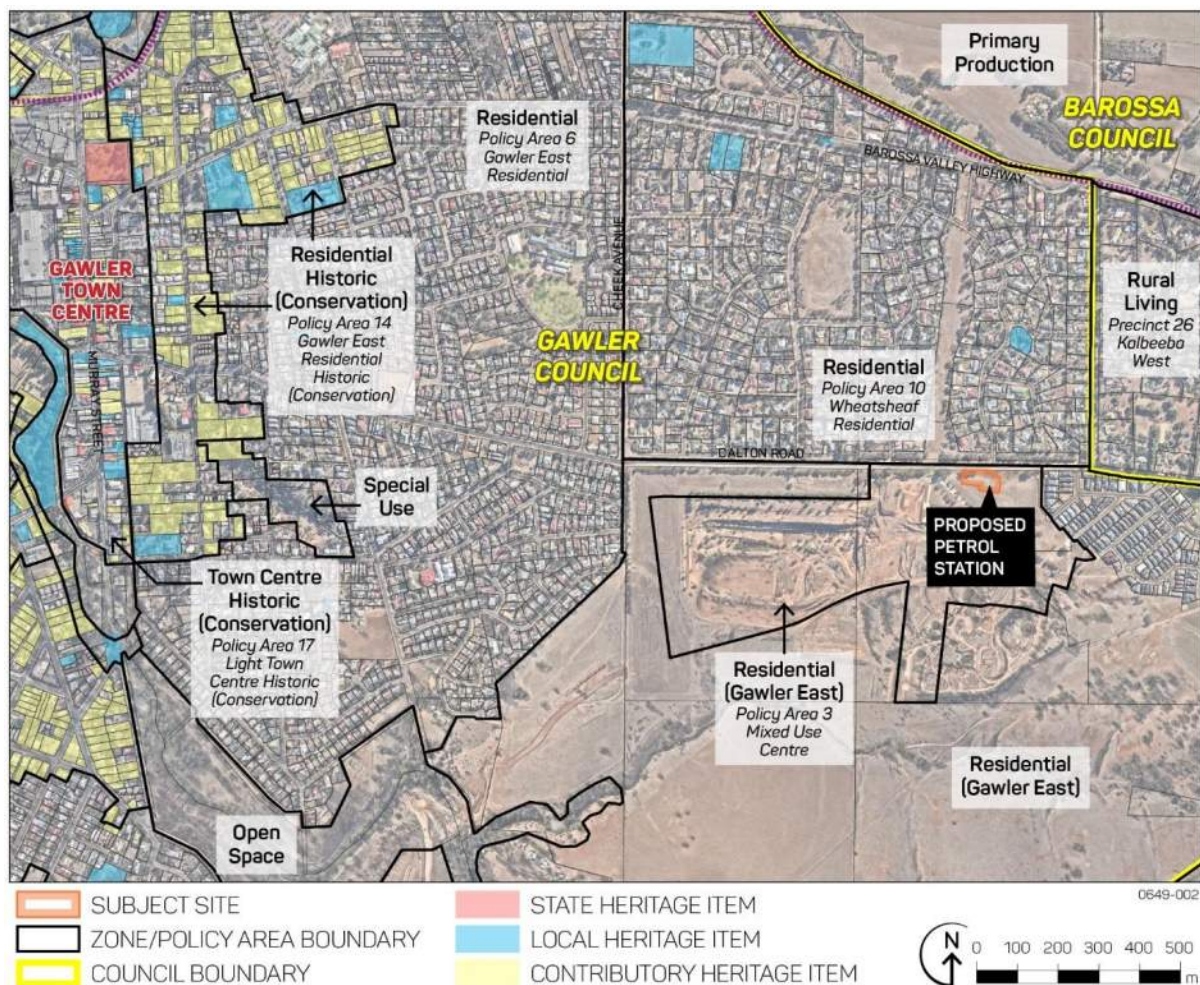
6. Development Plan Assessment

6.1 Overview

The subject site is located within the Town of Gawler and, accordingly, the relevant Development Plan is the Gawler (CT) Development Plan – consolidated 18 July 2019. More specifically, the subject site is located within the ‘Residential (Gawler East) Zone’, and the ‘Mixed Use Centre Policy Area 3’ as identified in *Figure 6.1* below.

The following section provides an assessment of the proposal against the Gawler (CT) Development Plan. For convenience, this assessment has been grouped under a series of headings which reflect the key relevant planning ‘themes’ from the Development Plan.

Figure 6.1 Zoning and Policy Areas



6.2 Land Use

The Residential (Gawler East) Zone contemplates a wide range of land uses within broadly defined areas that are illustrated at a 'high-level' on the *Gawler East Structure Plan Map Ga/1 (Overlay 1) Enlargement G*. The Structure Plan identifies areas that will be developed for residential uses as well as other areas that are intended to be developed as a 'Mixed Use Centre' and 'Neighbourhood Centres'. This desired mix of land uses is

expressed within Objective (Obj) 1 and the Desired Character of the Zone as well as Obj 1 and the Desired Character of the Policy Area:

Zone

Obj 1 A predominately residential area comprising a range of low and medium-density dwellings, with associated integrated infrastructure, retail, commercial, recreational, educational and community development in master-planned locations in accordance with Structure Plan Map Ga/1 (Overlay 1) Enlargement G.

Desired Character (extract)

The zone will accommodate a diversity of housing forms. The Mixed Use Centre Policy Area 3 will comprise a mix of residential development and a range of commercial, retail, educational, recreational and community facilities. A smaller range of retail facilities, together with compact housing are anticipated within the Local Centre Policy Area 19.

Policy Area

Obj 1: A functional and diverse zone accommodating a mix of commercial, retail, recreation, community, residential, office, consulting rooms and educational uses.

Desired Character (extract)

Mixed Use Centre Policy Area 3 will accommodate retail, commercial, community, education and formal recreation facilities and clubrooms to service the local community..

Low impact, commercial business activities that provide employment opportunities for the local population are envisaged. Such development will need to have particular regard to ensuring that minimal off-site impacts occur with respect to noise, air, water and waste emissions, commercial traffic generation and movement.

Commercial business activities and retail facilities will be established in the Neighbourhood Centre area indicated on Structure Plan Map Ga/1 (Overlay 1) Enlargement G.

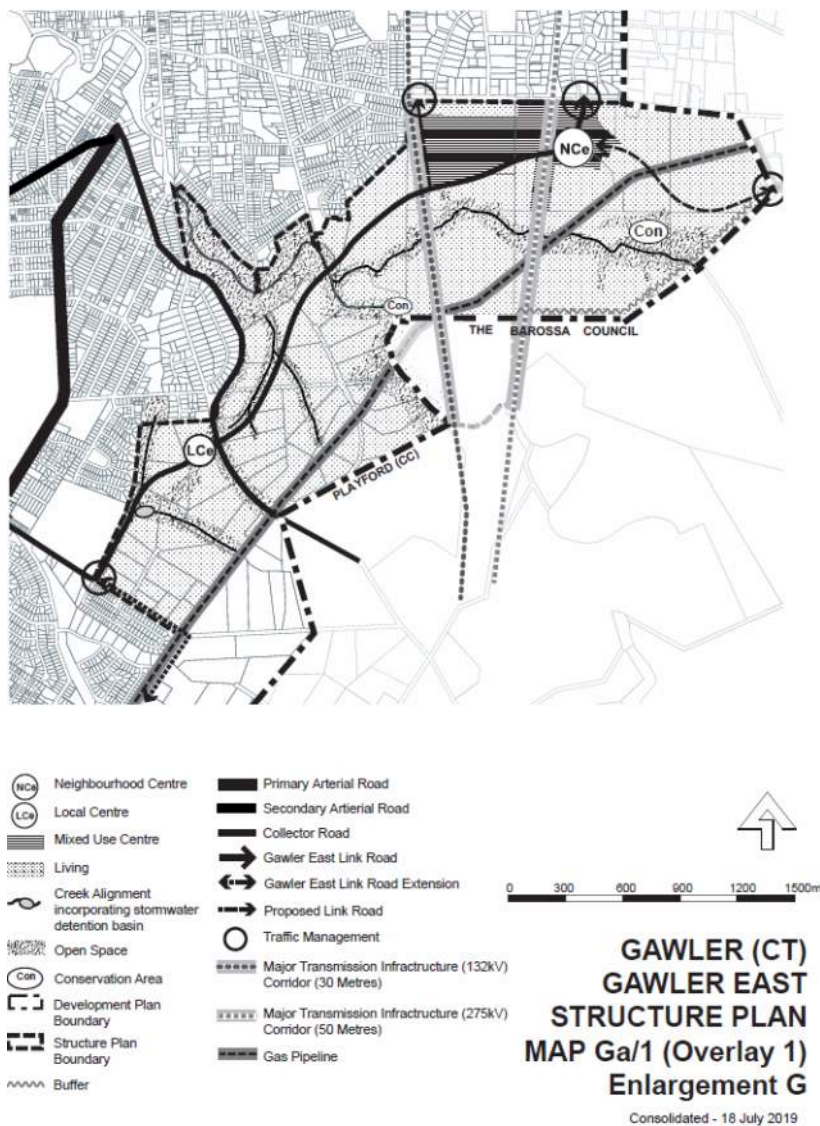
In addition, specific guidance in relation to envisaged land uses is provided in PDC 1 of the Policy Area. Both a 'petrol filling station' and a 'shop' are listed as envisaged uses:

PDC 1 The following forms of development are envisaged in the policy area:

-
- Petrol filling station
-
- Shop
-

For the above reasons, the proposed petrol filling station and shop is an appropriate land use on the subject site. In terms of the strategic location of the proposed petrol filling station, *Structure Plan Map Ga/1 (Overlay 1) Enlargement G* provides indicative, high-level direction for development within the Springwood development. In particular, it provides indicative locations for a potential Neighbourhood Centre (see **Figure 6.2**).

Figure 6.2 Gawler East Structure Plan



The proposed petrol filling station and other proposed development in the Springwood 'village centre' are located within the designated Neighbourhood Centre nominated on the Structure Plan and reflect the alignment of the Gawler East Link Road. For this reason, the location of the petrol filling station is consistent with the strategic direction provided by the Structure Plan.

6.3 Design and Appearance

The Development Plan contains a variety of provisions which seek to ensure that development is of a high architectural standard, complements the character of the locality and minimises any visual impact on nearby existing development. For example, the Desired Character of the Policy Area provides the following guidelines in relation to the design and appearance of development.

Desired Character (extract)

In terms of urban design and built form, a 'main street' environment will be created, where buildings address the street and car parks are primarily located to the rear. In order to minimise the overall extent of off street parking shared car parking is encouraged, and the convenience, availability and function of on street parking in mixed use environments will be recognised.

Gathering points for formal and informal community events will be established, either by means of a central pedestrian plaza, a village green or series of nodes.

Commercial and mixed use buildings will be established close to the street frontage and incorporate verandas and other protruding elements in order to create a pedestrian-friendly environment and outdoor dining opportunities. These areas will be enhanced by large street trees, high quality paving, lighting and street furniture. Building facades will be designed in a manner to create diversity of interest through the appearance of an aggregation of smaller buildings.

The Desired Character of the Policy Area is reinforced by the following PDCs which seek to provide more specific guidance in terms of the design and appearance of new buildings:

PDC 3 Development should be designed to ensure that:

- (a) buildings are designed to address the street frontage with servicing areas located internal to the centre and appropriately screened from public view;*
- (b) the establishment of shared car parking areas to the rear of buildings and on-street.*

PDC 4 Public space established should be activated by uses around its edges.

PDC 5 Buildings should have a maximum of 5 storeys in height.

PDC 6 Development should not be undertaken unless it is consistent with the desired character for the policy area.

The proposed petrol filling station and shop directly responds to the design and appearance provisions in the following ways:

- The buildings will address the street frontages with the service yard and bin store located near the centre of the site where they are screened from public view;
- Visual interest has been created through the use of a range of building materials and colours as well as landscaping; and
- The proposed development will assist to activate the street frontages at the entrance to the Springwood development by establishing a use where people and vehicles are frequently entering and exiting the site.

Additional guidance for the design, appearance and function of commercial development is provided in PDC 25 of the Council Wide section of the Development Plan:

PDC 25 Development or redevelopment within business, centre, shopping or mixed use zone or associated policy areas, should:

- (a) conform with the objectives and desired character of the zone or policy area;*
- (b) preserve buildings of historical or architectural significance;*
- (c) provide for the integration of existing and future facilities so as to promote ease of pedestrian movement and sharing of facilities as well as to retain the opportunity for future expansion within the zone.*
- (d) stage development taking into consideration any future expansion of the zone, or policy area, as a whole.*
- (e) make multiple use of facilities and share utility spaces.*
- (f) unified design of buildings to produce a close relationship between uses in a lively setting.*
- (g) use materials compatible with the natural features of the site and adjacent buildings.*
- (h) be designed and laid out to avoid nuisance or hazard arising from:*
 - (i) microclimatic conditions;*
 - (ii) excessive noise;*
 - (iii) odours;*
 - (iv) overlooking;*
 - (v) overshadowing; or*
 - (vi) visual intrusion.*
- (i) be designed to be compatible with existing development through:*

- (i) *a buffer between development in the zone and adjacent areas;*
 - (ii) *landscaping which complements adjacent development and enhances the visual appearance and character of the zone;*
 - (iii) *pedestrian paths and spaces which are shaded, defined and protected from the wind; and*
 - (iv) *service yards, loading areas and outdoor storage areas which are screened;*
 - (v) *foster human scale, define spaces, reinforce paths and edges, screen utility areas, and generally enhance the visual amenity of the area.*
- (j) *ensure outdoor signs, both free-standing and attached to buildings, are located and designed in such a way as to:*
- (i) *be in scale with the development as a whole, the building therein, and the desired character of the zone or policy area, or otherwise be compatible with the character of the locality;*
 - (ii) *not impair the view of or from nearby developments;*
 - (iii) *not distract attention from traffic control information; and*
- (iv) *illumination from signs or floodlights should not spill over to adjacent areas.*
- (k) *provide access and car parking for residential areas located within centres separate from the access and car parking areas serving the other centre facilities.*
- (l) *integrate of public transport requirements and sheltered waiting areas for passengers.*
- (m) *provide retail showrooms for the trading of bulky goods on the periphery of centres, or in designated precincts within zones or policy areas.*
- (n) *provide:*
- (i) *off-street loading, service areas and service vehicle manoeuvring areas;*
 - (ii) *lighting for buildings and ancillary areas, with no light-spill causing nuisance or hazard; and*
 - (iii) *unobtrusive facilities for storage and removal of waste materials;*
 - (iv) *parking, access and facilities for the disabled;*
 - (v) *public spaces such as malls, plazas and courtyards;*
 - (vi) *public facilities including toilets, infant changing facilities for parents, seating, telephones and community information boards; and*
 - (vii) *design of buildings and infrastructure to minimise energy consumption for lighting, heating, cooling and ventilation and reuse of stormwater.*

The proposed development appropriately responds to PDC 25 in the following ways:

- Through the integration of facilities across the site and the broader Springwood 'village centre' to ensure pedestrians can move between areas easily and conveniently;
- By establishing a unified design theme for the petrol filling station and shop on a prominent location at the entrance to the 'village centre' which responds to the overall Urban Design Masterplan for Springwood;
- Through the careful design and placement of the loading area, vehicular access and parking areas in order to minimise the potential for conflict and ensure the free movement of traffic and pedestrians through the development; and
- Through the design of the signage which is in scale with the development as a whole, which doesn't impair the view of or from nearby developments and which will not cause a distraction for traffic.

6.4 Access and Parking

In order to address the relevant transportation and access provisions of the Development Plan, CIRQA Traffic Consultants has been engaged to review the proposed development and provide a traffic impact assessment (*Appendix 4*).

In terms of parking supply, the proposed development will provide 10 onsite parking spaces near the entrance to the shop. The 10 spaces meet the Development Plan's parking requirements for petrol filling stations contained in Table Ga/1. More specifically, Table Ga/1 seeks the provision of 1 space per service bay plus 5 spaces per 100m² of retail floor space. Given that there are no service bays and given that the retail floor area will be 194m², the proposed 10 parking spaces near the shop will meet the requirements of the Development Plan.

In terms of the design of the car parks, the CIRQA report demonstrates that all spaces have been designed to comply with *AS/NZS 2890.1:2004* as summarised below:

- Regular spaces will be 5.4 m long and 2.6 m wide;
- The parking space for use by persons with disabilities will be 2.4 m wide and 5.4 m long with an adjacent shared area of the same dimension; and
- A minimum aisle width of 6.2 m will be provided.

In terms of access, CIRQA has confirmed that 19m long semi-trailers delivering fuel will be able to safely enter and exit the site in a forward direction. In addition, CIRQA estimates that the proposed development will generate 80 additional trips in the peak hour which can easily be accommodated on the existing and proposed road network.

CIRQA's has also assessed the impact of the proposed development on the surrounding road network and consider that the forecast traffic generation will be within the capacity of the adjacent roads and intersections.

In addition, CIRQA consider that the movements associated with the site will be readily accommodated at the site's access points and on the adjacent road network.

Based on CIRQA's assessment, the proposed development appropriately addresses the following key provisions in the Council Wide section of the Development Plan in relation to transportation and access.

PDC 26 *Provision for the movement of people and goods within business, centre, shopping or mixed use zones or associated policy areas, should:*

- (a) not cause inconvenient and unsafe traffic and pedestrian movements;*
- (b) provide safe and convenient access for private cars, cyclists, pedestrians, service vehicles, emergency vehicles and public utility vehicles;*
- (c) concentrate development for pedestrian convenience, and not extend unnecessarily along road frontages; (increasing the depth of development is a more desirable alternative);*
- (d) separate pedestrian and vehicle movements within zones or areas, for pedestrian safety and convenience.*
- (e) provide access points onto the arterial roads as shown on the relevant Structure Plans to: minimize traffic hazards; queuing on the roads; right turn movements; and interference with the function of intersections, junctions and traffic control devices.*
- (f) not cause congestion or detract from the safety of traffic on abutting roads, and minimize: traffic hazards; queuing on public roads; and intrusion into adjacent residential areas.*
- (g) provide for service vehicles and the storage and removal of waste goods and materials.*
- (h) provide sufficient off-street parking to accommodate customer, employee and service vehicles if there is insufficient public car parking in the locality.*
- (i) consolidate and co-ordinate parking areas into convenient groups, rather than located individually, and the access points minimized, and so located and designed that:*
 - (i) vehicular movement between them does not require the use of public roads;*
 - (ii) the number of access points is minimized; and*
 - (iii) it is not necessary for vehicles to back onto public roads.*
- (j) locate, design and orientate car parks in such a way as to facilitate safe, direct and convenient access of pedestrians between them and the facilities they serve, safe and convenient traffic circulation, minimal conflict between customer and service vehicles, and should include adequate provision for manoeuvring into and out of parking bays.*
- (k) provide on-site parking determined by:*
 - (i) the amount, type and timing of movement generated by the use;*

(ii) *the design, location and configuration of parking spaces;*

(iii) *the ability of the site to accommodate the parking spaces;*

(iv) *the potential for shared use of parking spaces; and*

(v) *the effect on surrounding activities and uses.*

(l) *share use of car parking between developments to reduce the total extent of car parking areas.*

(m) *provide for landscaping in order to screen, shade and enhance the appearance of car parking areas.*

(n) *ensure that all sources of noise, including refrigeration and air conditioning equipment, garbage collection and car parking, do not cause excessive or disturbing noise at neighbouring properties.*

PDC 340 *Development should provide safe and convenient access for all anticipated modes of transport including cycling, walking, public and community transport, and motor vehicles.*

PDC 341 *Development at intersections, pedestrian and cycle crossings, and crossovers to allotments should maintain or enhance sightlines for motorists, cyclists and pedestrians to ensure safety for all road users and pedestrians.*

PDC 355 *Development should be provided with safe and convenient access which:*

(a) *avoids unreasonable interference with the flow of traffic on adjoining roads;*

(b) *accommodates the type and volume of traffic likely to be generated by the development or land use and minimises induced traffic through over-provision;*

(c) *is sited and designed to minimise any adverse impacts on the occupants of and visitors to neighbouring properties.*

PDC 362 *Development should be consistent with Australian Standard AS 2890 Parking facilities.*

PDC 363 *Vehicle parking areas should be sited and designed in a manner that will:*

(a) *facilitate safe and convenient pedestrian linkages to the development and areas of significant activity or interest in the vicinity of the development;*

(b) *include safe pedestrian and bicycle linkages that complement the overall pedestrian and cycling network;*

(c) *not inhibit safe and convenient traffic circulation;*

(d) *result in minimal conflict between customer and service vehicles;*

- (e) *avoid the necessity to use public roads when moving from one part of a parking area to another;*
- (f) *minimise the number of vehicle access points to public roads;*
- (g) *avoid the necessity for backing onto public roads;*
- (h) *provide the opportunity for shared use of car parking and integration of car parking areas with adjoining development to reduce the total extent of vehicle parking areas and the requirement for access points;*
- (i) *not dominate the character and appearance of a centre when viewed from public roads and spaces;*
- (j) *provide landscaping that will shade and enhance the appearance of the vehicle parking areas.*

PDC 367 *Parking areas should be sealed or paved in order to minimise dust and mud nuisance.*

PDC 368 *To assist with stormwater detention and reduce heat loads in summer, vehicle parking areas should include soft (living) landscaping.*

PDC 369 *Parking areas should be line-marked to indicate parking bays, movement aisles and direction of traffic flow.*

6.5 Crime Prevention

The Crime Prevention provisions in the Development Plan seek to ensure that new development prioritises safety and security by incorporating design features which discourage crime and facilitates community surveillance. The proposed development has responded to these provisions in the following ways:

- Through the siting of the proposed development at the intersection of two collector roads where clear views into the site are available to traffic travelling along Calton Road and the proposed north-south collector road;
- By providing large windows within the shop which will overlook the car park, fuelling area and beyond to the streets to maximise opportunities for casual surveillance;
- By ensuring that landscaping selected for the development will be limited to low level plants to provide unobstructed sightlines;
- By avoiding the construction of structures which may obstruct sightlines or be used for concealment or entrapment spots; and
- By ensuring that the site will be illuminated in accordance with the relevant Australian Standards to maximise opportunities for casual surveillance.

For the reasons outlined above, the development is closely aligned with the following relevant Crime Prevention provisions of the Development Plan.

- Obj 20:** *A safe, secure, crime resistant environment where land uses are integrated and designed to facilitate community surveillance.*
- PDC 42** *Development should be designed to maximise surveillance of public spaces through the incorporation of clear lines of sight, appropriate lighting and the use of visible permeable barriers wherever practicable.*
- PDC 43** *Buildings should be designed to overlook public and communal streets and public open space to allow casual surveillance.*
- PDC 44** *Development should provide a robust environment that is resistant to vandalism and graffiti.*
- PDC 45** *Development should provide lighting in frequently used public spaces including those:*
- (a) along dedicated cyclist and pedestrian pathways, laneways and access routes*
 - (b) around public facilities such as toilets, telephones, bus stops, seating, litter bins, automatic teller machines, taxi ranks and car parks.*
- PDC 46** *Development, including car park facilities should incorporate signage and lighting that indicate the entrances and pathways to, from and within sites.*
- PDC 47** *Landscaping should be used to assist in discouraging crime by:*
- (a) screen planting areas susceptible to vandalism*
 - (b) planting trees or ground covers, rather than shrubs, alongside footpaths*
 - (c) planting vegetation other than ground covers a minimum distance of 2 metres from footpaths to reduce concealment opportunities.*
- PDC 48** *Site planning, buildings, fences, landscaping and other features should clearly differentiate public, communal and private areas.*
- PDC 49** *Buildings should be designed to minimise and discourage access between roofs, balconies and windows of adjoining dwellings.*
- PDC 51** *Development should avoid pedestrian entrapment spots and movement predictors (eg routes or paths that are predictable or unchangeable and offer no choice to pedestrians).*
- PDC 364** *Vehicle parking areas should be designed to reduce opportunities for crime by:*
- (a) maximising the potential for passive surveillance by ensuring they can be overlooked from nearby buildings and roads;*
 - (b) incorporating walls and landscaping that do not obscure vehicles or provide potential hiding places;*
 - (c) being appropriately lit;*

- (d) *having clearly visible walkways.*

6.6 Stormwater and Flooding Considerations

A site specific Stormwater Management Plan for the subject site has been prepared by Sagero (**Appendix 6**). This plan complements and builds upon the overall Stormwater Management Plan for the entire Springwood development which has been submitted with the land division applications.

The Stormwater Management Plan identifies how the proposed development will meet the Council's guidelines in terms of detention while also addressing the EPA's pollution reduction targets. As mentioned previously in this report, stormwater management will include the installation of a Class 1 separator and treatment device such as a SPEL Puraceptor which will treat stormwater, separate oils, grease and hydrocarbons and contain any spills. In addition, three detention tanks each with a capacity of 23m³ will be positioned after the SPEL Puraceptor and prior to the managed discharge of treated water into the street water table on Calton Road.

For these reasons, the proposal addresses the following provisions under the Natural Resources heading in the Council Wide Section of the Development Plan and the detention tanks and waste filtration system will ensure that stormwater is managed appropriately in terms of its quantity and quality:

Obj 58: *Storage and use of stormwater which avoids adverse impact on public health and safety.*

PDC 150 *Development should be sited and designed to:*

- (a) *capture and re-use stormwater, where practical;*
- (b) *minimise surface water runoff;*
- (c) *prevent soil erosion and water pollution;*
- (d) *protect and enhance natural water flows;*
- (e) *protect water quality by providing adequate separation distances from watercourses and other water bodies;*
- (f) *not contribute to an increase in salinity levels;*
- (g) *avoid the water logging of soil or the release of toxic elements;*
- (h) *maintain natural hydrological systems and not adversely affect:*
 - (i) *the quantity and quality of groundwater;*
 - (ii) *the depth and directional flow of groundwater;*
 - (iii) *the quality and function of natural springs.*

PDC 151 *Water discharged from a development site should:*

- (a) *be of a physical, chemical and biological condition equivalent to or better than its pre-developed state;*

(b) not exceed the rate of discharge from the site as it existed in pre-development conditions.

PDC 152 Development should include stormwater management systems to protect it from damage during a minimum of a 1-in-100 year average return interval flood.

PDC 153 Development should have adequate provision to control any stormwater over-flow runoff from the site and should be sited and designed to improve the quality of stormwater and minimise pollutant transfer to receiving waters.

PDC 154 Development should include stormwater management systems to mitigate peak flows and manage the rate and duration of stormwater discharges from the site to ensure the carrying capacities of downstream systems are not overloaded.

PDC 155 Development should include stormwater management systems to minimise the discharge of sediment, suspended solids, organic matter, nutrients, bacteria, litter and other contaminants to the stormwater system.

PDC 156 Stormwater management systems should preserve natural drainage systems, including the associated environmental flows.

PDC 157 Stormwater management systems should:

(a) maximise the potential for stormwater harvesting and re-use, either on-site or as close as practicable to the source;

(b) utilise, but not be limited to, one or more of the following harvesting methods:

(i) the collection of roof water in tanks;

(ii) the discharge to open space, landscaping or garden areas, including strips adjacent to car parks;

(iii) the incorporation of detention and retention facilities;

(iv) aquifer recharge.

PDC 158 Where it is not practicable to detain or dispose of stormwater on site, only clean stormwater runoff should enter the public stormwater drainage system.

6.7 Signage

The proposed development includes a number of signs which reflect the intended use of the site as a petrol filling station. Most prominent of these is a 10 metre high pylon sign on the Calton Road frontage which identifies the fuel provider (in this case, Mobil), as well as the prices of various fuels sold at the facility. The pylon sign has been strategically sited to ensure a reasonable level of business exposure is maintained for traffic travelling along Calton Road. The siting of the sign is particularly important to the viability of the proposed business noting the nature of the land use and the fact that approximately 70% of business is generated by passing trade.

The design, extent and size of the signage reflects the proposed use of the site without visually dominate the associated buildings. Further, the proposed signage will:

- Complement the design of the building;
- Be contained within the boundaries of the site;
- Not affect existing street trees or obscure views to attractive landscaping;
- Not cause a distraction for drivers or obstruct their views of other vehicles; and
- Be limited to information relating to the proposed use of the land.

Table Ga/4 – Advertising and Advertising Displays Definitions and Design Criteria: contains specific guidelines for pylon signs associated with petrol filling stations.

Figure 6.3 Extract from Table Ga/4

Sign Type	Criteria
PYLON OR FREESTANDING SIGN	<p>No higher than the buildings on the site, up to maximum height of 6.0m Maximum sign face area: 3.0m² Maximum number for per site: 1, except where otherwise specified below.</p> <p>Supermarket: (regardless of height of building) maximum height 6.0m. Maximum sign face area: 5.0m²</p> <p>Town Centre Historic Zone: Maximum sign face area 2.2m²</p> <p>Petrol Filling Station: maximum number of pylon or freestanding signs limited to 1, with a maximum height of 7.0m and a maximum sign area of 12.0m² per face. All other signs being consistent with Development Plan provisions.</p>

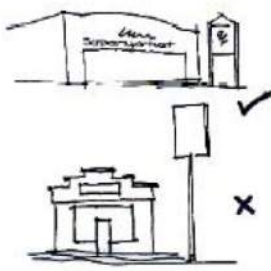


Table Ga/4 indicates that petrol filling stations should only have one pylon sign and this sign should be no more than 7m in height and have a maximum are of 12m² per face. While the proposed development only includes one pylon sign, the height will exceed the guidelines in the Development Plan as will the size of the face of the sign. Apart from the departures associated with the pylon sign (which relate to the need to attract passing traffic to the site), the signage generally satisfies the provisions of the Development Plan including the following Council Wide provisions:

- Obj 69:** An urban environment and rural landscape not disfigured by advertisements.
- Obj 70:** Advertisements in retail, commercial and industrial urban areas, and centre zones, designed to enhance the appearance of those areas.
- Obj 71:** Advertisements not hazardous to any person.
- PDC 199** Advertising and advertising displays should, in addition to general provisions, conform with the performance criteria in Table Ga/4.
- PDC 200** The location, siting, size, shape and materials of construction, of advertisements should be:

- (a) *consistent with the desired character of areas or zones as described by their objectives;*
- (b) *consistent with the predominant character of the urban or rural landscape; or*
- (c) *in harmony with any building or site of historic significance or heritage value in the locality.*

PDC 201 *Advertisements should not detrimentally affect by way of their siting, size, shape, scale, glare, reflection or colour the amenity of areas, zones, or localities, in which they are situated.*

PDC 202 *Advertisements should not impair the amenity of areas, zones, or localities, in which they are situated by creating, or adding to, clutter, visual disorder and the untidiness of buildings and spaces.*

PDC 203 *Advertisements should not obscure views of attractive landscapes or particular trees or groups of trees.*

PDC 204 *The scale of advertisements should be compatible with the buildings on which they are situated and with nearby buildings and spaces.*

PDC 207 *Advertisements on buildings that have a single architectural theme but which contain a number of tenancies, should be attached and displayed so as to be co-coordinated with that theme.*

PDC 209 *Advertisements should not create a hazard to persons travelling by any means.*

PDC 210 *Advertisements should not obscure a driver's view of other road vehicles, of rail vehicles at or approaching level crossings, of pedestrians and of features of the road such as junctions, bends, changes in width, traffic control devices and the like that are potentially hazardous.*

PDC 211 *Advertisements should not be so highly illuminated as to cause discomfort to an approaching driver, or create difficulty in his perception of the road, or of persons or objects on it.*

PDC 212 *Advertisements should not be liable to interpretation by drivers as an official traffic sign, or convey to drivers information that might be confused with instructions given by traffic signals or other control devices, or impair the conspicuous nature of traffic signs or signals.*

PDC 213 *Advertisements should not detract drivers from the primary driving task at a location.*

PDC 214 *Advertisements or advertising displays should:*

- (a) *convey in clear and concise language, symbols, print style, layout, and in a limited number of colours, the owner/occupier and/or generic type of business, merchandise or services;*
- (b) *be minimised in number to avoid proliferation of advertisements or advertising displays;*
- (c) *be of a form, style, scale and size and in locations appropriate to the desired character and future use of land or character of the locality or zone and to preserve reasonable exposure to the public for all adjacent sites;*

- (d) *not have an adverse impact on the amenity of adjacent land uses and areas from which they are visible and without limiting the foregoing, no bunting, whirligigs or other like displays should be displayed;*
- (e) *conceal the supporting structure from view wherever possible;*
- (f) *be completely contained within the boundaries of the subject property, and if road widening is applicable, be within the proposed property boundary realignment;*
- (g) *be unified in colour, style, placement and proportion to present a coordinated theme and design for a site, centre or building; and*
- (h) *be designed and located to avoid damage to, pruning or lopping of on-site landscaping or street trees.*

PDC 221 *Advertisements or advertising displays should only identify premises or the nature of business, goods or services conducted on the land or building.*

6.8 Landscaping, Fences and Walls

A conceptual landscaping plan has been prepared for the development and is included with the architectural plans contained in **Appendix 3**. The proposal includes landscaping around the perimeter of the site as well as around the buildings. These landscaped areas will be planted with a range of species of bushes and groundcovers which will complement the overall landscape theme of the Springwood development. More specifically, the proposed landscaping will assist to soften the appearance of the buildings and hard stand areas when viewed from the surrounding streets. Accordingly, the development satisfies PDC 25 of the Development Plan which seeks:

PDC 25 *Development or redevelopment within business, centre, shopping or mixed use zone or associated policy areas, should:*

- (i) *be designed to be compatible with existing development through:*
 - (i) *a buffer between development in the zone and adjacent areas;*
 - (ii) *landscaping which complements adjacent development and enhances the visual appearance and character of the zone;*
 - (iii) *pedestrian paths and spaces which are shaded, defined and protected from the wind; and*
 - (iv) *service yards, loading areas and outdoor storage areas which are screened;*
 - (v) *foster human scale, define spaces, reinforce paths and edges, screen utility areas, and generally enhance the visual amenity of the area.*

In terms of the fences and retaining walls, the proposed development includes two types of fences along the southern and western boundaries of the site. This includes a typical 1.8m high Colorbond fence as well as a 1.8m high aluminium picket style fence, both of which will be located on a retaining wall ranging in height up to 2.4m which is required to retain the difference in levels between the subject site and adjoining land to the south. Given the previous quarrying activities that have occurred on the site, earthworks and associated retaining walls are inevitable in order to provide suitable levels for development. However, these earthworks are reflected in the land division and have been planned for in the overall Master Plan.

