



Metro North-West Joint Development Assessment Panel Agenda

Meeting Date and Time: 23 September 2019, 9:30 AM
Meeting Number: MNWJDAP/268
Meeting Venue: Department of Planning, Lands and Heritage
140 William Street, Perth

Attendance

DAP Members

Ms Karen Hyde (Presiding Member)
Ms Sheryl Chaffer (Deputy Presiding Member)
Mr Fred Zuideveld (Specialist Member)
Cr Christine Hamilton-Prime (Local Government Member, City of Joondalup)
Cr Phillippa Taylor (Local Government Member, City of Joondalup)

Officers in attendance

Mr Jeremy Thompson (City of Joondalup)

Minute Secretary

Ms Adele McMahon (DAP Secretariat)

Applicants and Submitters

Mr Josh Watson (Planning Solutions)
Mr Oliver Basson (Planning Solutions)

Members of the Public / Media

Nil

1. Declaration of Opening

The Presiding Member declares the meeting open and acknowledges the traditional owners and pay respects to Elders past and present of the land on which the meeting is being held.

2. Apologies

Nil

3. Members on Leave of Absence

Nil

4. Noting of Minutes

Signed minutes of previous meetings are available on the [DAP website](#).



5. Declarations of Due Consideration

Any member who is not familiar with the substance of any report or other information provided for consideration at the DAP meeting must declare that fact before the meeting considers the matter.

6. Disclosure of Interests

Nil

7. Deputations and Presentations

The City of Joondalup may be provided with the opportunity to respond to questions of the panel, as invited by the Presiding Member.

8. Form 1 – Responsible Authority Reports – DAP Applications

8.1	Property Location:	Lot 153 (128) West Coast Drive and Lot 154 (1) Raleigh Road, Sorrento
	Development Description:	Redevelopment of existing BP service station with associated access, signage, landscaping and parking
	Applicant:	Planning Solutions
	Owner:	BP Australia Pty Ltd
	Responsible Authority:	City of Joondalup
	DAP File No:	DAP/19/01628

9. Form 2 – Responsible Authority Reports – Amending or cancelling DAP development approval

Nil

10. Appeals to the State Administrative Tribunal

Nil

Current Applications		
LG Name	Property Location	Application Description
City of Joondalup	Lot 96 & 97 (9 & 11) Davallia Road, Duncraig	13 Multiple Dwellings
City of Joondalup	Lot 104 & 105 (8 & 10) Brechin Court, Duncraig	3 Levels, 16 Apartments, Multiple Dwellings
City of Stirling	Lot 101 (191) Balcatta Road, Balcatta	Extension to the Existing Bunnings Warehouse
City of Stirling	Lot 90 (38) Geneff Street & Lot 89 (59) Hertha Road, Innaloo	Multiple Dwelling Development

11. General Business / Meeting Closure

In accordance with Section 7.3 of the DAP Standing Orders 2017 only the Presiding Member may publicly comment on the operations or determinations of a DAP and other DAP members should not be approached to make comment.



Form 1 – Responsible Authority Report (Regulation 12)

Property Location:	Lot 153 (128) West Coast Drive and Lot 154 (1) Raleigh Road, Sorrento
Development Description:	Redevelopment of existing BP service station with associated access, signage, landscaping and parking
DAP Name:	Metro North-West JDAP
Applicant:	Mr Josh Watson, Planning Solutions
Owner:	BP Australia Pty Ltd
Value of Development:	\$2.6 Million
LG Reference:	DA19/0544
Responsible Authority:	City of Joondalup
Authorising Officer:	Dale Page, Director Planning and Community Development
DAP File No:	DAP/19/01628
Report Due Date:	12 September 2019
Application Received Date:	20 June 2019
Application Process Days:	90 Days
Attachment(s):	<ol style="list-style-type: none">1. Location plan2. Development plans3. Building perspectives4. Landscape concept plan5. Applicant DA report and response to City's preliminary comments6. Traffic impact assessment7. Acoustic report8. Pollution prevention report

Officer Recommendation:

That the Metro North-West JDAP resolves to:

Refuse DAP Application reference DAP/19/01628 and accompanying plans (Attachment 2) in accordance with Clause 68 of Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015*, and the provisions of the *City of Joondalup Local Planning Scheme No. 3*, and pursuant to clause 24(1) and 26 of the *Metropolitan Region Scheme* for the following reasons:

1. In accordance with Schedule 2, clause 67 (h) of the *Planning and Development (Local Planning Scheme) Regulations 2015*, the proposed development does not meet the requirements of the *Sorrento Activity Centre Plan* as:
 - a. The proposed development does not meet the minimum development standards and therefore does not achieve the intent of providing a consistent built form outcome within the activity centre.
 - b. The retention of the vehicle access point to West Coast Drive, lack of active building frontage to the street and visibility of car parking to the street does not enhance the public realm and pedestrian environment.

- c. The lack of landscaping along the northern boundary does not provide an appropriate buffer between the commercial development and adjoining residential property to the north.

Details: outline of development application

Zoning	MRS:	Urban
	LPS:	Centre
Use Class:		Service station
Strategy Policy:		Not applicable
Development Scheme:		City of Joondalup <i>Local Planning Scheme No. 3</i>
Lot Size:		1,601m ² combined (Lot 153 - 707m ² Lot 154 - 894m ²)
Existing Land Use:		Service station

The proposed development consists of the following:

- Demolition of the existing service station (retail building and canopy).
- A new retail building on the western portion of the site, with a gross lettable area of 253m².
- A fuel bowser canopy with a height of 6.2 metres.
- Vehicle access points retained from West Coast Drive and Raleigh Road.
- Four fuel bowsers with eight refuelling spaces (two per bowser).
- Four on-site car parking bays for customers and staff, and one air/water bay.
- Three bicycle spaces on the western side of the retail building, fronting West Coast Drive.
- Landscaping on-site and within the adjacent verge.
- Retaining and site works to accommodate the proposed development.
- Operating hours of 24 hours a day, seven days a week.
- One pylon sign and various wall signs.

The development plans, building perspectives and landscaping concept plans are provided at Attachments 2, 3 and 4 respectively.

Background:

The subject site (Lots 153 and 154) is currently a BP service station and has been operating as a service station since its initial approval in 1966. It is bound by a vacant residential lot to the east, two storey commercial development to the north west, West Coast Drive to the south west and Raleigh Road to the south (Attachment 1 refers).

The subject site is zoned 'Centre' under the City's *Local Planning Scheme No. 3* (LPS3) and is subject to the *Sorrento Activity Centre Plan* (SACP), approved by the Western Australian Planning Commission on 18 September 2018. Under the SACP the 'Commercial' zone is applied to the site. The land use 'service station' is a discretionary ("D") use within the 'Commercial' zone.

Legislation and Policy:

Legislation

- *Planning and Development Act 2005.*
- *Metropolitan Region Scheme.*
- *Planning and Development (Local Planning Schemes) Regulations 2015 (Regulations).*
- *City of Joondalup Local Planning Scheme No.3.*

State Government Policies

- *State Planning Policy 7.0 Design of the Built Environment.*

Activity Centre Plan

- *Sorrento Activity Centre Plan*

Local Policies

- *Signs Local Planning Policy*
- *Environmentally Sustainable Design Policy*

Consultation:

Public Consultation

The application was advertised for a period of 14 days, commencing on 21 August 2019 and concluding on 4 September 2019. Consultation was undertaken in the following manner:

- a letter was sent to owners and occupiers of 20 properties in the vicinity of the subject site;
- a sign was installed on the site on the corner of West Coast Drive and Raleigh Road; and
- development plans were made available for public viewing on the City's website and at the City's Administration building.

A total of seven submissions were received, being three objections, three non-objections and one submission supporting the development. The issues raised in the submissions are summarised in the table below:

No.	Issue raised	Applicant's comments	Officer's comments
1	The lighting/illumination could impact surrounding residents.	The lighting / illumination of the fuel canopy and forecourt is designed in such a way that no external light spill is emitted from the site. Lighting is focussed internally, ensuring the forecourt and refuelling area are well lit, without adversely	Should development be approved a condition would be recommended requiring a lighting plan to ensure reduced light spill and all illuminated signage uses low illumination that does

No.	Issue raised	Applicant's comments	Officer's comments
		impacting upon nearby properties.	not flash, pulsate or chase.
2	There is currently no on-site large pylon sign and therefore any large sign should be located wholly on the West Coast Drive frontage.	The proposed pylon sign is appropriately located at the corner of the West Coast Drive / Raleigh Road and oriented towards West Coast Drive. The 6m high sign is not considered to be overly large and is consistent with the City's signage policy.	The location of the pylon sign has been assessed against the City's <i>Signs Local Planning Policy</i> and is considered to be in an appropriate location to provide visibility to traffic users using West Coast Drive without having significant impact on the amenity of surrounding residential properties.
3	The development has the potential to impact West Coast Drive and Raleigh Road when fuel prices are low. If cars bank out to West Coast Drive, there is no ability to overtake and this will cause an impact on the surrounding traffic.	<p>BP differs from most standard fuel providers, as it does not provide discounts or specific cheap fuel days. BP's loyalty system is not associated with a supermarket or insurance company to allow for discounts in fuel.</p> <p>No car queuing is expected to impact upon the local road network. The redevelopment is a like for like replacement to the existing service station that does not experience queuing/impact to the surrounding street network. This is further conveyed through the Traffic Impact Assessment prepared by Porter Consulting Engineers. The redevelopment and upgrade of the site actually enhances vehicle movements and the flow of vehicles through the site.</p>	The applicant's justification through the traffic report is considered sufficient to ensure the impact from vehicles would be minimal.
4	The venting pipes are located abutting residential zoned land and should not be supported in this location.	The vent pipes are appropriately located adjacent to the eastern lot boundary, in compliance with the requirements of the Dangerous Goods Licence. Modern technologies prevent unnecessary odour	The applicant has identified the matter will comply with the relevant requirements regarding the location of the vent pipes. Notwithstanding, the vent pipes are located

No.	Issue raised	Applicant's comments	Officer's comments
		or fumes from being emitted out of the vents. The location of the vent pipes will have no adverse impacts on the amenity of the site or the locality.	in an area which is designated for landscaping under the SACP as discussed in the planning assessment section of the report.
5	The SACP went through rigorous community consultation and did not consider the retention of the service station. Instead it is intended to be a user-friendly environment for cafes, restaurants and apartments. The requirements of the SACP should be upheld.	The requirements of the SACP were considered as part of the design and redevelopment of the existing service station facility.	It is considered that the proposed development does not satisfy the requirements of the SACP as discussed further in the planning assessment section of the report.
6	While the access locations are remaining the same, the configuration of the fuel bowzers and canopy would mean more vehicles would use Raleigh Road, including fuel tankers and boat trailers.	<p>The location of the fuel bowzers has been reconfigured to allow ease of access to the site for refuelling and ensure safe and efficient vehicle manoeuvring through the site.</p> <p>The proposed development will provide a better access arrangement to the subject site by allowing vehicles to better utilise Raleigh street for access. This will reduce the impact of vehicles entering/exiting from the West Coast Drive crossover.</p>	The traffic volumes can be accommodated in the surrounding traffic network. Further comment is included in the planning assessment section of the report.
7	Headlight from vehicles leaving the site will impact surrounding residential properties.	The light emitted from vehicle headlights is not expected to impact upon surrounding residential properties. The existing crossover locations are maintained as part of this upgrade of the site.	<p>The existing access points are being retained as part of this development, albeit slightly modified.</p> <p>The car park/canopy area is relatively flat and does not slope to angle headlights to</p>

No.	Issue raised	Applicant's comments	Officer's comments
			enter in to adjoining properties.
8	The pedestrian movements on the road network are not safe and people will not walk to the restaurants/cafes for this reason.	New kerb ramps and upgrades are provided at the existing crossovers to improve the pedestrian movements. No changes are proposed to the location, alignment and vehicle crossovers.	It is considered that the development, including retaining the vehicle access point to West Coast Drive will impact on the pedestrian environment and is not consistent with the intent of the SACP.
9	The proposal will reduce the value of neighbouring properties.	This is not a valid planning consideration.	This is not a relevant planning consideration.

Consultation with other Agencies or Consultants

A memorial on the Certificate of Title identifies the lots as '*possible contaminated – investigation required*'. As the site is not identified on the Department of Water and Environmental Regulation (DWER) database, the application was referred to DWER for comment.

DWER advised that through groundwater investigations there were hydrocarbons present in the soil beneath the site. However, as the development is not proposing a more sensitive land use, the site is suitable for proposed redevelopment. An advice note requiring a site management plan to address the potential exposure of impacted soil or groundwater during earthworks was requested should the application be supported.

The applicant has advised that, as standard practice, BP's environmental consultant will oversee the removal of the fuel system and other potential sources of contamination during the decommissioning. Potential contaminated soil will be excavated to the extent practicable to remove the source of hydrocarbons from the groundwater and dispose it in accordance with relevant guidelines.

A pollution prevention statement (Attachment 8 refers) was also included in the application that outlines stormwater treatment and hydrocarbon capture methods to address issues associated with the operation upon redevelopment.

Joondalup Design Reference Panel (JDRP)

The proposal was presented to the JDRP at its meeting held on 17 July 2019. A summary of the JDRP comments, as well as the applicant and the City's response to these items are included below:

No.	JDRP comment	Summary of Applicant's comments	Officer's comments
1	More trees and increased canopy should be provided on site with landscaping	Three medium sized trees along with medium-sized shrubs, ground covers and grasses are proposed	The applicant has provided additional landscaping to both the

No.	JDRP comment	Summary of Applicant's comments	Officer's comments
	<p>being incorporated abutting the adjoining residential lot.</p> <p>Landscaping on the verge corner element (Raleigh and West Coast Drive) could be a feature of the site.</p>	<p>abutting the car park area to the north of the lot.</p> <p>The selected trees are narrow growing and from the City of Joondalup approved plant material list, which are approved for carparks. Both varieties are low bark/litter varieties, required for a service station.</p> <p>All shrubs, grasses and ground covers specified on the plan are native, low maintenance and water wise varieties. The planting density is typical of similar sites.</p>	<p>northern boundary and verge corner element.</p> <p>No additional landscaping was provided abutting the adjoining residential lot which is discussed in the planning assessment section below.</p>
2	The rear (north) elevation of the building could be addressed through alternate treatment.	The timber cladding and paint finish has been extended to the rear of the building, adding visual interest and reducing blank wall space.	The additional timber cladding and paint finishes provide additional interest and is considered an appropriate treatment. The feedback from the JDRP has been addressed.
3	Signage should comply with the City's policy and be located within the site.	The height of the proposed pylon sign has been clarified to be six metres in accordance with the requirements of the City's policy.	<p>The sign is located within the property boundaries.</p> <p>The proposed signage complies with the City's <i>Signs</i> Local Planning Policy, with the exception of the pylon sign being 0.05m wider.</p> <p>This is discussed further in the planning assessment section of the report.</p>
4	All contamination issues need to be resolved.	<p>This is not considered to be a relevant matter for the JDRP.</p> <p>Contamination will be addressed in accordance with the requirements of the <i>Contaminated Sites Act 2003</i>.</p>	The matter was referred to DWER for comment as discussed above.

Planning Assessment:

Local Planning Scheme

The City has completed an assessment of the proposal against the relevant provisions of the Regulations, LPS3, SACP and City policies. The proposal does not comply with the requirements listed below:

Item	Requirement	Proposal	Compliance
Sorrento Activity Centre Plan			
4.4.3 – Commercial Net Lettable Area (NLA)	Commercial NLA not to exceed: Lot 153 – 188m ² Lot 154 – 238m ²	Lot 153 – 230m ² Lot 154 - no NLA	Does not comply. The proposal exceeds the commercial NLA for Lot 153 but is less than the permitted NLA for the combined sites and is therefore considered appropriate.
5.2 and Plan 2 – Building Height	A minimum building height of three storeys and maximum height of four storeys.	The development is single storey. The maximum height is the fuel bowser canopy with a height of 6.2	Does not comply. Refer to officer comments below.
5.3.1 - Street Setback	Minimum – nil Maximum – two metres	Retail building - 0.5 metres Fuel bowser canopy - 1.5 metres to 17 metres to West Coast Drive. 1.5 metres to 2.787 metres to Raleigh Road.	Does not comply. The fuel bowser canopy exceeds the maximum setback, with only 0.7m ² set back less than two metres. Refer to officer comments below.
5.4.5 – Lot Boundary Setbacks and Plan 2	The side boundary setback to the eastern boundary (between Lot 154 and the adjoining residential site) shall be nine metres, comprising a six metre access easement and a	The fuel canopy is setback 10 metres from the adjoining residential site. No landscaping strip has been provided between the properties.	Does not comply. Refer to officer comments below.

Item	Requirement	Proposal	Compliance
	three metre landscaping strip.		
5.5.1 – Building Design	A continuous awning shall be provided along the street frontage	Awning provided to a portion of the retail building (11% of total site frontage).	Does not comply. Refer to officer comments below.
5.5.2 – Corner Buildings	Corner buildings are to be designed to address both street frontages with equal importance.	Development does not front both streets with equal importance with the retail building set back approximately 25 metres from Raleigh Road.	Does not comply. Refer to officer comments below.
5.6.1 – Street Interface	80% of the primary street and 50% of the secondary street shall have an Active Frontage. <i>Active Frontage is defined as 'a ground floor space where there is visual engagement between those in the street and those on the ground floors of buildings.'</i>	Only 18% of street is 'Active Frontage' as defined under the SACP (being the retail building).	Does not comply. Refer to officer comments below.
5.8.2 – General Parking Location	Car parking should generally be contained within the building envelope or sleeved behind the development and shall be screened from view from the public realm.	Car parking is not sleeved behind the development or screened from the public realm.	Does not comply. Refer to officer comments below.
5.8.6 – Vehicular Access	Vehicular access shall be limited to the three access points as shown on Plan 2 (Raleigh Road, The Plaza and West Coast Drive into Lot 2).	Access provided from Raleigh is in accordance with Plan 2. Access from West Coast Drive is not shown on Plan 2.	Does not comply. Refer to officer comments below.
Plan 2 – Active Edge	Plan 2 identifies an 'Active Edge' to be provided along the	Only the retail building provides an active edge to West Coast Drive,	Does not comply. Refer to officer comments below.

Item	Requirement	Proposal	Compliance
	frontage of the subject site.	being 18% of the total street frontages.	
Plan 2 – Direction of Primary Building Orientation	The primary building orientation is to both Raleigh Road and West Coast Drive.	Development on Lot 154 is supplementary to the retail development and does not orientate towards Raleigh Road.	Does not comply. Refer to officer comments below.
Signs Local Planning Policy			
Pylon Sign - Width.	2 metre width	2.05 metre width	Does not comply. The proposal is marginally over the required width but is compliant with height and location requirements. It is considered the sign meets the design principles and objectives of the Signs Local Planning Policy, with the sign unlikely to impact the amenity of the surrounding residents or the view from the street.

Officer Comments

Built form outcomes

The proposed development does not meet several requirements of Part One of the SACP relating to building height, street setbacks and the street interface. It is acknowledged that a service station has a specialised built form that means achieving strict compliance with the design elements is not possible. However, having regard to the intent of the SACP, it is considered that the redevelopment is not appropriate as:

- The proposed building form, including not achieving minimum building heights or street setbacks for the majority of the development, will maintain the disparate nature of buildings in the activity centre to which the SACP seeks to address.

- The retail building facing West Coast Drive provides the only active frontage and pedestrian shelter for the development, being 18% of the overall frontage. This is not considered sufficient to provide a strong street presence and a high level of activation to the public realm.
- By maintaining the vehicle access point to West Coast Drive, the visibility of car parking and limited street interface maintains an interface that is car dominated.

The proposal does not include any adaption detail or justification on how the development could evolve in future stages to better address the intent of the SACP. Given the regulations surrounding a service station land use, it is not clear that the site could be adapted in the future to better align with the intent of the SACP.

Landscaping

The proposal includes two areas of landscaping, being the verge on the corner of West Coast Drive and Raleigh Road, and the rear area abutting the proposed car parking. The development does not provide the three-metre landscaping strip adjacent to the adjoining residential lot, with the majority of this area comprising vehicle access, car parking and ventilation pipes. The applicant has explained that placing any landscaping strip along this boundary would significantly impact the accessibility of vehicles from Raleigh Road, and the development does not have any built form impacts on the adjoining residential lot.

Providing the landscaping strip along the residential boundary would equate to 137.76m² of landscaping on-site. The development currently includes 57.7m² of landscaping at the rear of the site, with 83.9m² across the whole site. Whilst the proposed building design is not to the scale intended by the SACP, landscaping along this boundary is considered important to improve the interface between the commercial development and residential properties.

It is considered that the proposed design and lack of landscaping treatment along the northern boundary is not appropriate and, given the lack of overall landscaping provided across the site, is inconsistent with the intent of the SACP.

Traffic, vehicular access and car parking

Traffic volumes

The applicant has provided a Traffic Impact Assessment (TIA), including updated swept paths, to support the proposal (Attachment 6 refers). The TIA has been reviewed by the City and it is considered that the assumptions and content included in this document are acceptable. The development is anticipated to generate 1,302 vehicle trips per day (vtpd) with a large portion (729 vtpd) based on passing trade. This results in an estimate of 573 vtpd generated from the development.

Vehicle access and public access easement

The two vehicle access points are proposed to remain from West Coast Drive and Raleigh Road. The SACP identifies the consolidation of existing access points to the activity centre. This would require the Raleigh Road access point to be retained and the West Coast Drive access point to be removed. It is noted that the SACP retains an access point from West Coast Drive, being the existing access point immediately to

the north of the site. Given the close proximity of the crossovers and the intent of the SACP to provide a high level of amenity to the public realm, the redevelopment of the site which includes the retention of the existing access point from West Coast Drive is not considered appropriate.

There is currently informal access across the rear of the site and the adjoining commercial sites to the north, connecting Raleigh Road with Padbury Circle. This access is required to be maintained under the SACP. The proposed development includes a six-metre wide access from Raleigh Road to the rear of the adjoining site to the north that could be subject to a future public access easement, meeting the requirements of the SACP.

Car parking

The car parking configuration of the development provides eight car parking bays within the refuelling area and five bays for staff and users of the convenience store. While meeting the requirements of Australian Standards, the car parking is not sleeved by the building or otherwise screened from the public realm. It is considered that this does not meet the intent of the SACP as the visibility of car parking and limited building frontage to the street maintains an interface that is car dominated.

Land use

The land use 'service station' is a discretionary ("D") use in accordance with the Table 3 of LPS3.

The applicant has explained that the proposed use is appropriate given that the site is currently operating as a service station and that the departure from the design elements of the SACP are warranted as it is not practical for a service station development to meet the requirements. Whilst it is acknowledged that the development does not change the land use for the site it is considered that the built form outcomes of the redevelopment are not aligned with the intent of the SACP.

Options/Alternatives:

Not applicable.

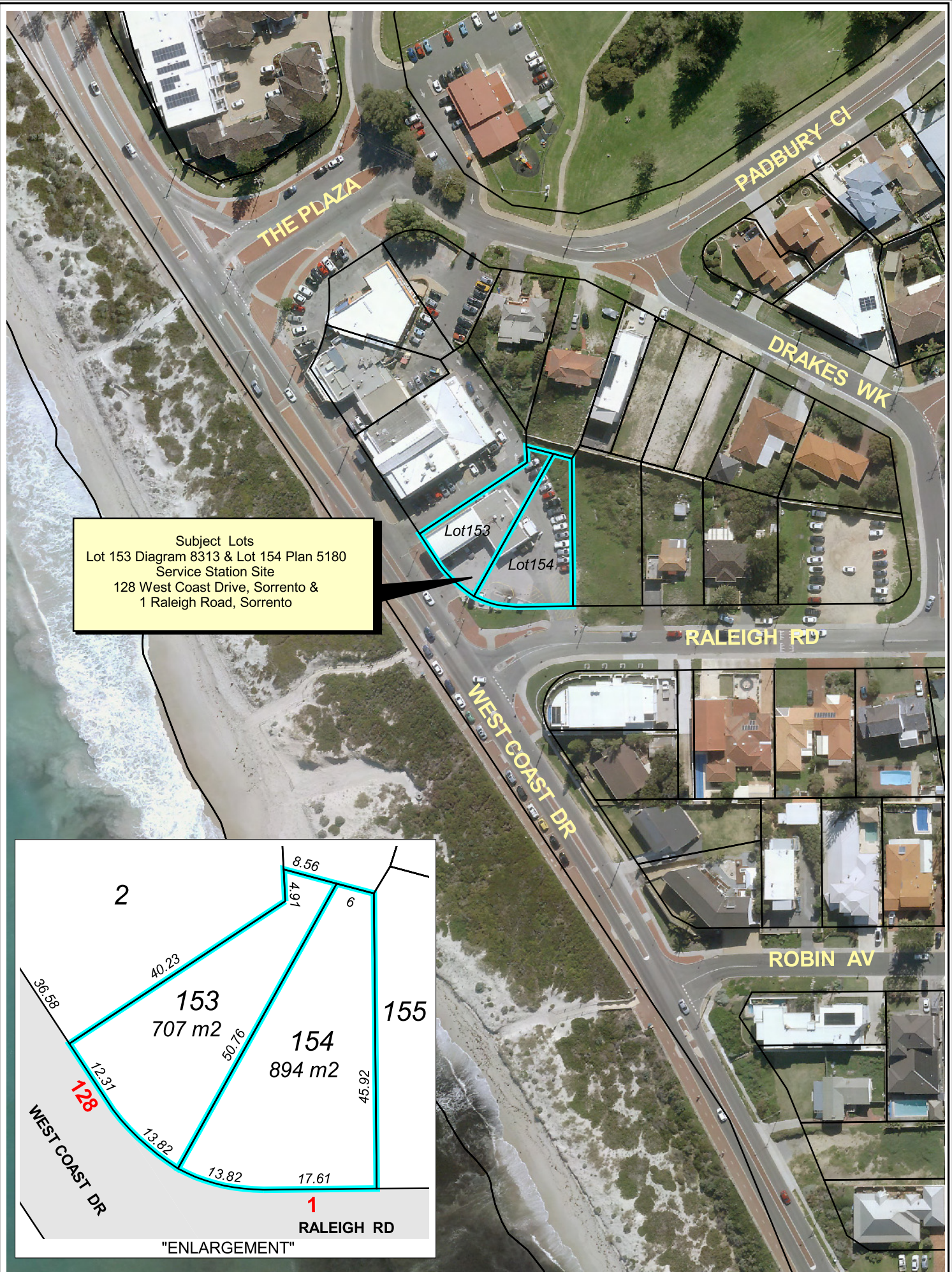
Council Recommendation:

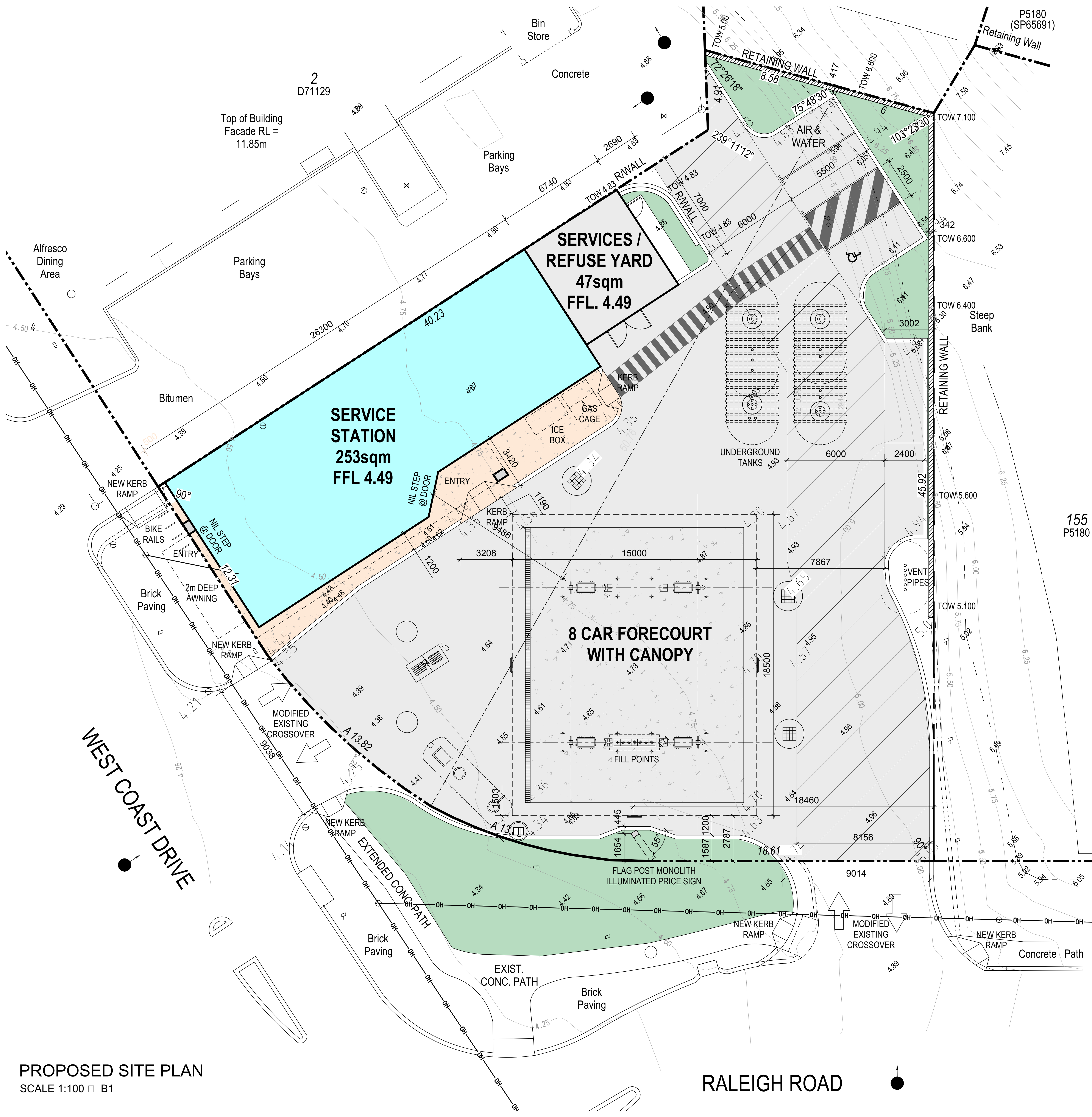
Not applicable.

Conclusion:

As detailed above, whilst it is acknowledged that a service station has unique built form requirements, the proposed development is not considered to meet the intent and objectives of the SACP.

It is therefore recommended that the application is refused.



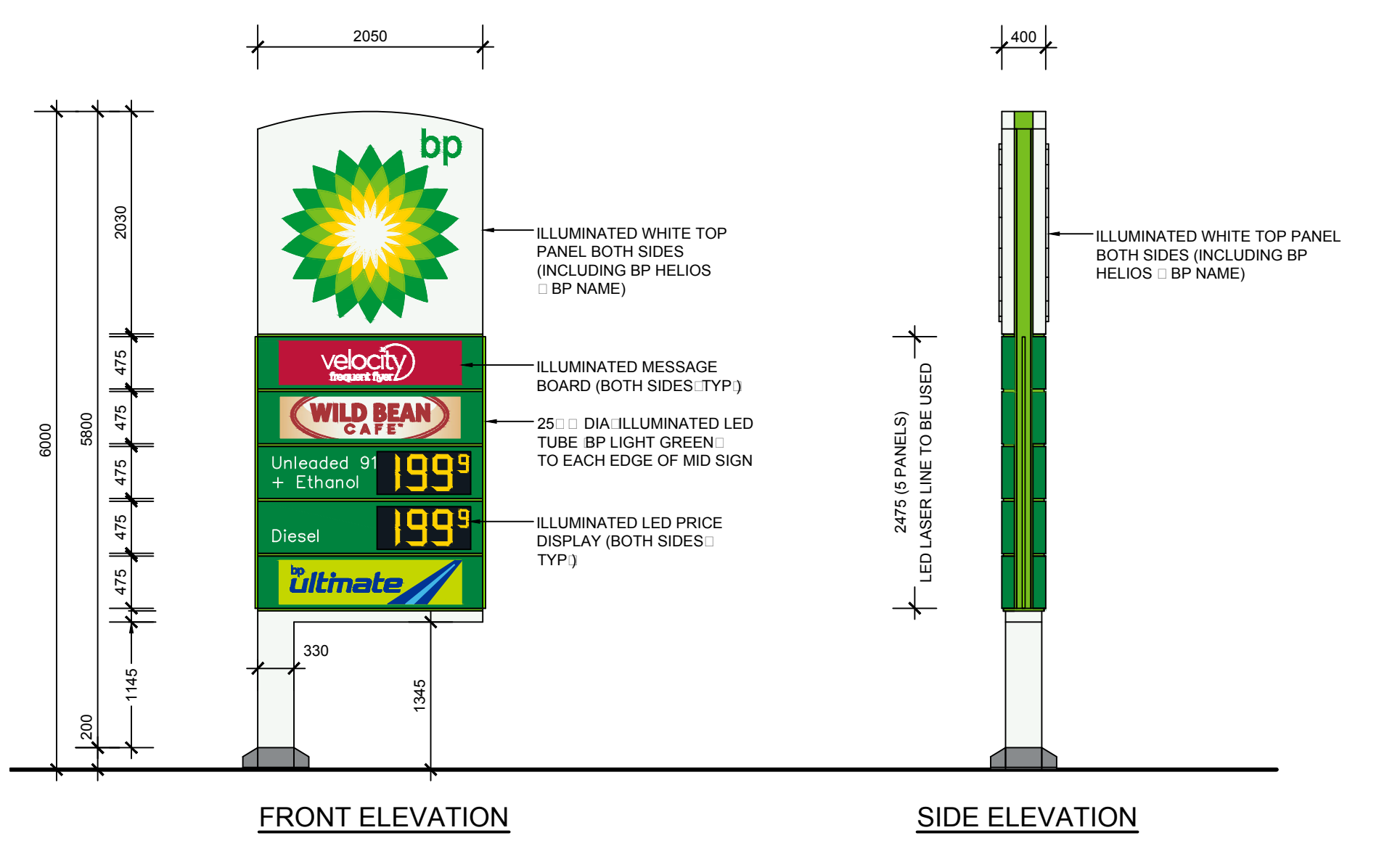


PROPOSED SITE PLAN
SCALE 1:100 □ B1

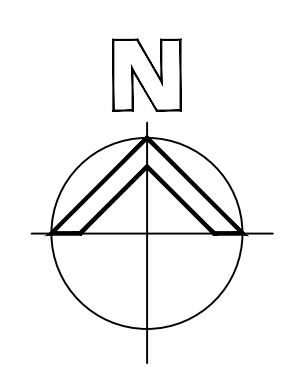
RALEIGH ROAD

LEGEND:

- EXTENT OF LANDSCAPING - REFER TO LANDSCAPING DRAWINGS FOR DETAILS
- EXTENT OF CONCRETE PAVING TO CANOPY FORECOURT
- EXTENT OF CONCRETE PAVING
- EXTENT OF BUILDING
- EXTENT OF HARDSTAND
- EXISTING RL
- PROPOSED FFL □ RL
- TOW TOP OF WALL HEIGHT



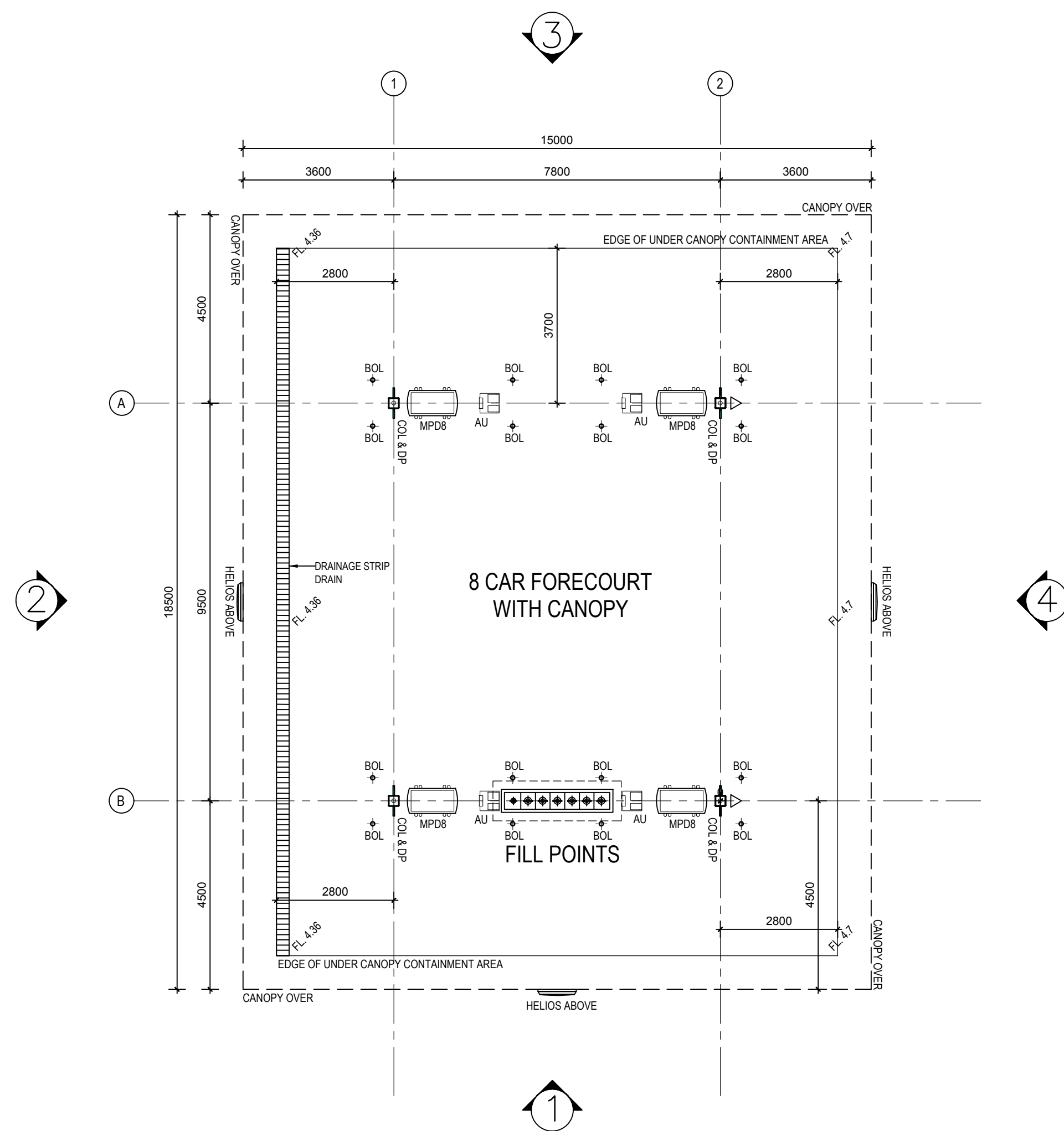
PROPOSED 6m HIGH FLAG POLE
MONOLITH ILLUMINATED PRICE SIGN
SCALE 1:50 □ B1



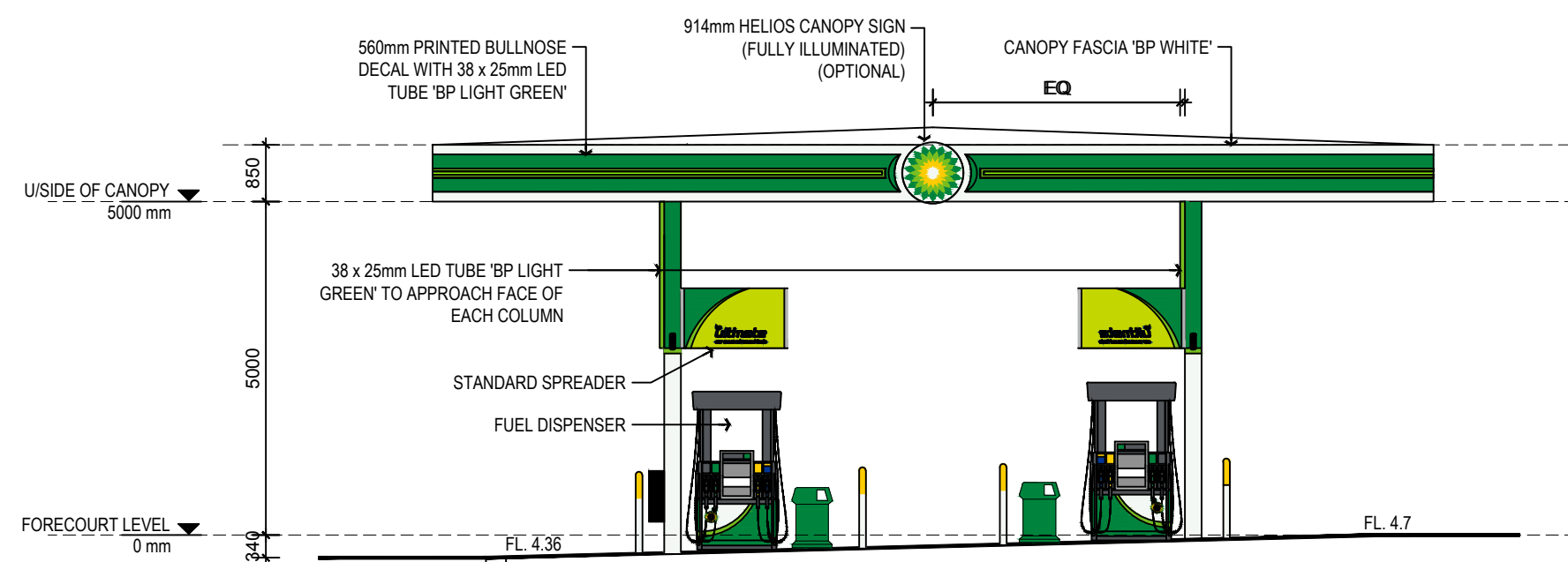
C	RE-ISSUED FOR DA	AC	AK	06.08.2019
B	ISSUED FOR DA	AC	AK	29.05.2019
A	ISSUED FOR CLIENT REVIEW	AC	AK	08.05.2019
revision/issue	description	drawn	checked	date
project	BP SORRENTO	drawn	description	
location	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	AC	PROPOSED SITE PLAN	
		checked	AK	
		scale	date	07.05.2019
		1:100	project no	18.19
		□ B1	dwg no	S01
			REV	C