It is also noted that the retaining walls will not be directly visible from the surrounding streets and will not be located between the buildings and the road frontage. In addition, the retaining walls will not cause any adverse impact on the adjoining land to the south which is intended to be developed for a retail or commercial use in the future. Finally, the colour of the fences on top of the retaining walls will not reflect light which will reduce their visual impact. For these reasons, the proposed development addresses the following provisions of the Zone:

PDC 29 *Retaining walls greater than 1.0 metre in height should:*

- (a) not be directly visible from a public road or the public realm*
- (b) where located between a building and a road frontage, be stepped in increments of not more than 1.0 metre*
- (c) not cause significant adverse impacts on the amenity of adjacent properties, particularly in relation to overshadowing, cutting off light or views.*

PDC 31 *Development should be designed and sited to relate to the slope of the land, so that:*

- (a) the bulk and scale of the buildings do not dominate the landscape;*
- (b) the amount of cut and fill is minimised.*

PDC 32 *Fences should be located to minimise their visual impact and be constructed of materials which are of a low light-reflective nature.*

6.9 Interface Considerations

The subject site is located within the Mixed Use Centre Policy Area 3 which clearly anticipates a neighbourhood level centre (including a petrol filling station) in this area. Currently, the site and land to the south is vacant but will be developed over time to create a master-planned community comprising residential development supported by a range of non-residential land uses. On this basis, potential interface issues have been carefully considered during the preparation of the Springwood masterplan and as part of the urban design of the whole project.

Further to the above, the nearest residential development to the north of the site is separated and shielded from the subject site by a 20m wide vegetated reserve running along the northern side of Calton Road. Presumably, this reserve assisted to provide a visual and acoustic buffer between the residential area and the

former quarrying activities on the southern side of Calton Road. In any event, the vegetated buffer provides an effective screen between the dwellings to the north and the subject site which will reduce any impacts associated with noise and lights.

In addition, Sonus has prepared an Environmental Noise Assessment (**Appendix 5**) which assessed the proposed development against the *Environment Protection (Noise) Policy 2007* and the relevant 'interface' provisions of the Development Plan. Sonus concludes that the proposed development will achieve the relevant noise criteria expressed in the *Environment Protection (Noise) Policy 2007* subject to a number of relatively modest treatments which have generally been reflected on the architectural plans. In addition, Sonus has recommended that waste collection only occur between the hours of 9am and 7pm on a Sunday or public holiday and 7am and 7pm on any other day.

With the adoption of the acoustic treatments mentioned above, Sonus concludes that:

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

For the reasons outlined above, the proposed development appropriately responds to the following relevant interface provisions within the Development Plan:

Zone

PDC 34 *Development should be designed and sited to minimise negative impact on existing and potential future land uses considered appropriate in the locality.*

Council Wide

Obj 42: *Development located and designed to minimise adverse impact and conflict between land uses.*

Obj 43: *Protect community health and amenity from adverse impacts of development.*

PDC 107 *Development should not detrimentally affect the amenity of the locality or cause unreasonable interference through any of the following:*

- (a) *the emission of effluent, odour, smoke, fumes, dust or other airborne pollutants;*
- (b) *noise;*
- (c) *vibration;*
- (d) *electrical interference;*
- (e) *light spill;*
- (f) *glare;*
- (g) *hours of operation;*
- (h) *traffic impacts.*

PDC 108 *Development should be sited and designed to minimise negative impacts on existing and potential future land uses desired in the locality.*

7. Conclusion

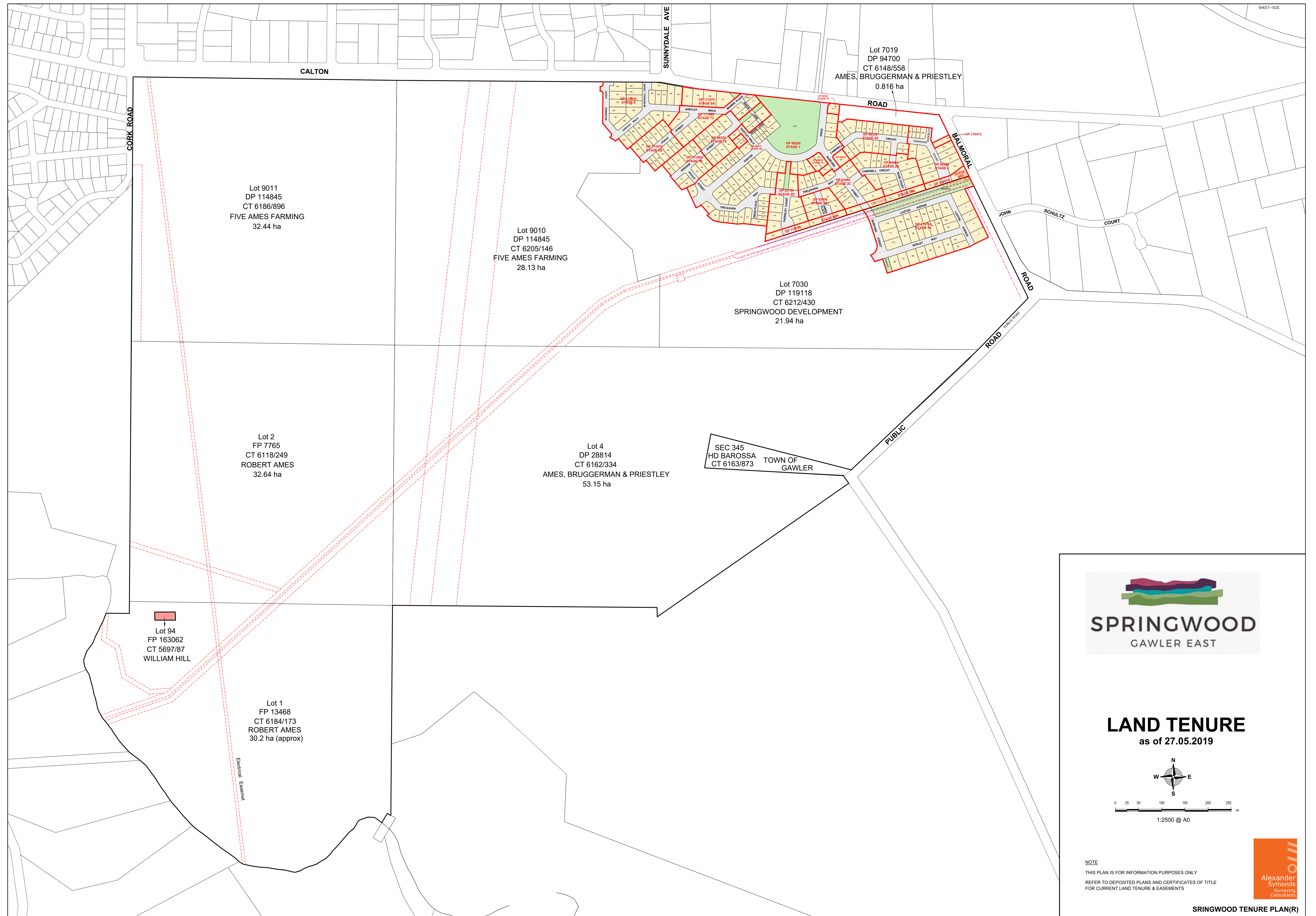
This development application seeks approval to establish a petrol filling station and shop with associated car parking, signage, fencing, retaining walls and landscaping.

Having undertaken a comprehensive assessment of the application against the relevant provisions of the Gawler (CT) Development Plan, we believe that the proposal represents orderly development which accords with the relevant provisions of the Development Plan for the reasons summarised below:

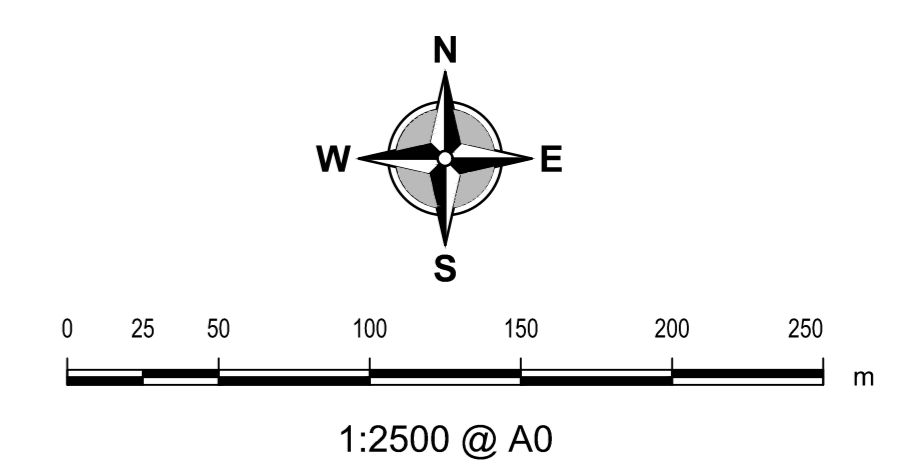
- A 'petrol filling station' and 'shop' are envisaged forms of development in the Mixed Use Policy Area 3 of the Residential (Gawler East) Zone;
- The subject site is identified as a Neighbourhood Centre within the *Gawler East Structure Plan Map Ga/1 (Overlay 1) Enlargement G* as well as the Springwood Masterplan;
- The location and design of the proposed development will complement other proposed development in the Springwood 'village centre' such as the supermarket and specialty shops to the south;
- The proposed development has been designed to address both road frontages, and the buildings provide visual interest through the use of a variety of building materials, complementary colours and articulation;
- A coordinated signage theme is proposed, with the signage reflective of the proposed use as a petrol filling station which relies on passing trade;
- Large windows along the shop will maximise opportunities for casual surveillance across the site;
- The proposed development has been designed to accommodate safe and convenient movements for vehicles, and the CIRQA report concludes that sufficient onsite parking will be provided to cater for the anticipated parking demand;
- The additional traffic volumes to be generated by the development will not have a significant impact on the road network;
- Stormwater will be managed and treated appropriately through the use of a SPEL Purceptor (or similar) and a series of detention tanks;
- Interface issues have been addressed appropriately to ensure that the proposed development will achieve the criteria of the *Environment Protection (Noise) Policy 2007* as demonstrated in the Environmental Noise Assessment prepared by Sonus; and
- The proposed landscaping will assist to soften the appearance of the building and hardstand areas when viewed from the adjoining streets which will assist to enhance the amenity of the locality.

Based on our assessment, the application is closely aligned within the relevant provisions of the Development Plan and therefore warrants Development Plan Consent subject to reasonable and relevant conditions.

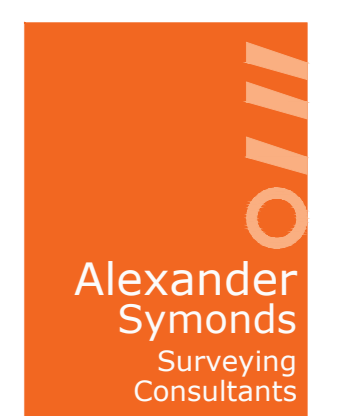
Appendix 1. Land Tenure Plan and Certificate of Title



LAND TENURE
as of 27.05.2019



NOTE
THIS PLAN IS FOR INFORMATION PURPOSES ONLY
REFER TO DEPOSITED PLANS AND CERTIFICATES OF TITLE
FOR CURRENT LAND TENURE & EASEMENTS



REAL PROPERTY ACT, 1886



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



Certificate of Title - Volume 6205 Folio 146

Parent Title(s) CT 6186/895
Creating Dealing(s) VE 12885392
Title Issued 26/03/2018 **Edition** 2 **Edition Issued** 06/07/2018

Estate Type

FEE SIMPLE

Registered Proprietor

FIVE AMES FARMING PTY. LTD. (ACN: 609 760 536)
OF 63 GAWLER TERRACE GAWLER SOUTH SA 5118

Description of Land

ALLOTMENT 9010 DEPOSITED PLAN 114845
IN THE AREA NAMED GAWLER EAST
HUNDRED OF BAROSSA

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON D114845 TO THE MINISTER FOR INFRASTRUCTURE (T 1374106)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED C ON D114845 TO TRANSMISSION LESSOR CORPORATION OF 1 UNDIVIDED 2ND PART (SUBJECT TO LEASE 9061500) AND ELECTRANET PTY. LTD. OF 1 UNDIVIDED 2ND PART (T 2370109)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED E ON D114845 TO ELECTRANET PTY. LTD. (TG 12371822)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED T ON D114845 (TG 9662213)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED U ON D114845 (TG 10297076)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED H ON D114845 FOR DRAINAGE PURPOSES TO THE COUNCIL FOR THE AREA (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED J ON F252234 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED K(T/F) ON F252234 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

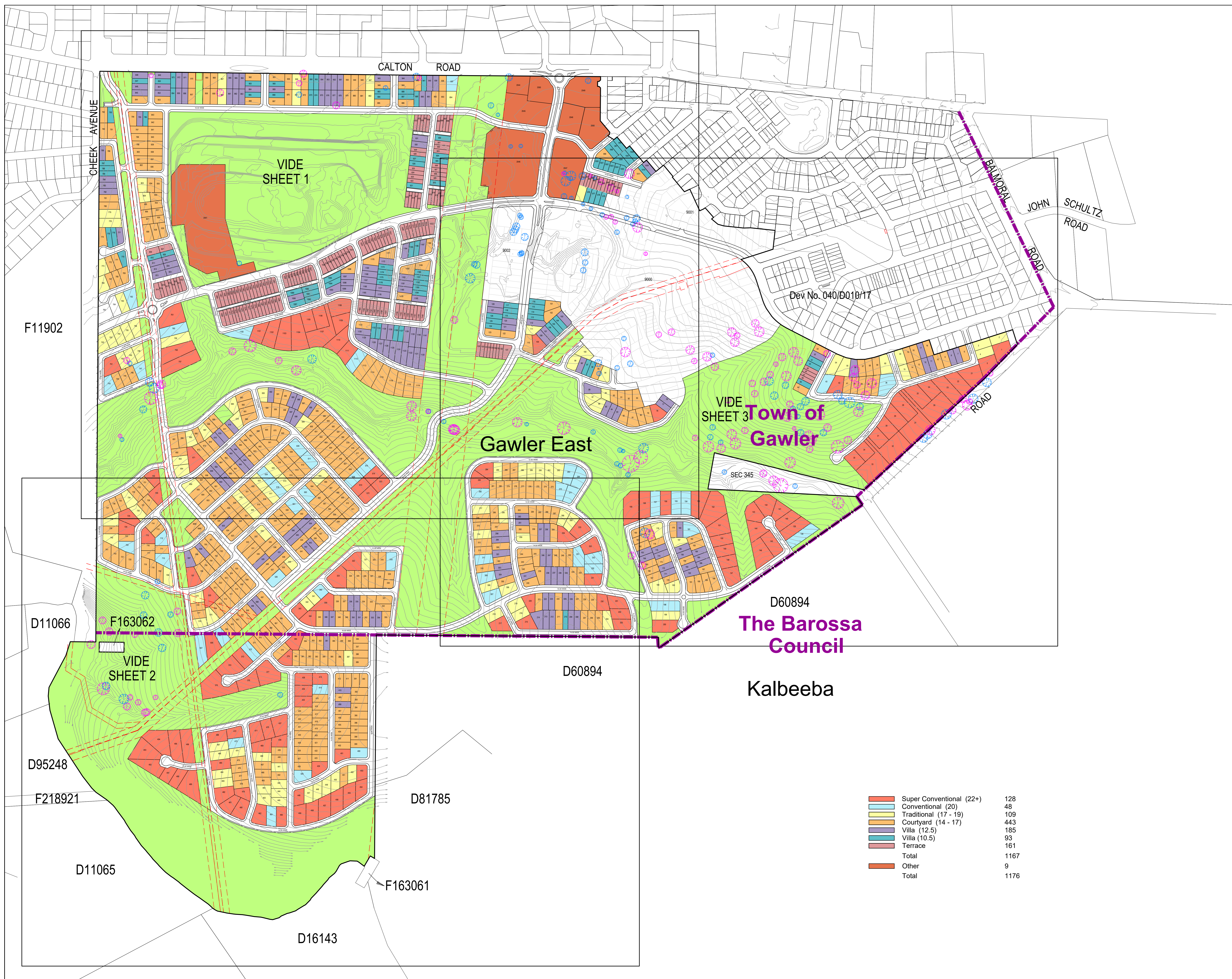
Dealing Number	Description
11764743	AGREEMENT UNDER DEVELOPMENT ACT 1993 PURSUANT TO SECTION 57A
12459905	AGREEMENT UNDER DEVELOPMENT ACT, 1993 PURSUANT TO SECTION 57(2)
12915311	MORTGAGE TO NATIONAL AUSTRALIA BANK LTD. (ACN: 004 044 937)



Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Appendix 2. Plan of Division

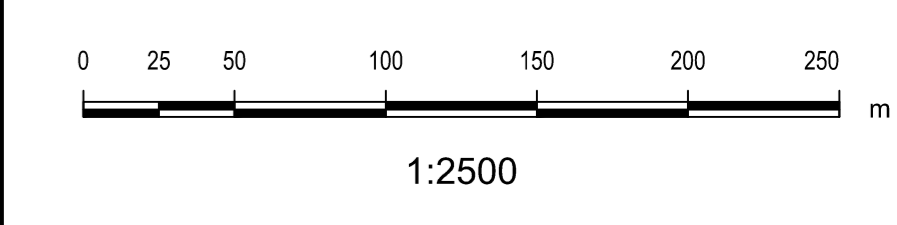


Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council

Proposed Plan of Division
Allotment 2 in F7765
Allotment 1 in F13468
Allotment 9010 & 9011 in D114845
Allotment 4 in D28814
Hundred of Barossa
in the area named
GAWLER EAST & KALBEEBA

CT 6186/896 CT 6205/146
CT 6118/249 CT 6162/334
CT 6184/173 PT CT 6212/430



SHEET 1 OF 4

AMENDED PLAN
11.09.2019

- Significant tree
- Regulated tree

No. of proposed allotments	1176
Total area	185.6ha
Area of Development	168.5ha
Reserve area	70.91ha
Length of new roads	19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

****Not to be used for detailed engineering design.****

Dimensions and areas are subject to survey.

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Glenn Ian Hordacre
 LICENSED SURVEYOR

REF:	A010816-CG
DWG NO.:	A010816-CG PROP1 REV E
REVISION:	E
DEL:	9.09.2019

Alexander & Symonds Pty Ltd
 11 King William Street Kent Town,
 South Australia 5067
 PO Box 1000 Kent Town, SA 5071
 ABN 93607 753 988

T (08) 8130 1666
 F (08) 8362 9099
 W www.alexander.com.au
 E a@alexander.com.au

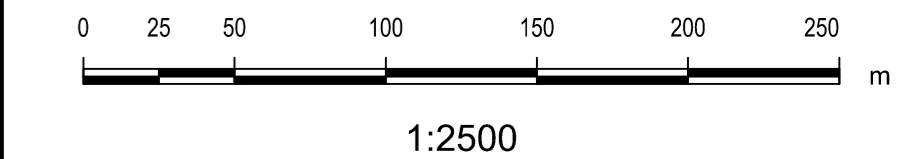
+ Property + Land Development +
 + Construction + Mining +
 + Spatial Information Management +

Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council

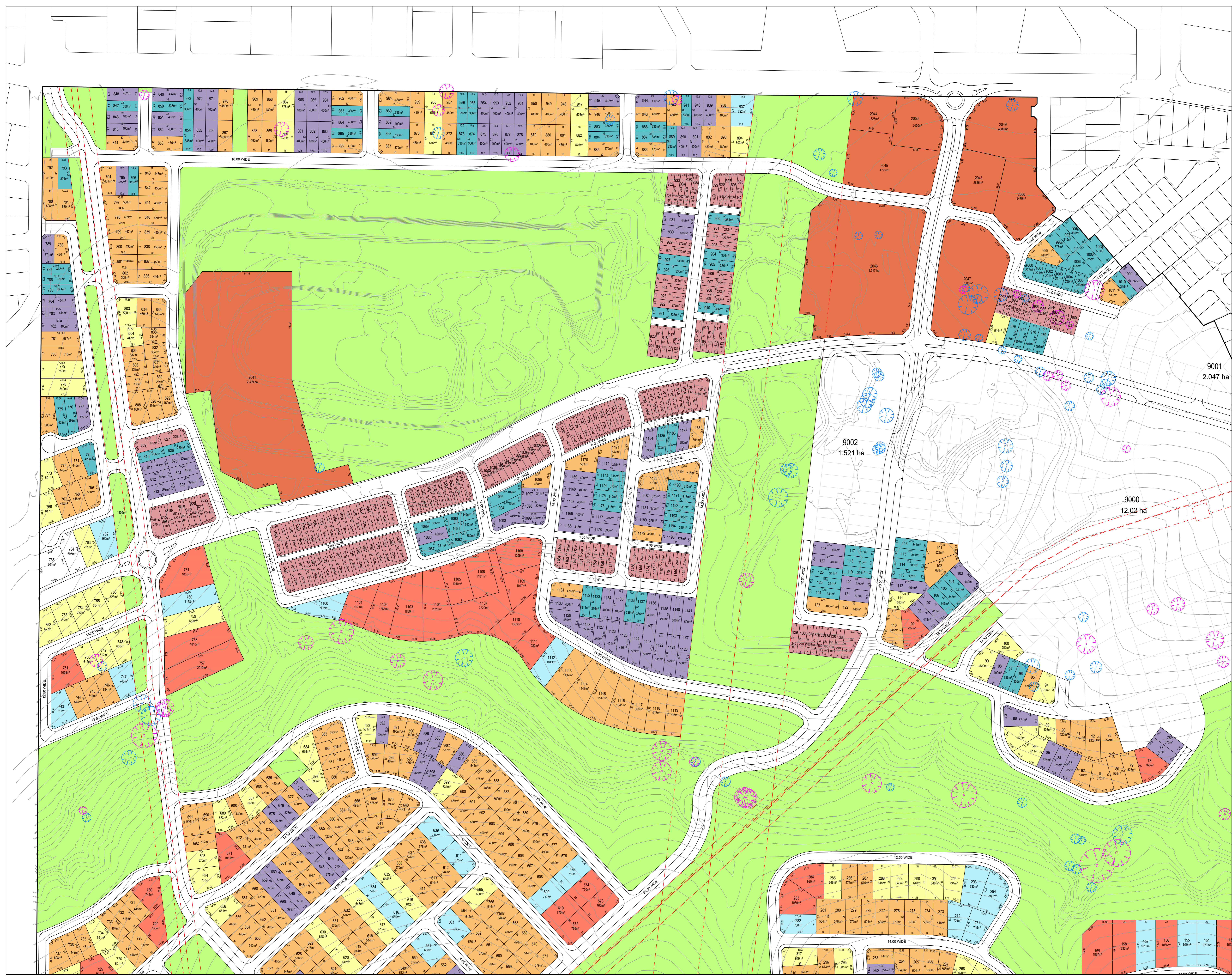
Proposed Plan of Division
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Allotment 9010 & 9011 in D114845
Allotment 4 in Dev No. 490/D010/17
Allotment 4 in D28814
Hundred of Barossa
in the area named
**GAWLER EAST
& KALBEEBA**

CT 6186896 CT 6205146
CT 6118249 CT 6162334
CT 6184173 PT CT 6212430



SHEET 2 OF 4

AMENDED PLAN
11.09.2019



Significant tree
 Regulated tree

No. of proposed allotments 1176
Total area 185.6ha
Area of Development 168.5ha
Reserve area 70.91ha
Length of new roads 19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.
Road pavements shown are indicative only.

Not to be used for detailed engineering design.

Dimensions and areas are subject to survey.

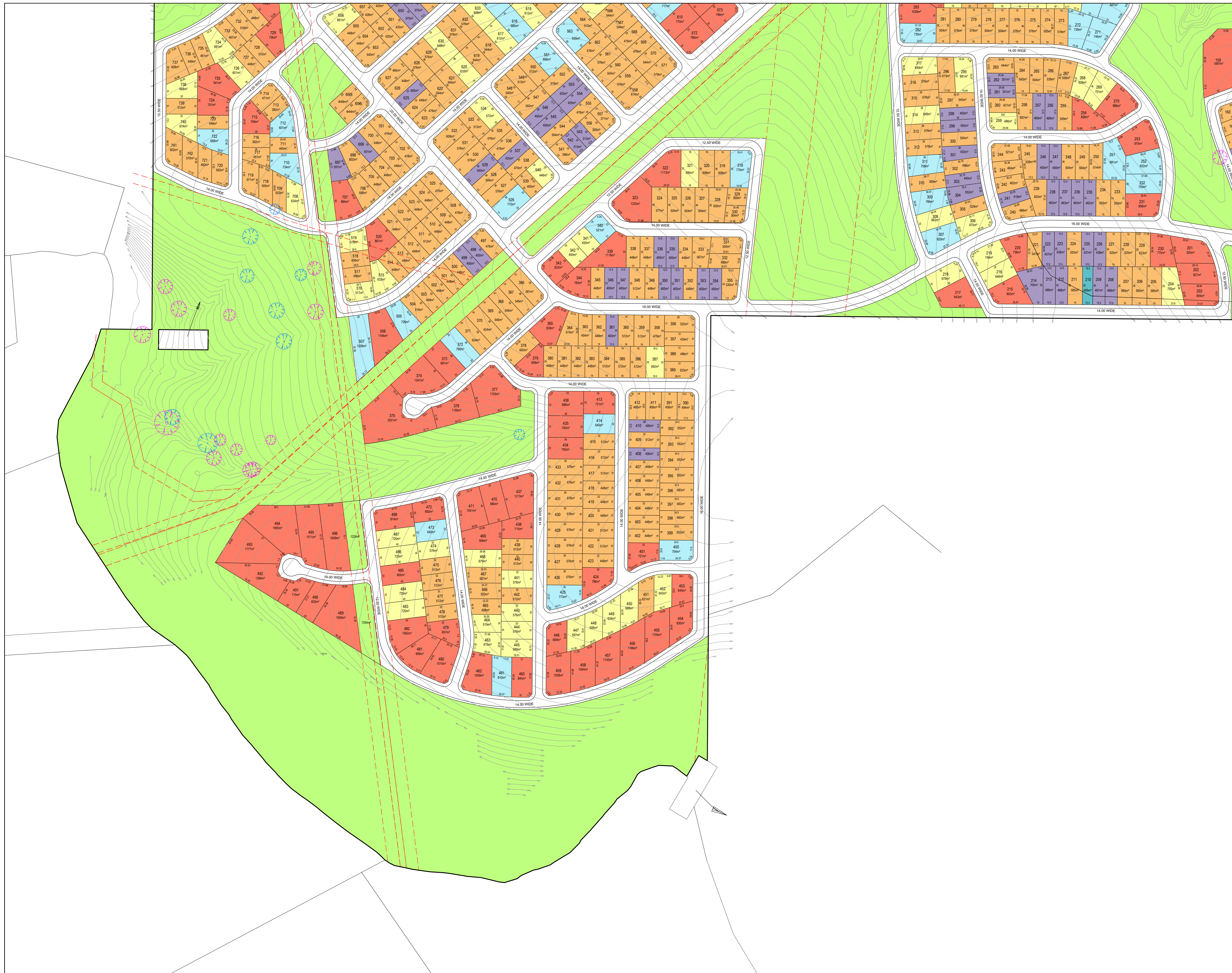
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DCL: 9.09.2019

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W www.alexander.com.au
E a.hordacre@alexander.com.au

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• Construction • Mining •
• Spatial Information Management •

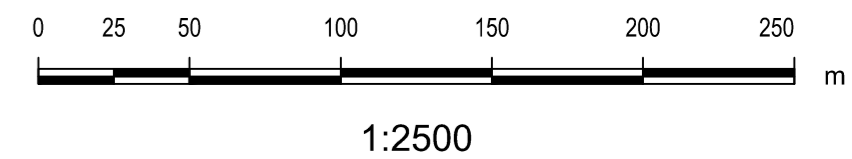


Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council

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Hundred of Barossa
in the area named
**GAWLER EAST
& KALBEEBA**


CT 6186/896 CT 6205/146
CT 6118/249 CT 6162/334
CT 6184/173 PT CT 6212/430



SHEET 3 OF 4

AMENDED PLAN

11.09.2019

-  Significant tree
-  Regulated tree

No. of proposed allotments	1176
Total area	185.6ha
Area of Development	168.5ha
Reserve area	70.91ha
Length of new roads	19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

****Not to be used for detailed engineering design.****

Dimensions and areas are subject to survey.

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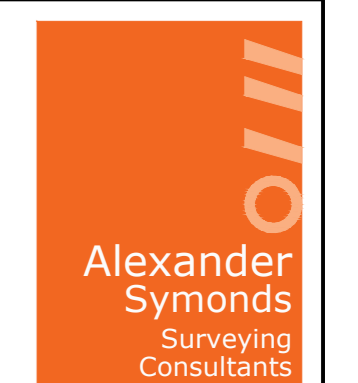
Glenn Ian Hordacre
LICENSED SURVEYOR

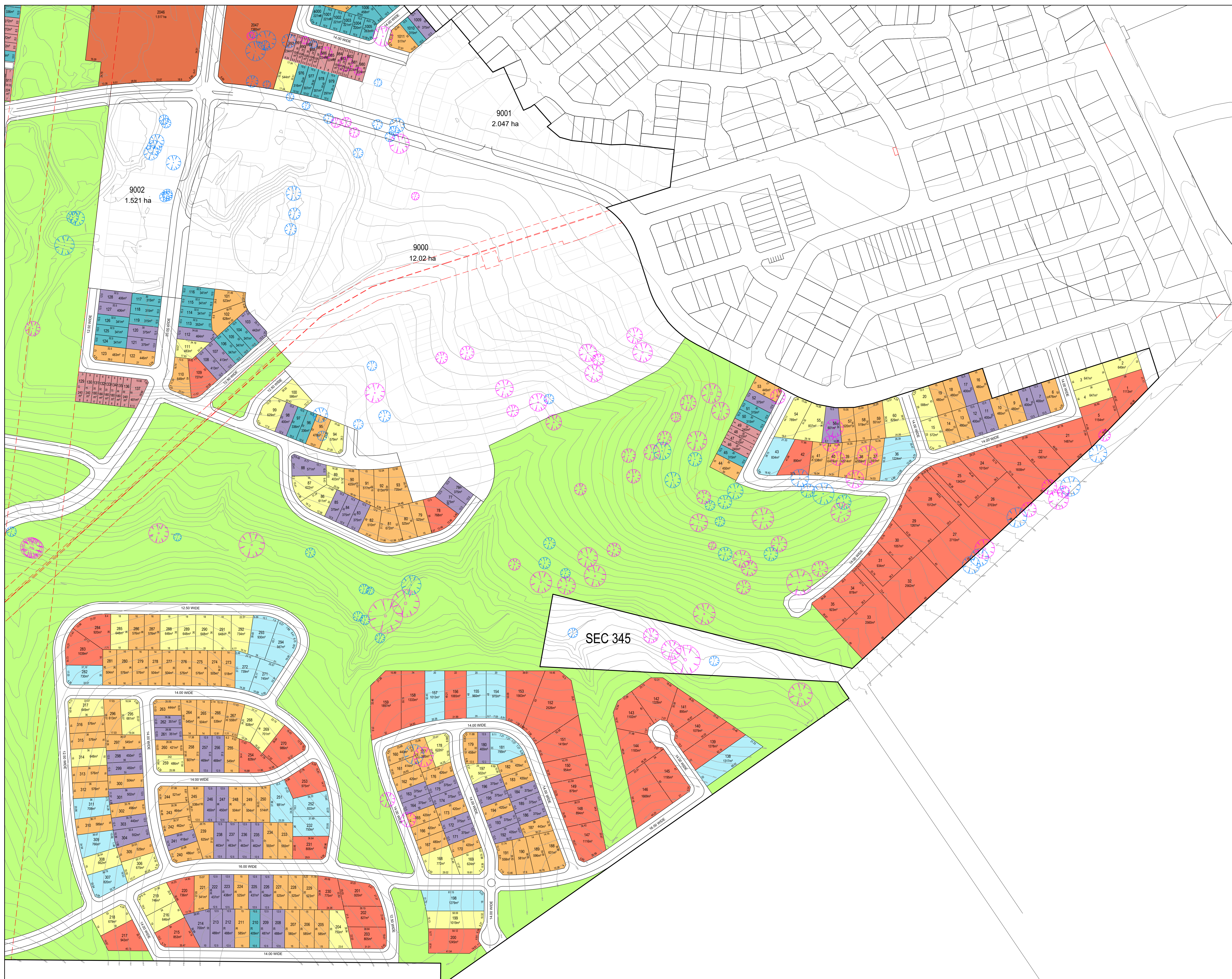
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DWG NO.:	A010816-CG PROP1 REV E
REVISION:	E
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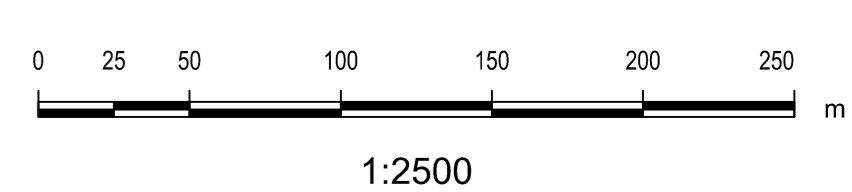


Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council

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Allotment 2 in F7765
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CT 6186/896 CT 6205/146
CT 6118/249 CT 6162/334
CT 6184/173 PT CT 6212/430




1:2500

SHEET 4 OF 4

AMENDED PLAN

11.09.2019

-  Significant tree
-  Regulated tree

No. of proposed allotments	1176
Total area	185.6ha
Area of Development	168.5ha
Reserve area	70.9ha
Length of new roads	19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

****Not to be used for detailed engineering design.****

Dimensions and areas are subject to survey.