HodgeCollardPreston

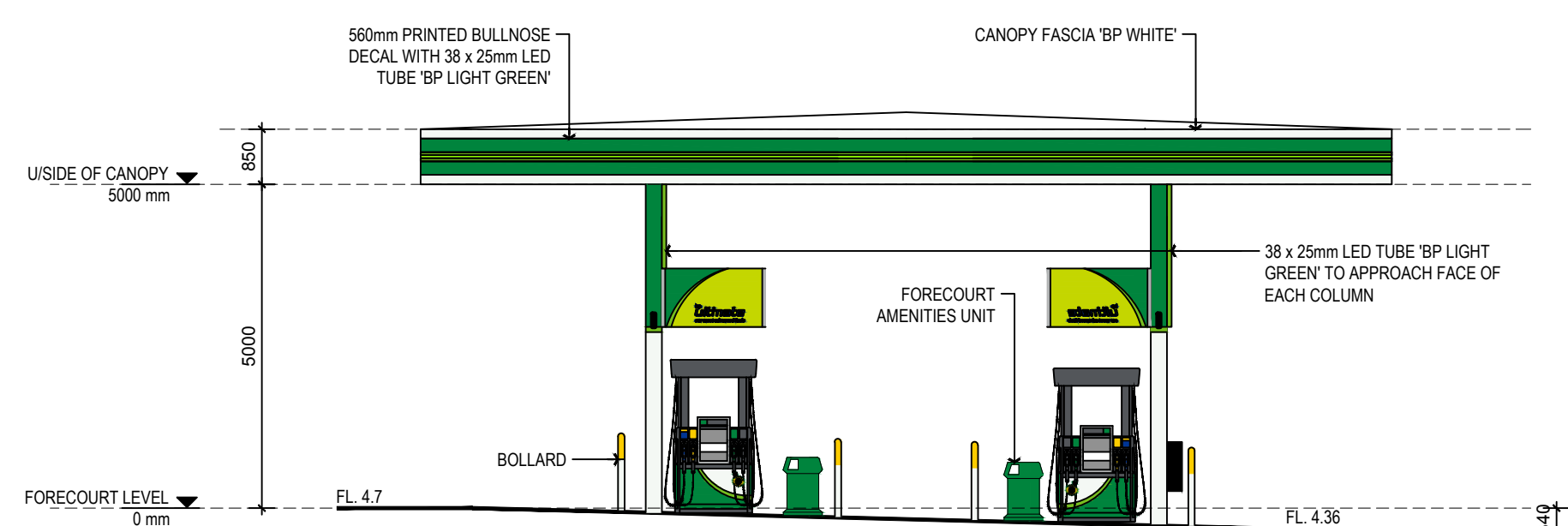
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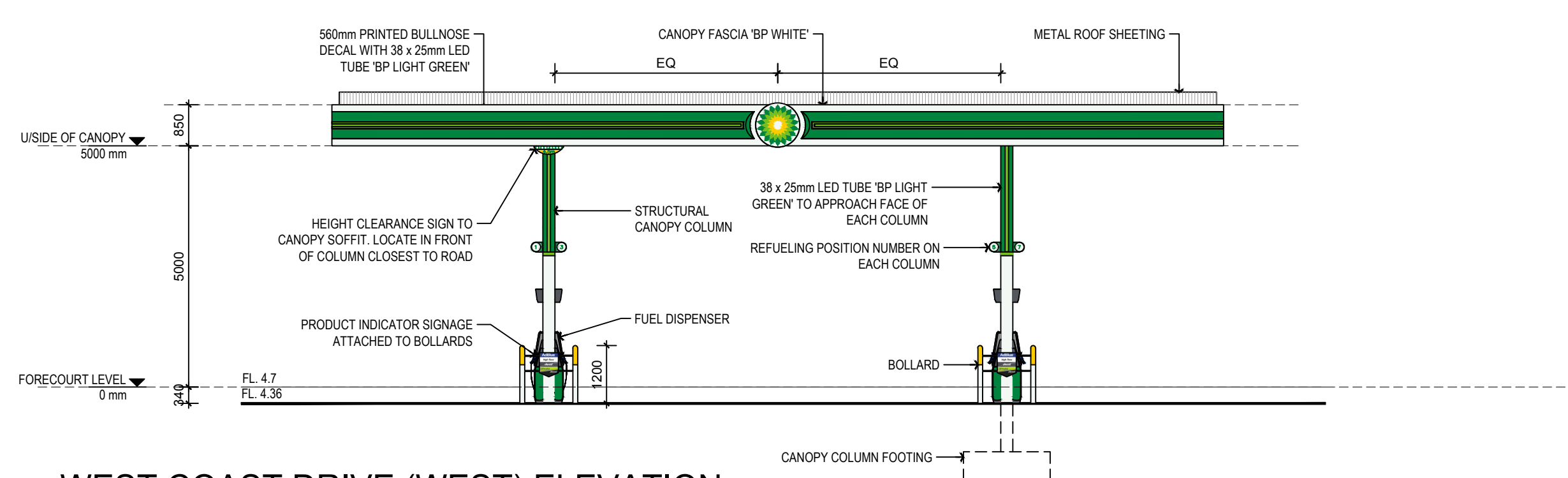
B CAR CANOPY - FLOOR PLAN
1:100



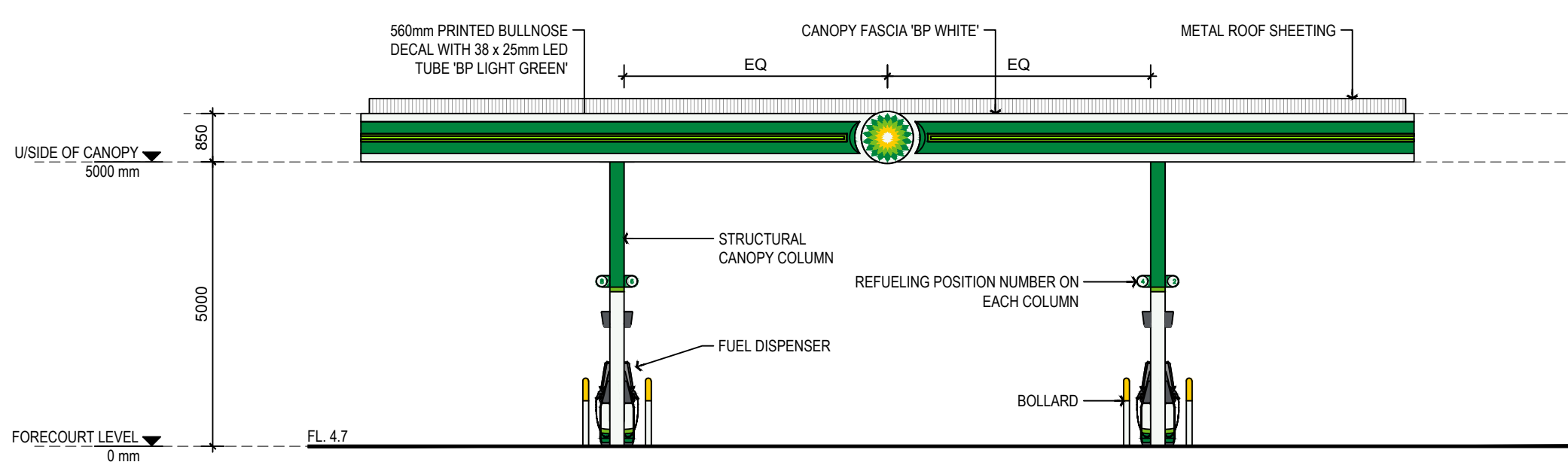
1 RALEIGH ROAD (SOUTH) ELEVATION
1:100



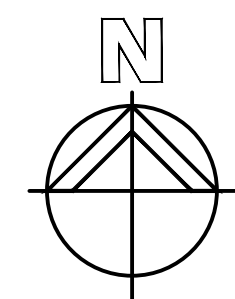
3 NORTH ELEVATION
1:100



2 WEST COAST DRIVE (WEST) ELEVATION
1:100



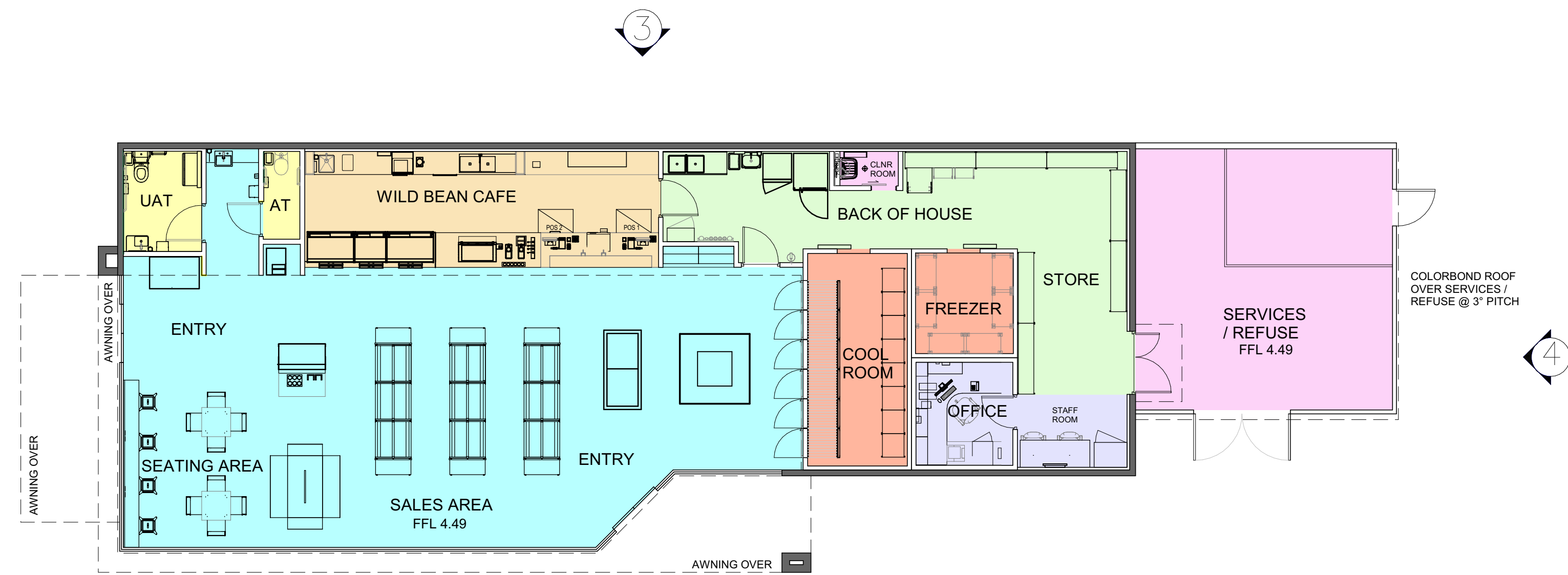
4 EAST ELEVATION
1:100



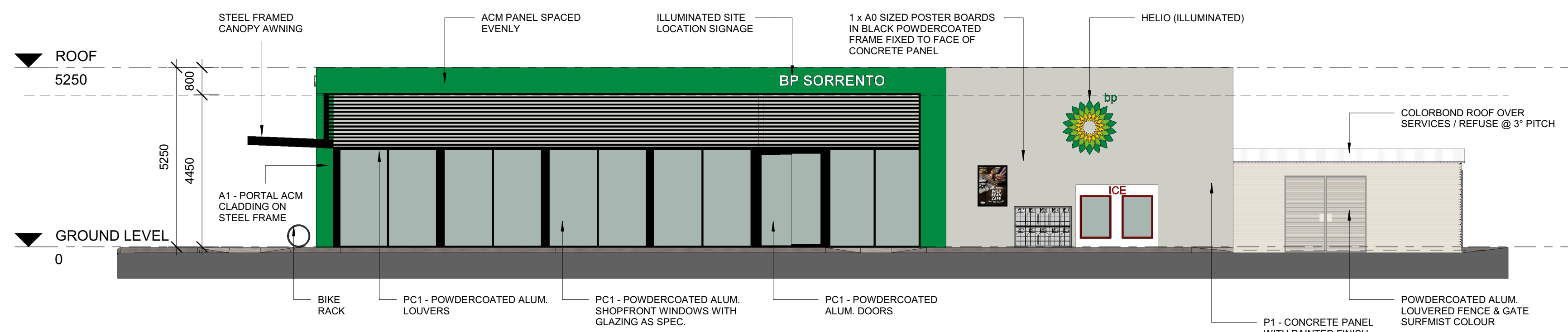
B	ISSUED FOR DA	AC	AK	29.05.2019
A	ISSUED FOR CLIENT REVIEW	AC	AK	08.05.2019
revision/issue	description	drawn	checked	date
project	BP SORRENTO	drawn	description	
location	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	checked	AC	CAR CANOPY FLOOR PLAN & ELEVATIONS
		AK		
scale	1:100	date	07.05.2019	
project no	18.19	project no	S04	
dwg no	B1	dwg no	REV	B

HodgeCollardPrestonARCHITECTS

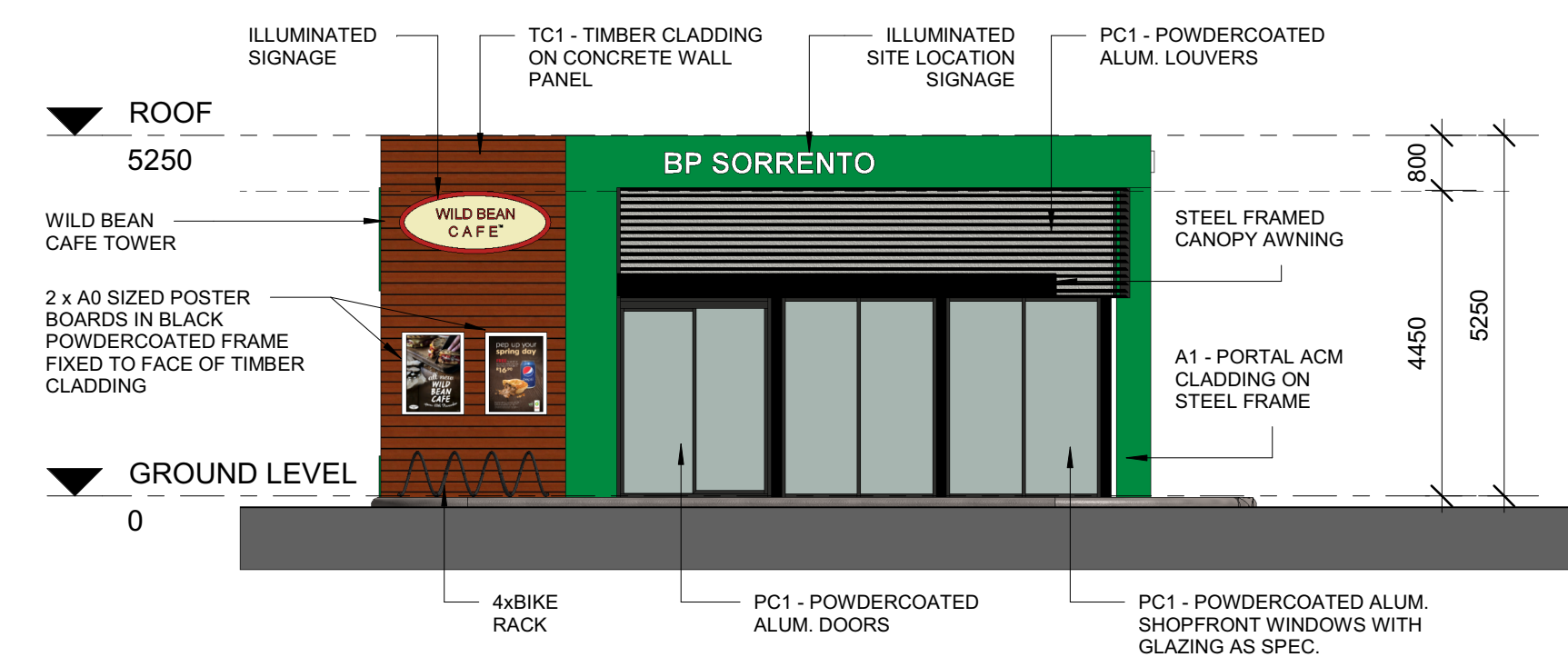
Third Floor, 38 Richardson Street,
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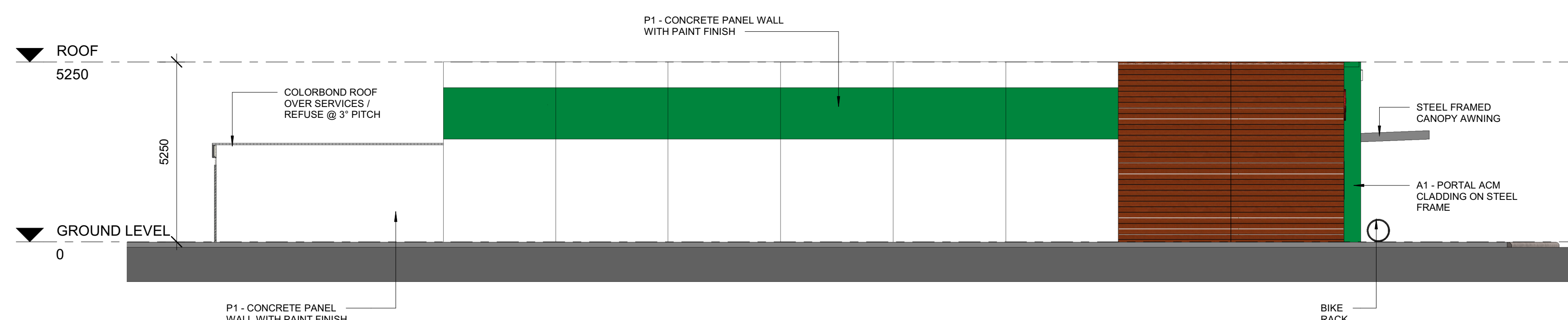
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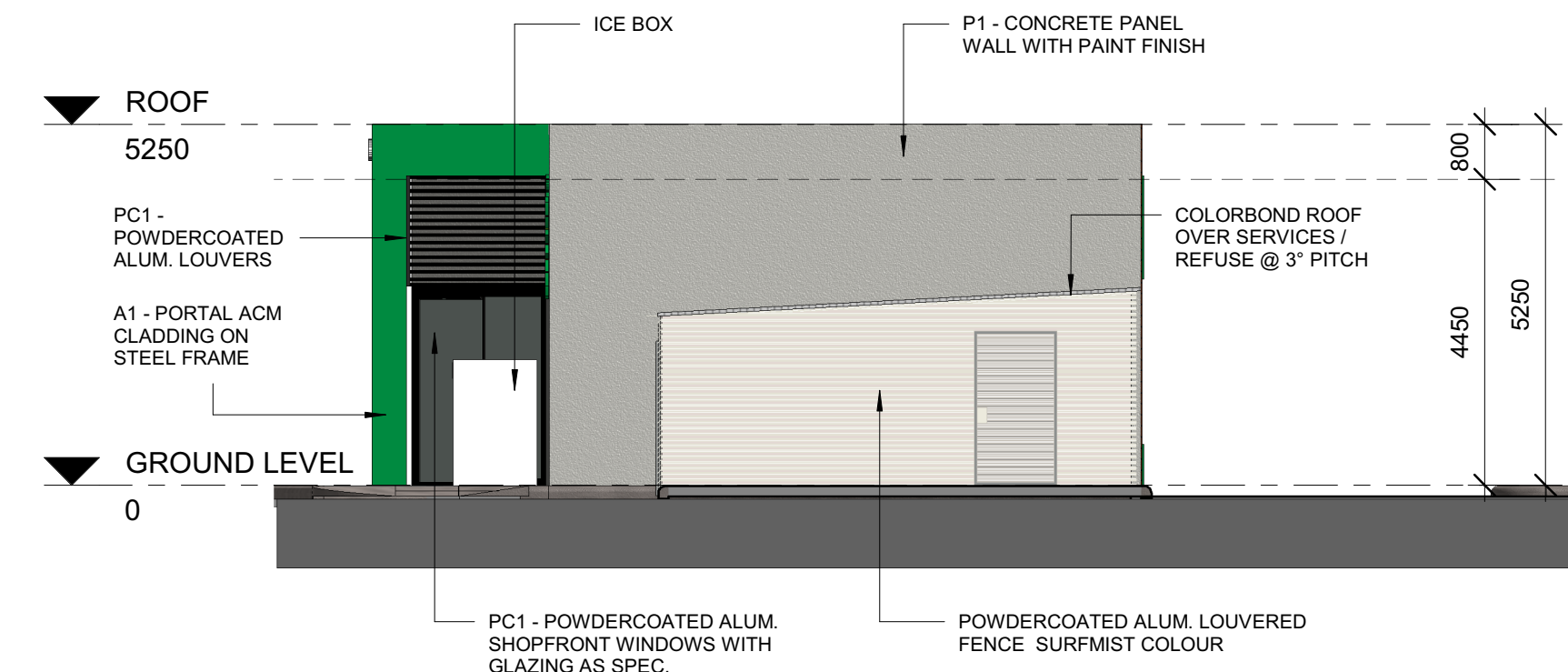
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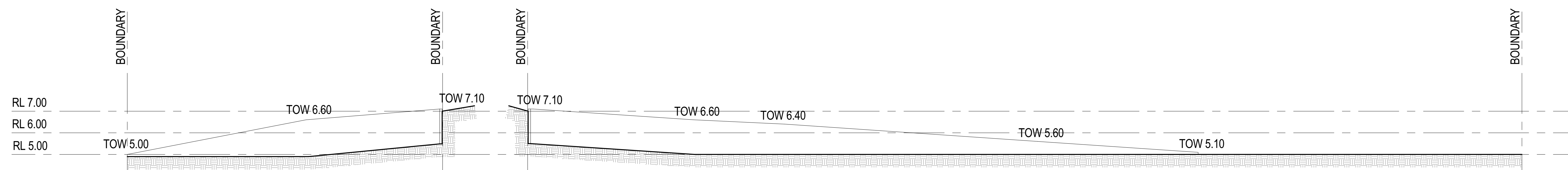
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4 NORTH-EAST
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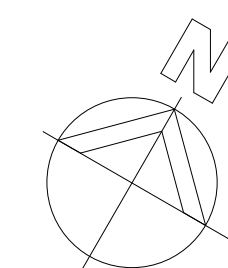