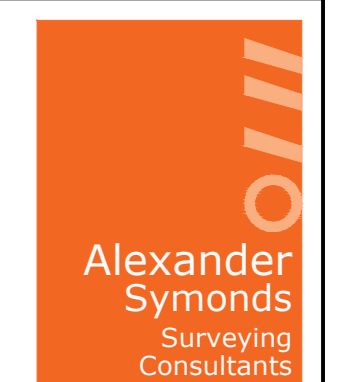
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Appendix 3. Proposed plans and elevations

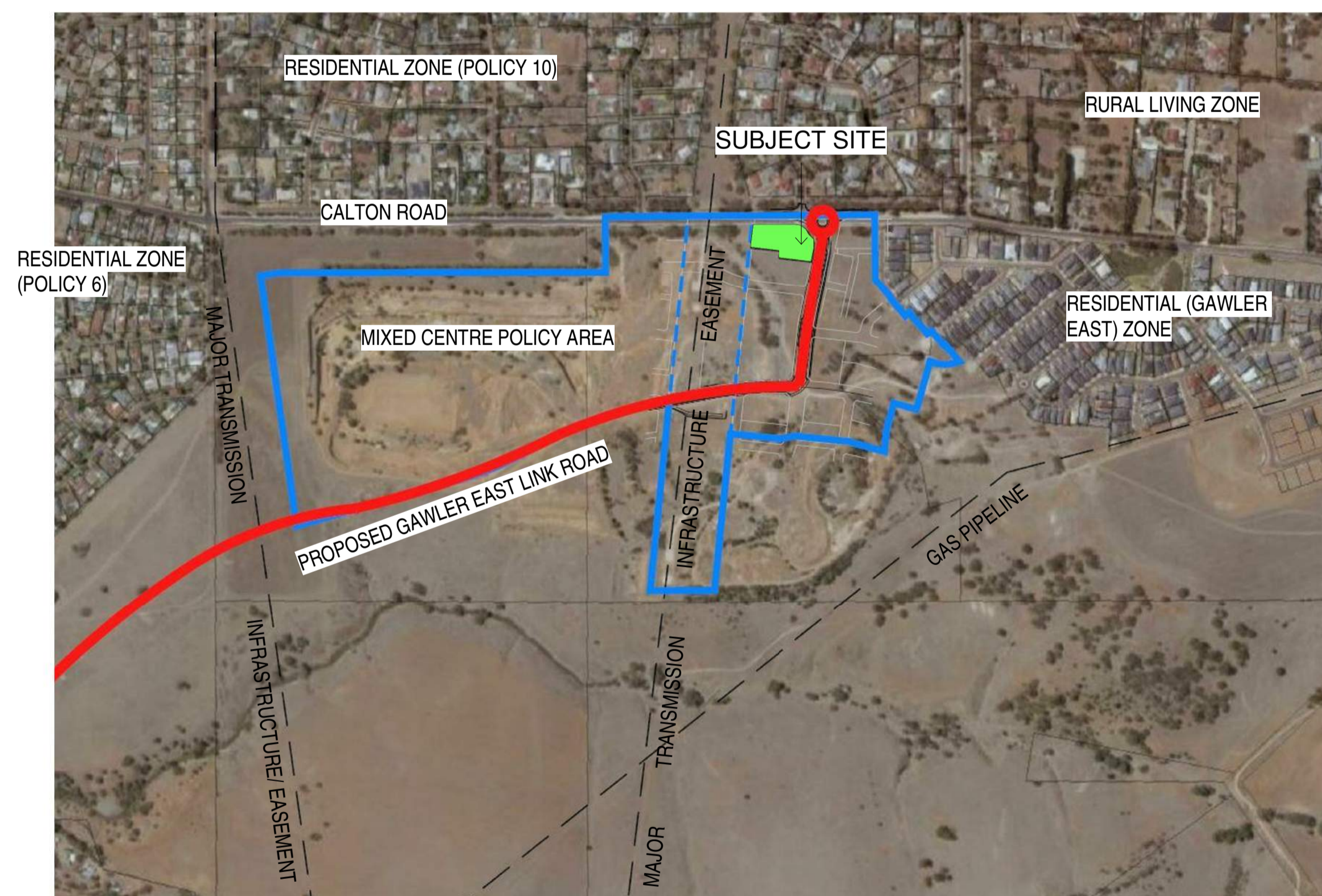
Brown Falconer

Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19

LEYTON PROPERTY PTY LTD PROPOSED PETROL FILLING STATION DEVELOPMENT

CORNER OF CALTON ROAD & GAWLER EAST LINK ROAD, SPRINGWOOD

DA01	COVER SHEET	2
DA02	SITE PLAN	2
DA03	SITE ELEVATIONS & SIGNAGE SCHEDULE	2
DA04	BUILDING ELEVATIONS	2
DA05	LANDSCAPING PLAN	2
DA06	SHOP FLOOR PLAN	1
DA07	3D IMAGES	2



SITE CONTEXT PLAN
1 : 5000

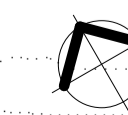
**BROWN
FALCONER**
28 Chesser Street, Adelaide, South Australia 5000
Telephone : 08 8203 5800 ABN 65 007 846 586
brownfalconer.com.au

LEYTON PROPERTY

PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

COVER SHEET

Scale 1 : 5000
Date 01/16/18
Job No. 2018001

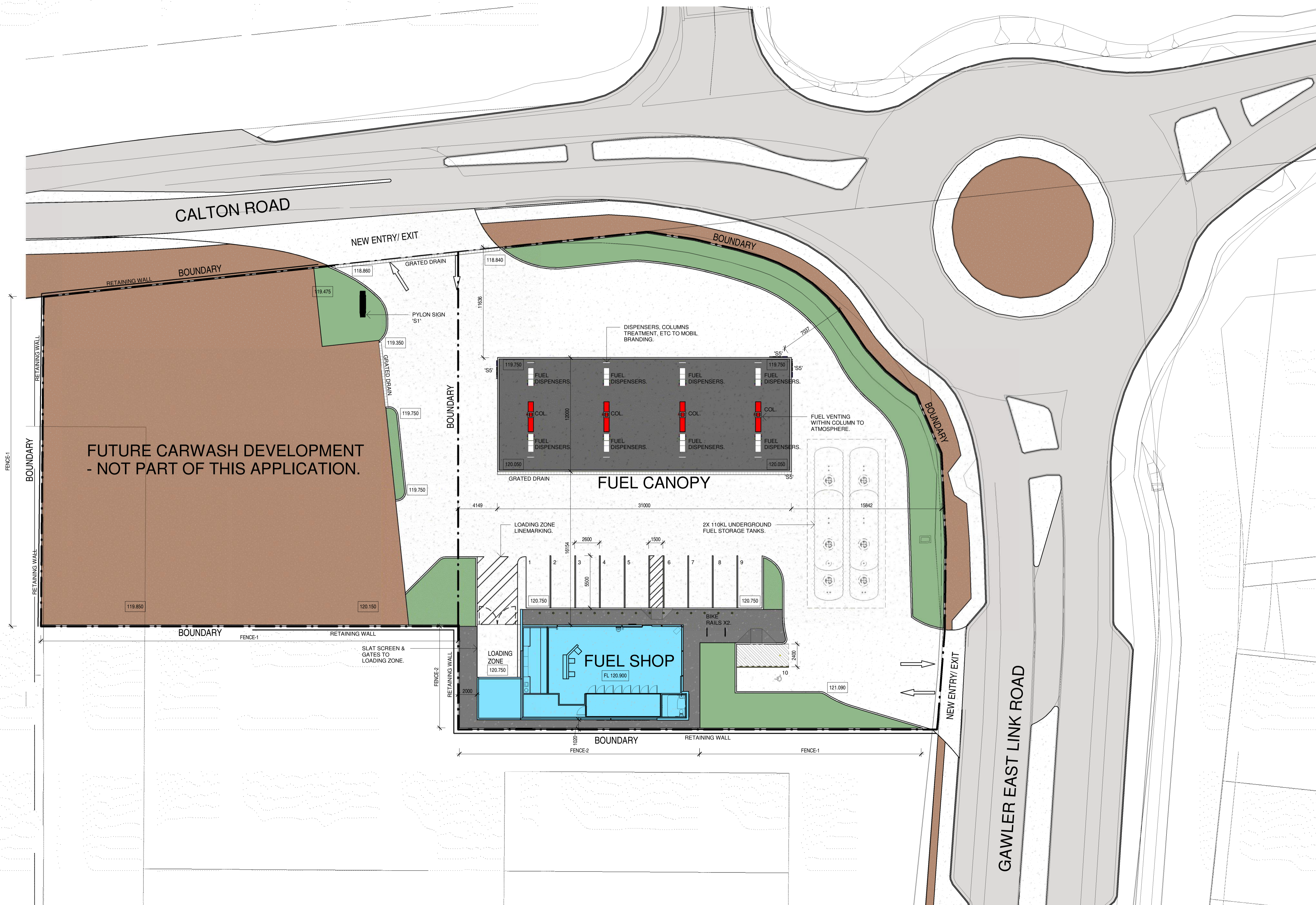


Dwg No. 3298 DA01 Rev. 2 A1 SHEET

PRELIMINARY

WORK IN PROGRESS ISSUE
11/11/2019 11:19:20 AM

Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



DEVELOPMENT SUMMARY

SITE AREA	4068m ²
SHOP	194m ²
CANOPY/FORECOURT	372m ²
CAR WASH	354m ²
LANDSCAPING	598m ² (14.65%)
PARKING PROVIDED	12

NOTES:

- SPEL UNIT IS TO BE A 'SPEL PURCEPTOR CLASS 1 FULL RETENTION SEPARATOR. REFER TO CIVIL FOR SPEL AND DETENTION SIZES.
- WASTE WATER COLLECTED IN THE SPEL PURCEPTOR WILL BE REMOVED BY AN EPA LICENSED WASTE TRANSPORTER TO LICENSED WASTE DEPOT AUTHORISED TO RECEIVED SUCH WASTE.
- FUEL SYSTEMS TO INCLUDE:
 - DOUBLE WALLED FIBREGLASS TANKS.
 - ATG SYSTEM.
 - DOUBLE WALLED FUEL LINES.
 - PRESSURE LEAK DETECTION SYSTEM TO AS4897-2008, THE DESIGN, INSTALLATION AND OPERATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS.
 - STAGE 1 VAPOUR RECOVERY (VR1).
- CAR PARK LIGHTING DESIGN IS TO COMPLY WITH AS/NZS 1158.1.3.

FENCE TYPES



FENCE-1
1800MM HIGH ALUMINIUM PICKET FENCING MOUNTED ON TOP OF RETAINING WALL. COLOUR: 'MONUMENT'



FENCE-2
1800MM HIGH COLORBOND GOOD NEIGHBOUR FENCING MOUNTED ON TOP OF RETAINING WALL. COLOUR: 'MONUMENT'

BROWN FALCONER

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Telephone: 08 8203 5800 ABN 65 007 846 586
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LEYTON PROPERTY

PROPOSED PETROL STATION CNR CALTON RD & GAWLER EAST LINK RD, SPRINGWOOD

SITE PLAN

Scale As indicated
Date 02/12/18
Job No. 2018001

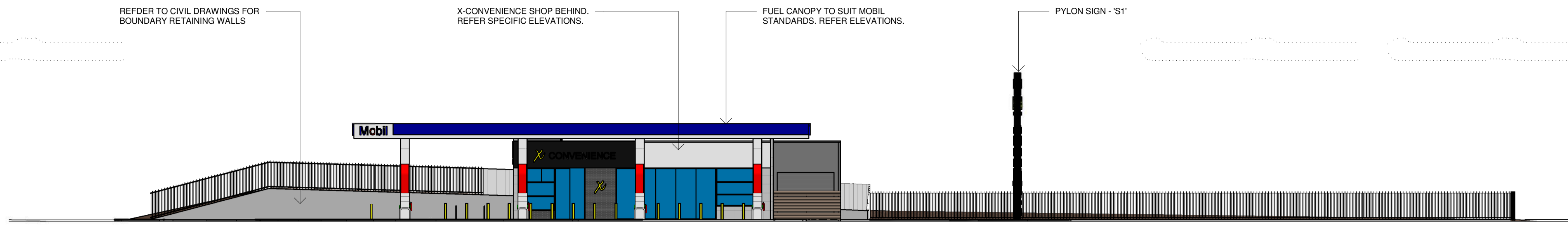


Dwg No. 3298 DA02 Rev: 2 A1 SHEET

SITE PLAN

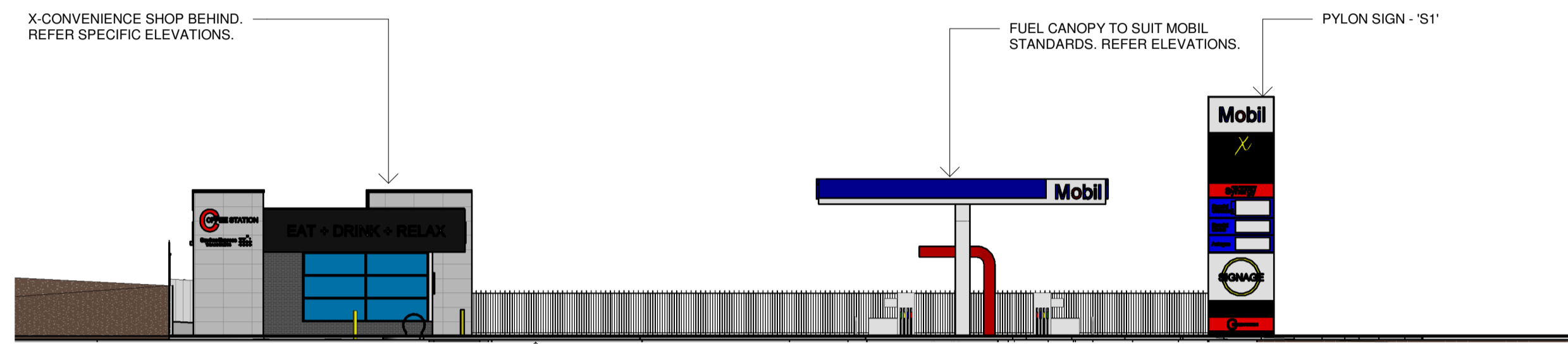
1:200

Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



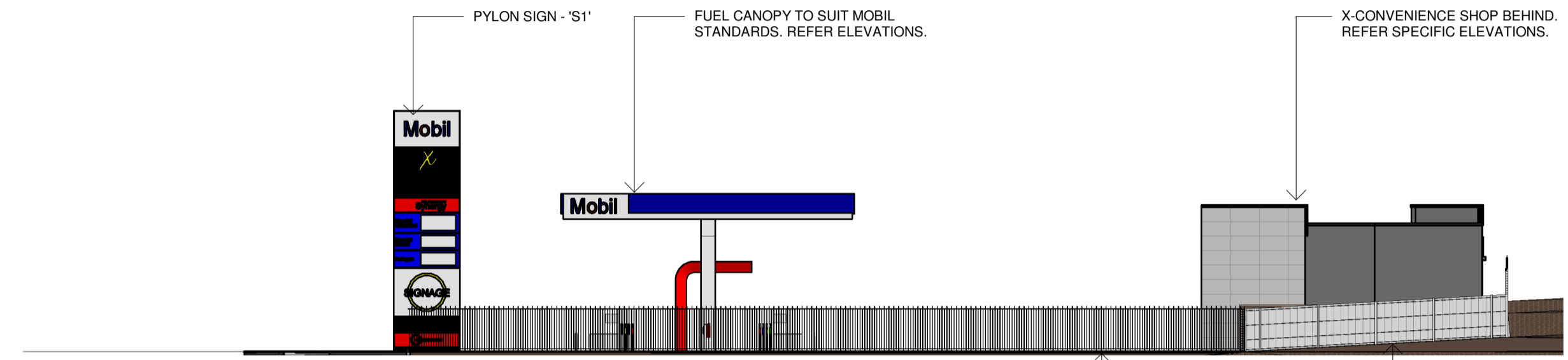
SITE ELEVATION - NORTH

1 : 200



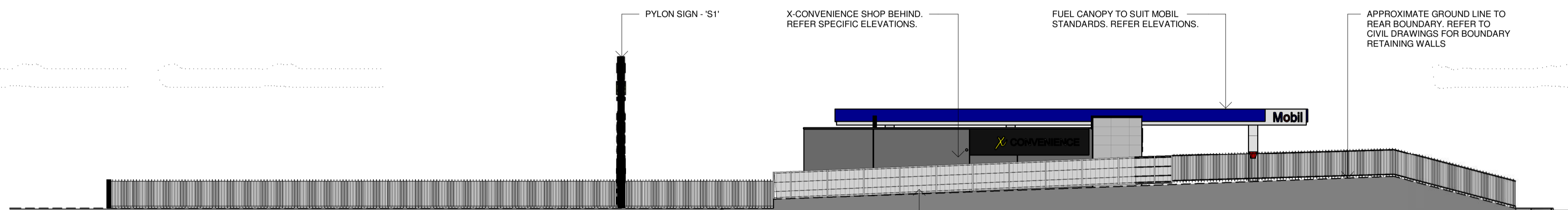
SITE ELEVATION - EAST

1 : 200



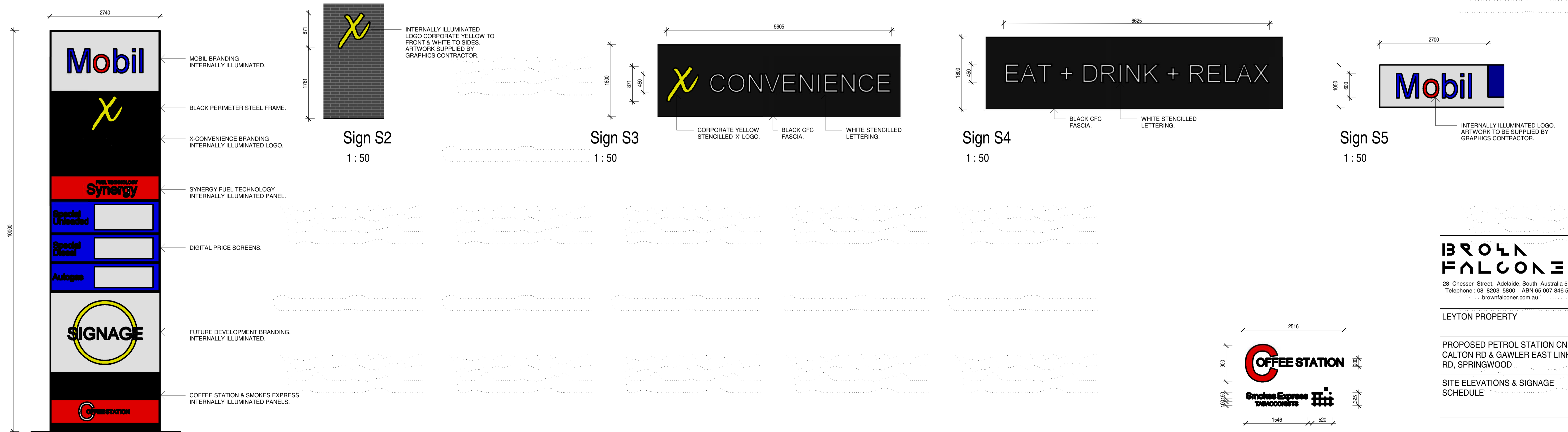
SITE ELEVATION - WEST

1 : 200



SITE ELEVATION - SOUTH

1 : 200



Sign S1

1 : 50

Sign S2

1 : 50

Sign S3

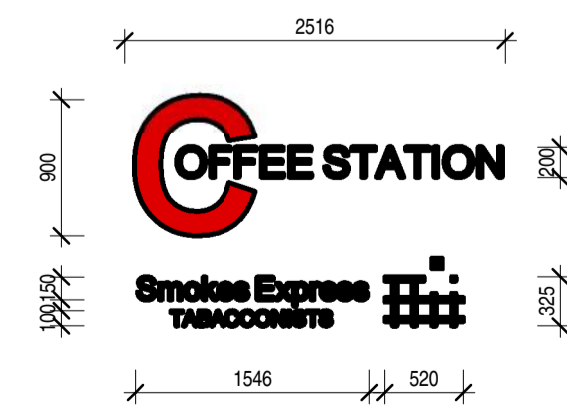
1 : 50

Sign S4

1 : 50

Sign S5

1 : 50



Sign S10

1 : 50

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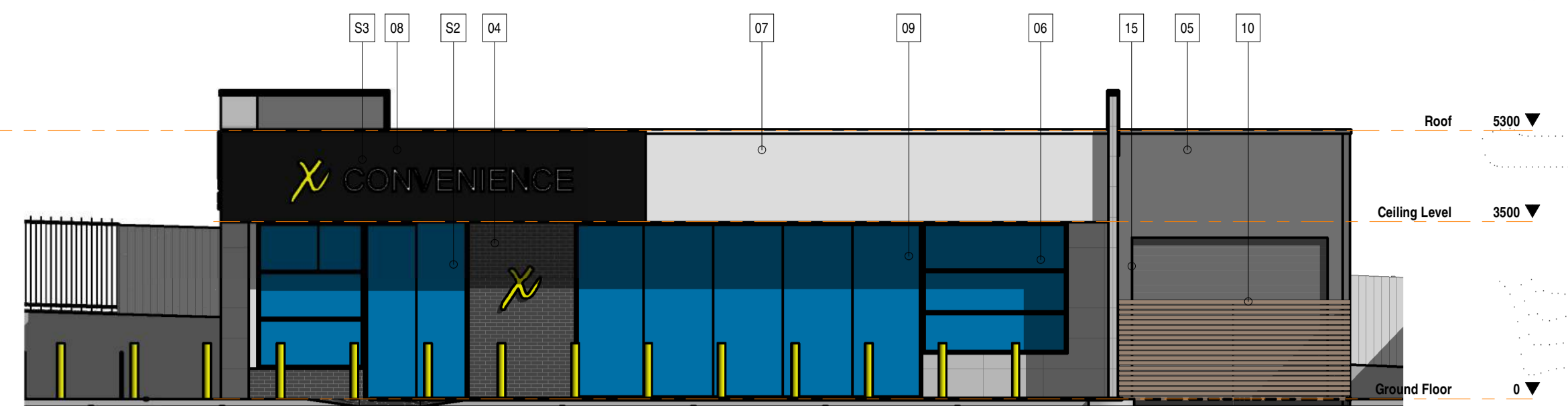
LEYTON PROPERTY

PROPOSED PETROL STATION CNR
 CALTON RD & GAWLER EAST LINK
 RD, SPRINGWOOD

SITE ELEVATIONS & SIGNAGE SCHEDULE

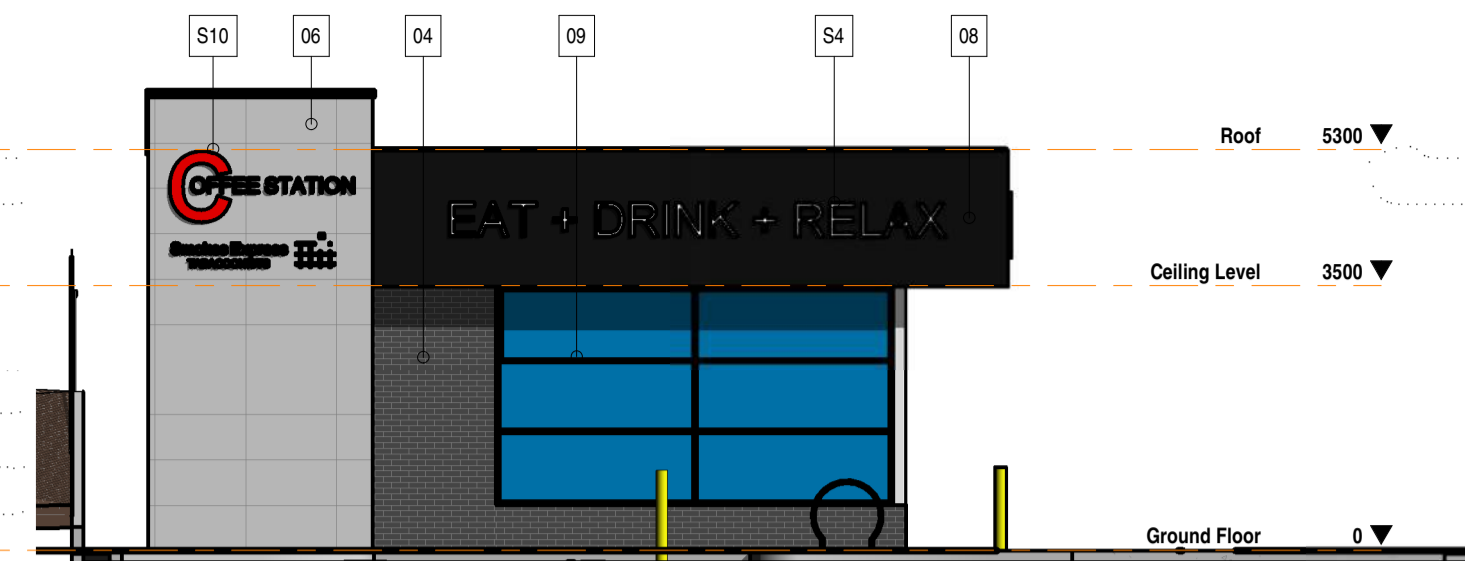
Scale As indicated
 Date 08/01/19
 Job No. 2018001
 Dwg No. 3298 DA03 Rev. 2 A1 SHEET

Rev.	Amendment	Date
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2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



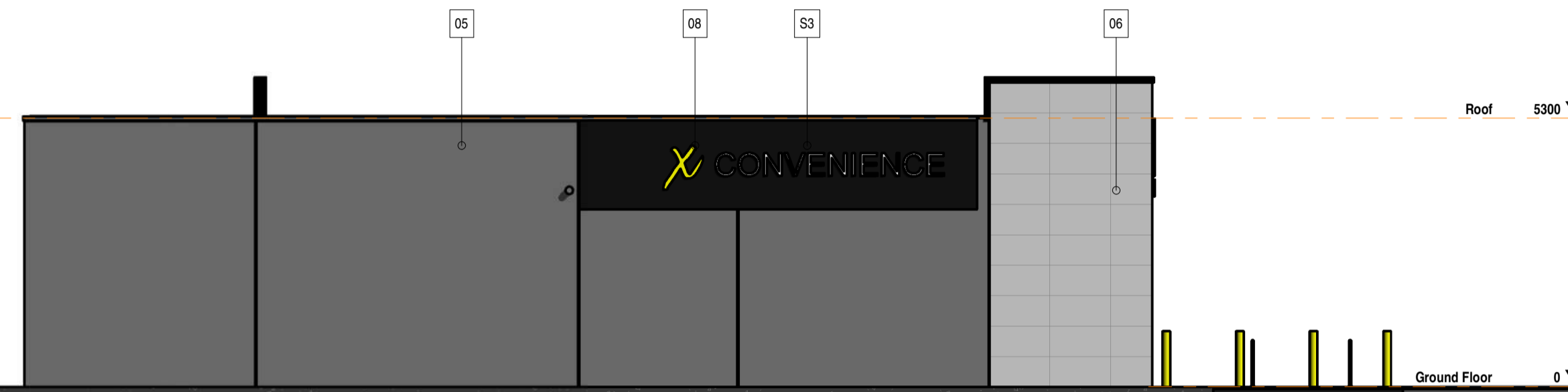
Mobil-X - North Elevation

1 : 100



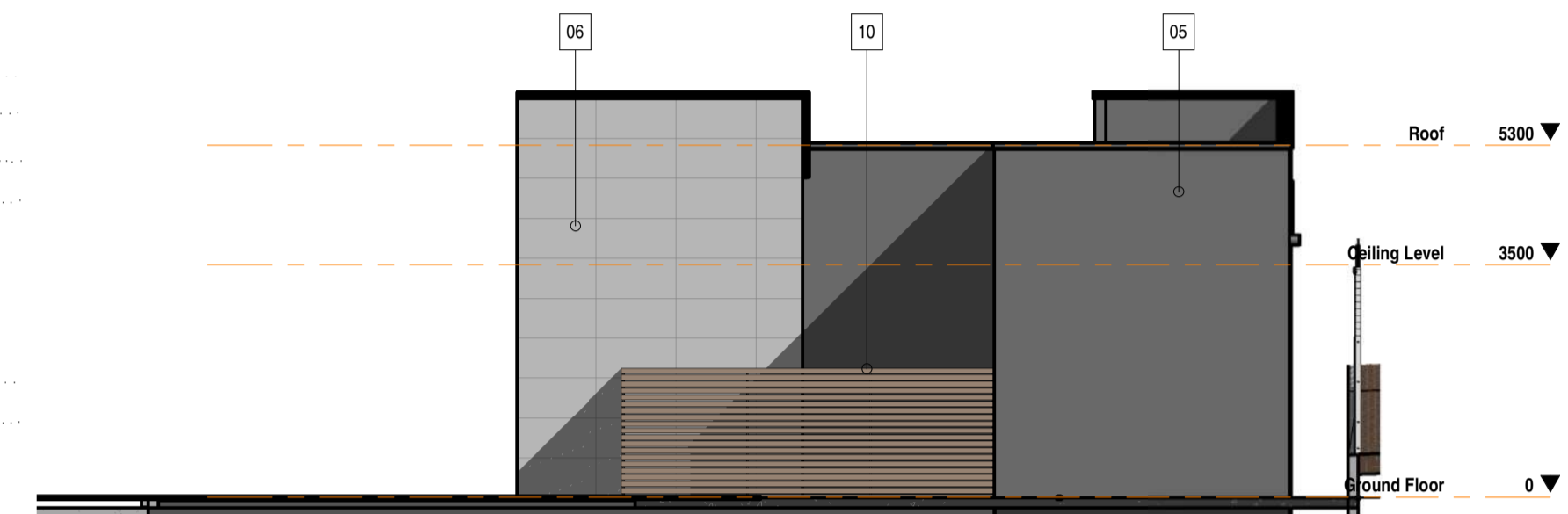
Mobil-X - East Elevation

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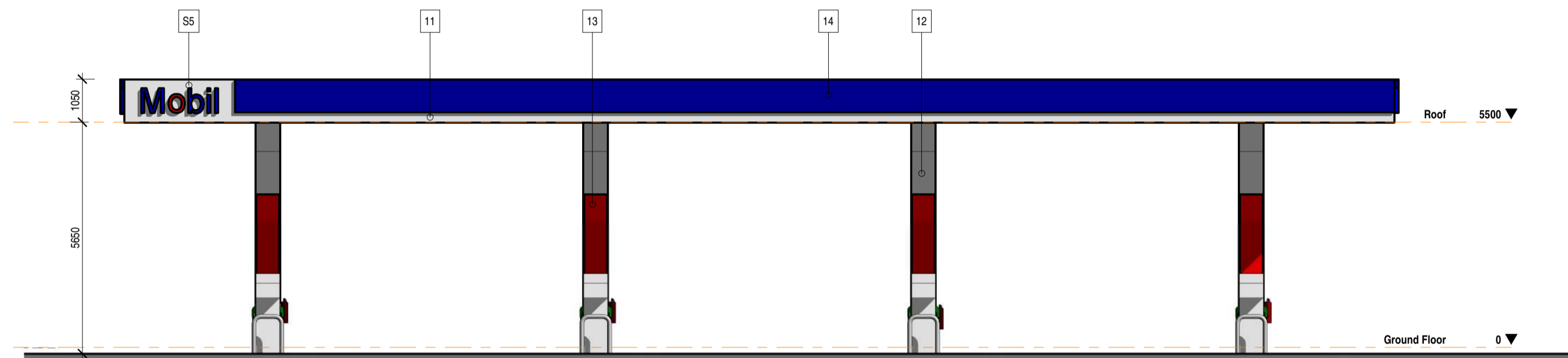
Mobil-X - South Elevation