RETAINING WALL ON NORTH
BOUNDARY ELEVATION

RETAINING WALL ON EAST
BOUNDARY ELEVATION

NOTE -
RETAINING WALL TO CIVIL ENGINEER'S DETAILS

RETAINING WALL
1 : 100



B	RE-ISSUED FOR DA	HB	AK	06.08.2019
A	ISSUED FOR DA	AC	AK	07.06.2019
revision/ issue	description	drawn by	check by	date
project	BP SORRENTO	drawn by	check by	date
location	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	checked	AK	06.08.2019
scale	1 : 100	project no.	18.19	dwg no.
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VIEW FROM WEST COAST DRIVE & RALEIGH ROAD INTERSECTION



VIEW FROM CAR PARKING



VIEW OF SHOP ENTRY FROM STREET

A	ISSUED FOR DA	AC	AK	07.06.2019	
revision/ issue	description	drawn by	check by	date	
project		drawn	description		
	BP SORRENTO	AC			RENDERS SHEET 1
location		checked			
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		scale	date	07.06.2019	
			project no		dwg no
			18.19		S08
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VIEW OF SHOP FRONT



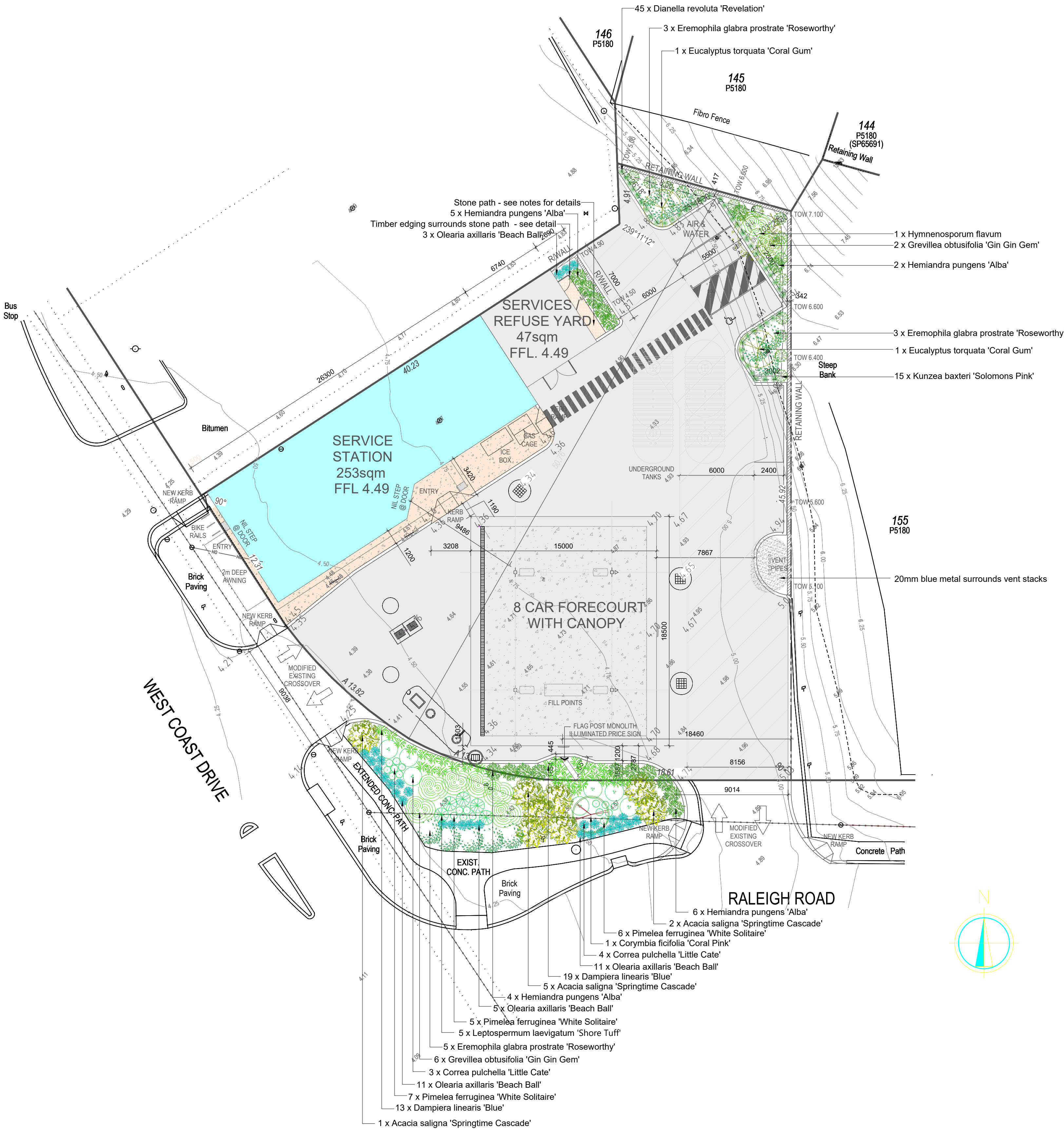
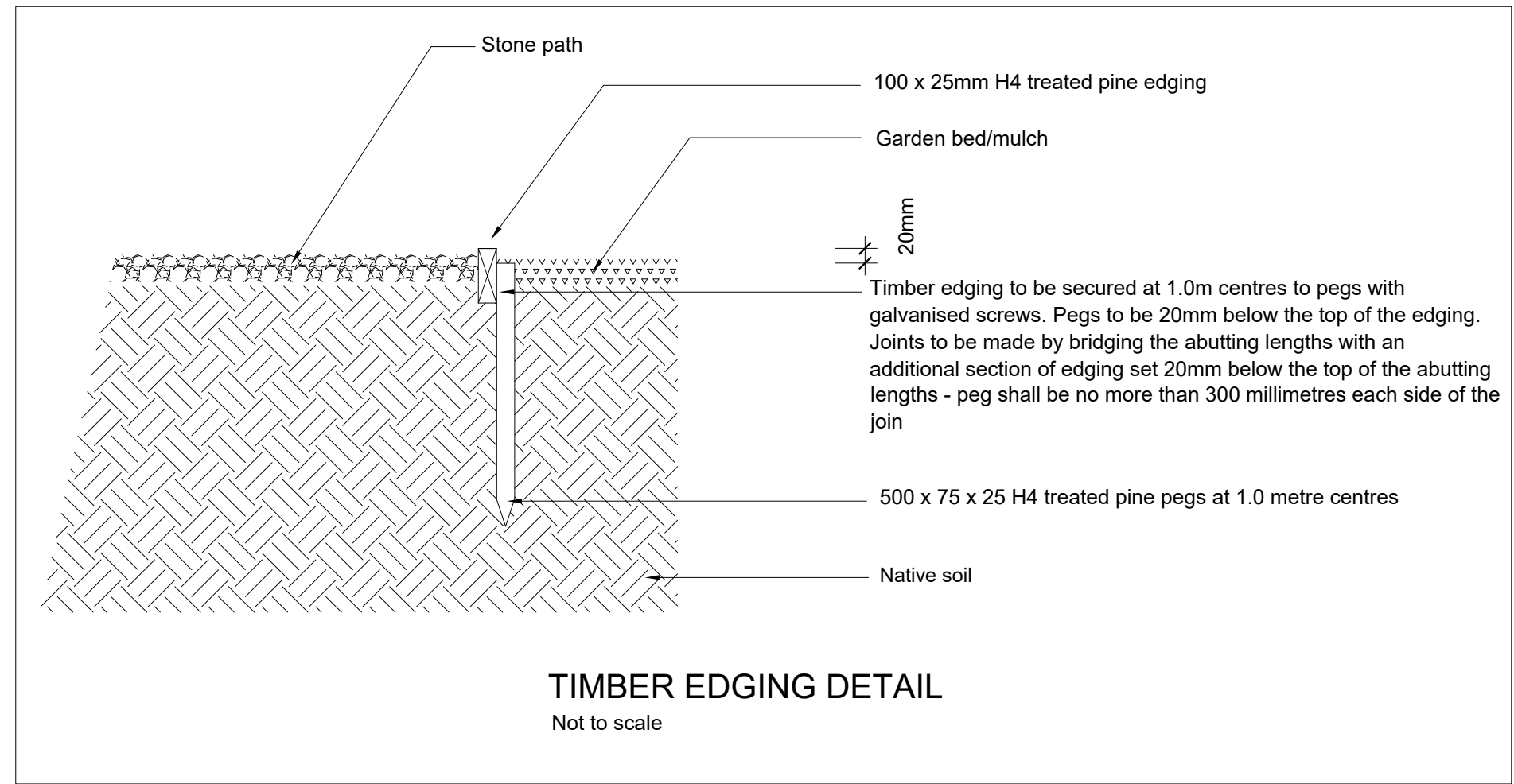
VIEW OF CANOPY PROXIMITY FROM WEST COAST DRIVE

A	ISSUED FOR DA	AC	AK	07.06.2019	
revision/ issue	description	drawn by	check by	date	
project	BP SORRENTO	drawn AC	description		RENDERS SHEET 2
location	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	checked AK			
		scale	date	07.06.2019	
			project no	18.19	dwg no S09
					rev A

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Email: admin@hpcarch.com

PLANT SCHEDULE					
Plant type	Symbol	Botanic Name	Mature height x width	Minimum installation size	Number
TREES					
		Corymbia ficifolia 'Coral Pink'	5m x 3m	75 litre	1
		Eucalyptus torquata 'Coral Gum'	8m x 3m	45 litre	2
		Hymnenosporum flavum	7m x 4m	75 litre	1
SHRUBS					
		Correa pulchella 'Little Cate'	50cm x 1.5m	14cm	7
		Kunzea baxteri 'Solomons Pink'	2m x 1m	13cm	15
		Leptospermum laevigatum 'Shore Tuff'	50cm x 1.2m	14cm	5
		Olearia axillaris 'Beach Ball'	40cm x 80cm	14cm	30
		Pimelea ferruginea 'White Solitaire'	50cm x 60cm	14cm	18
GRASSES					
		Dianella revoluta 'Revelation'	50cm x 55cm	14cm	45
GROUND COVER					
		Acacia saligna 'Springtime Cascade'	30cm x 2.5m	14cm	8
		Eremophila glabra prostrate 'Roseworthy'	30cm x 2m	13cm	11
		Dampiera linearis 'Blue'	30cm x 1m	13cm	32
		Grevillea obtusifolia 'Gin Gin Gem'	30cm x 2m	14cm	8
		Hemiandra pungens 'Alba'	20cm x 1.5m	13cm	17
TOTAL PLANTS					200



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It is the client's responsibility to ensure the required certifications, licenses and approvals are held prior to installation. Levels and measurements must be checked on site prior to construction.

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CLIENT
Hodge Collard Preston
Architects for BP Australia

PROJECT
BP Sorrento
Lot 153 West Coast Drive
& Lot 154 Raleigh Road,
Sorrento WA

DRAWING Landscape Plan

DATE 01.08.2019

PROJECT NUMBER 19109
REVISION 04

DESIGNER Amelia Coleman

Scale 1:200 @ A1

NOTES

All plants are depicted at estimated mature size.

All garden beds to be mulched to a depth of 75mm minimum - 100mm maximum. Mulch is pine bark wood chips.

Gravel path is 20mm Rainbow Stone installed as per industry standards for a stone pedestrian path.

Timber garden bed edging is pegged-in treated pine - see detail.

All garden beds to be irrigated - see Certified Irrigation Plan for watering detail. Watering schedule to be per Water Corporation's 'Water Efficiency Measures'.

Planting must conform to City of Joondalup's standard drawings 'Typical Tree Planting' (STD 101) and 'Typical Shrub Planting' (STD 102).

COMMERCIAL AND RESIDENTIAL
LANDSCAPE DESIGN SERVICES

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Development Application

Lot 153 (128) West Coast Drive and Lot 154 (1) Raleigh Road
Sorrento, WA

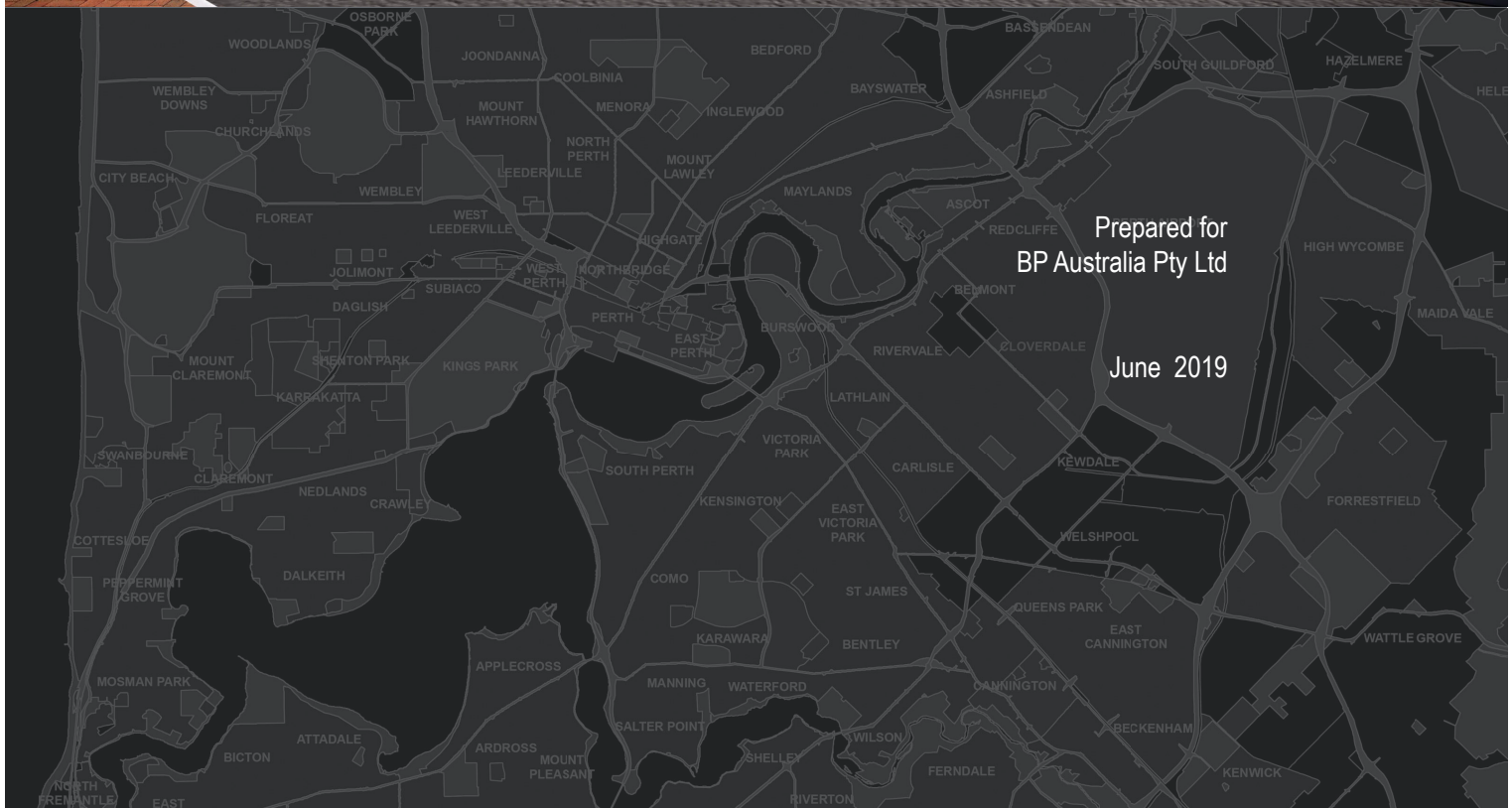
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Prepared for
BP Australia Pty Ltd

June 2019



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3. the Client's implementation, or application, of the strategies recommended in this report.

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Project details

Job number	6024	
Client	BP Australia Pty Ltd	
Prepared by	Planning Solutions	
Consultant Team	Town Planning Drafting and Design Traffic Engineering Acoustic Consultant	Planning Solutions Hodge Collard Preston Porter Consulting Engineers Lloyd George Acoustics

Document control

Revision number	File name	Document date
Rev 0	190618 6024 DA Report – BP Sorrento	18 June 2019

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Figure 1:	Aerial Photograph
Figure 2:	Development perspective (southern elevation from West Coast Drive)
Figure 3:	Development perspective (entrance from West Coast Drive)
Figure 4:	Zoning Map

Appendices

Appendix 1:	Certificate of Title, Plan and Diagram
Appendix 2:	Memorial (L583904)
Appendix 3:	BP remediation works letter
Appendix 4:	Development Plans
Appendix 5:	Transport Impact Assessment
Appendix 6:	Conceptual Stormwater Plan
Appendix 7:	SPEL Purceptor Information
Appendix 8:	Environmental Noise Assessment

1 Preliminary

1.1 Introduction

Planning Solutions acts on behalf of BP Australia Pty Ltd, the proponent of the proposed service station redevelopment on Lot 153 (128) West Coast Drive and Lot 154 (1) Raleigh Road, Sorrento (**subject site**). Planning Solutions has prepared the following report in support of the Application for Development Approval.

This report will discuss various matters pertinent to the proposal, including:

- Background.
- Site details.
- Proposed development.
- Statutory planning framework.

This application involves the redevelopment of the existing BP service station on the subject site that has been operating on the site since the early 1970's. The proposed facility will continue to provide essential fuel and convenience retail offerings to vehicles travelling along West Coast Drive and the established Sorrento community, including local residents, beachgoers, boat users, fishermen and patrons of the Hillarys Boat Harbour.

The proposed redevelopment features a highly activated and functional design, suitable access arrangements, and will result in a non-standard built form outcome, responding to the site's prominent corner location and intent envisaged for the Sorrento Activity Centre.

We respectfully request the Metro North West Joint Development Assessment Panel (**JDAP**) grant approval to the proposed development.

1.2 Background

Consultation and pre-lodgement engagement occurred with the City of Joondalup (**City**) with respect to the proposed development.

On 3 April 2019, Planning Solutions, Hodge Collard Preston and representatives of BP Australia attended a meeting with senior officers at the City. The City provided no 'in principle' objection to the redevelopment of the service station on the subject site from a land use planning perspective, subject to compliance with the relevant development standards of the Sorrento Activity Centre Plan.

2 Site details

2.1 Land description

The subject site comprises two freehold title lots. Refer to **Table 1** below for the lot details and a description of the subject site.

Table 1 – Lot details

Lot	Plan / Diagram	Volume	Folio	Registered Proprietor	Area (m ²)
153	D8313	2044	194	BP Australia Ltd	707
154	P5180	2044	195	BP Australia Ltd	894
Total					1,601

Refer to **Appendix 1** for a copy of the Certificates of Title, Plan and Diagram.

2.1.1 Notifications and Encumbrances

One encumbrance (Memorial L583904) is listed on both Certificates of Title for Lot 153 (Volume 2044; Folio 194) and Lot 154 (Volume 2044; Folio 195). The encumbrance classifies the subject site as “possible contaminated – investigation required”. Refer to **Appendix 2** for a copy of the memorial (L583904).

It should be noted that the DWER contaminated sites database lists the site and having been remediated, and as such removed from the database. The site’s remediated status therefore does not preclude the proposed development.

However, routine environmental monitoring undertaken by BP and a pre-rebuild environmental assessment completed by GHD in April 2019 identified hydrocarbons in groundwater and soil beneath the site. As part of the redevelopment, BP’s environmental consultant and an accredited contaminated sites auditor will review all environmental assessment and remediation works. Refer to **Appendix 3** for a copy of the BP letter outlining the current environmental status and environmental activities to be completed in conjunction with the redevelopment of the site.

2.2 Location

2.2.1 Regional context

The subject site is located approximately 17km north-west of the Perth CBD and approximately 11km south of the Joondalup Town Centre. The subject site is also located 1km south-east of Hillarys Boat Harbour.

The subject site fronts West Coast Drive and Raleigh Road. West Coast Drive is a north-south district distributor road which connects the subject site to Karrinyup Road and West Coast Highway in the south, and to Hepburn Avenue and Whitfords Avenue in the north, in addition to providing access to Hillarys Boat Harbour and the surrounding beaches. Raleigh Road is an east-west local road, providing access to the surrounding residential areas to the east.

The subject site is in the municipality of the City of Joondalup (**City**), and the suburb of Sorrento.

2.2.2 Local context, land use and topography

The subject site is bounded by West Coast Drive to the west, Raleigh Road to the south, an adjoining commercial lot to the north-west, and residential properties to the north and east. Sorrento Beach is located approximately 100m west of the subject site.

The subject site contains an existing BP service station facility, comprising an associated retail building and light vehicle fuel canopy. The retail building is located centrally along the northern portion of the subject site, and the fuel canopy protrudes west from the retail building and adjacent to the northern property boundary of the subject site. An existing vehicle access way adjoins the site's north-eastern boundary, providing vehicular access to the rear of the commercial lots fronting West Coast Drive. Approximately fourteen parking bays are provided along the eastern lot boundary.

The residential lot adjacently east of the subject site is undeveloped and comprises areas of sparse coastal vegetation. The development site is in proximity to the following uses/activities:

- Residential properties across Raleigh Road to the south east, east and north east of the subject site.
- Commercial lots north of the subject site comprising the Voyage Kitchen, White Salt Bar Café Restaurant, Madam Queenie Asian Bar & Kitchen, and a BWS Liquor Store.
- The Sorrento Community Hall approximately 100m north of the subject site.
- The Sorrento Surf Lifesaving Club WA approximately 300m north west of the subject site.

In terms of topography, the subject site is generally flat. It should be noted that the land east and north east of the subject site slopes upwards, away from the site.

Refer to **Figure 1** for an aerial photograph depicting the subject site and surrounds.



Subject Site

PLANNING SOLUTIONS

URBAN & REGIONAL PLANNING

PS

SCALE

DATE

FILE

REVISION

1: 2,000 @ A4

30 May 2019

01 190530 6024 Aerial Photograph.dwg

1/DR/First Draft/30.05.2019

Scale Bar (m)

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50

AERIAL PHOTOGRAPH

LOT 153 (128) WEST COAST DRIVE AND LOT 154 (1) RALEIGH ROAD

SORRENTO, WA

FIGURE

01

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3 Proposed development

The proposal involves the redevelopment of the existing BP service station on the subject site. The proposed development is attractively designed, comprising a unique version of BP's contemporary retail building, a fuel canopy, associated parking, minor modifications to access, landscaping and signage.

The overall development is suitably located at a prominent corner site, historically developed and used as a BP service station. The existing and proposed BP facility provides fuel retailing and convenience services to a relatively high frequency of patrons travelling along West Coast Drive.

The development is designed in an attractive manner which addresses the site's corner location and frontage to West Coast Drive. The proposed retail building (as detailed in **Figure 2** below) comprises a range of non-standard architectural treatments and a building height which departs from the standard service station design, including the use of various colours, treatments and materials, all resulting in a unique and active presence to West Coast Drive.

The overall redevelopment configuration has been considered carefully and holistically to ensure internal operation and site functionality are maximised. The facility is designed responsively to the locality, the applicable planning framework and the types of vehicles (including the towing and refuelling of boats) and pedestrians travelling on the surrounding road network.



Figure 2: Perspective of retail building (western and southern elevations) as viewed from West Coast Drive.

3.1 Service station

The redeveloped BP service station will continue to provide the retail sale of fuel to light vehicles and those towing boats, as well as an improved range of convenience goods and amenities. Specifically, the proposed development comprises:

- A BP retail building of 253m² gross floor area (**GFA**) positioned in the north-western portion of the subject site, addressing West Coast Drive and orientated in a south-eastern direction towards the refuelling canopy. Internally, the retail building will comprise a 'Wild Bean Café', customer seating, sales and preparation areas associated with the sale of convenience goods and commercial offerings.

- A 47m² enclosed bin storage area and service yard at the north-eastern side of the retail building, contained within a 2.4m high roofed enclosure, constructed of powder coated Colorbond aluminium with louvres and comprising a “surfmist” colour.
- A fuel canopy for light vehicles comprising a clearance height of 5.0m from the forecourt’s finished floor level (FFL) and a total height of 5.85m. The canopy houses four fuel bowsers (totalling eight refuelling spaces) for light vehicles and towed boats.
- Two underground fuel storage tanks to the north of the fuel canopy, and an associated filling point beneath the southern portion of the fuel canopy, appropriately positioned to accommodate the satisfactory uninterrupted movements of BP’s 15m fuel tankers.
- Five car parking bays for customers and staff (which includes one air/water bay and one universal access bay) and eight refuelling bays.
- Various signage and imagery associated with the proposed redeveloped BP service station, including a 7m flag post fuel ID sign fronting the intersection of West Coast Drive and Raleigh Road.
- High quality landscaping along the development site’s frontage to Raleigh Road and West Coast Drive, and adjacent to car parking at the northern aspect of the site.

The proposed service station will continue to operate 24 hours per day, seven days per week, and accommodate 2 – 4 staff members at any one time.

The subject site adjoins an informal vehicle access way to its northern boundary. A connection to the vehicle access way is maintained within the northern aspect of the site. A minimum 6m wide future public access easement will run along the subject site’s eastern boundary (from the Raleigh Road crossover), and intersect with the existing connection to the adjoining Lot 2 (130) West Coast Drive and Padbury Circle further north. No physical structures will be located within the future access easement, only upgrades to existing hardstand is proposed.

The proposed retail building is located in the north-western aspect of the subject site, adjacent to the northern lot boundary and orientated both towards West Coast Drive and the fuel canopy. The location addresses the site’s prominent corner frontage to the West Coast Drive / Raleigh Road intersection. The proposed seating area within the retail building will provide seating and table settings for patrons overlooking West Coast Drive and Sorrento Beach. A variety of external treatments, colours and substantial shopfront glazing frames the retail building’s interface with the streetscape, to enhance its presentation to the public realm. The retail building is set back 0.5m to West Coast Drive.

The proposed fuel canopy is set back 1.503m to 2.787 (east to west) from Raleigh Road. The positioning of the proposed retail building and forecourt allows vehicles to enter and exit the development site via the two existing crossovers from West Coast Drive and Raleigh Road. This allows for efficient circulation and traffic flow through the subject site, which is enhanced through line markings and directional signage. The fuel canopy is a visually permeable open structure, supported by structural beams integrated into the bowsers (located centrally within the canopy itself).

The service yard / bin storage area is located at the north-eastern side of the retail building, within a 2.4m high enclosure constructed of powder coated Colorbond aluminium with louvres, in a “surfmist” colour. The service yard is accessed via double gates, with an appropriate area of hardstand available to cater for the temporary stopping of service vehicles. The temporary stopping of vehicles will not impact upon the pedestrian walkway, with deliveries occurring outside of peak refuelling times.

A 7m high internally illuminated 'flag post monolith' ID sign is proposed within the landscaping strip to the southern side of the fuel canopy, maximising visibility and exposure for vehicles travelling along West Coast Drive and Raleigh Road. This arrangement ensures patrons travelling in any direction (north, south or west) have sufficient exposure to identify the facility, and ingress the subject site in a safe and coordinated manner.

The proposed development provides a total thirteen car parking bays (inclusive of one universal access bay, one air/water bay and 8 refuelling bays). Three bays are located at the rear of the site and two bays are parallel to the eastern lot boundary. The eight car refuelling bays are provided beneath the fuel canopy.

Refer to **Appendix 4** for the development plans, which depict the proposed redevelopment.

3.2 Design and built form

The proposed development incorporates a range of architectural design features, which depart from the traditional service station format, and results in a high-quality built form outcome that is specific to the site.

These features include an attractively designed retail building which incorporates BP's colours and imagery plus a range of complementary finishes and treatments which contribute positively to the public realm and the Sorrento locality. Such treatments and finishes include:

- A mixture of horizontal timber cladding, contemporary signage, powdercoated aluminium louvres, green panelling and substantial shopfront glazing at the West Coast Drive elevation.
- A steel framed awning and transparently glazed access door provides pedestrian access from West Coast Drive for enhanced activation and passive surveillance. Substantial glazing provides a degree of activation and passive surveillance to pedestrian traffic along West Coast Drive.
- Green panelling along the outer edges of the retail building, protruding from the retail building shopfront. This provides an awning ('portal') over the primary retail building shopfront, providing added weather protection for pedestrians within the site and those travelling along West Coast Drive.
- A mixture of precast concrete, powdercoated aluminium louvres, and substantial glazing along the majority of the retail building shopfront, facing the forecourt area. Substantial glazing (4.45m in height from FFL) ensures permeability and passive surveillance between the retail and forecourt area.
- The use of powder coated aluminium louvres and associated textures to break up the building's appearance and provide internal shading from the sun.
- Integrated signage which is sympathetic to the layout and design of the overall building, softening any perceived visual impact(s) on the site's prominent corner location, whilst maintaining its commercial purpose.

Refer to **Appendix 4** for the development plans which depict the proposed development and **Figure 3** below for a perspective of the retail building.



Figure 3: Perspective of retail building entrance (western elevation) and as viewed from West Coast Drive.

3.3 Access and traffic circulation

The proposed redevelopment is supported by a Transport Impact Assessment (TIA) prepared by Porter Consulting Engineers (refer to **Appendix 5**). The assessment confirms the proposed redevelopment is satisfactory from a traffic and access perspective, and that there will be an insignificant impact on the surrounding road network.

Access to the redeveloped BP facility will be provided via the two existing crossovers, which will be upgraded and formalised to both full-movement crossovers. The upgraded crossovers to both West Coast Drive and Raleigh Road will comprise the following:

- 9.038m wide full-movement crossover to West Coast Drive (western crossover); and
- 9.014m wide full-movement crossover to Raleigh Road (southern crossover).

The proposed development provides a small-scale retail fuel facility which will only cater for passenger vehicles, and vehicles towing boats and caravans. The facility is deliberately configured such that the retail building orientates itself towards the forecourt area whilst vehicles are refuelling, and allows vehicles to circulate the site in a safe and coordinated manner for a high-level of safety and functionality. Coordinated vehicle flows and traffic safety are further enhanced through the use of line marking and directional signage.

Swept path analysis is also included within the TIA in **Appendix 5** which demonstrates the safe and efficient manoeuvrability of light vehicles towing a boat trailer are able to access the site without conflicting with kerbing or physical structures on site.

A minimum 6m-wide portion of hardstand will remain free of physical structures to allow light vehicles to traverse through the future public access easement, as demonstrated in the Sorrento Activity Centre Plan (detailed further in Section 4.2.5 of this report below). This will ensure light vehicles, when entering the site, can opt to either navigate towards the forecourt area, carparking to the rear of the subject site, or simply traverse the future easement to adjoining at Lot 2 (to the north). This arrangement maintains patrons' ability to access commercial development located elsewhere within the wider Sorrento Activity Centre without first having to re-enter the surrounding road network, including West Coast Drive.

A dedicated pedestrian pathway is provided between the retail building shopfront and light vehicle car parking located to the northern portion of the subject site. A pedestrian footpath also traverses from West Coast Drive to Raleigh Road around the subject site. Both crossovers will also contain new kerb ramps for safe pedestrian crossings.

The proposed access arrangements are intuitive, safe and acceptable. Refer to **Appendix 5** for the Transport Impact Assessment prepared by Porter Consulting Engineers.

3.3.1 Servicing arrangements

The redeveloped BP service station is designed to facilitate the safe and efficient movements of fuel tankers and service vehicles. As demonstrated by the swept path plans contained within the TIA at **Appendix 4**, the following service vehicles can safely access and navigate the proposed service station development:

- 15.0m semitrailer fuel tankers.
- 12.5m delivery/waste collection vehicle.

Fuel tankers will enter the subject site via the modified Raleigh Road crossover, navigate towards the southern edge of the fuel canopy and underground fuel tank refill connection points. Fuel tankers will then proceed forward towards the full-movement crossover to West Coast Drive. Delivery/waste collection vehicles will ingress the site via the 9.038m-wide crossover to West Coast Drive, navigate towards the northern aspect of the fuel canopy, and reverse towards the service yard at the northern side of the retail building. Once ready, service vehicles will then proceed towards the eastern aspect of the development site (in forward gear) and egress via the full movement crossover to Raleigh Road.

Fuel tankers will generally make between two to four deliveries per week, depending on retail fuel consumption and general demand. Stock deliveries will generally take place outside of peak traffic periods to ensure minimal disturbance to the site's operations and external traffic.

Refer to **Appendix 4** for the development plans and **Appendix 5** for the Transport Impact Assessment.

3.4 Stormwater

3.4.1 Stormwater management

A conceptual stormwater plan is provided in **Appendix 6** for the subject site, detailing stormwater discharge in accordance with the City's requirements. A detailed stormwater management plan can be provided in accordance with an appropriately worded condition of development approval.

3.4.2 Stormwater treatment

Stormwater runoff associated with the BP service station will be treated through the use of a SPEL Purceptor system, which captures runoff within the forecourt area. The Purceptor is an underground collection system which treats stormwater by separating fuels, oils and other potential contaminants from stormwater runoff. The treated stormwater is then discharged into the site's main stormwater management system, while the captured contaminants are retained within a separate chamber for collection and removal off site.

Use of the SPEL Puraceptor is a standard industry practice, and is generally implemented on all new fuel sites across Australia. A stormwater management plan can be provided post-approval in accordance with a condition of planning approval.

Refer to **Appendix 7** for details regarding the SPEL system.

3.5 Noise management

An Environmental Noise Assessment has been undertaken by Lloyd George Acoustics (refer to **Appendix 8**) for the proposed development, noting 24 hour operation is proposed and the subject site is within proximity of sensitive uses.

The assessment has modelled and assessed potential noise sources associated with the proposed development, and demonstrates the development will comply with the *Environmental Protection (Noise) Regulations 1997* at all times, subject to:

- Mechanical plant to be located within a solid screened service yard of at least 2.0m wall height. An acoustic absorptive lining should be installed to the inside facades of this wall to reduce reflection noise. Any ventilation louvres required are to be acoustically rated;
- Roof top exhaust fans to be axial type with inline attenuators / silencers;
- Eastern boundary to be fenced with a minimum Colorbond-type fence construction of minimum 1.8m height above retaining walls.
- Rooftop mechanical plant (exhaust fans) to be located behind local screening or as close to parapets as possible;
- Mechanical plant to be in line with those assumed in the modelling – refer Table 3-2; Air service beeper to be replaced with a non-beeping unit.

With regard to the service yard wall, it is noted the proposed service yard features a wall height of 2.4m, 400mm in lieu of the acoustic reports recommendations. The mechanical plant will also be enclosed (above) with a roof, comprising Colorbond materials, as depicted on the elevations contained within the suite of development plans at **Appendix 4**. The particulars and composition of materials forming the service yard walls will be confirmed prior to lodgement of a building permit application.

The remainder of recommendations outlined within the Environmental Noise Assessment will also be incorporated within the final construction drawings which would be lodged as part of a building permit application to the City.

Accordingly, the above mitigation measures are acceptable to the proponent. The measures can be incorporated into the development as part of a condition of development approval.

Refer to **Appendix 8** for a copy of the Environment Noise Assessment undertaken by Lloyd George Acoustics.

3.6 Signage

The proposal incorporates various advertising signage on the development site. Specifically, the proposed signage comprises:

- One 7m metre high internally illuminated flag post fuel ID sign along the southern side of the fuel canopy, addressing the intersection of West Coast Drive and Raleigh Road. The proposed ID sign comprises an LED digital price board and internally illuminated acrylics sign boxes.
- Illuminated Wild Bean Café signage integrated to the northern edge of the south-western elevation of the retail building.
- Two A0 sized poster boards affixed to the northern portion of the south-western elevation of the retail building.
- One A0 sized poster board affixed to the south eastern façade of the retail building shopfront, east of the store entrance.
- One illuminated 1.6m BP Helios sign integrated into the south eastern aspect of the retail building shopfront.
- Three illuminated 914mm BP Helios canopy signs integrated within the fuel canopy.
- One 'BP Sorrento' identification lettering integrated on the retail building shopfront, above the store entrance.

Refer to **Appendix 4** for the development plans which contain elevations depicting the proposed signage.