1 : 100



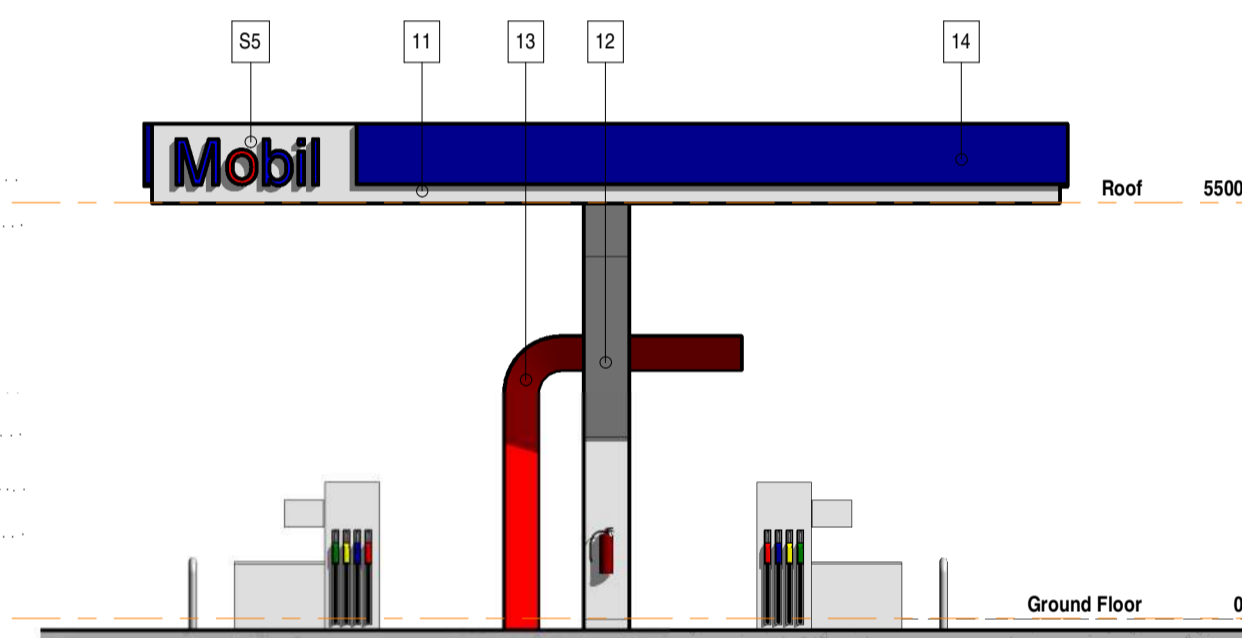
Mobil-X - West Elevation

1 : 100



Mobil-X - Canopy North Elevation (South similar)

1 : 100



Mobil-X - Canopy West Elevation (East similar)

1 : 100

MATERIALS LEGEND

- 01 -
- 02 -
- 03 -
- 04 MOBIL-X (SHOP) WALL TREATMENT
FACE BRICK
AUTRAL - WILDERNESS - BLACKBUTT
- 05 MOBIL-X (SHOP) WALL TREATMENT
PRECAST CONCRETE - PAINT FINISH
CORPORATE COLOUR 'WHITE'
- 06 MOBIL-X (SHOP) WALL TREATMENT
TEXTURE PAINTED CONCRETE PANEL
WITH 25MM DEEP REBATED GROOVES.
- 07 MOBIL-X (SHOP) FASCIA
EXPRESSED JOINT CFC - PAINT FINISH
CORPORATE COLOUR 'WHITE'
- 08 MOBIL-X (SHOP) FASCIA
EXPRESSED JOINT CFC - PAINT FINISH
CORPORATE COLOUR 'BLACK'
- 09 SHOPFRONT GLAZING ALUMINIUM FRAMED
POWDERCOAT - BLACK
- 10 WOODGRAIN FINISH ALUMINIUM SLAT GATES
TO LOADING BAY.
- 11 MOBIL CANOPY FASCIA
PREFINISHED METAL CLADDING
CORPORATE COLOUR - 'WHITE'
- 12 MOBIL CANOPY COLUMN CLADDING
PREFINISHED 3MM ALUMINIUM PANEL
CORPORATE COLOUR 'WHITE'
- 13 MOBIL FORECOURT 'RED' ELEMENT.
- 14 MOBIL CANOPY FASCIA BLUE BAND
INTERNALLY ILLUMINATED
CORPORATE COLOUR - 'BLUE'
- 15 ROLLER SHUTTERS - TO SELECTION
PAINTED STEEL - 'GREY'
- 16 PA DOOR (STEEL FACING)
PAINTED STEEL - 'GREY'

**BROWN
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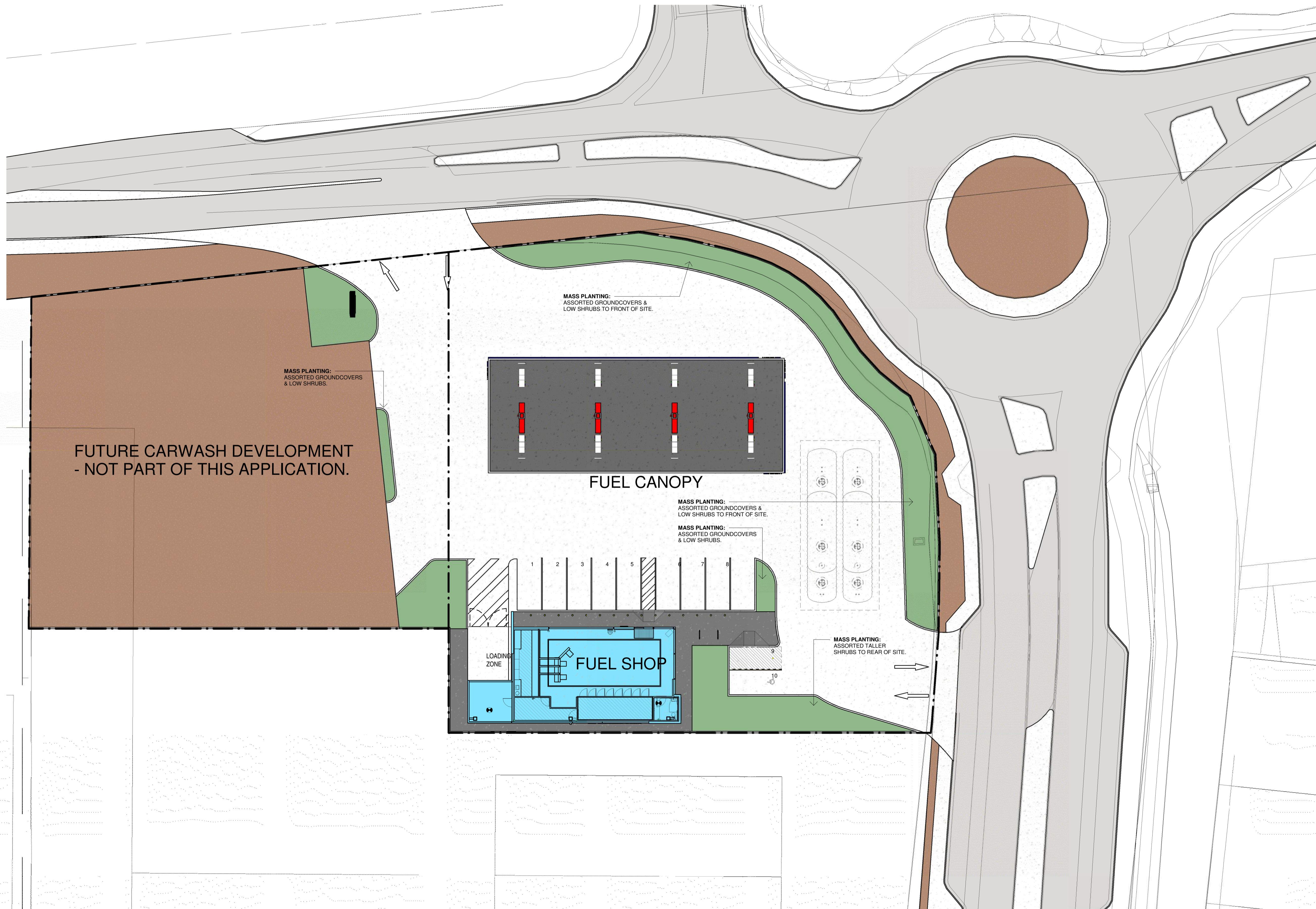
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Telephone : 08 8203 5800 ABN 65 007 846 586
brownfalconer.com.au

LEYTON PROPERTY







PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

BUILDING ELEVATIONS

Scale As indicated
Date 02/12/18
Job No. 2018001
Dwg No. 3298 DA04 Rev: 2 A1 SHEET



PLANTING LIST

-  **DIANELLA REVOLUTA**
BLACK ANTHUR FLAX LILY
0.4M (H) X 0.4M (W)
-  **DIANELLA**
TAS RED
0.4M (H) X 0.5M (W)
-  **ANIGOZANTHOS BUSH GEM**
BUSH BLITZ
0.6M (H) X 0.4M (W)
-  **CORREA ALBA 'STAR SHOWER'**
NATIVE FUSHCIA
0.4M (H) X 2.0M (W)
-  **CORREA**
DUSKY BELLS
0.5M (H) X 2.0M (W)
-  **DAMPIERA ROSMARNIFOLIA**
BLUE FLOWERED FORM
0.5M (H) X 1.0M (W)

PLANTING NOTES

- ALL GARDEN BEDS TO BE MULCHED 100MM MINIMUM DEEP AND DRIP IRRIGATED.
- MASS PLANTING TO SUIT AREAS. SCREENING AND/OR SIGHTLINES. GENERALLY TO HAVE LOW LEVEL PLANTING TO STREET FRONTAGES & MEDIUM TO HIGH LEVEL PLANTING TO THE REAR OF THE SITE.

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LEYTON PROPERTY

PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

LANDSCAPING PLAN

Scale As indicated
Date 09/02/19
Job No. 2018001

Dwg No. **3298 DA05** Rev: **2** A1 SHEET

LANDSCAPING PLAN

1 : 200



SHOP FLOOR PLAN
1:50

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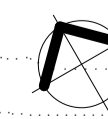
LEYTON PROPERTY

PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

SHOP FLOOR PLAN

Scale 1:50
Date 09/09/19
Job No. 2018001

Dwg No. 3298 DA06 Rev. 1 A1 SHEET



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DA ISSUE

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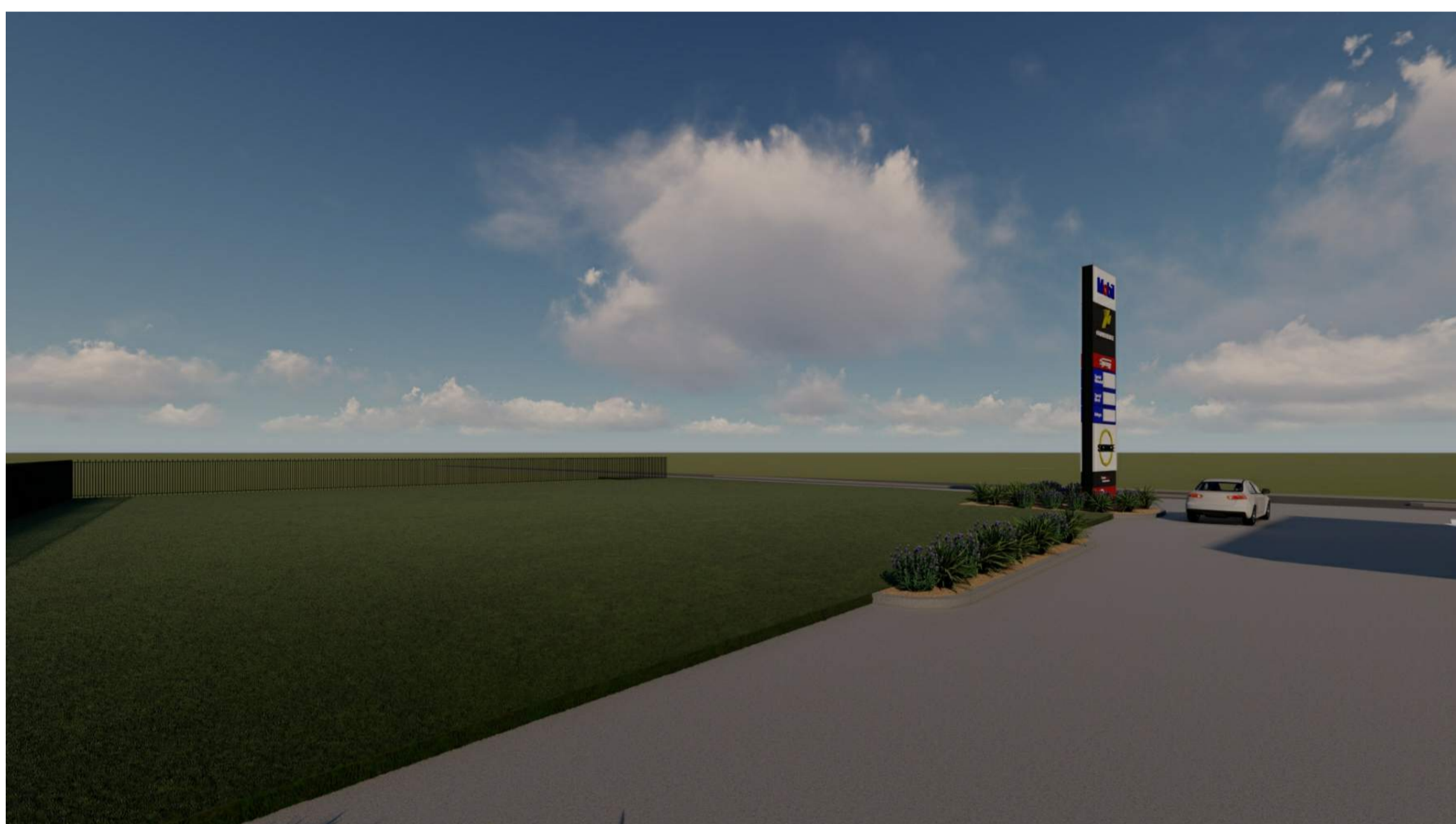
Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



VIEW FROM CALTON ROAD ENTRY



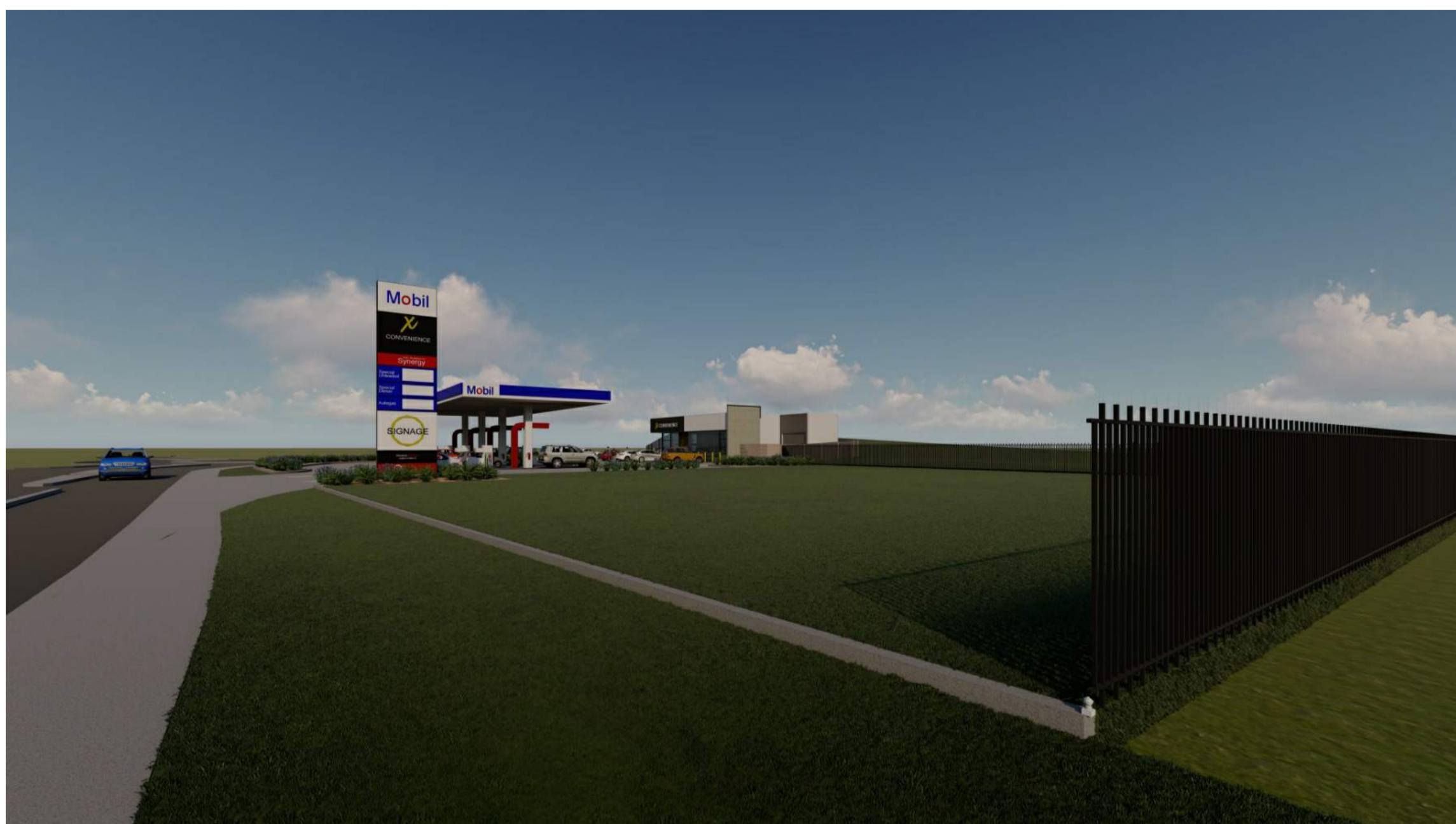
VIEW FROM CALTON ROAD & CONNECTOR RD INTERSECTION



VIEW TOWARDS FUTURE DEVELOPMENT



VIEW OF SHOP FROM CONNECTOR ROAD



VIEW FROM CALTON ROAD



VIEW OF SHOP & CANOPY FROM CONNECTOR ROAD ENTRY

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LEYTON PROPERTY

PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

3D IMAGES

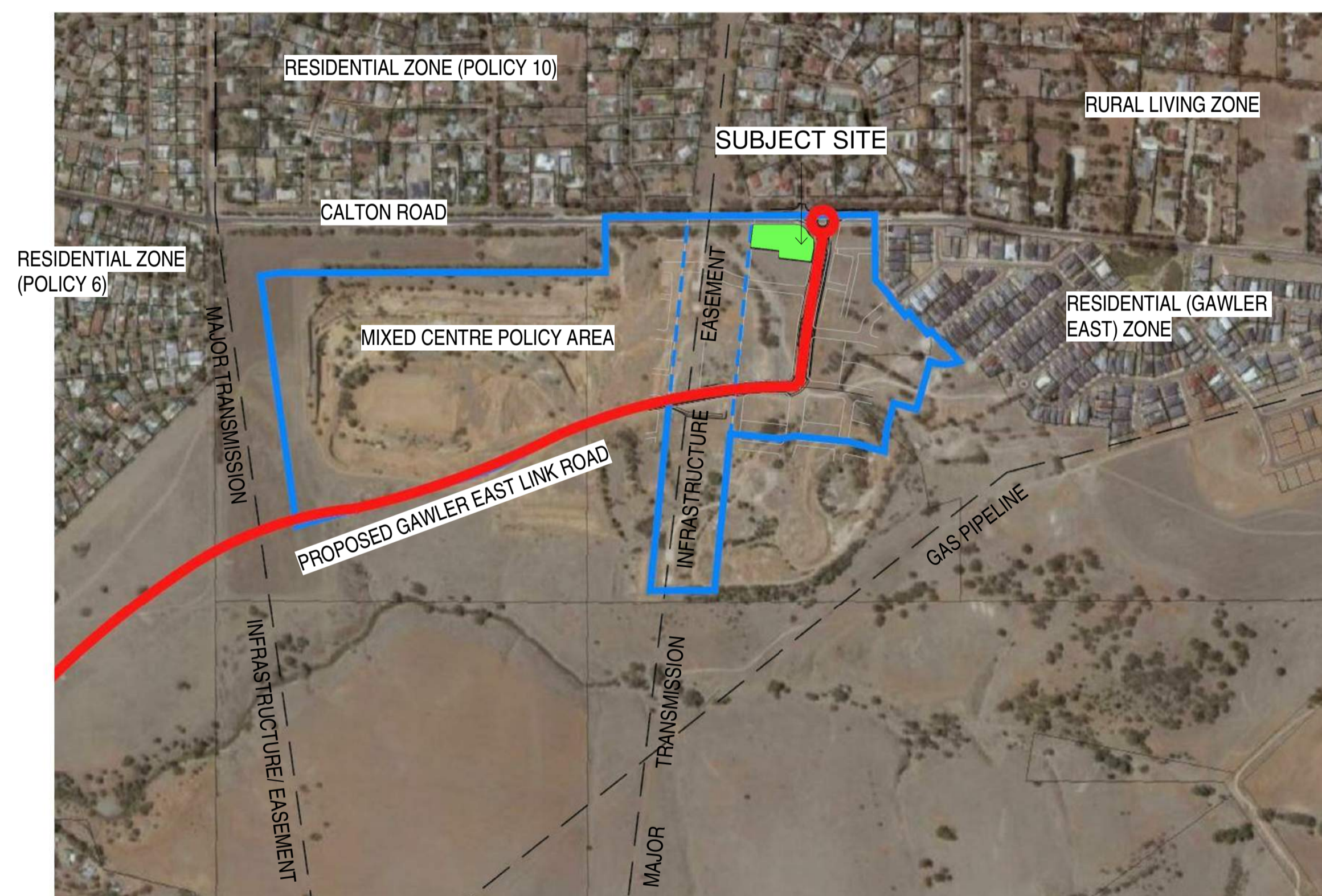
Scale
Date 02/12/18
Job No. 2018001
Dwg No. 3298 DA07 Rev. 2 A1 SHEET

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LEYTON PROPERTY PTY LTD PROPOSED PETROL FILLING STATION DEVELOPMENT

CORNER OF CALTON ROAD & GAWLER EAST LINK ROAD, SPRINGWOOD

DA01	COVER SHEET	2
DA02	SITE PLAN	2
DA03	SITE ELEVATIONS & SIGNAGE SCHEDULE	2
DA04	BUILDING ELEVATIONS	2
DA05	LANDSCAPING PLAN	2
DA06	SHOP FLOOR PLAN	1
DA07	3D IMAGES	2



SITE CONTEXT PLAN
1 : 5000

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PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

COVER SHEET

Scale 1 : 5000
Date 01/16/18
Job No. 2018001

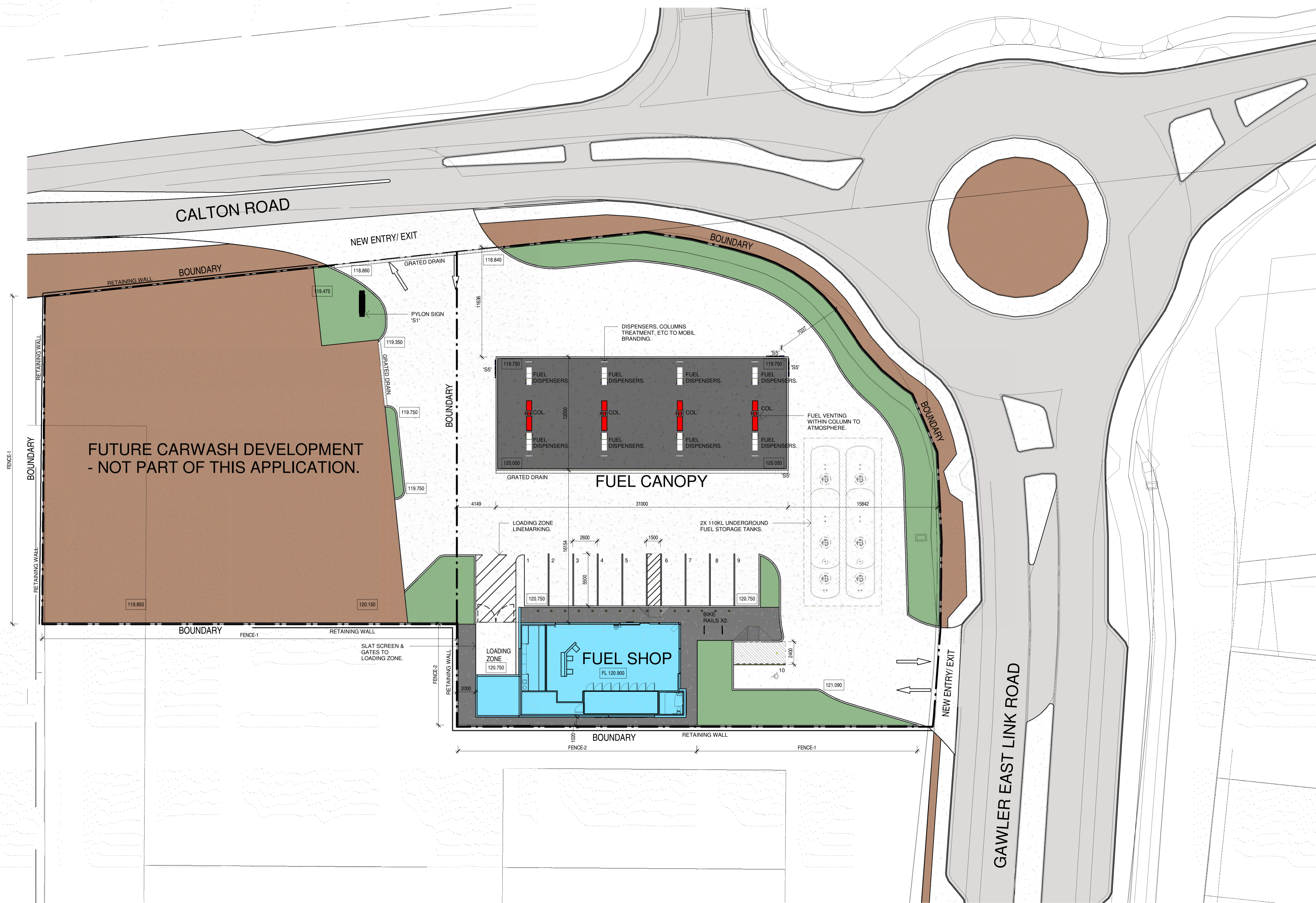


Dwg No. 3298 DA01 Rev. 2 A1 SHEET

PRELIMINARY

WORK IN PROGRESS ISSUE
11/11/2019 11:19:20 AM

Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



DEVELOPMENT SUMMARY

SITE AREA	4068m ²
SHOP	194m ²
CANOPY/FORECOURT	372m ²
CAR WASH	354m ²
LANDSCAPING	598m ² (14.65%)
PARKING PROVIDED	12

NOTES:

- SPEL UNIT IS TO BE A SPEL PURCEPTOR CLASS 1 FULL RETENTION SEPARATOR. REFER TO CIVIL FOR SPEL AND DETENTION SIZES.
- WASTE WATER COLLECTED IN THE SPEL PURCEPTOR WILL BE REMOVED BY AN EPA LICENSED WASTE TRANSPORTER TO LICENSED WASTE DEPOT AUTHORISED TO RECEIVE SUCH WASTE.
- FUEL SYSTEMS TO INCLUDE:
 - DOUBLE WALLED FIBREGLASS TANKS.
 - ATG SYSTEM.
 - DOUBLE WALLED FUEL LINES.
 - PRESSURE LEAK DETECTION SYSTEM TO AS4897-2008, THE DESIGN, INSTALLATION AND OPERATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS.
 - STAGE 1 VAPOUR RECOVERY (VR1).
- CAR PARK LIGHTING DESIGN IS TO COMPLY WITH AS/NZS 1158.1.3.

FENCE TYPES



FENCE-1
1800MM HIGH ALUMINIUM PICKET FENCING MOUNTED ON TOP OF RETAINING WALL. COLOUR: 'MONUMENT'



FENCE-2
1800MM HIGH COLORBOND GOOD NEIGHBOUR FENCING MOUNTED ON TOP OF RETAINING WALL. COLOUR: 'MONUMENT'

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LEYTON PROPERTY

PROPOSED PETROL STATION CNR CALTON RD & GAWLER EAST LINK RD, SPRINGWOOD

SITE PLAN

Scale As indicated
Date 02/12/18
Job No. 2018001

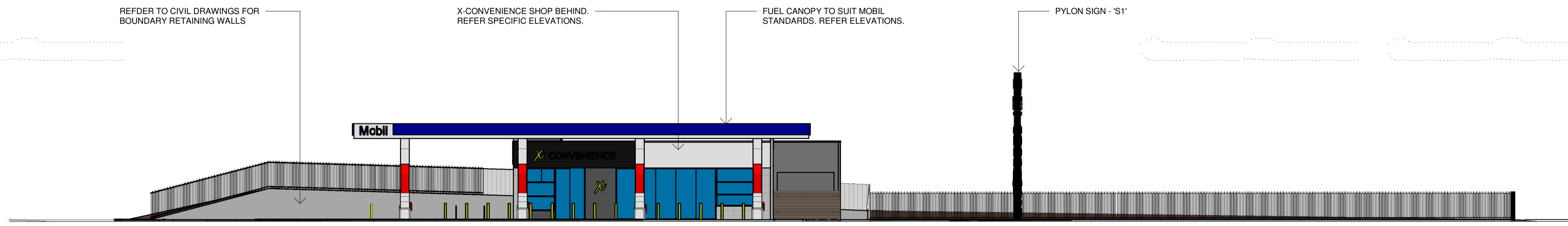


Dwg No. 3298 DA02 Rev: 2 A1 SHEET

SITE PLAN
1:200

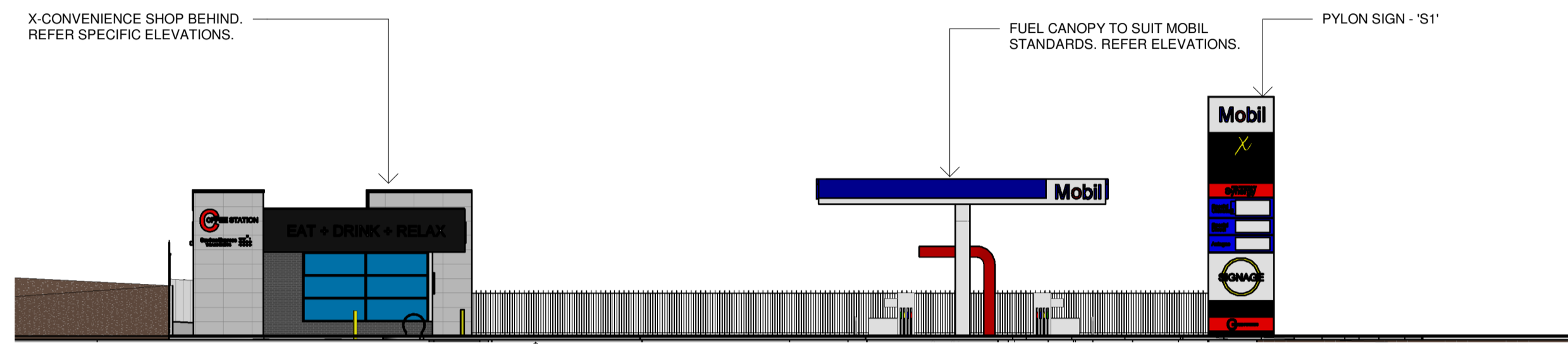
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Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