3.7 Landscaping

The proposed development provides approximately 232m² of soft landscaped areas (88m² within the lot boundaries).

Landscaping is provided along the lot frontages and within the development site, comprising a mixture of native coastal species of low and medium scale. The proposed landscaping will enhance the overall presentation of the development and improve the visual appearances of the proposed development.

Refer to **Appendix 4** for the development plans, which contain a landscaping plan.

4 Statutory planning framework

4.1 Metropolitan Region Scheme

The subject site is zoned Urban under the provisions of the Metropolitan Region Scheme (**MRS**).

The proposed development is consistent with the provisions of the MRS and is an appropriate development to service the surrounding locality. The land use is continued, and as such, warrants approval accordingly.

4.2 City of Joondalup Local Planning Scheme No. 3

4.2.1 Zoning

The subject site is zoned 'Centre' under the City of Joondalup Local Planning Scheme No. 3 (**LPS3**), with an applicable density coding of R80. Refer to **Figure 4** - Zoning map.

Specifically, the Centre zone of LPS3 provides the following objectives.

- *To designate land for future development as an activity centre.*
- *To provide a basis for future detailed planning in accordance with the structure planning provisions of this Scheme or the Activity Centres State Planning Policy.*

The proposal is consistent with the Centre zone for the following reasons:

- The development will continue to provide, and expand upon, the offering of convenience goods and offerings to the local community and patrons predominantly travelling along West Coast Drive. The proposed retail building will provide a convenience service for current and future inhabitants of the area.
- The proposed development will not by nature of its operations, detrimentally impact upon residential and other sensitive land uses in vicinity of the subject site.
- The proposal seeks continuation of the existing land use which is appropriately located within an existing commercial setting, within the Sorrento Activity Centre. The proposed development is consistent with the objectives, and largely consistent with the development requirements of the Activity Centre plan as outlined further below within this report.

The proposed redeveloped BP facility will not undermine current or future development within the Sorrento locality, as it is simply providing a facility which will improve the functionality and services provided on site, whilst improving the built form and amenity of the streetscape.



4.2.2 Land use classification and permissibility

The proposed land use is classified as a service station, defined by LPS3 as:

service station: means premises other than premises used for a transport depot, panel beating, spray painting, major repairs or wrecking, that are used for:

(a) the retail sale of petroleum products, motor vehicle accessories and goods of an incidental or convenience retail nature; and/or

(b) the carrying out of greasing, tyre repairs and minor mechanical repairs to motor vehicles;

The proposal simply seeks to upgrade the existing BP facility, which provides for the retail sale of fuel and convenience goods. The proposed upgrades include a new attractively-designed and modern retail building, refuelling canopy, landscaping, signage and updated access arrangements, all contributing to an improved site layout and functionality. Therefore, the proposed development will not change the existing land use on the subject site, and clearly satisfies the elements of the service station definition under LPS3.

The zoning Table of LPS3 does not prescribe land use permissibility in the Centre zone. Clause 18(7) of LPS3 states:

If the zoning table does not identify any permissible uses for land in a zone the local government may, in considering an application for development approval for land within the zone, have due regard to any of the following plans that apply to the land:

- a) A structure plan;
- b) An activity centre plan;
- c) A local development plan.

Accordingly, the Sorrento Activity Centre Plan (**SACP**) applies to the subject site which is addressed in section 4.2.3 of this report. The SACP designates a 'Commercial' zoning to the subject site under LPS3. We note that a 'Service Station' land use is a 'D' (discretionary) use within the Commercial zone, meaning that the use is not permitted by the Scheme unless the local government has exercised its discretion by granting development approval.

4.2.3 Development Assessment

Part 4 of LPS3 stipulates the general development requirements applicable to all development within the Scheme area. There are no general or site-specific development requirements that apply to the subject site within Part 4 of LPS3 which apply in addition to those standards set out in the SACP.

An assessment against the relevant provisions of the SACP is provided in Section 4.2.4 of this report below.

4.2.4 Sorrento Activity Centre Plan

The Sorrento Activity Centre Plan (**SACP**) applies to the subject site (including the adjoining commercial lots to Padbury Circle) and stipulates the requirements and standards applicable to land use, built form and site design. An assessment of the proposed BP service station redevelopment against the provisions of the SACP is provided in **Table 2** below.

Table 2 – SACP Built Form Requirements

Requirement	Provided	Compliance
4.1 Land Use Permissibility		
4.1.1 <i>Land use permissibility within the Activity Centre Plan area shall be in accordance with the corresponding zone or reserve under the Scheme.</i>	<p>The subject site is zoned Commercial pursuant to the SACP. Under the zoning table of LPS3, the 'Service Station' land use is a 'D' (discretionary) use on the site, meaning that the use is not permitted by the Scheme unless the local government has exercised its discretion by granting development approval.</p> <p>The use is capable of approval and is the same land use to that which currently exists on the subject site. As such, the service station use is entirely appropriate.</p>	✓
4.1.2 <i>In addition to the land use permissibility within the "Commercial" zone of the Scheme, a "Multiple Dwelling" is considered a 'P' (Permitted) use.</i>	N/A – This development application applies to the redevelopment of the BP service station only.	N/A
4.4 Commercial Zone		
4.4.1 <i>Active uses such as restaurants, cafes and retail shops must be provided at the ground floor level of development.</i>	The retail building component of the service station is at ground level, fronting the pedestrian footpath and West Coast Drive. The building provides substantial glazing for interaction with the public realm as well as internal Wild Bean Café seating facing the street for further activation.	✓
4.4.2 <i>Residential land uses shall not be permitted at the ground floor level for lots within the Commercial zone.</i>	N/A – No residential land uses are proposed as part of this application.	N/A
<p>4.4.5 <i>The recommended NLA threshold shall be distributed across the Activity Centre Plan area on a pro-rata land area basis per Table 1 with the exception of Lot 146 on which commercial/retail land use is prohibited.</i></p> <p><u>Lot 153: 707m²</u> Share of recommended threshold NLA per relevant planning control: 12.76%.</p> <p><u>Lot 154: 894m²</u> Share of recommended threshold NLA per relevant planning control: 16.14%.</p>	<p>The subject site has a maximum permitted retail floor space NLA of 462.7m², enough to accommodate a service station retail building.</p> <p>The proposed development does not exceed the recommended NLA threshold, with the retail store component comprising an NLA of 253m². The subject site therefore compliant with its NLA allocation.</p>	✓

5.1 Plot Ratio		
No maximum plot ratio applies to the Activity Centre Plan Area.	N/A - No maximum plot ratio applies to the subject site.	N/A
5.2 Building Height		
<p>5.2.1 The provisions of the City of Joondalup Height of Non-Residential Buildings Local Planning Policy do not apply to the Activity Centre Plan area with the following provisions being applicable with regard to building height. A minimum building height of 10.6m (3 storeys) measured from natural ground level and a maximum building height of 17.0m (5 storeys) applies to the following lots:</p> <ul style="list-style-type: none"> • Lot 148 The Plaza; • Lot 149 West Coast Drive; • and Lot 2 West Coast Drive. <p>The fifth storey element is to be focused around The Plaza and western frontage and detailed through the development application process.</p>	N/A – The building height standards for the subject site are prescribed below.	N/A
<p>5.2.2 A maximum building height of 13.5m (4 storeys) from natural ground level applies to the following lots:</p> <ul style="list-style-type: none"> • 147 Padbury Circle; • 153 West Coast Drive; and • 154 Raleigh Road. 	<p>The proposed service station redevelopment comprises the following buildings heights:</p> <p><u>Retail Building</u> 5.25m</p> <p><u>Fuel Canopy</u> 5.85m to 6.45m</p> <p><u>Services / refuse storage</u> 3m</p> <p>The proposed buildings heights do not exceed the maximum permitted 13.5m (4 storeys) and are therefore compliant and entirely acceptable.</p>	<p>✓</p> <p>✓</p> <p>✓</p>
5.2.3 A maximum building height of 10.6m (3 storeys) measured from natural ground level applies to Lot 146 Padbury Circle.	N/A – Not applicable to the subject site.	N/A
5.3 Street Setbacks		
5.3.1 The minimum street setback in the Commercial zone is nil and the maximum street setback is 2.0 metres. Minor variations to this are permitted for building entries and architectural articulation.	<p>The retail building provides a 0.5m setback to the West Coast Drive Street frontage.</p> <p>The fuel canopy provides between a 1.5m to 2.8m setback to the Raleigh Road street frontage due to the irregular shape of the lots (being rounded corner lots). The 0.8m variation to the maximum 2m street setback is considered acceptable as the canopy is an open structure and Raleigh Road is the secondary street frontage.</p>	<p>✓</p> <p>Variation</p>

	The intention of the reduced setbacks is to provide activation to the pedestrian realm on West Coast Drive, with the 0.5m setback of the retail building achieving this.	
5.3.2 A minimum street setback of 2.0m shall be provided to all lots within the Residential zone.	N/A – The subject site is not within the Residential zone.	N/A
5.4 Lot Boundary Setbacks		
5.4.1 Unless otherwise stipulated under Clauses 5.4.2 - 5.4.5, all boundary setbacks are to be in accordance with the R-Codes.	N/A - Refer below as Clauses 5.4.2 - 5.4.5 apply to the subject site.	N/A
5.4.2 A 8.0m wide view corridor shall be provided between Lot 2 and Lot 153 which is to comprise a 4.0m side boundary setback above the 3rd storey of development to the north-western boundary of Lot 153 and a 4.0m side boundary setback shall be provided above the 3 rd storey of development to the south-western boundary of Lot 2.	<p>N/A - The proposed redevelopment does not comprise buildings heights exceeding 6.45m (maximum height of fuel canopy height). The retail building (5.25m in height) provides a Nil setback to the Lot 2 northern property boundary.</p> <p>As no building exceeds 3 storeys in height, the required 4.0m side boundary setback is not required to be provided on the subject site.</p>	N/A
5.4.3 Side boundary setbacks between Lot 146 Padbury Circle and Lot 145 Drakes Walk shall be in accordance with the R-Codes.	N/A – These properties do not form part of this application.	N/A
5.4.4 A 3.0m rear setback shall be provided above the 3rd storey of development to Lots 153, 154 and 2.	<p>The proposed redevelopment does not provide building heights in excess of 3 storeys. The rear setbacks vary due to the shape of the subject site and are as follows:</p> <p><u>Retail Building</u> 20.5m to 25.25m</p> <p><u>Fuel Canopy</u> 26m to 28m</p> <p><u>Services / refuse storage</u> 10m to 18m</p>	✓
5.4.5 The side boundary setback between Lot 154 and Lot 155 Raleigh Road shall be 9.0m, comprising a 6.0m access easement and a 3.0m landscaping strip.	The side boundary setbacks between Lot 154 and Lot 155 Raleigh Road are as follows:	✓
	<u>Retail Building</u> 20.5m	✓
	<u>Fuel Canopy</u> 10.8m	✓
	<u>Services / refuse storage</u> 15.7m	✓
	A 6.0m access easement is provided along the eastern side and rear lot boundaries.	✓
	A 3m landscaping strip is not provided along the entire eastern side boundary, however, a 58m ² area of high-quality landscaping is located to the rear of the subject site to compensate for this variation.	Variation

	A 3m landscaping strip along the entire site boundary is unable to be provided due to physical site and operational constraints. The requirement of the 6m access easement combined with a 3m landscaping strip would effectively create a 9m portion of land reserved for access and landscaping. This cannot be accommodated without jeopardising safe vehicle movements on the irregularly shaped and already constricted subject site.	
5.5 Built Form		
5.5.1 Building Design		
a) A continuous awning shall be provided along the street frontage with the exception of Lot 146 Padbury Circle.	A 2m deep and 7.5m long steel framed canopy awning is provided above the retail building entrance fronting the West Coast Drive street frontage.	✓
b) All awnings and colonnades shall have a minimum clearance of 2.75 metres above ground level and a minimum depth of 2.0 metres.	The proposed awning comprises a minimum clearance of 2.9m, exceeding the required minimum of 2.75m. A compliant depth of 2m is also provided.	✓
c) Colonnades may be provided to a maximum depth of 2.5m.	N/A – No colonnades are proposed.	N/A
d) A minimum of 60% of the total length of the building facade at the ground floor level is to be clear glazing.	<p><u>South west building façade (West Coast Drive)</u> Length: 11.25m Clear glazing length: 6.9m (61% of 11.25m)</p> <p><u>South east building façade (facing internally)</u> Length: 26.9mm Clear glazing length: 17.2m (63.9% of 26.9m)</p> <p>The north west and north east façades do not comprise clear glazing. The north west elevation provides a nil setback to the adjoining Lot 2, with future development to also provide a nil setback.</p> <p>Clear glazing is intended to be provided to the street frontages only, providing activation between the development and the street. As such, the provision of glazing on the retailing building is compliant and is intended for by Provision 5.5.1 d).</p>	<p>✓</p> <p>✓</p>
e) Development on Lot 154 Raleigh Road is to address building bulk and privacy impacts on Lot 155 through the design and architecture of the building at development application stage having particular regard to side walls facing Lot 155.	<p>The proposed redevelopment on the portion of Lot 154 Raleigh Road has been designed in accordance with the requirements of the SACP, with the retail building and fuel canopy located in the western portion of the subject site.</p> <p>A 6m wide access easement is proposed along the eastern portion of the subject site, in accordance with the SACP and will provide separation between the retail building / fuel canopy and Lot 155.</p> <p>The rear of the subject site slopes upwards toward the adjoining lots. As such, any potential adverse impacts to the privacy of adjoining properties resulting from the redeveloped service station is limited.</p>	✓

<p>5.5.2 Materials and Finishes</p> <p><i>a) Buildings must be constructed of high quality materials including but not limited to stone, concrete, brick, timber and glass. Materials should be durable and suited to a coastal location.</i></p>	<p>A range of materials including timber cladding, powder coated aluminium, glazing, steel and precast concrete are incorporated into the redevelopment.</p> <p>Materials are durable and suitable for the development's coastal location, able to withstand the sun, rain, salt and wind that characterise coastal locations. Materials will be maintained to the highest standard, as is the case with all BP service station developments.</p>	<p style="text-align: center;">✓</p>
<p><i>b) Buildings must incorporate appropriate design features to enhance appearance, create visual interest and reduce blank walls, including a combination of the following:</i></p> <ul style="list-style-type: none"> • Varied colours, textures, finishes and materials; • Varied roof forms and design; • Balconies and balustrades; • Windows, screens and sun shading devices; • Design features that respond to the natural environment and architecture characteristic of the area. 	<p>The proposed service station redevelopment includes a variety of colours, textures, finishes and materials to ensure an attractive and interesting built form.</p> <p>Horizontal timber cladding, contemporary signage, powdercoated aluminium louvres, green panelling and substantial shopfront glazing at the West Coast Drive elevation. A steel framed awning and transparently glazed access door provides pedestrian access from West Coast Drive for enhanced activation and passive surveillance. Substantial glazing provides a degree of activation and passive surveillance to pedestrian traffic along West Coast Drive.</p> <p>The use of powder coated aluminium louvres and associated textures to break up the building's appearance and provide internal shading from the sun.</p>	<p style="text-align: center;">✓</p>
<p><i>c) Architectural character and visual interest is to be provided to all sides of buildings that are viewed from the public realm. This can be achieved with articulation, colour and/or materials (including glazing).</i></p>	<p>Please refer to the above response. The building facades fronting West Coast Drive and facing internally within the development uses a variety of colours, materials and architectural features to create visual interest and street activation.</p>	<p style="text-align: center;">✓</p>
<p><i>d) Blank walls fronting the street are not permitted.</i></p>	<p>No blank walls are proposed to front West Coast Drive or Raleigh Road.</p>	<p style="text-align: center;">✓</p>
<p><i>e) Corner buildings are to be designed to address both street frontages with equal importance.</i></p>	<p>N/A – The proposed service station redevelopment does not include a corner building.</p>	<p style="text-align: center;">N/A</p>
<p style="text-align: center;">5.6 Street and Public Realm Interface</p>		
<p>5.6.1 Street Interface</p> <p><i>a) Developments are to activate the street frontages and create a safe urban environment in accordance with the Crime Prevention Through Environmental Design ('CPTED') principles.</i></p>	<p>The proposed redevelopment of the service station will result in a safe urban environment by the 24 hour operation of the service station, incorporated lighting and a presence of activity.</p> <p>Substantial areas of glazing on the retail building façade fronting West Coast Drive and the façade facing internally towards the refuelling area ensures articulation and appropriate surveillance in and around the subject site.</p>	<p style="text-align: center;">✓</p>
<p><i>b) Adjacent verge and footpath areas to be upgraded to a high quality and to facilitate space activation.</i></p>	<p>The adjacent verge area at the West Coast Drive / Raleigh Road intersection will be upgraded with high quality landscaping, replacing the existing neglected grassed area.</p>	<p style="text-align: center;">✓</p>

	<p>The existing concrete footpath on Raleigh Road is to be extended along West Coast Drive, with new kerb ramps address to the crossovers to ensure safe pedestrian and bicycle movements surrounding the subject site.</p> <p>This will assist in activating the space within and around the Sorrento Activity Centre.</p>	
<p>c) Development addressing primary streets to provide a minimum of 80% activated frontage at street level.</p>	<p>The frontage of the retail building provides an activated frontage to West Coast Drive.</p> <p>It is not reasonable for a service station use to provide 80% of the frontage as 'activated' due to the nature of the use.</p> <p>Bicycle parking bays are located north of the West Coast Drive retail building entrance. This results in active frontage by encouraging users to cycle to the development and park their bikes at the store front.</p> <p>The seating area of the Wild Bean Café provides viewing to West Coast Drive and Sorrento Beach, resulting in substantial amounts of interaction between users of the facility and the pedestrian realm.</p> <p>The nature of the use and the location of the subject site prevents a level of 80% active frontage at street level. The 61% and 63.9% provided by the clear glazing is substantial and is considered appropriate in this context.</p>	Variation
<p>d) Development addressing secondary streets to provide a minimum of 50% activated frontage at street level.</p>	<p>It is not reasonable for a service station use to provide 50% of its secondary street frontage as 'activated' due to the nature of the use. Nonetheless the development provided visual engagement to those in the street.</p>	Variation
<p>e) An "active frontage" is defined as follows: Active frontage - a ground floor space where there is visual engagement between those in the street and those on the ground floors of buildings.</p>	<p>N/A – No assessment is required as this provision merely states a definition. However, the proposed development does provide active frontages.</p>	N/A
<p><u>5.6.3 Building Entrances</u></p> <p>a) All entrances to the buildings must be easily identifiable.</p>	<p>The two entrances to the retail building are legible and easily identified by incorporated signage.</p>	✓
<p>b) The main entrance must be easily accessible from the primary street.</p>	<p>The retail building entrance fronting West Coast Drive (primary street) is easily accessible by pedestrians from West Coast Drive, as is the entrance facing internally within the site.</p>	✓
5.7 Landscaping and Private Open Space		
<p><u>5.7.1 Landscaping</u></p> <p>a) Where fronting streets, landscaped areas are to be integrated with the streetscape including the use of consistent materials and planting and accommodate pedestrian movement, alfresco and</p>	<p>A 160m² area of high-quality landscaping is proposed to front the West Coast Drive / Raleigh Road intersection. No pedestrian movements will be impeded by the landscaping area, as the pedestrian footpath traverses around the area.</p>	✓

seating areas in a shaded environment where appropriate.		
b) Durability of landscape elements, paving materials and street furniture shall be of high quality, and easy to maintain to the satisfaction of the City.	All landscaping and paving materials will be of the highest quality, as is the case with every BP service station development. The landscaping and materials will be maintained to the satisfaction of BP and the City and remain as a well presented facility.	✓
c) Landscaped areas shall be designed for high water efficiency through use of 'waterwise' planting and preferably use species native to the area, or which reinforce existing landscape character of nearby parks and reserves.	The selected flora species for the proposed landscaping are waterwise, native to the area and provide high levels of visual amenity. Refer to Appendix 4 for a copy of the landscaping plan.	✓
d) Landscaping is to include trees and plants native to the area or which reinforce existing landscape character of nearby parks and reserves.	High quality native plants are proposed within the designated landscaping areas. The selected fauna species are located in coastal areas surrounding Perth and are suited to the subject site's coastal location. Selected ground cover and shrub species produce colourful flowers, adding visual interest to the development. Refer to Appendix 4 for a copy of the landscaping plan.	✓
5.8 Parking and Access		
<u>5.8.1 Car Parking Provision</u>	N/A – This provision is not applicable to this service station redevelopment.	N/A
a) Residential car parking including visitor car parking is to be provided in accordance with the R-Codes.		
b) Non-residential car parking is to be provided at a rate of 1 on-site bay per 20sqm of net lettable area ('NLA').	The proposed development comprises an NLA of 253m ² . Car parking bays required: 12.65 bays (rounded to 13 bays). The proposed redevelopment provides 5 car parking bays for retail customers and 8 bays within the refuelling area adjacent to the bowzers. 13 bays are required and 13 bays are provided. The proposed redevelopment provides a compliant number of car parking bays.	✓
<u>5.8.2 General Parking Location</u>	Car parking bays are located at the rear of the site and predominantly sleeved by the retail building when viewed from West Coast Drive.	✓
a) Car parking should generally be contained within the building envelope or sleeved behind the development and shall be screened from view from the public realm.		
b) Shared parking arrangements shall generally be permitted between the following lots: i) Lots 146-148; ii) Lot 149 and Lot 2; and iii) Lot 153 and 154.	The subject site and proposed redevelopment comprises Lots 153 and 154 and maintains a shared accessway to the adjoining lots at the rear of the site.	✓