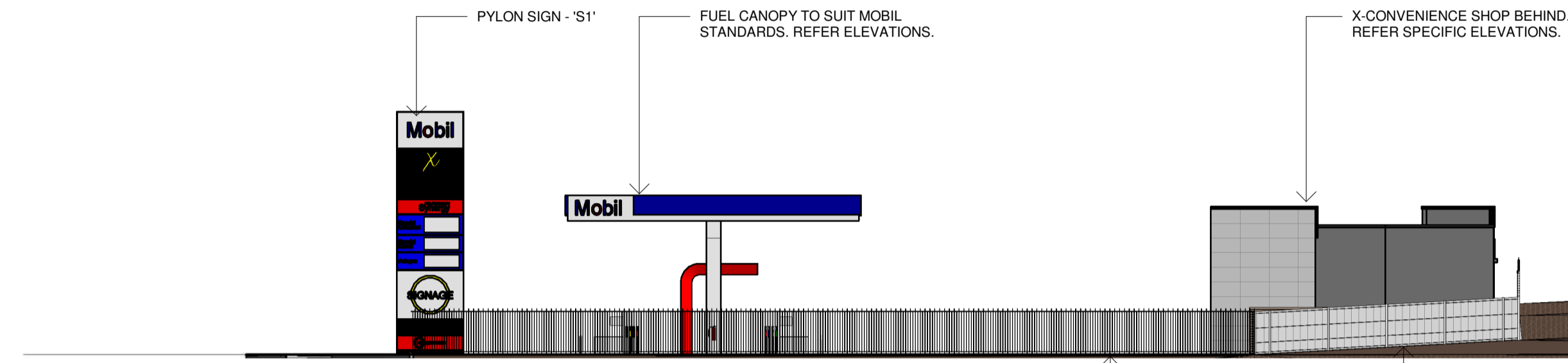
SITE ELEVATION - NORTH

1 : 200



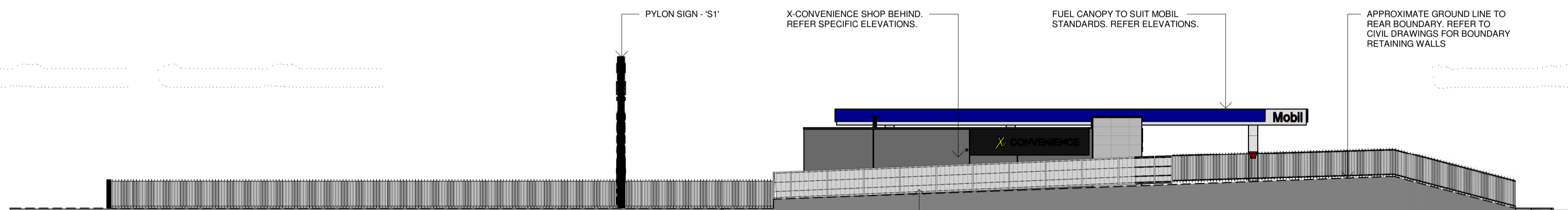
SITE ELEVATION - EAST

1 : 200



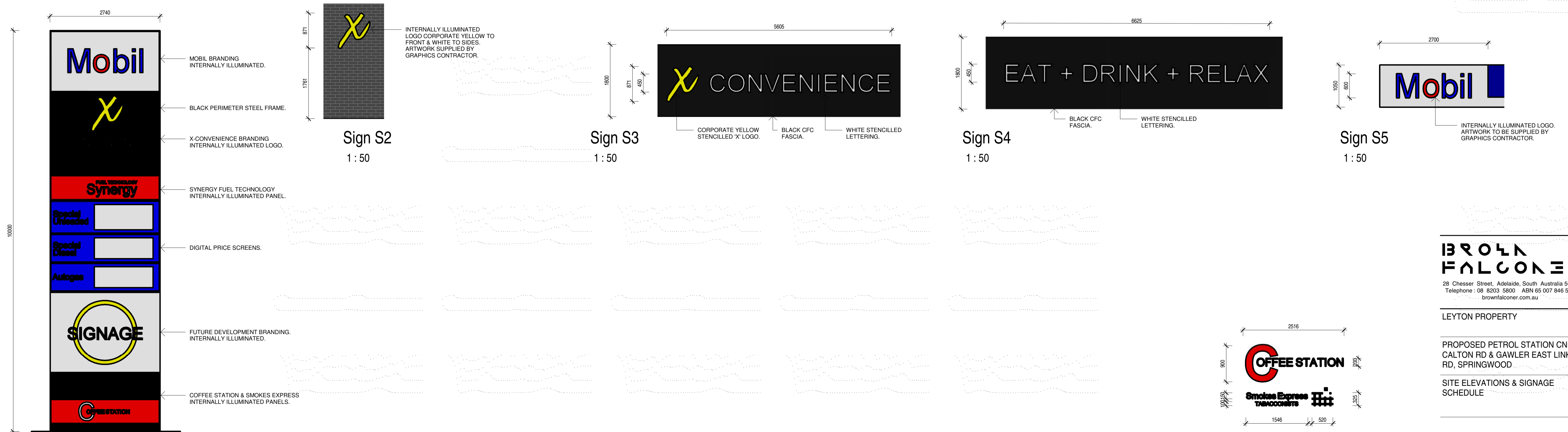
SITE ELEVATION - WEST

1 : 200



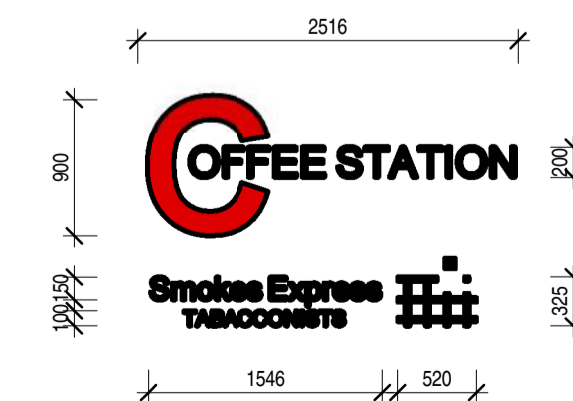
SITE ELEVATION - SOUTH

1 : 200



Sign S1

1 : 50



Sign S10

1 : 50

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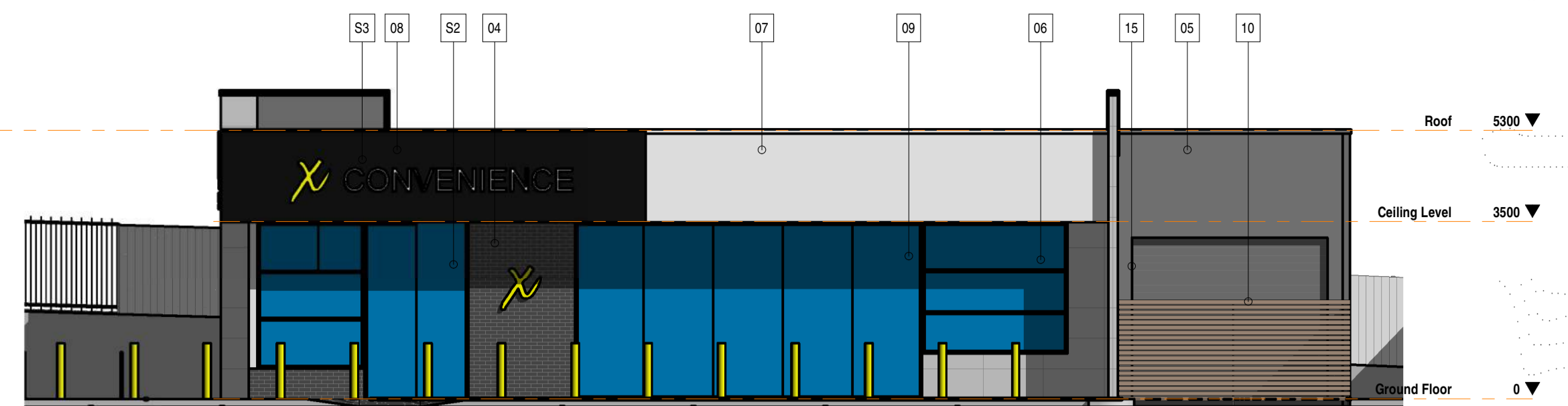
LEYTON PROPERTY

PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

SITE ELEVATIONS & SIGNAGE SCHEDULE

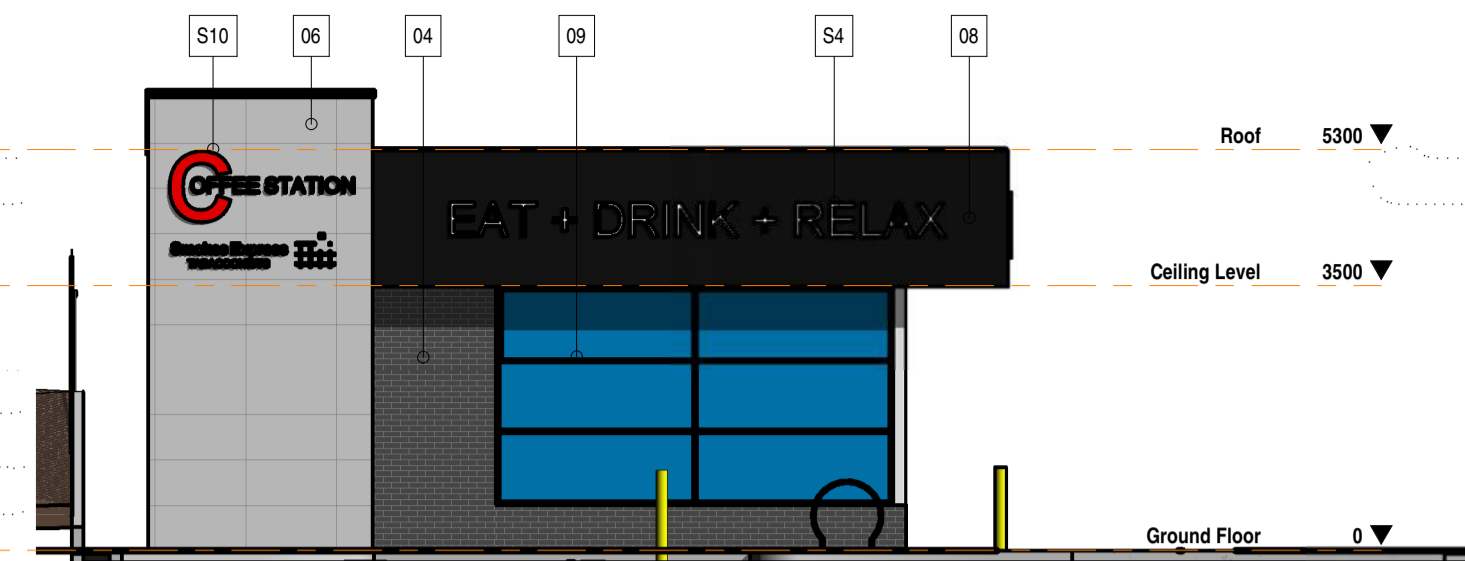
Scale As indicated
Date 08/01/19
Job No. 2018001
Dwg No. 3298 DA03 Rev. 2 A1 SHEET

Rev.	Amendment	Date
1	ISSUED FOR DEVELOPMENT APPROVAL	10/09/19
2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



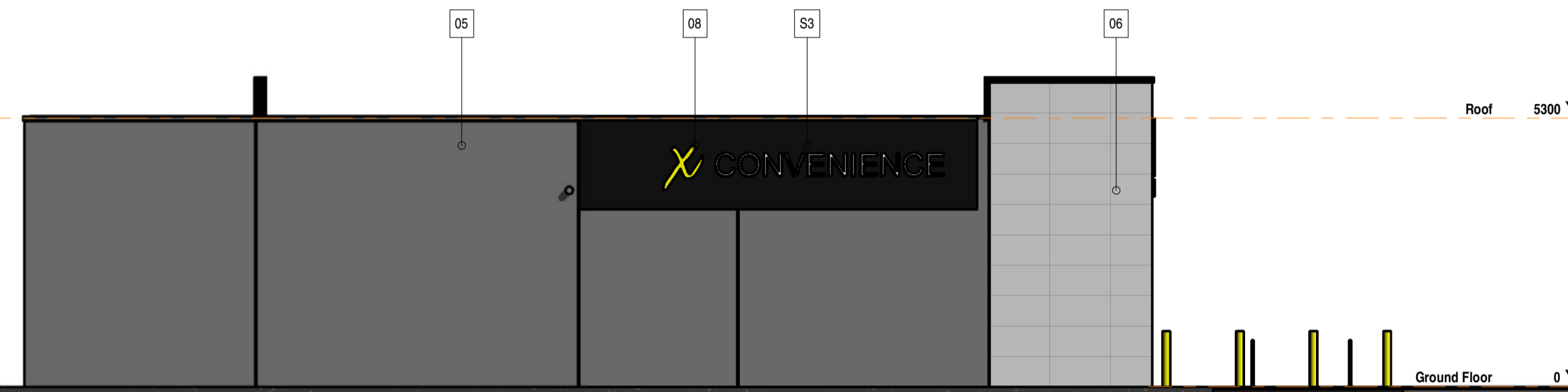
Mobil-X - North Elevation

1 : 100



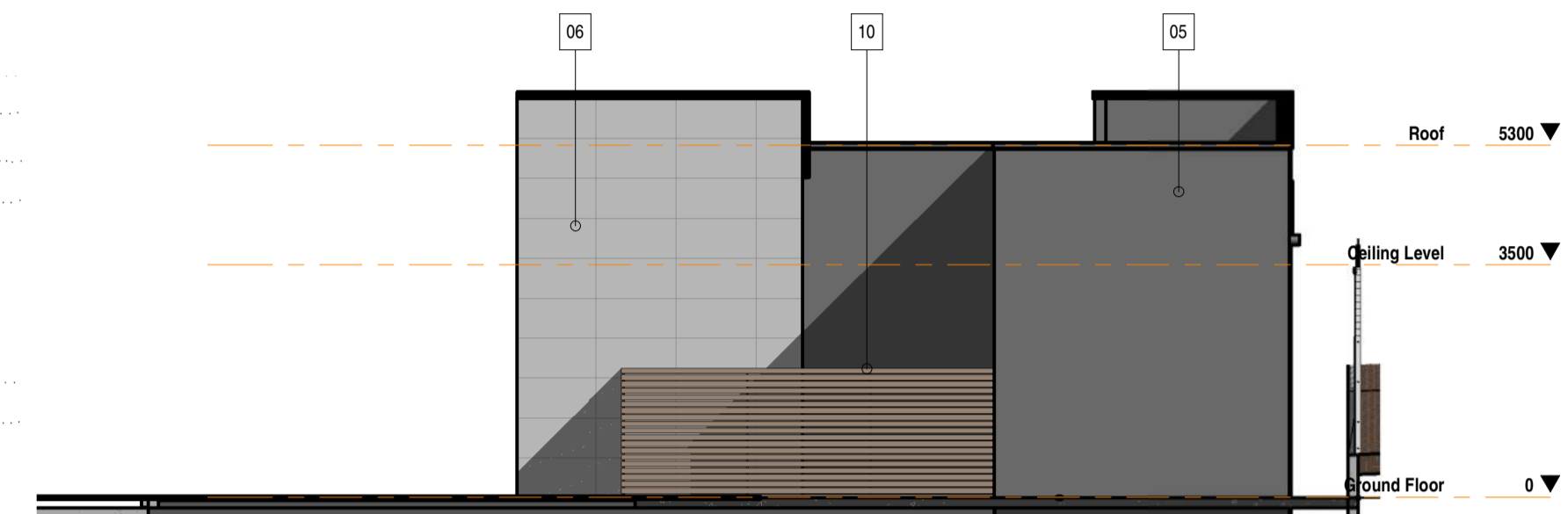
Mobil-X - East Elevation

1 : 100



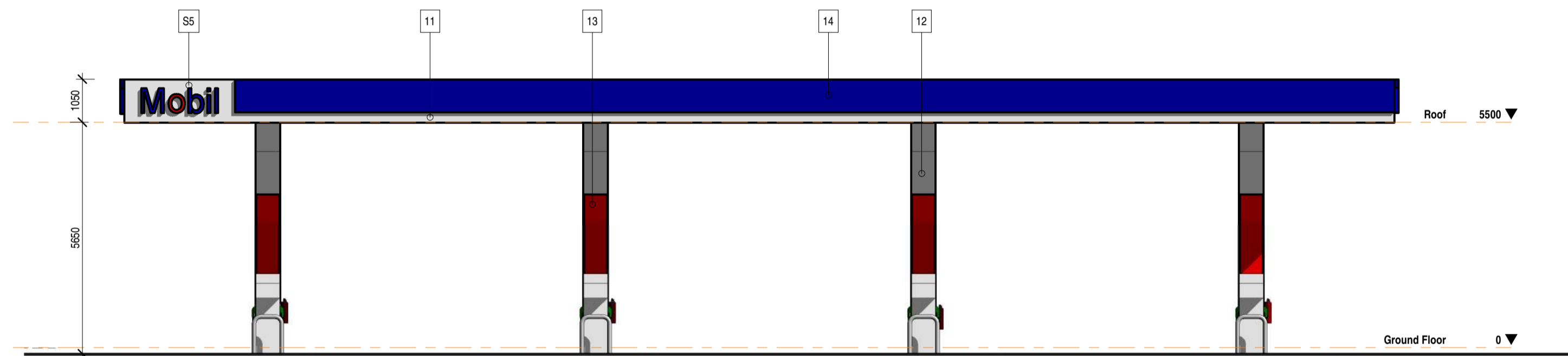
Mobil-X - South Elevation

1 : 100



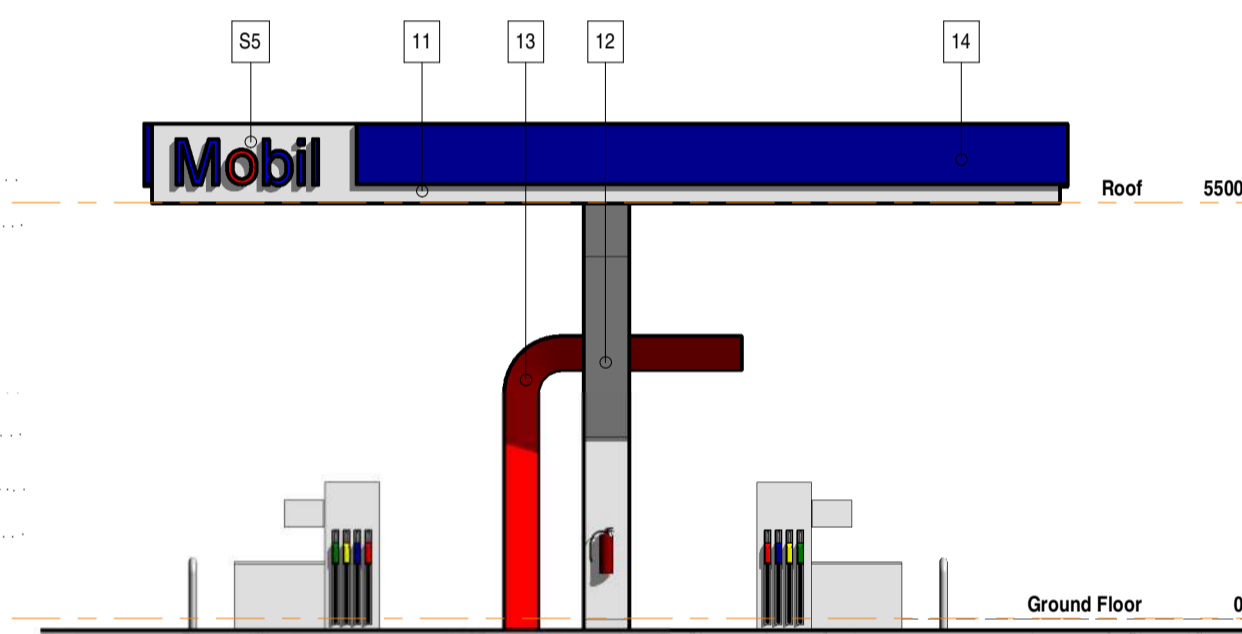
Mobil-X - West Elevation

1 : 100



Mobil-X - Canopy North Elevation (South similar)

1 : 100



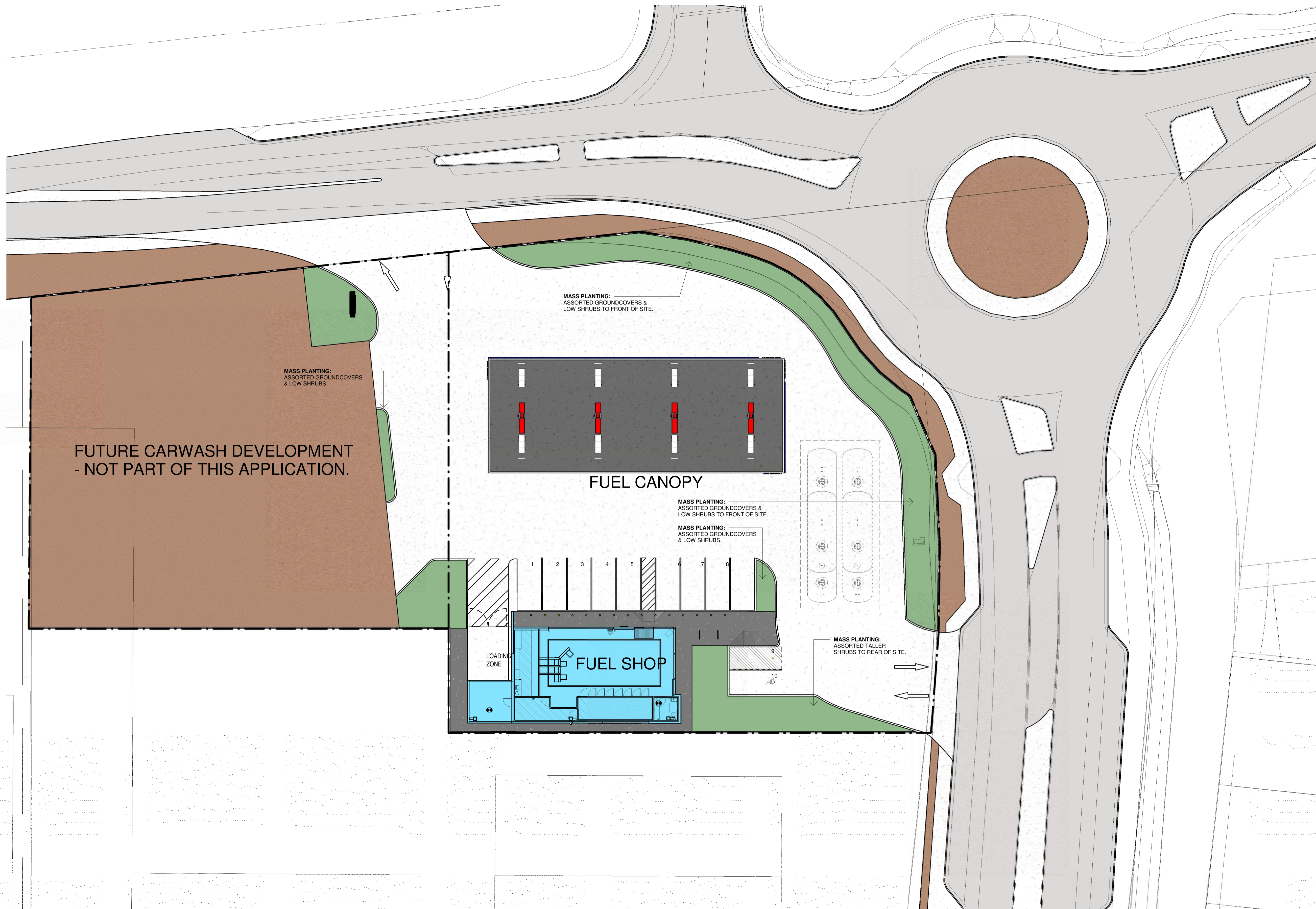
Mobil-X - Canopy West Elevation (East similar)

1 : 100

MATERIALS LEGEND

- 01 -
- 02 -
- 03 -
- 04 MOBIL-X (SHOP) WALL TREATMENT
FACE BRICK
AUTRAL - WILDERNESS - BLACKBUTT
- 05 MOBIL-X (SHOP) WALL TREATMENT
PRECAST CONCRETE - PAINT FINISH
CORPORATE COLOUR 'WHITE'
- 06 MOBIL-X (SHOP) WALL TREATMENT
TEXTURE PAINTED CONCRETE PANEL
WITH 25MM DEEP REBATED GROOVES.
- 07 MOBIL-X (SHOP) FASCIA
EXPRESSED JOINT CFC - PAINT FINISH
CORPORATE COLOUR 'WHITE'
- 08 MOBIL-X (SHOP) FASCIA
EXPRESSED JOINT CFC - PAINT FINISH
CORPORATE COLOUR 'BLACK'
- 09 SHOPFRONT GLAZING ALUMINIUM FRAMED
POWDERCOAT - BLACK
- 10 WOODGRAIN FINISH ALUMINIUM SLAT GATES
TO LOADING BAY.
- 11 MOBIL CANOPY FASCIA
PREFINISHED METAL CLADDING
CORPORATE COLOUR - 'WHITE'
- 12 MOBIL CANOPY COLUMN CLADDING
PREFINISHED 3MM ALUMINIUM PANEL
CORPORATE COLOUR 'WHITE'
- 13 MOBIL FORECOURT 'RED' ELEMENT.
- 14 MOBIL CANOPY FASCIA BLUE BAND
INTERNALLY ILLUMINATED
CORPORATE COLOUR - 'BLUE'
- 15 ROLLER SHUTTERS - TO SELECTION
PAINTED STEEL - 'GREY'
- 16 PA DOOR (STEEL FACING)
PAINTED STEEL - 'GREY'

Rev.	Amendment	Date
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2	AMENDED TO PETROL FILLING STATION ONLY	11/11/19



FUTURE CARWASH DEVELOPMENT
- NOT PART OF THIS APPLICATION.

MASS PLANTING:
ASSORTED GROUNDCOVERS &
LOW SHRUBS TO FRONT OF SITE.

MASS PLANTING:
ASSORTED GROUNDCOVERS
& LOW SHRUBS.

FUEL CANOPY






MASS PLANTING:
ASSORTED GROUNDCOVERS &
LOW SHRUBS TO FRONT OF SITE.

MASS PLANTING:
ASSORTED GROUNDCOVERS
& LOW SHRUBS.

FUEL SHOP

MASS PLANTING:
ASSORTED TALLER
SHRUBS TO REAR OF SITE.

PLANTING LIST

-  **DIANELLA REVOLUTA**
BLACK ANTHUR FLAX LILY
0.4M (H) X 0.4M (W)
-  **DIANELLA**
TAS RED
0.4M (H) X 0.5M (W)
-  **ANIGOZANTHOS BUSH GEM**
BUSH BLITZ
0.6M (H) X 0.4M (W)
-  **CORREA ALBA 'STAR SHOWER'**
NATIVE FUSHCIA
0.4M (H) X 2.0M (W)
-  **CORREA**
DUSKY BELLS
0.5M (H) X 2.0M (W)
-  **DAMPIERA ROSMARNIFOLIA**
BLUE FLOWERED FORM
0.5M (H) X 1.0M (W)

PLANTING NOTES

- ALL GARDEN BEDS TO BE MULCHED 100MM MINIMUM DEEP AND DRIP IRRIGATED.
- MASS PLANTING TO SUIT AREAS. SCREENING AND/OR SIGHTLINES. GENERALLY TO HAVE LOW LEVEL PLANTING TO STREET FRONTAGES & MEDIUM TO HIGH LEVEL PLANTING TO THE REAR OF THE SITE.

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LEYTON PROPERTY

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CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

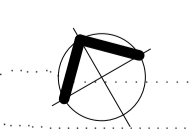
LANDSCAPING PLAN

LANDSCAPING PLAN

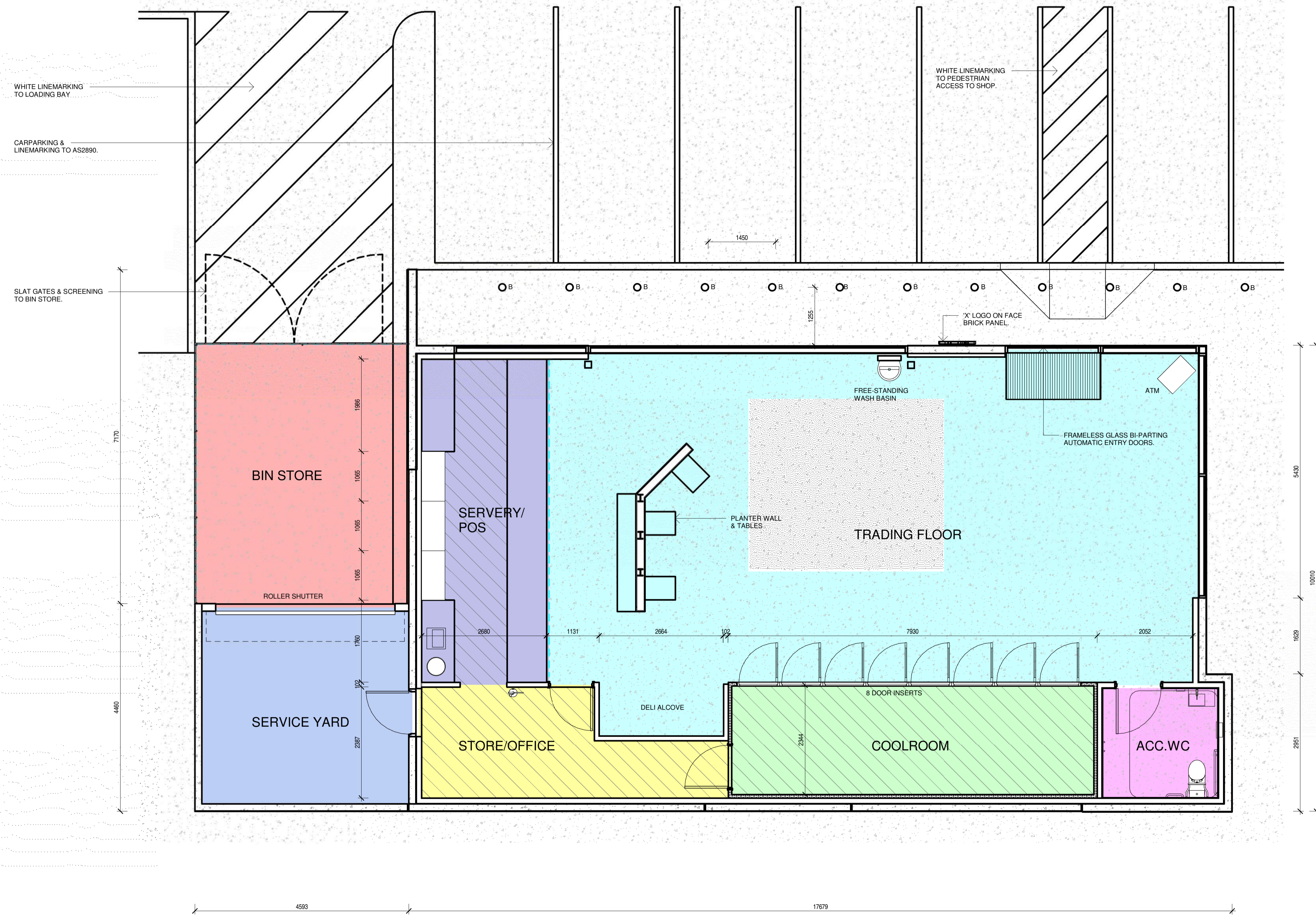
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Scale As indicated
Date 09/02/19
Job No. 2018001

Dwg No. 3298 DA05 Rev. 2 A1 SHEET



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SHOP FLOOR PLAN
1:50

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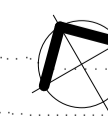
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LEYTON PROPERTY

PROPOSED PETROL STATION CNR
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RD, SPRINGWOOD

SHOP FLOOR PLAN

Scale 1:50
Date 09/09/19
Job No. 2018001



Dwg No. 3298 DA06 Rev. 1 A1 SHEET

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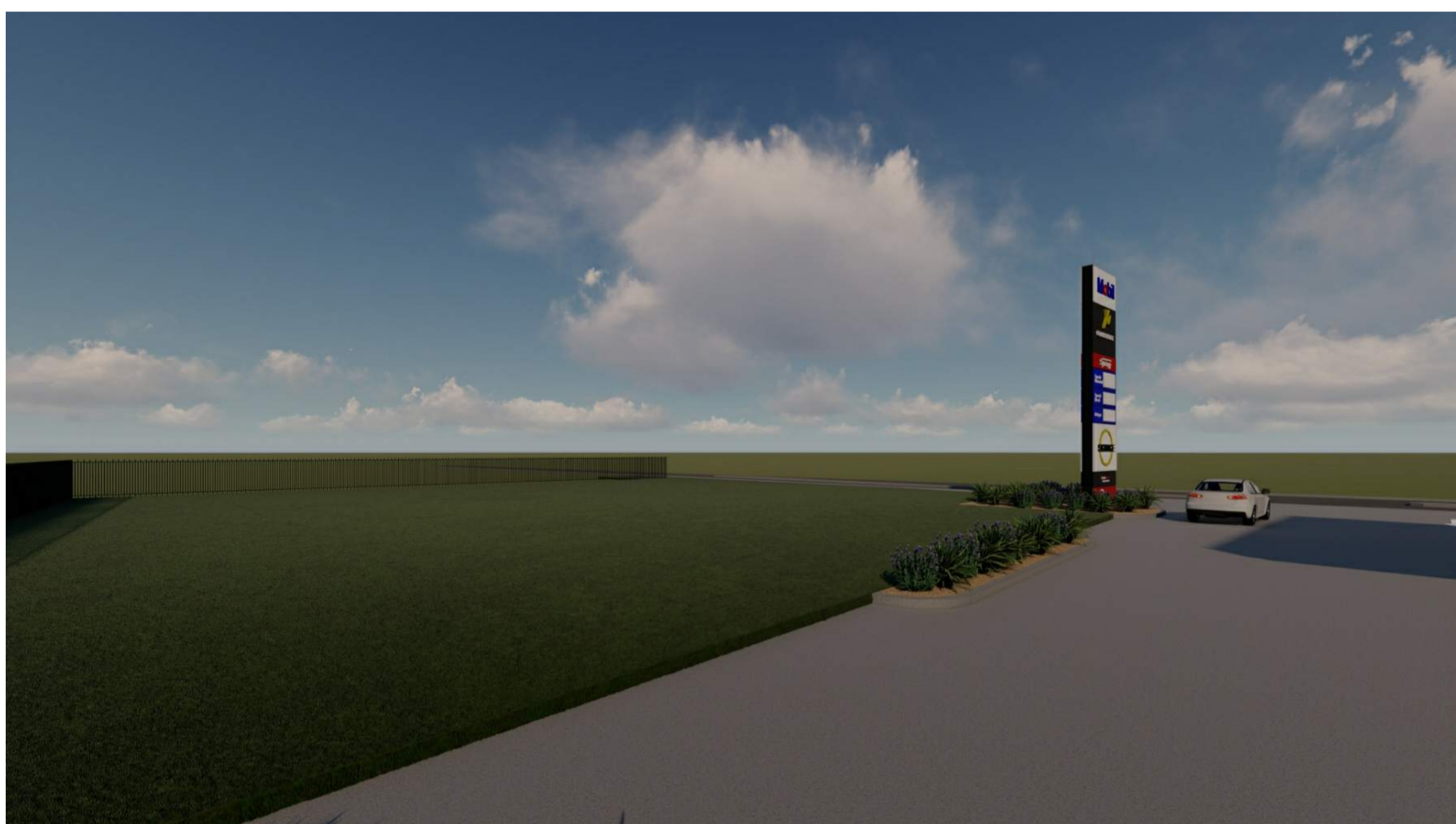
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VIEW FROM CALTON ROAD ENTRY



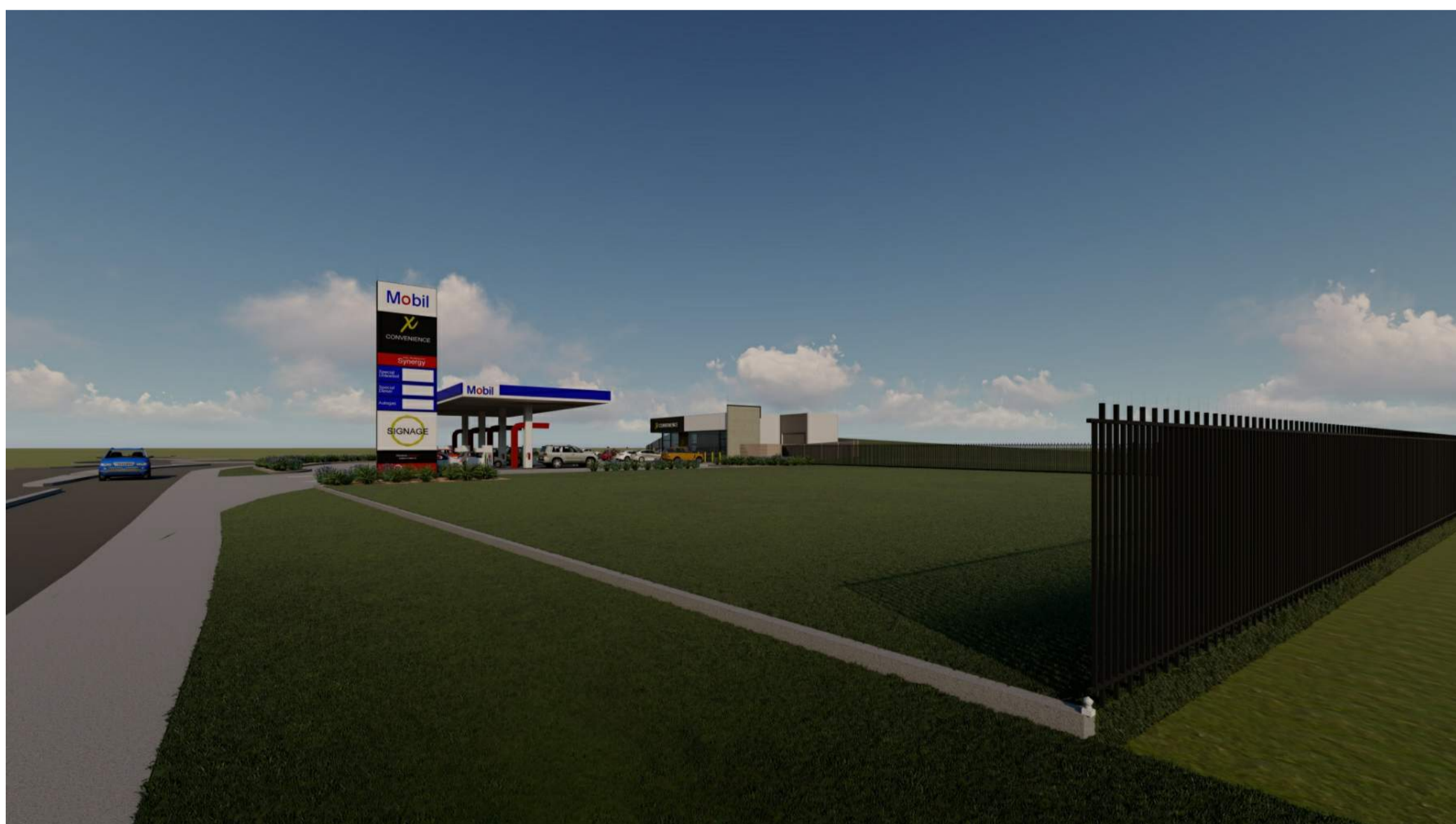
VIEW FROM CALTON ROAD & CONNECTOR RD INTERSECTION



VIEW TOWARDS FUTURE DEVELOPMENT



VIEW OF SHOP FROM CONNECTOR ROAD



VIEW FROM CALTON ROAD



VIEW OF SHOP & CANOPY FROM CONNECTOR ROAD ENTRY

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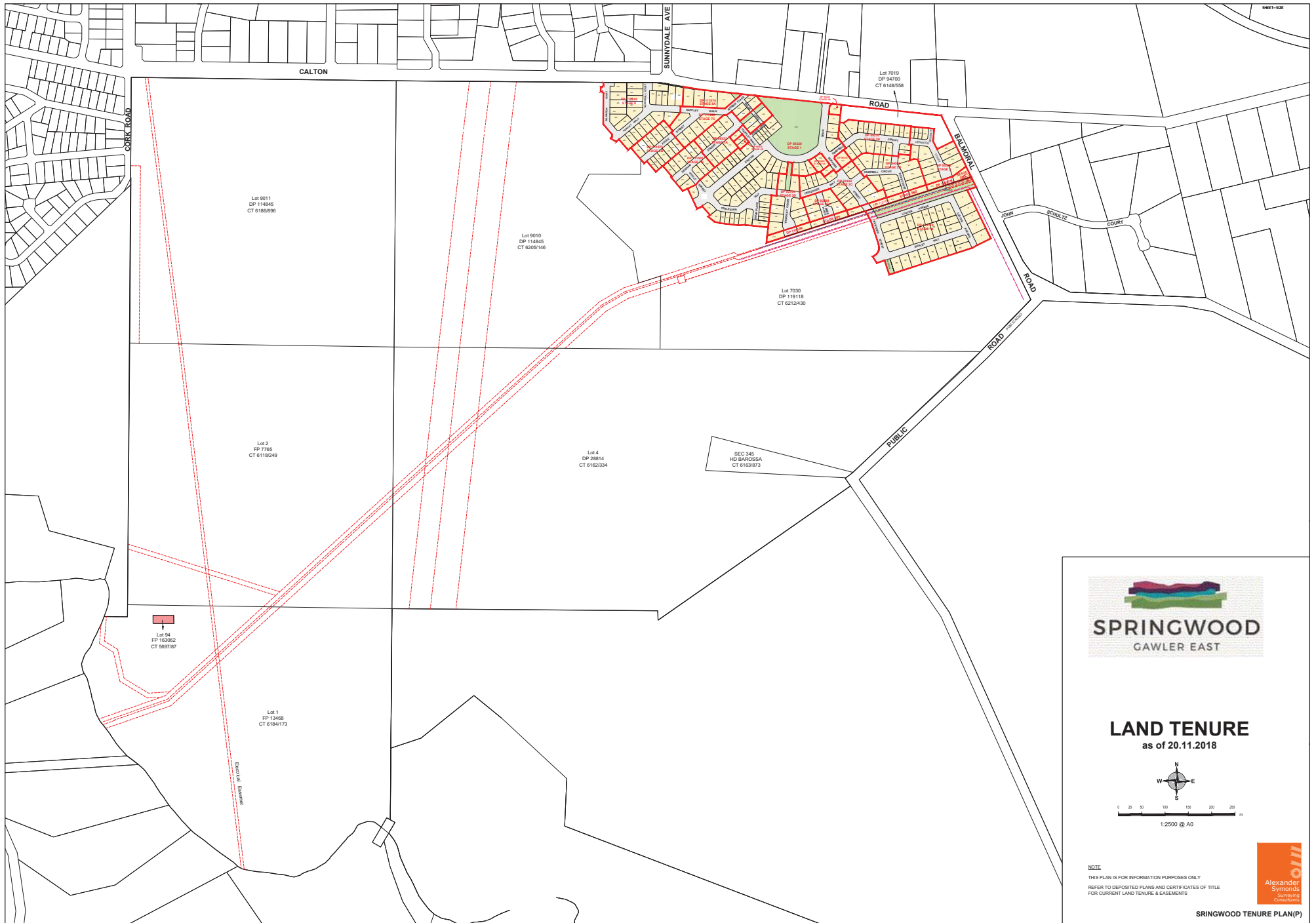
PROPOSED PETROL STATION CNR
CALTON RD & GAWLER EAST LINK
RD, SPRINGWOOD

3D IMAGES

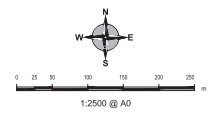
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Job No. 2018001
Dwg No. 3298 DA07 Rev. 2 A1 SHEET

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Appendix 1. Land Tenure Plan and Certificate of Title



LAND TENURE
as of 20.11.2018



NOTE
THIS PLAN IS FOR INFORMATION PURPOSES ONLY
REFER TO DEPOSITED PLANS AND CERTIFICATES OF TITLE
FOR CURRENT LAND TENURE & EASEMENTS



REAL PROPERTY ACT, 1986



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



Certificate of Title - Volume 6205 Folio 146

Parent Title(s) CT 6186/895
Creating Dealing(s) VE 12885392
Title Issued 26/03/2018 Edition 2 Edition Issued 06/07/2018

Estate Type

FEE SIMPLE

Registered Proprietor

FIVE AMES FARMING PTY. LTD. (ACN: 609 760 536)
OF 63 GAWLER TERRACE GAWLER SOUTH SA 5118

Description of Land

ALLOTMENT 9010 DEPOSITED PLAN 114845
IN THE AREA NAMED GAWLER EAST
HUNDRED OF BAROSSA

Easements

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED A ON D114845 TO THE MINISTER FOR INFRASTRUCTURE (T 1374106)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED C ON D114845 TO TRANSMISSION LESSOR CORPORATION OF 1 UNDIVIDED 2ND PART (SUBJECT TO LEASE 9061500) AND ELECTRANET PTY. LTD. OF 1 UNDIVIDED 2ND PART (T 2370109)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED E ON D114845 TO ELECTRANET PTY. LTD. (TG 12371822)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED T ON D114845 (TG 9662213)

SUBJECT TO EASEMENT(S) OVER THE LAND MARKED U ON D114845 (TG 10297076)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED H ON D114845 FOR DRAINAGE PURPOSES TO THE COUNCIL FOR THE AREA (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED J ON F252234 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

SUBJECT TO SERVICE EASEMENT(S) OVER THE LAND MARKED K(T/F) ON F252234 FOR ELECTRICITY SUPPLY PURPOSES TO DISTRIBUTION LESSOR CORPORATION (SUBJECT TO LEASE 8890000) (223LG RPA)

Schedule of Dealings

Dealing Number	Description
11764743	AGREEMENT UNDER DEVELOPMENT ACT 1993 PURSUANT TO SECTION 57A
12459905	AGREEMENT UNDER DEVELOPMENT ACT, 1993 PURSUANT TO SECTION 57(2)
12915311	MORTGAGE TO NATIONAL AUSTRALIA BANK LTD. (ACN: 004 044 937)



Notations

Dealings Affecting Title	NIL
Priority Notices	NIL
Notations on Plan	NIL
Registrar-General's Notes	NIL
Administrative Interests	NIL

Appendix 2. Plan of Division



Development No. 490/D026/19
Town of Gawler
Development No. 960/D025/19
The Barossa Council

Proposed Plan of Division
Allotment 2 in F7365
Allotment 1 in F13468
Allotment 3010 & 3011 in D114545
Allotment 3201 in Dev No. 490/D016/17
Allotment 4 in D28814
Hundred of Barossa
in the area named
**GAWLER EAST
& KALBEEBA**
CT 614889 CT 6205146
CT 6148248 CT 6162334
CT 6164173 PT CT 6212140

1:2500

SHEET 1 OF 4
AMENDED PLAN
11.09.2019

D60894
The Barossa Council
Kalbeeba

- Significant tree
- Regulated tree

No. of proposed allotments	1176
Total area	185.6ha
Area of Development	168.5ha
Reserve area	70.21ha
Length of new roads	19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

"Not to be used for detailed engineering design."

Dimensions and areas are subject to survey.

	Super Conventional (22+)	128
	Conventional (20)	48
	Traditional (17 - 19)	109
	Courtyard (14 - 17)	443
	Villa (12.5)	185
	Villa (10.5)	93
	Terrace	161
	Total	1167
	Other	9
	Total	1176

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Glenn Ian Hordacre
LICENSED SURVEYOR

REF: A21816-CG
DWG NO: A21816-CG-PROP1 REV E

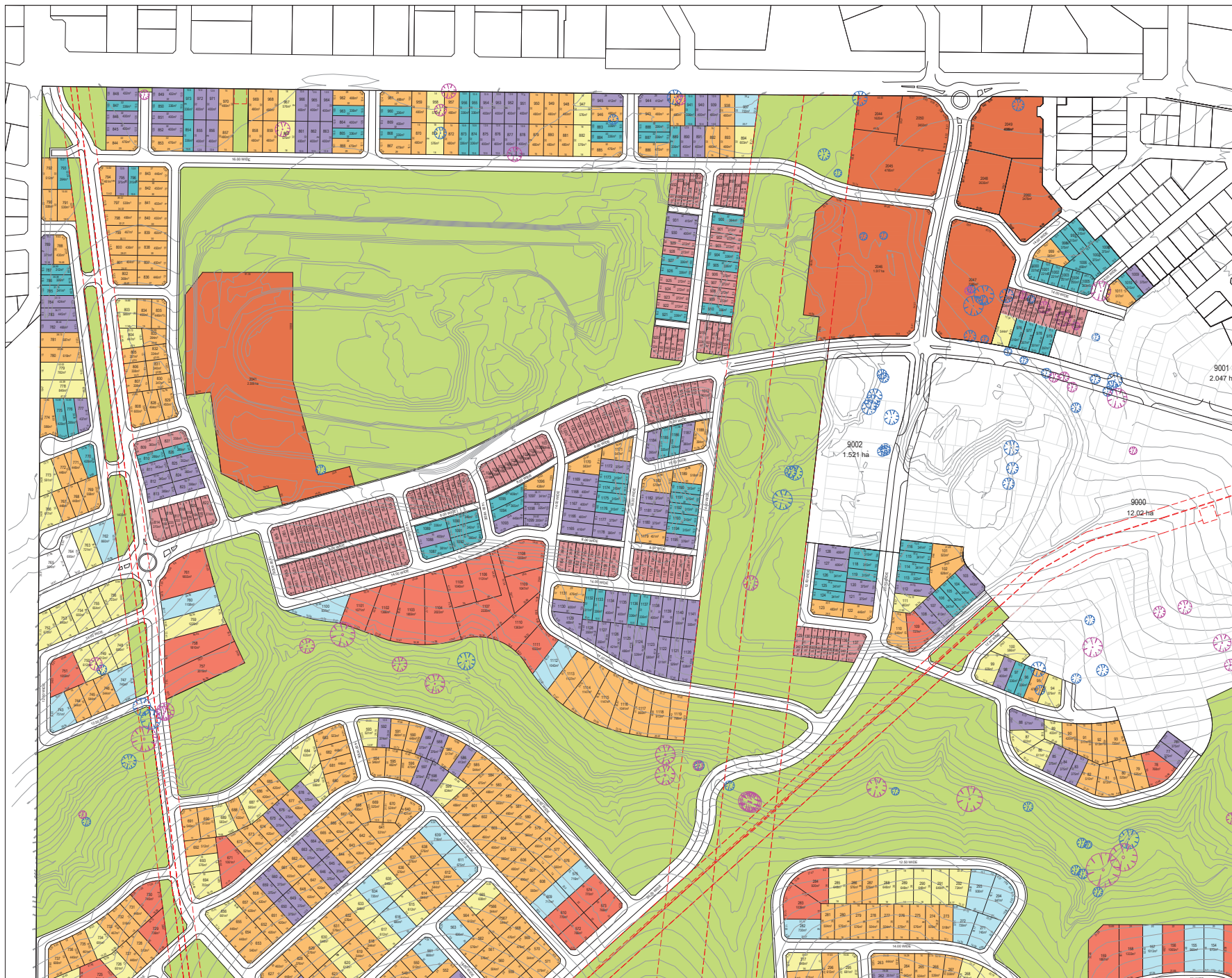
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DEL: 9/09/2019

Alexander & Symonds Pty Ltd
15 Long Walk Drive, Mount Torrens,
South Australia 5091
PO Box 2000, West Town, SA 5071
AEN 62007 731 888

T (08) 8330 6555
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Alexander Symonds
CONSTRUCTORS



Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council

Proposed Plan of Division
Allotment 2 in FT765
Allotment 1 in F13468
Allotment 9010 & 9011 in D114646
Allotment 9201 in Dev No. 490/D019/17
Allotment 4 in D28814
Hundred of Barossa
in the area named
**GAWLER EAST
& KALBEEBA**
CT 618698 CT 6205146
CT 618628 CT 6186334
CT 6184173 PT CT 6214340

1 25 50 100 150 200 250
1:2500

SHEET 2 OF 4

AMENDED PLAN
11.09.2019

Significant tree
Regulated tree

No. of proposed allotments 1176
Total area 185.6ha
Area of Development 168.5ha
Reserve area 70.21ha
Length of new roads 19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

Not to be used for detailed engineering design.

Dimensions and areas are subject to survey.

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REF: A21816-CG
DRAWING NO: A21816-CG PROP/REV E
REVISIONS:
DEL: 9/26/2019

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15 Long Walk Drive West Town,
PO Box 2000 West Town, SA 5071
AEN 02007 751 888

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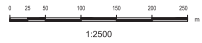
• Property • Land Development •
• Planning • Mining •
• Spatial Information Management •

**Alexander
Symonds**
CONSULTANTS



Development No. 490/D026/19
Town of Gawler
Development No. 960/D025/19
The Barossa Council

Proposed Plan of Division
Allotment 2 in FT765
Allotment 1 in F13468
Allotment 3010 & 3011 in D114646
Allotment 3201 in Dev No. 490/D019/17
Allotment 4 in D28814
Hundred of Barossa
In the area named
**GAWLER EAST
& KALBEEBA**
CT 618689 CT 6206146
CT 618628 CT 6186334
CT 6184173 PT CT 6214340



SHEET 3 OF 4

AMENDED PLAN
11.09.2019

-  Significant tree
-  Regulated tree

No. of proposed allotments	1176
Total area	185.6ha
Area of Development	168.5ha
Reserve area	70.51ha
Length of new roads	19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.

Road pavements shown are indicative only.

Not to be used for detailed engineering design.

Dimensions and areas are subject to survey.

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Glenn Ian Hordacre
LICENSED SURVEYOR


REF: A218916-CG
DWG NO: A218916-CG-PROP1-REV E

REVISIONS E
DEL: 9/20/2019

Alexander & Symonds Pty Ltd
15 Long Walk Street, Mount Town,
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• Spatial Information Management •





Development No. 490/D026/19
Town of Gawler

Development No. 960/D025/19
The Barossa Council


Proposed Plan of Division
Allotment 2 in FT765
Allotment 1 in F13468
Allotment 3010 & 3011 in D114646
Allotment 3201 in Dev No. 490/D016/17
Allotment 4 in D28814
Hundred of Barossa
The area named
**GAWLER EAST
& KALBEEBA**
CT 614889H CT 6205146
CT 614824B CT 6162324
CT 6164173 PT CT 6212140

1 25 50 100 150 200 250
1:2500

SHEET 4 OF 4

AMENDED PLAN

11.09.2019

 Significant tree
 Regulated tree

No. of proposed allotments 1176
Total area 185.6ha
Area of Development 168.5ha
Reserve area 70.21ha
Length of new roads 19.8k

Contour interval 2m.
Datum AHD.

Vide Titles for disposition of easements.
Road pavements shown are indicative only.

Not to be used for detailed engineering design.
Dimensions and areas are subject to survey.

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Glenn Ian Hordacre
LICENSED SURVEYOR


REF: A21816-CG
DWG NO: A21816-CG-PROP17REV E

REVISIONS:
DEL: 9/26/2019

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Appendix 4. Traffic and Parking Review

CIRQA



**SERVICE STATION AND CAR WASH
CALTON ROAD, SPRINGWOOD**

TRAFFIC AND PARKING REPORT



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DOCUMENT CONTROL

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Traffic and Parking report

Project number: 19158

Client: Leyton Property

Client contact: Hamish Brown

Version	Date	Details/status	Prepared by	Approved by
Draft	29 Aug 19	For review	BC	BNW
V1	10 Sep 19	For submission	BC	BNW

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1. INTRODUCTION

CIRQA has been engaged to provide design and assessment advice for the proposed petrol filling station and car wash at Calton Road, Springwood.

This report provides a review of the subject site, the proposed development, its access and parking provisions and the associated traffic impact on the adjacent road network. The traffic and parking assessments have been based upon plans prepared by Brown Falconer (drawing no. 8888 DA02, refer Appendix A).

2. BACKGROUND

2.1 SUBJECT SITE

The subject site is located on the southern side of Calton Road and forms part of the broader Springwood residential development (which will also include supporting retail and commercial components). The site is currently vacant. Ultimately, the site will be bound by Calton Road to the north, a new collector road to the east and residential development to the south and west. The Town of Gawler’s Development Plan identifies that the site is located within the Residential (Gawler East) Zone.

Figure 1 illustrates the location of the subject site and associated existing access points.



Figure 1 – Location of the subject site and adjacent roads

(Source: Brown Falconer, 2019)

2.2 ADJACENT ROAD NETWORK

Calton Road is a local road under the care and control of the Town of Gawler. Adjacent the site, Calton Road comprises a 6.6 m wide carriageway (approximate) with a single traffic lane in each direction. Traffic data indicates that Calton Road has an Annual Average Daily Traffic (AADT) volume in the order of 4,600 to 5,000 vehicles per day (vpd), albeit are forecast to increase to 5,500 vpd on completion of the Springwood development. A 50 km/h speed limit applies on Calton Road.

The future road (to east of the subject site) will be a collector road under the care and control of the Town of Gawler. It is understood that the collector road will comprise single traffic lanes in each direction separated by a central median (in the vicinity of the subject site). Traffic forecasts (prepared by others) indicate that the collector road will ultimately accommodate in the order of 6,500 vpd. A 50 km/h speed limit will apply on the collector road.

The intersection of Calton Road and the collector road will be controlled with a single lane roundabout.

2.3 WALKING AND CYCLING

There are no footpaths provided on Calton Road. However, a shared pedestrian/cyclist path will be provided within the Springwood Estate verge on the southern side of Calton Road.

No formal cycling facilities are provided on Calton Road. Cyclists are required to either share the traffic lane with vehicles or (in the future) ride on the dedicated shared pedestrian/cyclist path provided on the southern side.

2.4 PUBLIC TRANSPORT

There are no immediate public transport facilities, however the Gawler East Circuit bus service (clockwise loop) is provided within approximately 760 m in Cheek Avenue/Cork Road. This service connects with the Gawler Train Station, however, only operates Monday to Friday. Ultimately, it is anticipated that additional services will operate within the Springwood development.

3. PROPOSED DEVELOPMENT

3.1 LAND USE AND YIELD

The proposed development comprises the construction of a new petrol filling station. The petrol filling station will comprise eight domestic (light) vehicle fuel bowsers (in a 'domino' configuration) and an associated 190 m² convenience store. In addition, a car wash will be developed on the western portion of the petrol station site comprising two automatic car wash bays, three manual car

wash bays and six vacuum bays plus additional queuing areas behind the car wash bays.

3.2 ACCESS AND PARKING DESIGN

Access to the site is proposed to be provided via two two-way access points. One access will be left-in/right-in/left out to Calton Road while the second will be left-in/right-in/left-out only from the collector road. Simultaneous turning movements will be accommodated at both accesses. All vehicles will be able to enter and exit the site in a forward direction.

Adequate storage will be provided at the fuel bowsers to ensure vehicles queued behind bowsers do not impact other movements into and out of the site as illustrated in Figure 2.

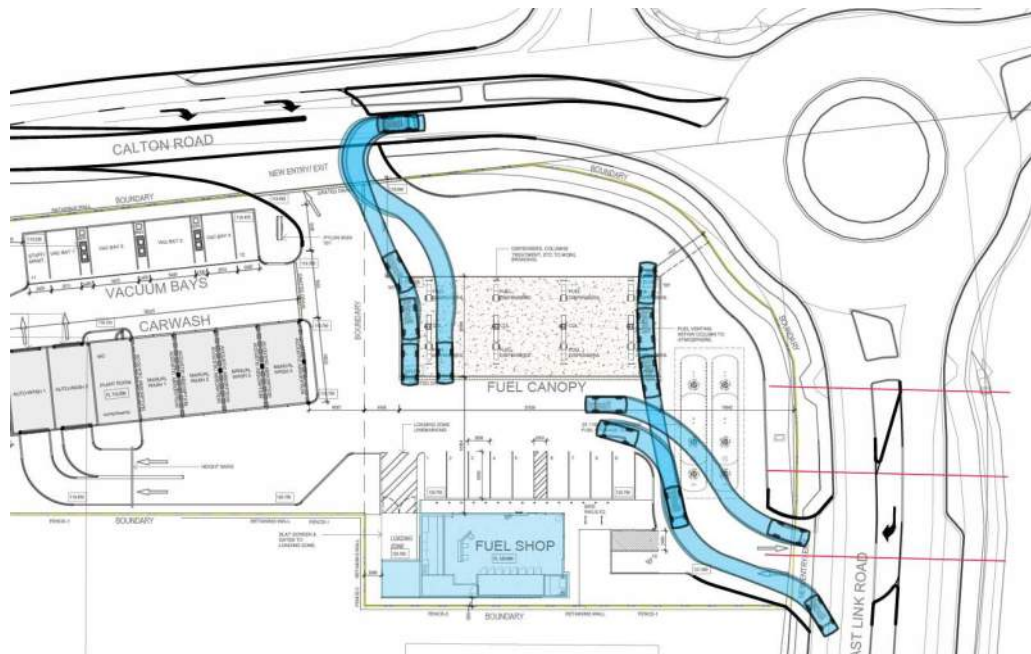


Figure 2 – Queuing provisions for bowsers closest to the access points

The site will be serviced by 12 parking spaces including one space for use by persons with disabilities. The parking area will comply with the requirements of the Australian/New Zealand Standard for “Parking Facilities – Part 1: Off-street car parking” (AS/NZS 2890.1:2004) and the Australian/New Zealand Standard for “Parking Facilities – Part 6: Off-street parking for people with disabilities” (AS/NZS 2890.6:2009) in that:

- regular spaces will be 5.4 m long and 2.6 m wide;
- the parking space for use by persons with disabilities will be 2.4 m wide and 5.4 m long with an adjacent shared area of the same dimension; and

- a minimum aisle width of 6.2 m will be provided.

Two bicycle parking rails will be provided on-site (capable of accommodating two bicycles each).

3.3 COMMERCIAL VEHICLE SERVICING

Delivery and service movements would typically be undertaken outside of peak demand periods associated with the site and the peak commuter periods associated with the adjacent road network. Fuel tankers would be anticipated to access the site two to three times per week with additional movements made by medium and small rigid vehicles to service the retail store (say ten vehicles per week). The number of commercial movements is low and would easily be accommodated on site and on the adjacent road network. All vehicles (including commercial vehicles) will be able to enter and exit the site in a forward direction.

Figure 3 illustrates the turn path of the largest vehicle anticipated to access the site (a 19 m Semi-Trailer tanker).

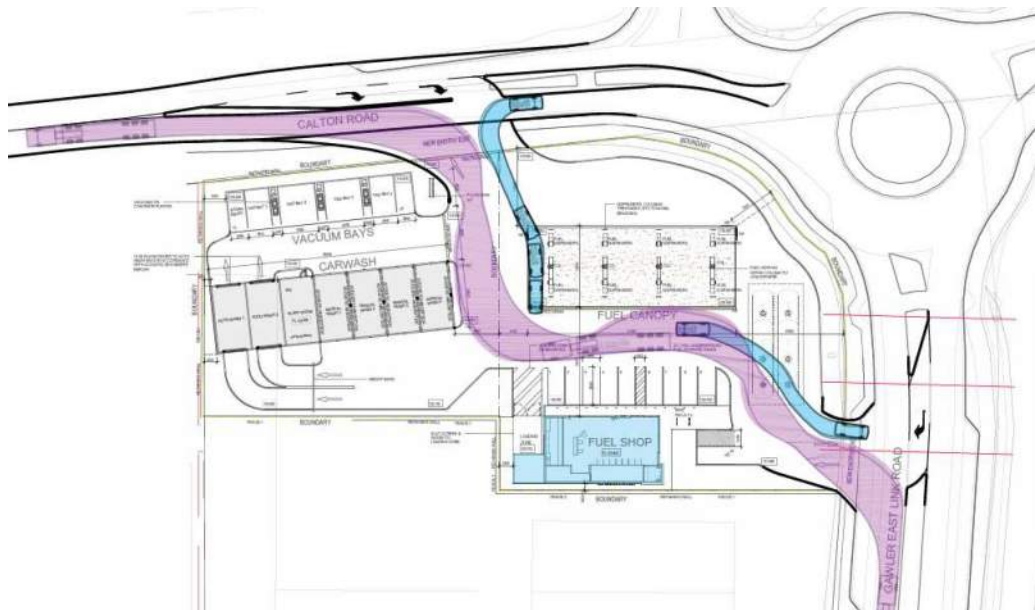


Figure 3 – 19.0 m Semi-Trailer tanker turn path into and out of the site

4. PARKING ASSESSMENT

4.1.1 PETROL FILLING STATION

The Town of Gawler's Development Plan identifies a minimum parking rate of one space per service bay plus five spaces per 100 m² of retail floor space. Based upon the convenience store (retail) floor area of 190 m², there is a parking requirement for 9.5 parking spaces (no service bays are proposed on-site). The

proposed provision of 10 spaces therefore exceeds the requirement of the Development Plan for the petrol filling station component. In reality, recent survey data for petrol filling stations indicates lower demand rates than that suggested by the Development Plan and the peak demand associated with the site will likely be lower than forecast above.

4.1.2 CAR WASH FACILITY

No parking rate is identified for car wash facilities in the Town of Gawler's Development Plan. In reality, the majority of demand associated with the car wash facility will be accommodated in the bays themselves (12 spaces) and adjacent queuing areas rather than separate parking spaces. There would be minimal demand for separate parking spaces associated with this component of the proposal, other than an occasional requirement for maintenance staff parking. The provision of two spaces for the car wash will easily accommodate demands associated with this component.

On the basis of the above assessment, it is considered that more than sufficient car parking will be provided as part of the proposal.

4.2 BICYCLE PARKING

The Development Plan does not provide a specific rate for the provision of bicycle parking at petrol filling stations (or similar uses). The proposal includes the provision of two bicycle parking rails (capable of accommodating four bicycles). Such a provision is considered adequate for the proposed use.

5. TRAFFIC ASSESSMENT

5.1 TRAFFIC GENERATION AND DISTRIBUTION

5.1.1 PETROL FILLING STATION

The NSW Roads and Traffic Authority's (now Roads and Maritime Services) "Guide to Traffic Generating Developments" identifies two trip generation formulae for developments classified as "service stations and convenience stores", dependant on site area and gross floor area of an associated convenience store (if applicable). These formulae are listed as:

(1) Evening peak hour trips = $0.04 A(S) + 0.3 A(F)$; or

(2) Evening peak hour trips = $0.66 A(F)$; where:

$A(S)$ = area of site (m^2); and

$A(F)$ = gross floor area of convenience store (m^2).

Based upon the above formulae, an approximate site area (for the petrol station component) of 2,450 m^2 and a convenience store gross floor area of 190 m^2 , it is

forecast that the site could generate between 125 trips (formula 2) and 155 trips (formula 1) in the pm (evening) peak hour.

In addition, it is commonly accepted that in the order of 70% of vehicle trips associated with petrol filling stations are related to passing trade (i.e. vehicles already on the road network), with the remaining 30% of vehicle trips considered to be additional trips on the adjacent road network. This equates to a pm trip generation of approximately 109 trips associated with “passing trade” and 46 trips associated with additional (new) movements (based on the higher of the above rates).