<p><u>5.8.3 On-street Parking</u></p> <p>a) <i>The existing car parking bays within the road reserve of The Plaza abutting Lots 149 and 148 may only be credited to the subject lots and count toward the overall parking provision if access to these parking bays is maintained. However, it is the City's preference that these bays are removed, and all car parking bays are provided on site in accordance with the stated parking standard.</i></p>	<p>N/A – This provision is not applicable to the service station redevelopment.</p>	<p>N/A</p>
<p><u>5.8.5 End of trip facilities</u></p> <p>a) <i>End of Trip Facilities per development site are to be provided at a rate of one (1) unisex accessible toilet and shower for the first 10 secure non-residential bicycle parking bays or part thereof and one (1) secure locker for each bicycle parking bay (may be provided in conjunction with staff locker requirements).</i></p>	<p>One unisex accessible toilet is provided within the retail building.</p> <p>A shower has not been provided as it is unsuitable for this type of development and BP's internal layouts. The service station land use typically does not require end of trip facilities for its staff due to the nature of the work undertaken.</p> <p>Secure lockers are provided for staff use and are located in the back of house as shown of the floor plan.</p>	<p>✓</p> <p>Variation</p> <p>✓</p>
<p>b) <i>Separate male and female end of trip facilities need only be provided should the total number of bicycle bays exceed 10 bays.</i></p>	<p>N/A – The total number of bicycle bays does not exceed 10 bays.</p>	<p>N/A</p>
<p>c) <i>End of trip facilities may also be utilised for commercial employee change rooms.</i></p>	<p>N/A - This provision is not applicable to the service station redevelopment.</p>	<p>N/A</p>
<p><u>5.8.6 Vehicular Access</u></p> <p>a) <i>Vehicular access shall be limited to the three access points as shown on Plan 2.</i></p>	<p>Existing crossovers to the subject site are maintained, with no new access points proposed. The existing crossovers will be slightly modified to accommodate the new layout of the development and new vehicle movements.</p>	<p>✓</p>
<p>b) <i>A minimum 6m wide public access easement is to be provided to connect Raleigh Road to Padbury Circle generally in accordance with the alignment depicted on Plan 1 and Plan 2.</i></p>	<p>A minimum 6m wide public access easement is proposed in the eastern portion of the subject site to connect Raleigh Road to Padbury Circle. This location is in accordance with the alignment depicted on Plan 1 and Plan 2 of the SACP.</p>	<p>✓</p>
<p>5.9 Utilities and Facilities</p>		
<p><u>5.9.1 Location</u></p> <p>a) <i>The location of plant service equipment and lift overruns should not be visible from the adjoining street or public realm.</i></p>	<p>No plant service equipment is visible from the West Coast Drive or Raleigh Road frontages. All plant service equipment is either housed internally or within the enclosed services / refuse storage at the rear of the retail building.</p>	<p>✓</p>
<p>b) <i>Service access / yards screened from view from the street or public realm must be provided to cater for the loading and unloading of goods and waste collection.</i></p>	<p>The redeveloped BP service station is designed to facilitate the safe and efficient movements of fuel tankers and service vehicles as well as provide screening of service access / yards. As demonstrated by the swept path plans contained within the TIA at Appendix 5, 15.0m semitrailer fuel tankers and 12.5m delivery/waste collection vehicles can safely access and navigate the proposed service station development:</p>	<p>✓</p>

As demonstrated in **Table 2** above, the proposed development has been appropriately designed as to adhere to the relevant development requirements of the SACP.

4.2.5 Additional Information

Section 7 of the SACP requires additional information to be provided prior to the lodgement of development applications and/or with the development application. The development of the subject site requires a contamination assessment prior to development. Section 2.1.1 of this report and **Appendix 3** details the contamination assessment undertaken by GHD in April 2019 and the remediation works that will be undertaken during redevelopment of the facility.

4.2.6 Matters to be considered

Clause 67 – Part 9 – Schedule 2 (deemed provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015 (LPS Regulations)* stipulates matters to be given due regard by local government when considering development applications. **Table 3** below provides an assessment against matters relevant to this proposal.

Table 3 – Matters to be considered by local government

Relevant matters to be considered	Comment
a) <i>The aims and provisions of this Scheme and any other local planning scheme operating within the Scheme area.</i>	The proposed use and development is consistent with the aims and provisions of the City's LPS3 as addressed within Section 4.2.1 of this report.
b) <i>The requirements of orderly and proper planning including any proposed local planning scheme or amendment to this Scheme that has been advertised under the Planning and Development (Local Planning Schemes) Regulations 2015 or any other proposed planning instrument that the local government is seriously considering adopting or approving.</i>	This report demonstrates the proposed development is consistent with the local planning framework applicable to the development site. There is no known amendment to LPS3 affecting the proposed development.
c) <i>Any approved State planning policy.</i>	N/A – Not applicable to the proposed redevelopment.
d) <i>Any environmental protection policy approved under the Environmental Protection Act 1986 31(d).</i>	Section 4.4 of this report provides a comprehensive assessment against the EPA's <i>Guidance for the Assessment of Environmental Factors – Separation Distances between Industrial and Sensitive Land Uses</i> . The assessment appropriately demonstrates all potential impacts are capable of being managed.
h) <i>Any structure plan, activity centre plan, or local development plan that relates to the development.</i>	The proposed development is generally consistent with the provisions of the Sorrento Activity Centre Plan. Refer to Section 4.2.4 and Table 2 above for a detailed assessment against the provisions of the SACP.
(g) <i>Any local planning policy for the Scheme area.</i>	This report demonstrates the proposed development is consistent with the City's Local Planning Policies as addressed within Section 4.3 of this report.
m) <i>The compatibility of the development with its setting including the relationship of the development to development on adjoining land or on other land in the locality including, but not limited to, the likely effect of the height, bulk, scale, orientation and appearance of the development.</i>	<p>The proposed development is entirely compatible with its setting for the following reasons:</p> <ul style="list-style-type: none"> The proposed development has been designed to minimise any potential impact on nearby properties, including the residential development located east of the subject lot, and to integrate with future commercial development on the adjacent northern lots.

	<ul style="list-style-type: none"> Landscaping is provided at the rear of the site and provides separation between vehicle movements throughout the subject site and the adjoining residential properties. The built form is oriented towards West Coast Drive and Raleigh Road, with building height, bulk and scale considered appropriate in the context of the existing land use and proposed redevelopment. <p>Having regard to the above, the nature of the proposed redevelopment of the existing service station development is entirely compatible with its surrounds and is appropriate for the development site.</p>
<p>n) <i>The amenity of the locality, including the following –</i></p> <p>(i) <i>environmental impacts of the development.</i></p> <p>(ii) <i>the character of the locality.</i></p> <p>(iii) <i>social impacts of the development.</i></p>	<p>Environmental Impacts</p> <p>As outlined in this report, the proposed development will be constructed in full compliance with relevant Australian Standards regarding fuel tank separation from adjacent buildings and siting of infrastructure. Further to this, all potential environmental risks associated with the storage of fuel is regulated by the statutory Dangerous Goods licencing process under the <i>Dangerous Goods Safety Act 2004</i>.</p> <p>Character of the Locality</p> <p>A service station has been operating on this site since the early 1970's and forms part of the character of the locality. The redevelopment ensures that the character of Sorrento and its coastal nature is maintained through a high quality and interactive design.</p> <p>Social Impacts</p> <p>The proposed redevelopment will not have any adverse social impacts on the surrounding locality for the following reasons:</p> <ul style="list-style-type: none"> The continued 24 hour operation of the service station ensures a level of surveillance of the surrounding area during all hours. The proposed BP service station redevelopment will provide its services to vehicles and pedestrians travelling along West Coast Drive, beachgoers, local residents and boat users of Hillarys Boat Harbour. The development will continue to provide employment opportunities.
p) <i>whether adequate provision has been made for the landscaping of the land to which the application relates and whether any trees or vegetation on the land should be preserved.</i>	High quality, native, waterwise landscaping is incorporated into the development, resulting in a high level of amenity for customers, pedestrians and passers-by.
q) <i>The suitability of the land for the development taking into account the possible risk of flooding, tidal inundation, subsidence, landslip, bush fire, soil erosion, land degradation or any other risk.</i>	The land is not subject to any known risk of flooding, tidal inundation, subsidence, landslip, soil erosion or land degradation.
r) <i>The suitability of the land for the development taking into account the possible risk to human health or safety.</i>	The proposed BP service station redevelopment is intended to be developed to the highest environmental standards to ensure no contamination occurs to the land or to human health as part of best practice service station design.
s) <i>The adequacy of –</i>	As demonstrated in Section 3.3 of this report and the supporting Traffic Impact Assessment prepared by Porter Consulting Engineers

(i) <i>The proposed means of access to and egress from the site.</i>	(Appendix 5) , the proposed means of access to and from the site is satisfactory and utilises existing crossovers.
(ii) <i>Arrangements for the loading, unloading, manoeuvring and parking of vehicles.</i>	<p>Fuel tankers will enter the subject site via the modified Raleigh Road crossover, navigate towards the southern edge of the fuel canopy and underground fuel tank refill connection points. Fuel tankers will then proceed forward towards the full-movement crossover to West Coast Drive.</p> <p>Regarding service deliveries, delivery/waste collection vehicles will ingress the site via the crossover to West Coast Drive, navigate towards the northern aspect of the fuel canopy, and reverse towards the service yard at the northern side of the retail building. Once ready, service vehicles will then proceed towards the eastern aspect of the development site (in forward gear) and egress via the full movement crossover to Raleigh Road.</p>
t) <i>The amount of traffic likely to be generated by the development, particularly in relation to the capacity of the road system in the locality and the probable effect on traffic flow and safety.</i>	The Traffic Impact Assessment prepared by Porter Consulting Engineers (Appendix 5) demonstrates that all traffic generation associated with the proposed redevelopment will not adversely impact the surrounding road network, and that West Coast Drive and Raleigh Road are entirely capable of accommodating traffic associated with the proposed use and development. Furthermore, the service station use is one that already exists on the site, with the majority of traffic utilising a service station already being on the road network.
w) <i>The history of the site where the development is to be located.</i>	As mentioned above, a service station land use has been operating on this site since the early 1970's, with its continued use considered entirely appropriate.
(x) <i>the impact of the development on the community as a whole notwithstanding the impact of the development on particular individuals.</i>	The redevelopment of the BP service station will provide notable benefits to the community in terms of visual amenity and the services and convenience goods offered by the facility.

Having regard to **Table 3** above, the proposal appropriately addresses matters to be given due regard as set out by the deemed provisions. The proposal therefore warrants approval accordingly.

4.3 Local planning policies

4.3.1 City of Joondalup Signs Local Planning Policy

The City of Joondalup's Signs Local Planning Policy (**Signage Policy**) stipulates the requirements and standards applicable to signage on private property. An assessment of the proposed signage is provided in **Table 4** below.

Table 4 – Signage assessment

Signs policy requirement	Provided	Compliance
4.1. Design Principles		
<i>be located on land to which they relate and only advertise goods or services that relate to the land use of the site, commensurate with the realistic commercial need for such advertising;</i>	All signage is located on the service station land and will only display products and services offered by the service station.	✓
<i>promote a high standard of design and presentation in outdoor advertising;</i>	All on site signage is designed to a high standard and in a way that does not adversely affect visual amenity. BP prides itself on the presentation of their facilities and the signage of BP Sorrento will continue to present attractively.	✓
<i>not be located on land zoned or used for residential purposes, unless expressly permitted in this Policy;</i>	N/A – The land is not zoned Residential or used for residential purposes.	N/A
<i>integrate with the building design, particularly through the provision of signage panels within the building façades, where possible;</i>	The signage on the facades of the retail building and fuel canopy are integrated into the building design by the way of signage panels. The number of panels are limited to avoid proliferation.	✓
<i>be contained within the boundary of the lot on which they are situated, unless expressly permitted within this policy;</i>	All signs on the retail building and fuel canopy are wholly located within the boundaries of the subject site.	✓
<i>not to be located within a road reserve, unless expressly permitted in this Policy;</i>	The base of the flag post pylon sign is located wholly within the boundaries of the subject site. However, due to the physical nature of the sign and the curvature of the southern lot boundary, the sign overhangs the boundary.	Variation
	This minor variation is justified as it protrudes by only 1.48m into the verge area. The edge of the sign then provides a further 5.1m separation of landscaping verge area to the pedestrian footpath. With the clearance of the flag post pylon sign, the minor overhang into landscaped verge area and a further 5m to the pedestrian footpath, the sign will result in no safety issues.	✓
	Current signage on site is partly within the verge area and is necessary for appropriate commercial exposure to motorists travelling on West Coast drive.	

	Lastly, the pylon sign requirements do not outline that the signs needs to be contained within the boundary of the lot. Therefore, this sign is entirely appropriate for the subject site in the context of the area.	
<i>maintain the existing amenity of the locality, including minimising noise generated by the sign or supporting structures;</i>	The proposed signage will not adversely impact upon the existing amenity of the Sorrento locality, as a service station and signage currently exists on the site. The signage will generate no noise.	✓
<i>not present a hazard or be misleading to vehicles or pedestrians;</i>	Signage will not be a hazard to pedestrians or motorists. All signage will display products and services provided by the BP service station and will not be misleading in anyway.	✓
<i>not obstruct visual sightlines required for vehicular access to and from properties;</i>	Signage will not obstruct any sightlines for vehicles entering, exiting or manoeuvring through the subject site. The physical nature of the flag post sign provides clear sightlines for motorists and pedestrians on the road network and within the sight.	✓
<i>not obstruct access to or from any door, window or fire escape;</i>	Signage is not located in areas that will obstruct doors, windows or fire escapes.	✓
<i>not contain any obscene or vulgar material;</i>	Signage will not display any offensive material and only products related to the BP service station.	✓
<i>not be affixed to boundary fences or boundary walls;</i>	No signage is affixed or located on boundary fences or boundary walls.	✓
<i>not include the use of flashing lights that chase or pulse; and</i>	Any illuminated signage will not contain any flashing or pulsing lights.	✓
<i>not be superfluous or unnecessary by virtue of colours, height, prominence, visual impact, size, relevance to the premises on which they are located, number and content.</i>	Signage is not considered to be excessive in terms of its characteristics. All BP signage is specifically designed to a standard for necessary exposure and with BP's corporate branding.	✓
Wall Sign		
<p>Area: max. 25% of the façade.</p> <p>Must:</p> <ul style="list-style-type: none"> not extend beyond the top or either end of the wall; and not obscure architectural details. 	Wall signage proposed does not exceed 25% of any façade/elevation area, nor extend beyond the top/side of any walls. (including refuelling canopy 'BP Helios').	✓
Single - Tenancy Pylon Sign		
Max area: 6m ²	9m ²	Variation
Max height: 6m	7m	Variation
<p>Justification:</p> <p>The proposed minor variations are considered acceptable for the following reasons:</p> <ul style="list-style-type: none"> The irregular shape of the site limits appropriate locations for the pylon sign without compromising the area for safe vehicle movements throughout the site. Furthermore, adjacent developments to the north sleeve the subject site and 		

the services it offers. The dimensions and location of the pylon sign have been deliberately chosen to provide appropriate exposure for the BP facility.

- The 1m height variation is considered acceptable as the base of the pylon sign comprises a single upright beam only, with sightlines maintained under the sign face. The sign is required to display the price of fuel, the velocity points program and the Wild Bean Café facility within the development. To display this information clearly and safely to motorists, a 7m sign height and 9m² sign face are required.
- The proposed pylon sign is designed to overhang verge landscaping proposed at the intersection of Raleigh Road with West Coast Drive.
- No activity including the manoeuvrability of vehicular or pedestrian traffic is proposed under or within the vicinity of the proposed pylon sign, with consideration to the direction of its overhang (southerly direction).
- Pedestrian footpaths are provided along the site's frontage, secluded from the pylon sign, thus unlikely to result in limiting pedestrian manoeuvrability.

The proposed 3m² sign area variation and 1m maximum height variation are considered acceptable and are unlikely to result in any adverse impacts to amenity of the site. The sign provides essential commercial exposure for BP, as is required for any service station development and to ensure to motorists travelling on West Coast Drive are provided with enough notice of the facility. The proposed pylon sign therefore warrants approval.

<i>Must be restricted to 1 sign per lot except for a corner lot where 1 sign per frontage is permitted.</i>	1 pylon sign proposed.	✓
<i>Must where there are multiple tenancies, incorporate all signs into 1 composite sign.</i>	Pylon sign incorporated multiple panels, reflective of commercial offerings available at the site including: <ul style="list-style-type: none"> • BP identification logo and lettering. • 'Wild Bean Café'. • Fuel branding and pricing. 	✓
<i>Must not be permitted where another free standing sign has been approved and erected, or will not supersede another valid approval on the same frontage;</i>	Existing signage to be removed, and replaced with proposed signage as part of redevelopment.	✓
<i>Must be no closer than 15 m to the intersecting point of corner truncations;</i>	The proposed pylon sign located within the boundaries of the subject site, well secluded from the corner truncation of West Coast Drive and Raleigh Road.	✓
<i>Must not impede vehicle sightlines within the lot for access to and from the property.</i>	Due to the irregular corner shape of the site, substantial verge fronting the site and proposed location of the pylon sign within the boundaries of the site, the proposed pylon sign (supported by a single upright) is setback behind vehicle sightlines egressing the Raleigh Road crossover. The pylon sign will not cause any undue impact upon vehicle sightlines utilising either Raleigh Road or West Coast Drive crossovers.	✓

Having regard to **Table 4** above, the proposed signage is generally compliant with the provisions of the City's Signage Policy and warrants approval accordingly.

4.4 Environmental Protection Authority Guidance Statement No. 3 – Separation Distances between Industrial and Sensitive Land Uses

The Environmental Protection Authority (EPA) Guidance Statement No. 3 – Separation Distances between Industrial and Sensitive Land Uses (**EPA Guidance Statement No. 3**) provides generic buffer distances intended to mitigate impacts of industrial developments on sensitive land uses.

With regard to retail fuel developments (service stations etc.) proposing 24-hour operation, the EPA Guidance Statement No. 3 identifies potential impacts as gaseous, noise, odour and risk, and recommends a generic buffer distance of 200m. The buffers recommended by EPA Guidance Statement No. 3 are not absolute separation distances, but instead are default distances providing general guidance in the absence of site specific technical studies.

Table 5 below provides further information on the potential externalities from the continued operation of the existing service station following redevelopment and provides justification to demonstrate the location of the development continues to remain appropriate.