5.1.2 CAR WASH FACILITIES

The RTA Guide provides no rate specific to car wash facilities. It is, therefore, common to assess such uses on a ‘first principles’ basis. A single automated car wash typically has a service rate of between 5 to 10 minutes per vehicle. On this basis, the two automatic car wash bays could service between 12 and 24 vehicles in a single hour. A single manual car wash has a lower service rate of approximately one car every 15 minutes. Therefore, the manual car wash bays could service approximately 16 vehicles per hour. The vacuum bays are then utilised by patrons associated with the automatic and manual car washes and generally don’t generate additional traffic (above that already associated with the car wash bays). On the basis of the above, the car wash facilities could service up to 36 vehicles in an hour (at full occupancy). As with the petrol station, it is assumed that a reasonable proportion of the traffic generated by these facilities will be passing.

In reality, the level of traffic generated by the wash facilities would be below its theoretical capacity (particularly during the peak commuter hours when use of such a facility would be relatively low). Furthermore, a proportion of trips generated by the wash facilities would also likely to be associated (shared) with the petrol filling station.

5.1.3 TOTAL TRAFFIC

On the basis of the above, it is conservatively forecast that there will be in the order of 110 ‘passing trade’ trips and 80 additional (‘new’) trips associated with the overall development in the peak hour.

It is anticipated that these movements will be relatively evenly distributed between Calton Road (to/from the west of the site) and the collector road (to/from the south of the site) with only a small proportion of movements distributed to/from the east along Calton Road.

5.2 TRAFFIC IMPACT

The potential traffic generation associated with future commercial development on the subject site was included as part of previous traffic assessments prepared for the broader Springwood development. The analysis of the overall traffic impacts has therefore considered the impact of the development of the site and the future road network and infrastructure interventions have been designed accordingly. Detailed analysis of the traffic impact of the proposal is therefore not warranted.

Nevertheless, it is noted that right-turn out movements from the site will be restricted (by central median on both frontage roads). This will minimise impacts on through bound movements on Calton Road and the collector road, and maximise safety at the site access points. Drivers wishing to head right-out on Calton Road or right-out on the collector road will be able to undertake a left-out of the collector road access point and then utilise the roundabout to complete their desired journey. The remaining movements at the access points are low conflict movements. There will be adequate sight distance provisions and drivers will be able to safely and appropriately enter and exit the traffic stream. Separated right-turn treatments are also proposed to minimise impact of right turning vehicles on through bound movements on the adjacent roads.

On the basis of the above, it is considered that the impact of the proposal on the adjacent road network will be minimal (particularly given the broader assessment and associated road layout has taken into account the potential development of the site).

6. SUMMARY

The proposed development at Calton Road, Springwood, comprises the construction of a new petrol filling station, associated shop and a car wash facility. Access to the site will be provided via separate access points on Calton Road and on the collector road (with right-out movements restricted). The parking areas and associated access points will comply with the requirements of the Australian Standards.

An assessment of parking demands identified that the provision of 12 parking spaces will adequately satisfy the parking demand associated with the petrol filling station and the car wash.

The proposal is forecast to generate approximately 80 additional peak hour movements on the adjacent roads (excluding passing trade). However, the traffic generation of the site has previously been taken into account with the previous assessments for the broader Springwood development. Accordingly, the forecast traffic generation is considered to be within the capacity of the adjacent

roads and intersections. The movements associated with the site will be readily accommodated at the site's access points and on the adjacent road network.

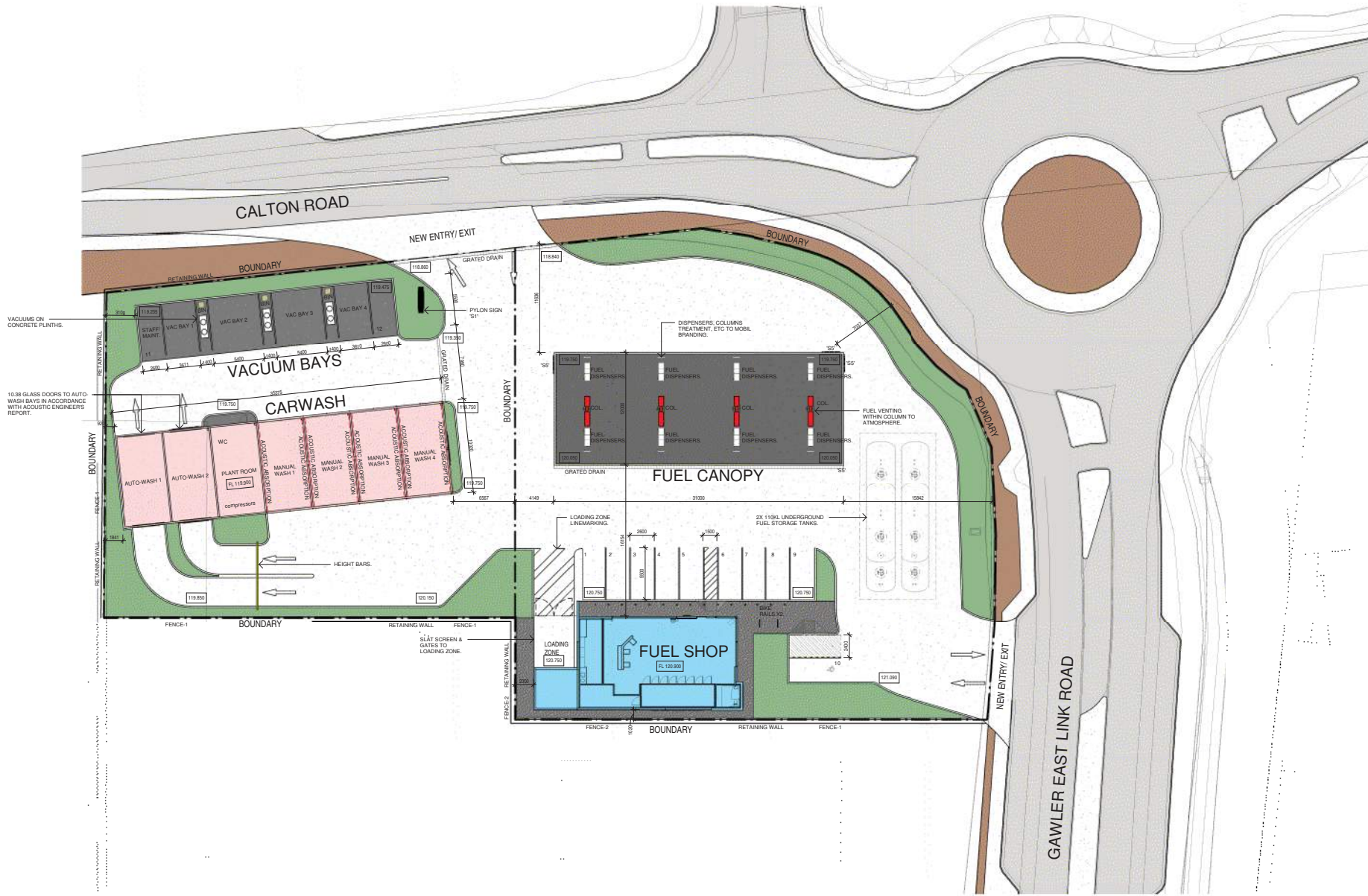
APPENDIX A

BROWN FALCONER PLANS

PRELIMINARY

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Rev. Amendment Date



DEVELOPMENT SUMMARY

SITE AREA	4068m ²
SHOP	194m ²
CANOPY/FORCOURT	372m ²
CAR WASH	354m ²
LANDSCAPING	598m ² (14.65%)
PARKING PROVIDED	12

NOTES:

- SPEL UNIT IS TO BE A SPEL PURACEPTOR CLASS 1 FULL RETENTION SEPARATOR. REFER TO CIVIL FOR SPEL AND DETENTION SIZES.
- WASTE WATER COLLECTED IN THE SPEL PURACEPTOR WILL BE REMOVED BY AN EPA LICENSED WASTE TRANSPORTER TO LICENSED WASTE DEPOT AUTHORISED TO RECEIVE SUCH WASTE.
- FUEL SYSTEMS TO INCLUDE:
 - DOUBLE WALLED FIBREGLASS TANKS.
 - ATG SYSTEM.
 - DOUBLE WALLED FUEL LINES.
 - PRESSURE LEAK DETECTION SYSTEM TO AS4897:2008, THE DESIGN, INSTALLATION AND OPERATION OF UNDERGROUND PETROLEUM STORAGE SYSTEMS.
 - STAGE 1 VAPOUR RECOVERY (VR1).
- CAR PARK LIGHTING DESIGN IS TO COMPLY WITH AS/NZS 1158.1.3.

BROWN FALCONER

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Telephone : 08 8203 3800 / 4816 007 846 986
brownfalconer.com.au

LEVTON PROPERTY

PROPOSED RETAIL DEVELOPMENT
CNR CALTON RD & GAWLER EAST
LINK ROAD, SPRINGWOOD

SITE PLAN

SITE PLAN

1:200

Scale 1:200
Date 02/12/19
Job No. 2018001

Dwg No. **888 DA02** Rev: A1 SHEET



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Appendix 5. Environmental Noise Assessment

Sonus

Retail Development

Springwood

Environmental Noise Assessment

S6185C2

September 2019

sonus.

Jason Turner

Senior Associate

Phone: +61 (0) 410 920 122

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Document Title : Retail Development - Corner Calton Road & Gawler East Link Road, Springwood
Environmental Noise Assessment

Document Reference : S6185C3

Date : September 2019

Prepared By : Jason Turner, MAAS

Reviewed By : Chris Turnbull, MAAS

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INTRODUCTION

An environmental noise assessment has been made of the proposed development at the corner of Calton Road & the Gawler East Link Road, Springwood.

The development comprises a service station facility which includes a control building, car parking, automatic and manual wash bays, vacuum bays and landscaping.

The closest existing noise sensitive locations to the site are the residences located to the north on the opposite side of Calton Road and further to the east on the opposite side of the proposed Gawler East Link Road, as shown in Appendix A. The site is within a mixed use policy area which will be the subject of future development. The assessment therefore considers noise levels at the existing residences only from the following activity:

- On-site vehicle movements;
- General car park activity;
- Automatic and manual car wash bays;
- Vacuum bays;
- Fuel deliveries;
- Rubbish collection; and,
- Mechanical plant servicing the facility.

The assessment has been based on:

- *Brown Falconer* drawings of the proposal with job number “2018001”, drawing numbers “DA01” to “DA05” inclusive and dated August 2019;
- Operating hours of the facility being up to 24 hours per day, 7 days per week with the exception of the automatic and manual wash bays and vacuum bays;
- The assumption that;
 - The site will have no LPG facilities; and,
 - The automatic and manual wash bays and vacuum bays will not operate at night.
- Previous noise measurements and manufacturer noise data from similar sites, including plant and equipment, car parking activity, car wash and vacuum bay operation and fuel delivery.

CRITERIA

Development Plan

The subject site is located within the *Mixed Use Centre Policy Area* of the *Residential (Gawler East) Zone* within the *Gawler Council Development Plan*¹ (the Development Plan). The nearest existing residences on the opposite side of Calton Road are located within the *Residential Zone*, while the residences to the east are within the *Residential (Gawler East) Zone*. The Development Plan has been reviewed and the following provisions considered relevant to the noise assessment.

Interface Between Land Uses

Objective 42: *Development located and designed to minimise adverse impact and conflict between land uses.*

Objective 43: *Protect community health and amenity from adverse impacts of development.*

Objective 44: *Protect desired land uses from the encroachment of incompatible development.*

PRINCIPLES OF DEVELOPMENT CONTROL

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

(b) noise;

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

111 *Sensitive uses likely to conflict with the continuation of lawfully existing developments and land uses desired for the zone should be designed to minimise negative impacts.*

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

¹ Consolidated 18 July 2019.

Noise Generating Activities

- 113 *Development that emits noise (other than music noise) should include noise attenuation measures that achieve the relevant Environment Protection (Noise) Policy criteria when assessed at the nearest existing noise sensitive premises.*
- 114 *Development with the potential to emit significant noise (e.g. industry) should incorporate noise attenuation measures that prevent noise from causing unreasonable interference with the amenity of noise sensitive premises.*

Environment Protection (Noise) Policy 2007

Interface between Land Uses PDC 113 from the Development Plan references the *Environment Protection (Noise) Policy 2007*, which provides goal noise levels to be achieved at residences from general activity at a site and specific provisions for other activity such as rubbish collection.

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

Rubbish Collection

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

General Activity other than Rubbish Collection

The Policy provides goal noise levels to be achieved at residences based on the principally promoted land use of the Development Plan zones in which the noise source (the development) and the noise receivers (residences) are located.

Based on the principally promoted land uses in the Development Plan, the following goal noise levels are provided by the Policy to be achieved at all existing residences:

- An average (L_{eq}) noise level of 50 dB(A) during the day time (7am to 10pm);
- An average (L_{eq}) noise level of 43 dB(A) during the night time (10pm to 7am); and,
- A maximum (L_{max}) noise level of 60 dB(A) during the night time.

When measuring or predicting noise levels for comparison with the Policy, adjustments may be made to the average goal noise levels for each “annoying” characteristic of tone, impulse, low frequency, and modulation of the noise source. The characteristic must be dominant in the existing acoustic environment and therefore the application of a penalty varies depending on the assessment location, time of day, the noise source being assessed, and the predicted noise level. The application of penalties is discussed further in the Assessment section of this report.

ASSESSMENT

The noise level at the existing residences from the proposed site activity has been predicted based on a range of previous noise measurements and observations at similar facilities. These include:

- Car park activity such as people talking as they vacate or approach their vehicles, the opening and closing of vehicle doors, vehicles starting, vehicles idling, and vehicles moving into and accelerating away from their park position;
- General vehicle movements and idling on site;
- Automatic and manual wash bays and the associated plant room;
- Vacuum bays;
- Fuel delivery trucks; and,
- Mechanical plant serving the control building.

At the Development Application stage of a project, it is usual practice that the mechanical plant is not yet designed or selected. Therefore, the assessment has considered typical air conditioning, refrigeration and exhaust fans operating at other similar facilities to provide an indicative assessment.

Noise predictions have been made based on manufacturer's data and previous noise measurements of the following indicative air conditioning and refrigeration equipment;

Equipment	Quantity
Display fridges	2
Freezer	1
Packaged cooling units	2
Amenity exhaust fan	1

The final design should ensure the relevant goal noise levels of the *Environment Protection (Noise) Policy 2007* are achieved at all residences when accounting for the other noise sources on the site.

The sound power levels for the above activities are provided as Appendix D.

Rubbish Collection

In order for rubbish collection to achieve the requirements of the Policy, the hours for collection should be restricted to that of Division 3 of the Policy. That is, rubbish collection should only be between the hours of 9am and 7pm on a Sunday or public holiday, and 7am and 7pm on any other day.

General Activity

The predictions of noise from sources other than rubbish collection at the facility have been based on the following operational assumptions for the level of activity in any 15-minute² period:

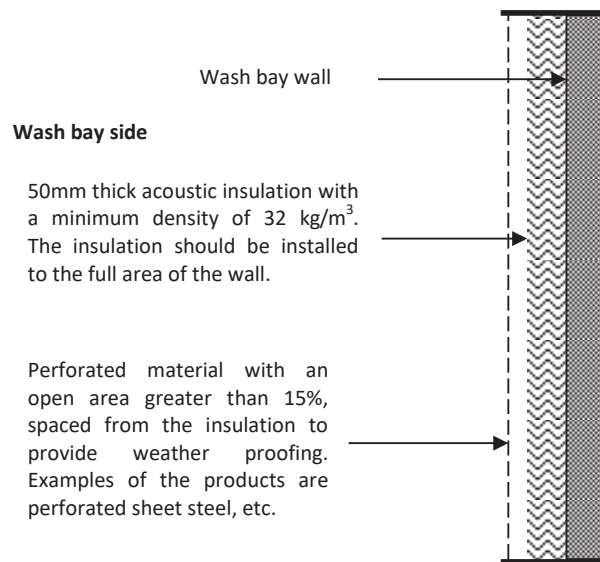
- during the day (7am to 10pm):
 - continuous operation of all mechanical plant on the control building roof;
 - 15 vehicle movements through the site using the petrol filling stations;
 - A stationary vehicle idling continuously at half of the refuelling bays (while waiting to use the filling station);
 - 8 vehicle movements through the site using the car park bays or car wash facilities;
 - A stationary vehicle idling continuously at both of the automatic car washes (while waiting to use the wash bay);
 - Continuous operation of both automatic car wash bays;
 - 5 minutes of high pressure spray in each of the manual wash bays;
 - Continuous use of 2 vacuum units; and,
 - A single fuel delivery.
- During the night (10pm to 7am):
 - continuous operation of all mechanical plant on the control building roof;
 - 10 vehicle movements through the site using the petrol filling stations; and,
 - 5 vehicle movements through the site using the car park bays.

Based on the above, the following acoustic treatments are recommended for the site to achieve the goal noise levels of the Policy:

² Default assessment period of the Policy.

Car Wash & Vacuum Bays

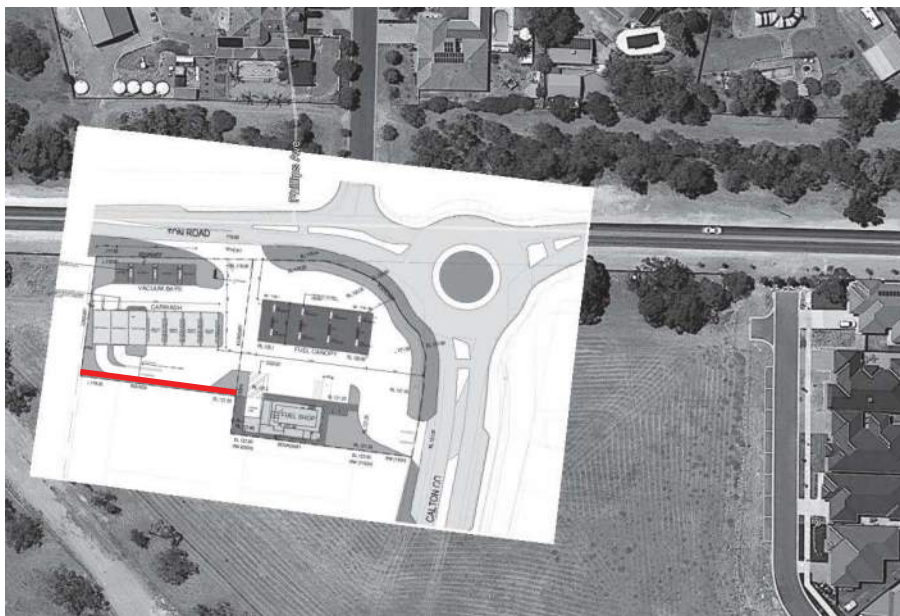
- Ensure that the automatic and manual wash bays and vacuum bays are not used during the night time hours of the Policy (10pm to 7am);
- As has been documented, install glass doors (minimum 10.38mm thick laminated glass) to the entry and exit of the automatic car washes, which automatically close before the wash cycle starts and do not open until the dry cycle has finished. Roller door brush seals should be installed to the doors to seal as close as possible to air tight when closed;
- As has been documented, install acoustic absorption material to the walls of the manual wash bays. Minimum 50mm thick polyester insulation of 32kg/m³ density may be used in accordance with the following detail to provide weather proofing, or a proprietary weather proof product with a minimum NRC rating of 0.8 may be used without the weather proofing detail.



- In addition to the above, install acoustic absorption material to the underside of the manual wash bay ceiling to the same specification as the wall treatment. The absorption may be held in place by any material with a minimum open area of 15%.
- Ensure the roof of the automatic car washes and the plant room incorporate a layer of 9mm thick compressed fibre cement sheet, with 50mm thick acoustic insulation having a minimum density of 32 kg/m³ laid over the top (between the ceiling and the sheet metal roof deck).

General Activity

- Restrict fuel deliveries to the daytime hours of the Policy. That is, between 7am and 10pm only;
- Should amplified music played outdoors be proposed, it should be set at a level which is inaudible at any dwelling at any time.
- Reduce noise from any alarms produced by site equipment, such as for compressed air, carwash bays or vacuum bays as far as practical.
- Ensure there are no irregularities on the site and all inspection points, grated trenches, etc. are correctly fixed to remove the potential for impact noise being generated when driven over.
- Should a solid fence, such as “Colorbond” sheet steel, be constructed for the portion shown below for other reasons, then acoustic absorption material should be installed to the same specification as the manual car wash wall treatment on the site side of the fence for its full extent. Should an acoustically open fence, such as tubular steel, be proposed, no further treatment will be required.



Mechanical Plant

- Locate all mechanical plant (other than for the car wash facilities) on the control building roof;
- Construct a barrier between the roof top plant and the residences to the north (on the opposite side of Calton Road), which is at least the same height as the tallest condensing unit and is constructed from a minimum 0.42 BMT sheet metal (*Colorbond*) or an acoustic equivalent.
- If a barrier is constructed on the opposite side of the units (southern side), the construction should incorporate acoustic absorption material to the same specification as the manual wash bay wall treatment to the full extent on the plant side of the barrier

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

With the inclusion of the acoustic treatments described above and the assumed level of activity at the site, the predicted average (L_{eq}) noise levels at the existing residences are no more than 50 dB(A) during the day time and 42 dB(A) during the night. Given the potential for low noise levels in the environment and modulating vehicle noise to be audible for periods during the night time when there is limited activity on Calton Road & the Gawler East Link Road but activity on the site, a 5 dB(A) penalty has been added to the night time predicted noise level which conservatively applies to all activity after 10pm and before 7am. That is, the predicted noise level at night of 37 dB(A) has been penalised to become 42 dB(A).

Based on the above, the goal noise levels of 50 dB(A) during the day time and 43 dB(A) during the night time are predicted to be achieved at all existing residences.

In addition, based on the inclusion of the acoustic treatment described above, the predicted maximum noise level at any existing residence is no more than 54 dB(A), therefore achieving the Policy requirement of 60 dB(A) for night time activity.

CONCLUSION

An environmental noise assessment has been made of the proposed development at the corner of Calton Road and the Gawler East Link Road, Springwood.

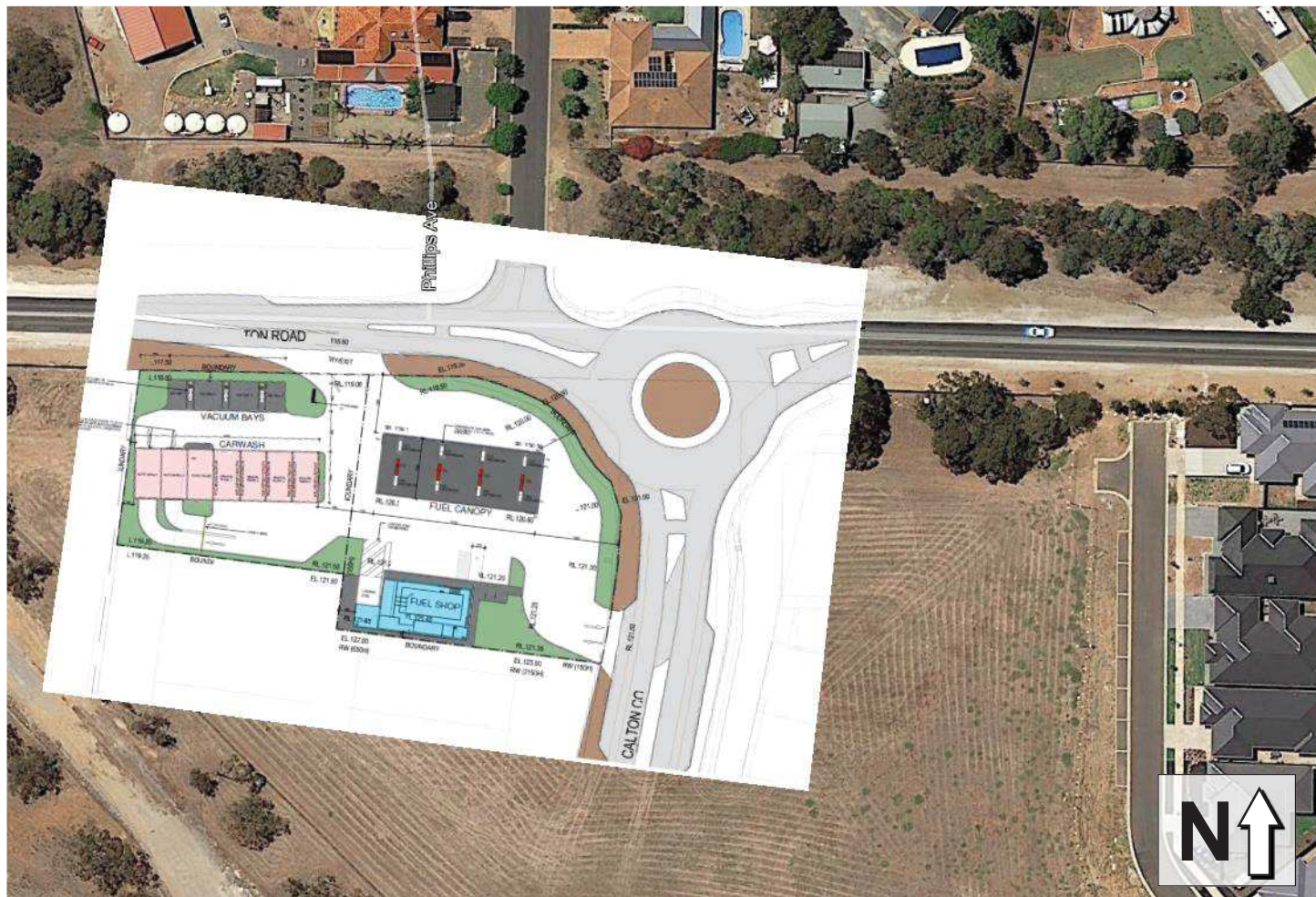
The assessment considers noise levels at nearby existing residences from vehicle movements, car park activity, fuel deliveries, automatic and manual wash bays, vacuum bays, rubbish collection and mechanical plant servicing the facility.

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

- Installing doors to the automatic wash bays;
- Installing acoustic absorption within the manual wash bays;
- Upgrading the roof of the automatic wash bay and plant room;
- Screening the roof top plant and restricting its noise levels subject to a subsequent design phase review;
- Reducing the noise from any alarms as far as practical;
- Ensuring all inspection points, grated trenches, etc. are correctly fixed;
- Restricting the times for rubbish collection and fuel deliveries; and
- Restricting the times for use of the wash facilities.

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

APPENDIX A: Site locality and nearby residences.



APPENDIX B: Noise level data.

Equipment/Activity		Sound Power Level
General activity	General activity	83 dB(A) SWL
	Idling car	75 dB(A) SWL
	Moving car	82 dB(A) SWL
	Moving fuel truck	96 dB(A) SWL
	Car door slam	94 dB(A) L _{max}
	Vehicle accelerating quickly	97 dB(A) L _{max}
Car Wash	Automatic Car Wash – Wash Cycle	87 dB(A) (noise level within building)
	Automatic Car Wash – Dry Cycle	92 dB(A) (noise level within building)
	Manual Wash Bay	96 dB(A) SWL
	Plant Room	78 dB(A) (noise level within building)
	Vacuum Bay (loaded)	82 dB(A) SWL
	Vacuum Bay (un loaded)	76 dB(A) SWL
Mechanical Plant	AC condenser unit (2 off)	75 dB(A) SWL
	Freezer (1 off)	75 dB(A) SWL
	Display fridge (2 off)	81 dB(A) SWL
	Amenity exhaust fan (1 off)	67 dB(A) SWL

Appendix 6. Stormwater Management Plan

Sagero

CIVIL STORMWATER CALCULATIONS

REFERENCE NO	SA190020
ISSUE DATE	AUGUST 2019
AGENT	BROWN FALCONER
SITE LOCATION	PETROL STATION GAWLER EAST SPRINGWOOD

Note:

1. These calculations are to be read in conjunction with relevant Construction Reports, Structural Drawings and Architectural Drawings
2. All work to comply with the Building Code of Australia and relevant Australian and Australian and New Zealand Standards,

AS 1012 - Ready Mixed Concrete
AS 1254 - PVC Pipes and fittings for Storm/Surface Water Applications
AS 1260 - Unplasticised PVC (UPVC) Pipes and Fittings for Sewerage Applications
AS 1289 - Method of Testing Soils for Engineering Purposes
AS 1342 - Precast Concrete Drainage Pipes
AS 1379 - Specification and Supply of Concrete
AS 1415 - Unplasticised PVC Pipes and Fittings for Soil, Waste and Vent Applications
AS 1428.1 - Design for access and mobility
AS 1478 - Chemical Admixtures for use in Concrete
AS 4049.1 - Paints and Related Materials
AS 1646 - Rubber Joint Rings for Water Supply, Sewerage and Drainage Purposes
AS 1742 - Manual of Uniform Traffic Control Devices
AS 2008 - Residual Bitumen for Pavements
AS 2302 - Code of Practice for Installation of UPVC Pipe Systems
AS 2566 - Plastics Pipe Laying Design
AS 2758 - Concrete Aggregates
AS 3500 - National Plumbing and Drainage
AS 3600 - Concrete Structures
AS 3610 - SAA Formwork for Concrete
AS 3725 - Loads on Buried Concrete Pipes
AS 3792 - Portland and Blended Cements
AS/NZS 2890 1 - Parking Facilities - Off-street car parking
AS/NZS 2890 6 - Off-street parking for people with disabilities

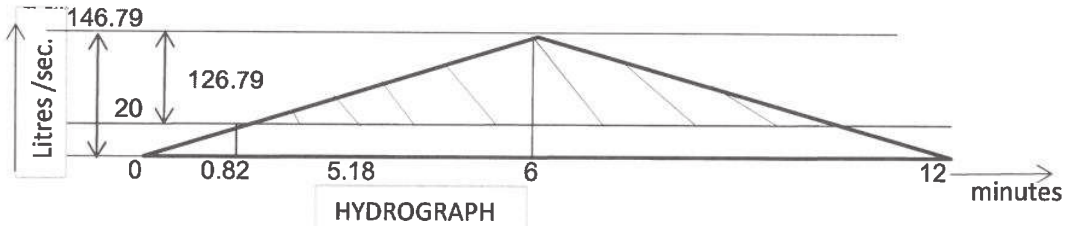
Pre developed site

Existing details:

Total area=	3981 m ²		
Existing roof area =	0 m ²	C' roof=	0.9
Exist. pavement area=	0 m ²	C' pave=	0.75
Existing land area =	3981 m ²	C' land=	0.3
ARI (in years) 'y' =	5 Years		
t _c (in minutes) 'm' =	6 minutes		
Intensity of rainfall 'I _m ' =	71.6 mm/Hour		
Discharge 'Q' =CIA/3600			
=	23.75	Litres/Sec	
Allowable discharge =	20	Litres/Sec	

Post developed site

<u>Proposed details:</u>	Area=	3981			
Roof area=	1131 m ²	C'roof=	0.9	1.2xC'roof≤1.0=	1.08 1
Pavement area=	2268 m ²	C' pave.=	0.75	1.2xC'pave≤1.0=	0.9 0.9
Land area=	582 m ²	C' land=	0.1	1.2xC'land≤1.0=	0.12 0.12
ARI (in years) 'y' =	100 Years				
t _c (in minutes) 'm' =	6 minutes				
Intensity of rainfall 'I _m ' =	163 mm/Hour				
Discharge 'Q'					
=CIA/3600	=	146.79	Litres/Sec		



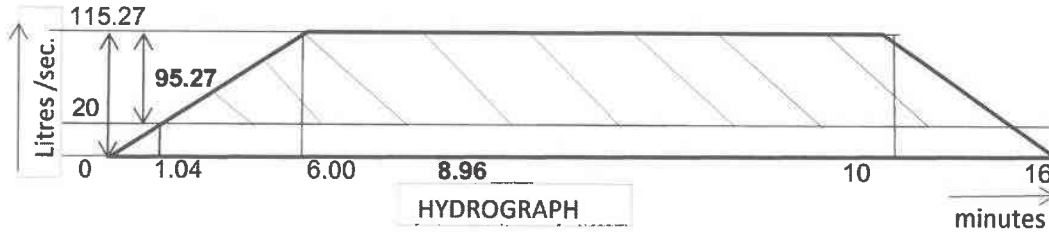
Detention volume = 126.79 X 5.18 X 60/1000 = 39.43 m³

Check for critical storm

Try duration: 10 minutes

Intensity of rainfall ' I_m ' = 128 mm/Hour

Discharge 'Q'
 =CIA/3600 = **115.27** Litres/Sec



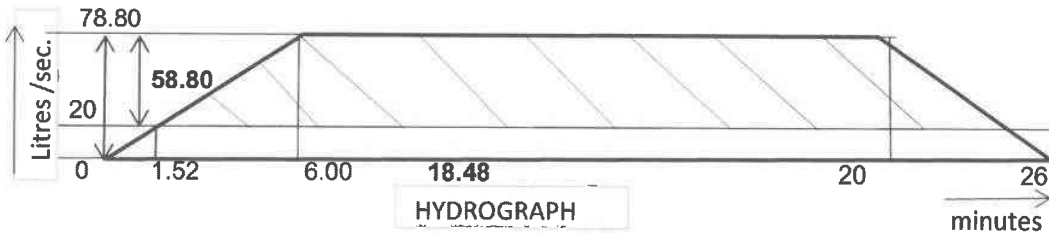
Detention volume = 95.27 X 8.96 X 60/1000 = **51.21** m³

Check for critical storm

Try duration: 20 minutes

Intensity of rainfall ' I_m ' = 87.5 mm/Hour

Discharge 'Q'
 =CIA/3600 = **78.80** Litres/Sec

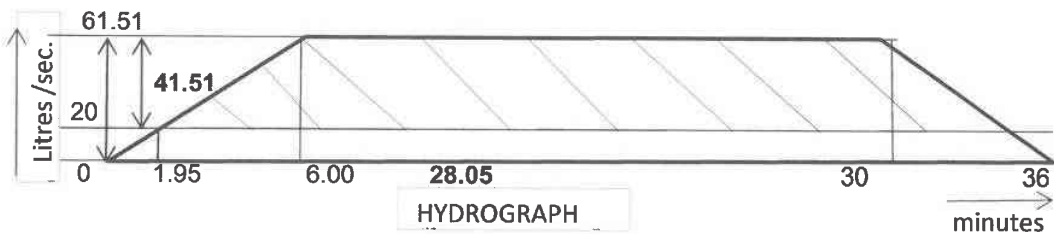


Detention volume = 58.80 X 18.48 X 60/1000 = **65.19** m³

Try duration: 30 minutes

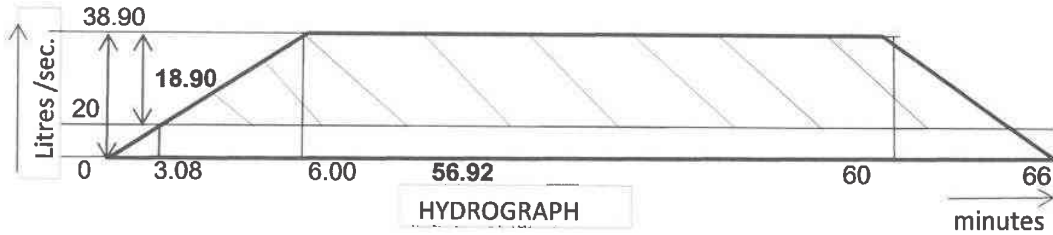
Intensity of rainfall ' I_m ' = 68.3 mm/Hour

Discharge 'Q'
 =CIA/3600 = **61.51** Litres/Sec



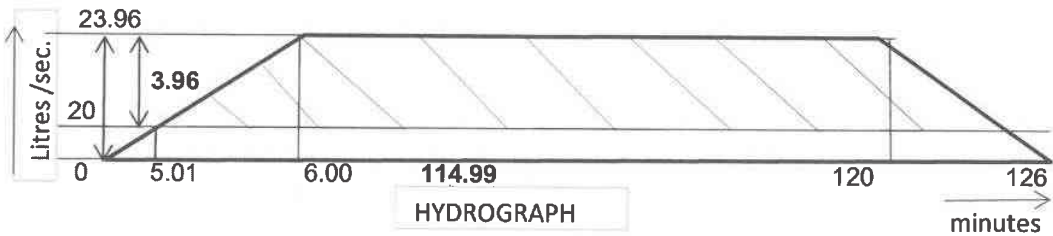
Detention volume = 41.51 X 28.05 X 60/1000 = **69.86** m³

Try duration: 60 minutes
 Intensity of rainfall ' I_m^y ' = 43.2 mm/Hour
 Discharge 'Q' = CIA/3600 = **38.90** Litres/Sec



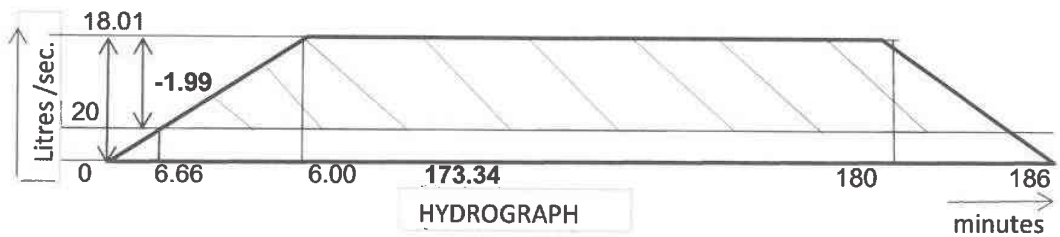
Detention volume = 18.90 X 56.92 X 60/1000 = **64.56** m³

Try duration: 120 minutes
 Intensity of rainfall ' I_m^y ' = 26.6 mm/Hour
 Discharge 'Q' = **23.96** Litres/Sec



Detention volume = 3.96 X 114.99 X 60/1000 = **27.29** m³

Try duration: 180 minutes
 Intensity of rainfall ' I_m^y ' = 20 mm/Hour
 Discharge 'Q' = **18.01** Litres/Sec



Detention volume = -1.99 X 173.34 X 60/1000 = **-20.68** m³

Summary

1. Maximum flow: 146.79 litres/sec
2. Pump discharge rate: 20.0 litres/sec
3. Max. Detention volume: 69.86 m³
4. Detention tanks: 3 x 23 = 69 m³

Onsite detention GIP 3

$$V = \frac{13 \times 27 \times 0.15}{3} = 17.55 \text{ m}^3 + 69 = 86.55 \text{ m}^3 > 69.86 \therefore \text{OK!}$$



Australian Government
Bureau of Meteorology

LOCATION **34.600 S 138.775 E** * NEAR.. Springwood Gawler

LIST OF COEFFICIENTS TO EQUATIONS OF THE FORM

$$\ln(I) = A + B \times (\ln(T)) + C \times (\ln(T))^2 + D \times (\ln(T))^3 + E \times (\ln(T))^4 + F \times (\ln(T))^5 + G \times (\ln(T))^6$$

T = TIME IN HOURS AND I = INTENSITY IN MILLIMETRES PER HOUR

RETURN PERIOD	A	B	C	D	E	F	G
1	2.418745	-0.62900E+0	-0.29561E-1	0.82908E-2	-0.39968E-4	-0.24783E-3	0.64088E-6
2	2.706118	-0.63565E+0	-0.28892E-1	0.88203E-2	-0.19397E-3	-0.30188E-3	0.14209E-4
5	3.018133	-0.65022E+0	-0.29093E-1	0.84686E-2	-0.39026E-4	-0.24144E-3	-0.30020E-5
10	3.188971	-0.65958E+0	-0.28101E-1	0.87913E-2	-0.21068E-3	-0.25537E-3	0.41782E-5
20	3.380490	-0.66707E+0	-0.27704E-1	0.85809E-2	-0.20143E-3	-0.21523E-3	-0.36965E-5
50	3.607510	-0.67692E+0	-0.27126E-1	0.92117E-2	-0.33248E-3	-0.27406E-3	0.91723E-5
100	3.765617	-0.68317E+0	-0.26563E-1	0.92200E-2	-0.40947E-3	-0.26494E-3	0.10373E-4

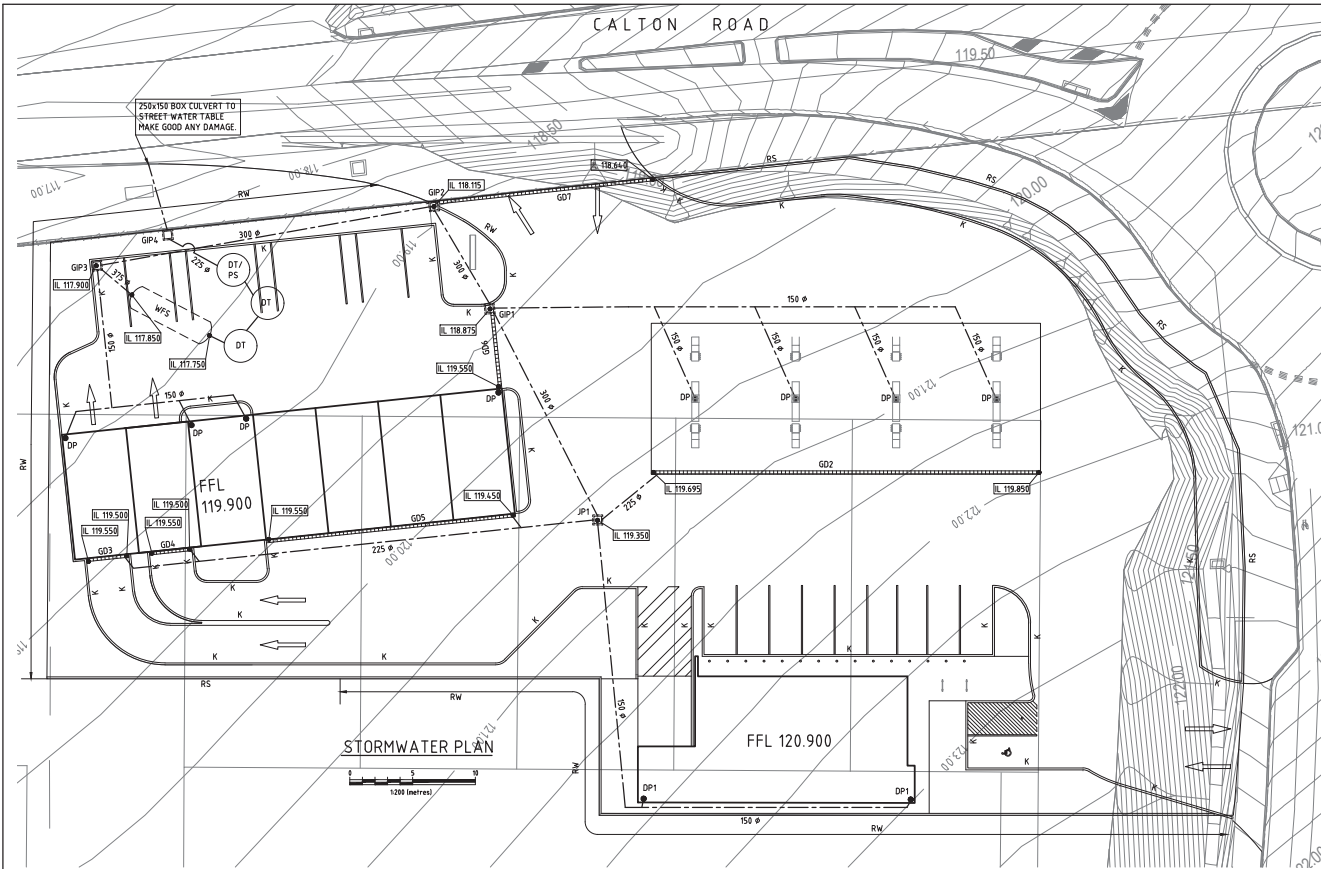
RAINFALL INTENSITY IN mm/h FOR VARIOUS DURATIONS AND RETURN PERIODS

DURATION	RETURN PERIOD (YEARS)						
	1	2	5	10	20	50	100
5 mins	40.2	54.4	77.1	93.4	115.	148.	176.
6 mins	37.5	50.7	71.6	86.7	107.	137.	163.
10 mins	30.2	40.7	57.1	68.9	84.7	108.	128.
20 mins	21.4	28.7	39.9	47.9	58.5	74.2	87.5
30 mins	17.1	22.9	31.6	37.7	45.9	58.0	68.3
1 hour	11.2	15.0	20.5	24.3	29.4	36.9	43.2
2 hours	7.18	9.53	12.9	15.2	18.3	22.8	26.6
3 hours	5.49	7.27	9.77	11.5	13.8	17.2	20.0
6 hours	3.45	4.56	6.07	7.10	8.50	10.5	12.2
12 hours	2.17	2.86	3.77	4.39	5.23	6.44	7.44
24 hours	1.35	1.78	2.33	2.69	3.20	3.91	4.50
48 hours	.818	1.07	1.39	1.60	1.89	2.30	2.64
72 hours	.590	.771	.991	1.14	1.34	1.63	1.87

(Raw data: 15.48, 2.95, 0.79, 33.37, 5.89, 1.50.skew= 0.440)

HYDROMETEOROLOGICAL ADVISORY SERVICE
(C) AUSTRALIAN GOVERNMENT, BUREAU OF METEOROLOGY

* ENSURE THE COORDINATES ARE THOSE REQUIRED SINCE DATA IS BASED ON THESE AND NOT LOCATION NAME.



STORMWATER PLAN

BULK EXCAVATION AND PAVEMENT NOTES

- B1. AFTER BULK EXCAVATION HAS BEEN COMPLETED THE FORMED SURFACE SHALL BE PROOF ROLLED AND TESTED IN ACCORDANCE WITH THE SPECIFICATION. AFTER TOPSOIL STRIP IN FILL ZONES HAS BEEN COMPLETED THE SURFACE SHALL BE PROOF ROLLED AND TESTED IN ACCORDANCE WITH THE SPECIFICATION.
- B2. ANY SOFT, WET OR UNSUITABLE SUBGRADE MATERIALS, AS DEFINED IN THE SPECIFICATION, SHALL BE REMOVED AND REPLACED WITH AN APPROVED MATERIAL.
- B3. ALL SURPLUS EXCAVATED MATERIALS EXCLUDING TOPSOIL SHALL BE REMOVED FROM THE SITE AT THE BUILDER'S EXPENSE TO A PLACE OF LEGAL DISPOSAL UNLESS DIRECTED OTHERWISE BY THE PROJECT MANAGER.
- B4. EXCAVATED MATERIAL WHICH CONFORMS WITH THE SPECIFICATION REQUIREMENTS FOR CLAY FILL MAY BE USED AS FILL REFER SPECIFICATION.
- B5. APPROVED FILL MATERIALS SHALL BE PLACED IN UNIFORM LAYERS, COMPACTED, TESTED AND PROOF ROLLED IN ACCORDANCE WITH THE SPECIFICATION. THE FINISHED EARTHWORKS LEVEL SHALL BE PROOF ROLLED AND TESTED AS SPECIFIED PRIOR TO PAVEMENT CONSTRUCTION.
- B6. DURING CONSTRUCTION THE BUILDER SHALL BE RESPONSIBLE FOR CONSTRUCTING AND MAINTAINING A TEMPORARY SITE DRAINAGE SYSTEM AND TO MAINTAIN THE SITE IN A DRY AND STABLE CONDITION. DETAILS OF THE DRAINAGE SYSTEM SHALL BE TO THE APPROVAL OF THE PROJECT MANAGER.
- B7. UNLESS NOTED OTHERWISE ALL BATTERS SHAPED TO FINAL PROFILE SHALL BE CONSTRUCTED AT A SLOPE OF 1 IN 4 (EUT AND FILL). TEMPORARY CONSTRUCTION BATTERS SHALL BE LIMITED TO 1 IN 2. STEEPER SLOPES SHALL NOT BE CONSTRUCTED UNLESS APPROVED BY THE PROJECT MANAGER. STABILIZATION AND EROSION PROTECTION SHALL BE PROVIDED AS DIRECTED BY THE PROJECT MANAGER, AT THE BUILDER'S EXPENSE. THE BUILDER SHALL BE RESPONSIBLE FOR THE STABILITY OF HIS TEMPORARY WORKS.
- B8. ALL UNDERGROUND SERVICES SHALL BE LAID PRIOR TO FINAL SEALING OF PAVEMENTS.
- B9. REFER ARCHITECT'S DRAWING FOR PAVEMENT LINEMARKING AND KERB SEAYOUT.

NOTE:
BEFORE STARTING ANY PAVEMENT AND BUILDING WORKS, ENSURE THE SUB-GRADE COMPACTION IS AS REQUIRED IN THE STRUCTURAL AND CIVIL SPECIFICATIONS. PROOF-ROLLING AND OR COMPACTION TESTS SHALL BE CARRIED OUT.

LEGEND

- EXISTING SPOT LEVEL
- INVERT LEVEL GO OR STORMWATER PIPE
- CONCRETE KERB 100 HEIGHT
- CONCRETE RETAINING STRIP
- VARIABLE HEIGHT CONCRETE KERB HEIGHT VARIES 0 TO 100
- CONCRETE KERB 100 HEIGHT ON TOP OF PAVEMENT
- CONCRETE BUND. REFER TYPICAL DETAIL ON C02 DRAWING.
- STORMWATER PIPE
- BOLLARD REFER ARCH. DRAWINGS
- DOWNPIPE - 100 PVC DWV 5/6 MIN. AT 1.0% MIN OR DP SIZE FOR CONNECTION TO DRAIN UNDO.
- DOWNPIPE - 150 PVC DWV 5/6 MIN. AT 1.0% MIN OR DP SIZE FOR CONNECTION TO DRAIN UNDO.
- SPOON DRAIN
- GRADED INLET PIT
- JUNCTION PIT
- "ACO" S200K POWER DRAIN STEPPED CHANNELS WITH CLASS C DUCTILE IRON INTERCEPT GRATES WITH ANTI-SHIRT LUGS AND POWER-LOK BOLTLESS LOCKING SYSTEM, OR APPROVED EQUIVALENT.

NOTES

STORMWATER DRAINAGE

1. ALL PIPEWORK TO BE CLASS DWV WITH SOLVENT WELDED JOINTS UNDO.
2. GIP = REINFORCED CONCRETE PIT WITH CAST IRON GRATE AND FRAME. REFER TO PIT SCHEDULE.
- JP = REINFORCED CONCRETE PIT WITH CAST IRON GRATE AND COVER. REFER TO PIT SCHEDULE.

FOR PAVEMENT NOTES REFER DRG. C02

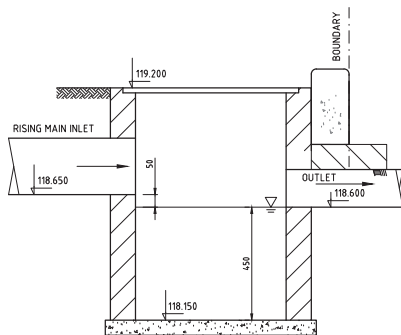
WFS = WASTE WATER FILTRATION SYSTEM

P.060.L12C
SPEL PURAFCEPTOR CLASS ONE FULL RETENTION OIL SEPARATOR WITH ALARM. ADDITIONAL RETENTION 10,000 LITRES.

PROVIDE CLASS "D" FRAME AND LID INSPECTION COVERS OVER INSPECTION OPENINGS.
INLET IL 117.850
OUTLET IL 117.750

DT/PS = STORMWATER DETENTION TANK/PUMPING STATION
23 M³ DETENTION TANK:
PUMPING DESIGN BASED ON 2 No. PUMPS WITH DISCHARGE = 20.0 L/S EACH.
USE 2 No. PUMPS IN CASE OF A PUMP FAILURE.

DT = STORMWATER DETENTION TANK
2x23 M³ DETENTION TANK.

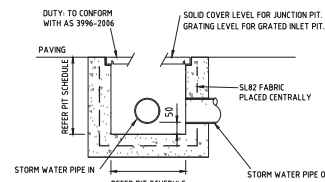


STORMWATER GRATED INLET PIT - GIP4

STORMWATER PIT SCHEDULE

PIT No.	SIZE (INTERNAL)	TOP R.L.	INVERT R.L.	COVER TYPE
GIP1	600 x 600	119.350	118.875	CLASS D CAST IRON FRAME AND GRATE
GIP2	600 x 600	118.600	118.040	CLASS D CAST IRON FRAME AND GRATE
GIP3	600 x 600	119.235	117.900	CLASS D CAST IRON FRAME AND GRATE
GIP4	600 x 600	119.200	118.600	CLASS D CAST IRON FRAME AND GRATE
JP1	600 x 600	120.030	119.350	CLASS D CAST IRON FRAME AND COVER

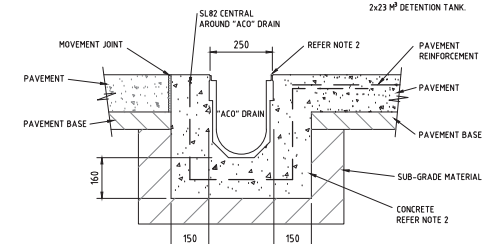
X APPROXIMATE R.L. - MATCH TO ADJACENT LEVELS.
X X ENSURE TOP OF GRATE IS A MIN. 50 ABOVE ADJACENT SURFACE.



NOTES (FOR PRECAST UNITS)

1. PENETRATION FOR PIPES SHALL BE APPROX. 50 GREATER THAN THE O/D OF PIPE.
2. PIPES SHALL BE FINISHED FLUSH WITH THE INTERNAL FACE OF THE SUMP.
3. A STIFF MORTAR MIX SHALL BE PACKED INTO THE SPACE FROM BOTH SIDES OF STRUCTURE.
4. THE INTERNAL FACE SHALL BE FINISHED SMOOTH AND A 150 THICK BAND OF CONCRETE SHALL BE POURED OUTSIDE THE SUMP TO SEAL THE PENETRATION.

STORMWATER GRATED INLET PIT - GIP
STORMWATER JUNCTION PIT - JP



"ACO" S200K DRAIN INSTALLATION DETAIL

NOTES:

1. CONCRETE STRENGTH N32.
2. VIBRATE CONCRETE TO ELIMINATE AIR POCKETS.
3. THE FINISHED LEVEL OF THE CONCRETE SURROUND MUST BE APPROXIMATELY 3mm ABOVE THE TOP OF THE CHANNEL EDGE.
4. ALL MATERIALS AND COMPONENTS WITHIN THE SCOPE OF THIS SYSTEM SHALL BE OBTAINED FROM "ACO" AND THE WORK CARRIED OUT AS DETAILED ON THE DRAWING.
5. INSTALL DRAIN IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS.

DO NOT SCALE
FOR INFORMATION

Rev.	Description	Date	Drawn	CHKD
C	LEVELS REVISED	29.08.19	CPS	RG5
B	REVISED DRAINAGE AND ELEVATIONS	22.08.19	NGS	RG5
A	ISSUED FOR INFORMATION	26.07.19	NGS	RG5

North

Clean

Architect

BROWN FALCONER

SAGERO
CIVIL STRUCTURAL

LEVEL 1, 885 WAKEFIELD STREET
Acheron, SA 5000
PO Box 1644
PH +61 08 8100 0000
FAX +61 08 8232 8743
A.C.N. 162 095 847

Project

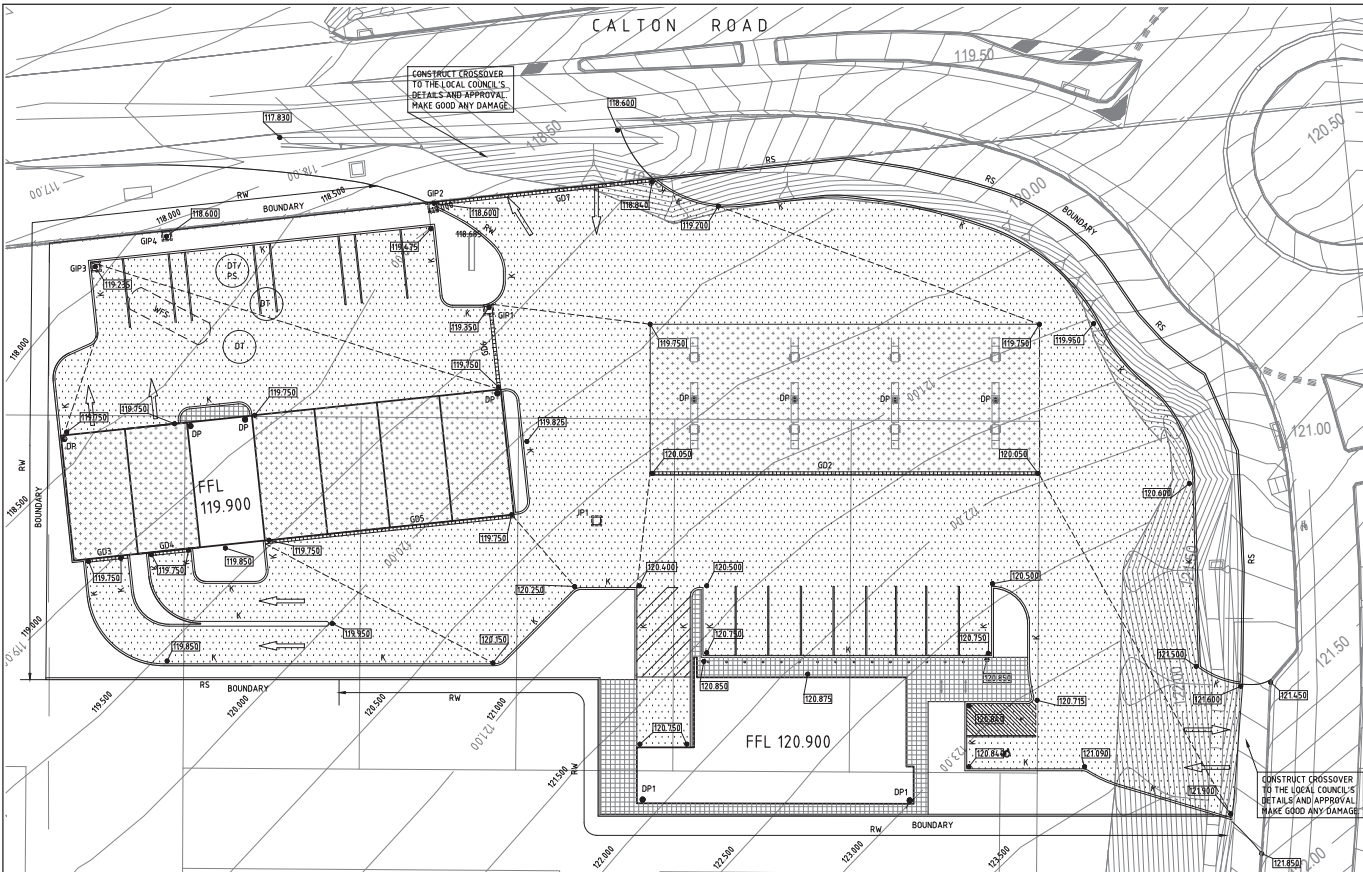
PETROL STATION,
GAWLER
EAST-SPRINGWOOD

Drawing Title

**STORMWATER PLAN
NOTES, LEGEND AND
SCHEDULE**

Drawn: NGS
Scale: 1:500 AND AS NOTED
Date: 1 AUG 2019
C.A. Check: AT
Date: AS NOTED

Designed: RGS
Project No: SA190020
Sheet No: C01
Total: C



CONCRETE PAVEMENT NOTES

- ALL WORKMANSHIP AND MATERIALS SHALL BE GENERALLY IN ACCORDANCE WITH THE SPECIFICATION
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY SHOWN IN TRUE PROJECTION.
- ALL FABRIC LAPS SHALL BE FULL STRENGTH TO AS3600.
- WELDING OF REINFORCEMENT IS NOT PERMITTED WITHOUT THE APPROVAL OF THE PROJECT MANAGER.
- ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED IN ITS CORRECT POSITION DURING CONCRETING BY APPROVED BAR-CHAIR, SPACERS OR SUPPORT BARS.
- REINFORCEMENT FABRIC SHALL BE IN ACCORDANCE WITH AS1304.
- CONCRETE STRENGTH SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE AND SHALL BE SUPPLIED IN ACCORDANCE WITH AS1319 (READY MIXED CONCRETE)
 - CONCRETE VEHICULAR PAVEMENTS 32 MPa (28 DAY COMPRESSIVE STRENGTH)
 - ELSEWHERE 25 MPa (28 DAY COMPRESSIVE STRENGTH)
- DETAILS OF CONCRETE MIX, AGGREGATE SIZE AND COLOUR, METHOD OF CURING AND FINISH ARE TO BE SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL BEFORE
- PROVIDE ISOLATION JOINTS TO THE PERIMETER OF ALL PIT LIDS AND VALVE COVERS COMMENCING CONCRETE WORKS.

LEGEND

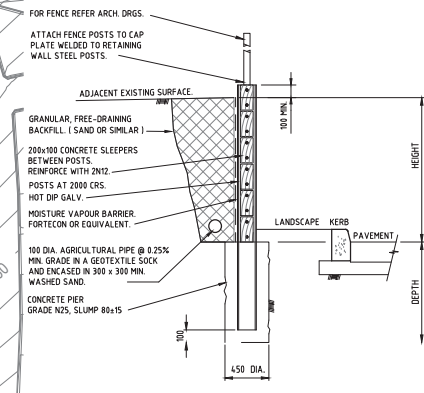
- EXISTING SPOT LEVEL
- DESIGN LEVEL - FINISHED SURFACE
- DESIGN LEVEL - TOP OF 'RS' OR 'RW'
- DESIGN LEVEL - TOP OF TURRET
- CONCRETE KERB 100 HEIGHT
- CONCRETE RETAINING STRIP
- BOLLARD REFER ARCH. DRAWINGS
- LINE MARKING

NOTES

- SET-OUT AND GRADING**
- REFER TO ARCHITECTS DRAWINGS FOR SETOUT.
 - GRADE EVENLY BETWEEN DESIGN SPOT LEVELS.

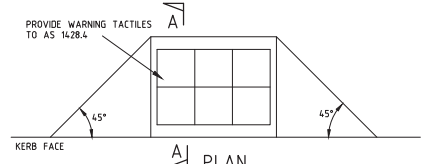
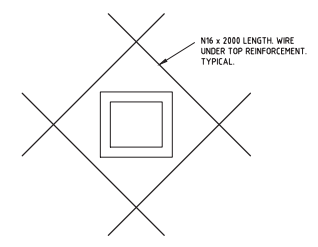
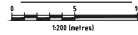
PAVEMENT LEGEND

- CONCRETE PAVING AND DRIVEWAYS**
- 100mm THICK SLAB WITH SL927 (4/8 TOP COVER) GRADE N32 CONCRETE
 - 100mm PM2/200G COMPACTED TO 95% MDDO COMPACTED SUB-GRADE JOINTS AS SHOWN
- CONCRETE PAVING UNDER COVER**
- 100mm THICK SLAB WITH SL927 (4/8 TOP COVER) GRADE N32 CONCRETE
 - 100mm PM2/200G COMPACTED TO 95% MDDO COMPACTED SUB-GRADE JOINTS AS SHOWN
 - BLACK OXIDE FINISH - REFER SPECIFICATION
- CONCRETE PAVING ABOVE TANKS**
- 200mm THICK SLAB WITH SL927 (4/8 TOP COVER) GRADE N32 CONCRETE
 - 100mm PM2/200G COMPACTED TO 95% MDDO COMPACTED SUB-GRADE JOINTS AS SHOWN
 - SEE BP STANDARD DESIGN
- CONCRETE PEDESTRIAN PAVING**
- 100mm THICK SLAB WITH SL927 (4/8 TOP COVER) GRADE N20 CONCRETE
 - 50mm THICK SAND BASE
 - COMPACTED SUB-GRADE
 - TOOLED JOINTS AT 1200mm MAX. CENTRES
 - EXPANSION JOINTS AT 4800mm MAX. CENTRES

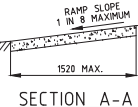


RETAINING WALL DETAIL - RW

GRADING PLAN



PLAN

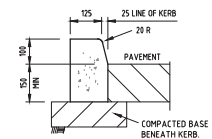


SECTION A-A

NOTES

- SURFACE TEXTURE OF RAMP TO BE NON-SLIP TYPE.
- ORIENTATION OF RAMP IS TO GENERALLY BE PERPENDICULAR TO KERB ALIGNMENT.

RAMP DETAIL

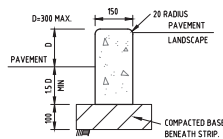


100 mm KERB (K)

SCALE 1:10
FORM JOINTS AT MAX. 2.4m CTS. SEE AS 2876

SHRINKAGE CONTROL JOINTS (EVERY 2.4M)
50% OF THE AREA OF THE SECTION SHALL BE CUT. THE RESULTANT SLOT IN THE SECTION SHALL BE TOOLED TO A DEPTH OF NOT LESS THAN 20MM, TO PRODUCE A NEAT GROOVE OF NOT LESS THAN 20MM IN WIDTH.

EXPANSION JOINTS (EVERY 24.0M)
SHALL BE 150MM WIDE AND FILLED WITH AN APPROVED PRESHPARED FILLER, WHICH SHALL EXTEND FOR THE FULL WIDTH AND DEPTH OF THE EDGING.



RETAINING STRIP

SCALE 1:10
FORM JOINTS AT MAX. 2.4m CTS. SEE AS 2876

SHRINKAGE CONTROL JOINTS (EVERY 2.4M)
50% OF THE AREA OF THE SECTION SHALL BE CUT. THE RESULTANT SLOT IN THE SECTION SHALL BE TOOLED TO A DEPTH OF NOT LESS THAN 20MM, TO PRODUCE A NEAT GROOVE OF NOT LESS THAN 20MM IN WIDTH.

EXPANSION JOINTS (EVERY 24.0M)
SHALL BE 150MM WIDE AND FILLED WITH AN APPROVED PRESHPARED FILLER, WHICH SHALL EXTEND FOR THE FULL WIDTH AND DEPTH OF THE EDGING.

Rev	Date	Drawn	CHKD
C	29.08.19	NGS	RGS
B	22.08.19	NGS	RGS
A	26.07.19	NGS	RGS

North

Client

Architect

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Project

PETROL STATION, GAWLER EAST-SPRINGWOOD

Drawing Title

GRADING PLAN AND DETAILS

Drawn	Scale	AT	C.A. Check	Date
NGS	1:200 AND AS NOTED			

Designated	Project No.	Sheet No.	Total
RGS	SA190020	C02	C

DO NOT SCALE
FOR INFORMATION