Table 5 – Mitigation of potential amenity or environmental impacts

Potential amenity or environmental impact	Mitigation methods
Noise	<p>An Environmental Noise Assessment has been prepared for this proposal, incorporating a comprehensive assessment of noise sources as required by the <i>Environmental Noise Protection (Noise) Regulations 1997</i>. Refer Appendix 8 for a copy of the Environmental Noise Assessment undertaken by Lloyd George Acoustics.</p> <p>The Environmental Noise Assessment confirms that noise generated by the proposed development will comply with the necessary noise requirements during all time periods (over 24-hour period), subject to mitigation measures. These mitigation measures are acceptable to the proponent and can be incorporated into the development as a condition of planning approval.</p>
Risk	<p>As the proposed service station provides for the retail sale of fuel, the proponent must obtain a Dangerous Goods Storage and Handling Licence to store and sell petrol on the subject site (post development approval). The is assessed and considered as part of obtaining the licence:</p> <ul style="list-style-type: none"> • Separation distances to boundaries, public places, protected places and impact on adjoining properties. • Site accessibility for fuel delivery tankers and vehicles. • Spill containment. • Emergency preparedness and management. • Operator training. • Maintenance provisions. • Lighting. • Equipment to be installed. <p>Accordingly, risk is appropriately assessed through the dangerous goods licensing process, which will follow the development approval process. The site has been designed to ensure it can obtain a Dangerous Goods and Handling Licence.</p>
Odour/Gaseous	<p>The underground fuel storage tanks will be equipped with a Stage 1 Vapour Recovery System. A Stage 1 Vapour Recovery System ensures all petrol vapours from the underground tanks are drawn back into the fuel tanker being emptied and returned to the supply terminal where the vapours are recondensed into liquid. Additionally, vapour recovery lines are connected to the fuel bowsers for further mitigation.</p>

Potential amenity or environmental impact	Mitigation methods
	<p>The dangerous goods licensing process assesses the likely impact from vapours/odours. Accordingly, the assessment of petrol vapours and odours is appropriately assessed and managed through the dangerous goods licensing process and will require implementation of appropriate design measures to mitigate potential risk impact.</p>
Lighting	<p>Potential sources of light spill from the proposed development are primarily the lighting of the retail building frontage, the petrol canopy, and any external lights throughout the forecourt area.</p> <p>It should be noted any light from the retail building is likely to be buffered by the forecourt area. Additionally, lights within the petrol canopy are baffled and orientated internally to ensure light spill is contained within the confines of the development site.</p> <p>The final design of lighting will be subject to, and regulated by <i>Australian Standard 4282 – Control of Obtrusive Effects of Outdoor Lighting</i> and any other relevant regulatory requirements. In addition to regulatory requirements, the layout/orientation of the development and the location/direction of the lighting will further control potential light spill.</p> <p>Street lighting exists along the West Coast Drive and Raleigh Road frontages.</p>

As demonstrated in **Table 5** above, the proposed development has been appropriately designed and sited to mitigate any potential amenity and environmental impacts on any nearby sensitive land uses.

5 Conclusion

This application seeks approval for the redevelopment and use of the BP service station on the subject site, which is proposed to operate 24 hours and cater for the refuelling of light vehicles and boats.

In summary, the proposal warrants approval for the following reasons:

- BP have been a long term owner and operator of this site, with the redevelopment resulting in a substantial improvement to the existing service station facility within the Sorrento Activity Centre.
- The proposed facilities will provide essential fuel retailing services and retail conveniences to the residents of Sorrento, passing motorists, beachgoers and boat users.
- A service station is a 'D' (discretionary) use within the commercial zone of the SACP and maintains its status as a permissible use on the subject site, demonstrating the suitability/appropriateness of the use on the subject site.
- The proposed development is supported by a Transport Impact Assessment and is configured in a manner which maximises traffic coordination and safety. Any additional vehicular traffic from the development is able to be accommodated by the existing road network resulting no adverse impacts.
- The proposed development is supported by an Environmental Noise Assessment, and is designed and operated in a manner which minimises noise.
- It has been demonstrated, through a comprehensive assessment against relevant EPA guidelines, that the proposed service station redevelopment will achieve regulatory requirements and have minimal, in any adverse impacts on the locality.

Having regard to the above, the proposal clearly demonstrates the suitability of the redevelopment of the existing facility on the subject site. Accordingly, we respectfully request the Metro North West JDAP grant approval to the proposed development.

PS ref: 6024
City Ref: DA19/0544
DAP Ref: DAP/19/01628

06 August 2019

City of Joondalup
Planning Services
PO Box 21
JOONDALUP WA 6919

Attention: Jeremy Thompson, Senior Urban Planner

Dear Sir,

**LOT 153 (128) WEST COAST DRIVE AND LOT 154 (1) RALEIGH ROAD, SORRENTO
PROPOSED SERVICE STATION REDEVELOPMENT
RESPONSE TO REQUEST FOR FURTHER INFORMATION**

Planning Solutions acts on behalf of BP Australia Pty Ltd in support of an Application for Approval to Commence Development of a service station on Lot 153 (128) West Coast Drive and Lot 154 (1) Raleigh Road, Sorrento (**subject site**).

We refer to the Request for Further Information (**RFI**) from the City of Joondalup (**City**) received via email on 23 July 2019. In addition to the City's planning comments, we provide a response to the comments received at the Joondalup Design Reference Panel (**JDRP**) meeting on 17 July 2019, at which the proposed BP service station redevelopment was presented.

1.0 AMENDED DEVELOPMENT PLANS

Please find enclosed an amended set of development plans (refer to **Appendix 1**), reflecting the following proposed modifications to the site plan and elevations:

1. A modified north west elevation of the retail building, providing an extension of timber cladding to the rear of the building and additional paint finish, adding visual interest and reducing blank wall space.
2. Minor relocation of the pylon sign, so that it is wholly located within the lot boundaries of the subject site. The sign face is angled south west towards West Coast Drive. To clarify any discrepancies in the DA report and DA plans, the proposed pylon sign is 6m high.
3. Annotation of top of wall heights for the retaining wall on the eastern lot boundary.
4. Minor relocation of the universal access bay to the eastern bay of the rear car parking area, to provide a more direct access to the retail building.
5. An additional bicycle rail to provide a total of four bicycle rails fronting West Coast Drive.

Please also find the attached landscaping plan (**Appendix 3**) with revised landscaping design, including inclusion of three trees to the rear of the site and one tree in the verge area at the West Coast Drive / Raleigh Road intersection. All other plant species are native, low growing, low maintenance and water wise varieties from the City's approved plant material list.

The above modifications are outlined in further detail within this submission.

2.0 SUITABILITY OF THE BP SORRENTO REDEVELOPMENT

The main consideration informing the RFI relates to the suitability of the proposal in the context of the Sorrento Activity centre Plan (**SACP**). Specifically, we refer to the following statement from the RFI:

Fundamentally the City has concerns that the development does not meet the intent of the Sorrento Activity Centre Plan (SACP). Whilst noting the land use is existing the proposal is not in line with the intention as demonstrated in Plan 2.

The application does not propose a change of the service station use which has operated on the subject site for the past 45 years. Refer to the Landgate historical aerial photograph below from 1985, with records suggesting a service station has operated since 1974. The subject site has also been owned by BP for over 20 years.



Photograph 1: Landgate historical aerial image from 1985, showing the use of the subject site as a service station.

Under the SACP, the subject site is designated a 'Commercial' zoning, with land use permissibility to be in accordance with the corresponding zone under LPS3. A Service Station land use is a 'D' (discretionary) use within the Commercial zone and capable of approval on the subject site. The built form required by the SACP is not conducive for a service station, a use that is capable of approval under the provisions of LPS3. As such, we consider the continued use of the site for the purposes of a service station to be entirely appropriate.

Service Station Design

The design of the redeveloped service station has incorporated many of the built form provisions outlined by the SACP. The proposed development incorporates a unique built form, differing from the typical BP service station. Specifically, the design incorporates a reduced street setback of the retail building to West Coast Drive to provide a direct interface with the street. This design feature is coupled with layout considerations that include car parking at the rear, vehicle access and an easement to link to the adjoining property to the north.

The retail building provides opportunities for interaction with West Coast Drive, with the reduced setback resulting in an activated streetscape, providing for high levels of pedestrian interaction. The reduced setback and café seating provide a social environment to interact with customers and/or pedestrians. The proposed landscaping provides a high level of external amenity for pedestrians, customers, passing motorists and nearby dwellings and is a substantial improvement to what currently exists. The retail building also provides an increased scale in terms of building height, responding to the sites prominent location fronting West Coast Drive and in response to the prescribed development standards of the SACP. The increased height in addition to the provision of substantial glazing achieves maximum activation and interaction with the streetscape, whilst maintaining the practicality of the site for use as a service station.

These are all features that demonstrate the SACP has been considered in the overall design of the proposed development. These efforts were additionally acknowledged by several of the JDRP members at the meeting on 17 July 2019, but not formalised within the minutes.

There are some built form components of the SACP that simply cannot be achieved in consideration of the unique operational and layout requirements of a service station. Such requirements identified by the City's officers include a minimum building height of 3 storeys and a nil setback along the entire West Coast Drive street frontage. The built form and characteristics of a service station are highly specialised and need to be considered as part of a service station development. Every service station contains a fuel canopy, refuelling forecourt, retail building, fuel tanker fill points and ideally two points of access / egress. The locations of these components require careful consideration to achieve optimal functionality and operation of a facility. In addition, these considerations further extend to the dangerous goods licence requirement which dictate where components of a service station can and cannot be located.

All of the design features have been considered carefully throughout the design of the proposed service station to ensure the built form is of high quality, high amenity and responds to the context and character of the locality. The proposed service station is generally consistent with the built form standards contemplated by the planning framework.

Taking into consideration the above, the overall service station design process is complex and needs to be considered holistically to ensure the development is functional, capable of operating and considered in response to the planning framework.

Planning And Development (Local Planning Schemes) Regulation 2015

The SACP is the planning instrument guiding built form for the subject site. The specific built form standards the City's officers have identified as not being considered as part of this application include achieving the minimum building heights and street activation by providing a continuous frontage to West Coast Drive. Pursuant to Clause 43 (1), Part 5, Schedule 2 – Deemed Provisions of the *Planning and Development (Local Planning Schemes) Regulations 2015*:

*A decision-maker for an application for development approval or subdivision approval in an area that is covered by an activity centre plan that has been approved by the Commission **is to have due regard to, but is not bound by, the activity centre plan when deciding the application.** [Emphasis added].*

The Deemed Provisions clearly establishes that discretion should be applied by the decision maker in determining an application for development approval, with an Activity Centre Plan only a 'due regard' document. Whilst incorporating as many of the SACP built form requirements as possible, it is not possible to achieve all as part of a service station development, as outlined above.

Taking into consideration the information contained within this submission and development application, we respectfully request that discretion be applied by the City in their assessment of the proposed development and recommendation to the Joint Development Assessment Panel.

3.0 SERVICE STATION EXAMPLES

A number of existing service station developments have been approved in contexts where the planning framework has typically required a higher and more intensive use of the land. Two such examples are provided in **Table 1** below.

Although the planning framework may envision a higher and more intense built form / use for a site, any application to redevelop an existing facility, with a continuation of the existing / use is warranted and should be assessed on its merits. The particular built form requirements of a due regard document such as an Activity Centre Plan or Local Development Plan should be considered in response to the type of use and development being proposed.

Table 1 – Service station examples

Site	Summary of development and relevant planning framework
BP Nookanburra Lot 31 (386) Scarborough Beach Road, Innaloo.	<ul style="list-style-type: none"> The redevelopment of the existing service station facility was approved by the Metro North-West Joint Development Assessment Panel on 30 May 2018. The Stirling City Centre Activity Centre Plan and the Southern Precinct Local Development Plan envisioned a mixed-use, Main Street Built form. The development standards of both due regard documents ultimately envisioned mixed use development with a <u>minimum of 2 storeys</u> and <u>maximum of 12 storeys</u>.
Caltex Applecross Lot 22 (918) Canning Highway, Applecross.	<ul style="list-style-type: none"> The redevelopment of the existing service station facility approved by the Metro Central JDAP on 7 August 2013. The Canning Bridge Activity Centre Plan was a seriously entertained document at the time the application was under assessment. The planning framework envisages mixed use development with a building height of <u>15 storeys</u> and continuous <u>nil setback street edge</u>.

These two sites provide a clear example of how this type of development has been considered in relation to a planning framework that is similar to the SACP.

4.0 CASE PRECEDENTS

Precedents have also been set by State Administrative Tribunal (**SAT**) in cases of a similar nature and context to that of the proposed development. In the matter of *Caltex Australia Petroleum Pty Ltd and the Town of Vincent* [2010] WASAT 174 (**Caltex Leederville decision**), the State Administrative Tribunal (**SAT**) considered the issues to determine if an application for the redevelopment of the longstanding Caltex facility was consistent with orderly and proper planning. Specifically, the Tribunal explored:

Whether the development is consistent with orderly and proper planning and the conservation of the amenities of the locality having regard to the location, height, scale, design and nature of the proposal and the terms of the Masterplan.

The Caltex Leederville decision is relevant to this application, as the Town of Vincent resolved to refuse a development application for the redevelopment of the Caltex facility that had operated on the site for 40 years, based off inconsistencies with a Masterplan (due regard) document. The Town of Vincent contended that the proposed redevelopment of the Caltex facility was inconsistent with the aims and intended built form of the Masterplan, an under-development of a key site and was considered contrary to orderly and proper planning.

The Tribunal recognised the importance and role of policy in guiding planning decisions and promoting rational and consistent decision-making, however, ultimately resolved that policies ‘*should not be applied so inflexibly that where a variance may be appropriate, it is simply ignored*’. As pointed out by *Nicholson J in Falc Pty Ltd and Anor v State Planning Commission (1991) 5 WAR 522*:

‘the function of the Tribunal is to have regard to that policy but to exercise its discretion in relation to it in the light of the evidence in the particular case’.

The guidelines for built form were conceptual and provided principles that should be incorporated into the built form of new developments. The Tribunal accepted that the proposed development had conscientiously made an effort to embody some of the built form principles advocated in the Masterplan guidelines, effectively having due regard for the document.

There are a number of consistent themes with Caltex Leederville decision and the BP Sorrento site. Both sites have a service station as a land use that is capable of approval; the use is a continuing use (and one that has operated on the site for in excess of 40 years); the application only relates to the physical development of the land; and the landowner / proponent had due regard to the applicable planning framework and actively made efforts to incorporate achievable aspects of the planning framework into the design of the facility.

The proposed redevelopment of the BP Sorrento service station has had due regard for the specific built form requirements of the SACP, considered these requirements in the design of the redeveloped facility while maintaining the essential built form standards applicable to the service station use. The proposal results in a substantially improved development in terms of amenity and functionality. As much as the planning framework envisions a higher and more intense built form for the subject site, the landowner and operator of this longstanding service station site has made all possible efforts to incorporate the achievable aspects of the SACP into the design of the redeveloped service station.

4.0 RESPONSE TO CITY'S COMMENTS

Refer to **Table 2** below for the response to the general comments and requested amendments contained within the City's RFI.

Table 2 – Response to City's RFI and requested amendments (via email on 23 July 2019)

#	City's comment	Recommended applicant response
a.	<i>The development does not meet the minimum building heights applied in Note 3 of Plan 2. This furthers the argument above that the development is not in keeping with the intent of the SACP.</i>	Refer to Sections 2 and 3 above.
b.	<i>The proposed frontage of 10.6m and glazing area (active frontage as defined by 5.6.1 e of SACP) of 7.2 is not considered sufficient for the Active Edge as identified in Plan 2. This equates to 20% of the frontage area of 34.44m (43.44m minus 9m for access and landscaping). Justification that the proposed service station use cannot provide this due to the nature of the use is not sufficient.</i>	<p>The size of the site and the service station land use does not allow for further increases in the amount of active frontage. Service stations require two street crossovers for optimal functionality, as discussed later in this submission. This significantly inhibits the amount of street frontage that can be developed. This could only be achieved if a continuous wall/glazing were provided along the frontage in front of the canopy. We do not consider this to be a good built form outcome for the corner site and it is questionable whether a solid façade would result in greater activation than a development of an open nature.</p> <p>Furthermore, an active frontage is a highly subjective term, with the service station and associated Wild Bean café considered to largely be an active use. Pedestrians are encouraged to access the facility from the already active West Coast Drive. When patrons are refuelling their car, there is an opportunity for interaction with the street. For example, a patron may see someone they know walking along West Coast Drive and engage in a form of interaction.</p> <p>The proposed development maintains clear sightlines and a built form that is appropriate for the coastal location. High quality landscaping provided at the intersection increases the amenity of the public realm.</p>
c.	<i>No landscaping strip is proposed on the eastern boundary of Lot 154 as required by SACP Plan 2 and element 5.4.5.</i>	<p>A landscaping strip is not proposed on the entirety of the eastern boundary of Lot 154 to ensure a more suitable vehicle access arrangement and crossover location within proximity to the intersection. Providing a landscaping strip in the prescribed location would require the Raleigh Road crossover to be shifted closer towards the West Coast Drive / Raleigh Road intersection, which is not ideal from a safety perspective.</p> <p>A high-quality landscaping area is provided to the rear of the site to compensate for no landscaping strip along the lot boundary.</p>

		The purpose of the landscaping strip's location is unclear. We understand the intent of the landscaping strip was to provide a separation between Lot 154 and Lot 155. The proposed development does not contain multiple level / mixed use development and does not require this separation in built form as the area is provided with hardstand. Lot 155 has historically remained vacant and it is unknown whether any future development will occur on this site.
d.	<i>The transport report (specifically swept paths) show conflicts between vehicle movements and the fill points. The development also has a significant number of movements that cross to the wrong side of the road/access.</i>	Refer to the technical note and additional swept path analysis provided by Porter Consulting Engineers in Appendix 2 . The vehicle movements are lane correct and the only movement on the wrong side of the crossover relates to service vehicles and boats which are a small percentage of vehicle movements. This is common for service station developments.
e.	<i>Noting the access points are existing, they are not in accordance with the SACP.</i>	<p>The crossovers are existing, with only minor modifications proposed to allow for suitable access in response to the amended design. The Raleigh Road crossover is in accordance with the location prescribed in the SACP. The transport assessment that was undertaken for the SACP analysed two scenarios both of which included the access to the service station site.</p> <p>A service station use requires a minimum of two street crossovers for an efficient and optimal flow of vehicles, and access for service vehicles. It is not practical or possible for fuel tankers to turn around within the constraints of the subject site. Main Roads WA acknowledge this design requirement in their driveway policy Document (D12#57413) which states:</p> <p><i>"Service stations on a corner lot may have one driveway up to 11.0 m wide to a State road and another to the minor road. Those not on a corner may have two driveways, each up to 11.0 m wide"</i></p> <p>In addition, West Coast Drive and Raleigh Road are not regional roads. Refer to the technical note provided by Porter Consulting Engineers in Appendix 2.</p>
f.	<i>Though meeting car parking requirements, the ACROD parking bay is not convenient to access the site, nor are the two parallel parking bays along the boundary of Lot 155.</i>	Rear parking bays have been reconfigured to have the shared access align directly with the pedestrian crossing to provide more direct access to the universal access bay.
g.	<i>The proposal does not permit for sufficient truncation on the eastern side of the development to allow safe interaction between the vehicles leaving Lot 2 and the pedestrians in front of the subject site.</i>	<p>The maximum height of the retaining wall at this aspect of the site is 2.1 metres, as depicted on the revised development plans. The pedestrian walkway is located 9.3m from the boundary of Lot 2. This area contains a 2.69m landscaping strip which provides suitable distance for vehicle sight lines. In addition, vehicles will be travelling at low speeds, as this in an internal accessway.</p> <p>Refer to the technical note provided by Porter Consulting Engineers in Appendix 2 for further information on the suitability of this access.</p>
h.	<i>The proposal does not include the retaining wall heights as proposed. Please include top of wall heights to ensure there is no detrimental impact on vehicle movements.</i>	The retaining walls are now depicted on the revised development plans contained in Appendix 1 . There will be no detrimental impact on vehicle movements or sightlines as a result of the retaining walls.
i.	<i>Through investigation into the site it does not appear that any formalised easement is on the property. Should the development be successful a condition requiring this to be undertaken will be required.</i>	The proposed formalised easement area is depicted on the site plan as the hatched area. We agree to an appropriately worded condition of approval requiring the formalised easement.

j.	<i>The proposal appears to provide 3 bicycle bays in the verge area. This is in lieu of 4 (2 for the development, 2 for visitors).</i>	The revised development plans contained in Appendix 1 now depict 4 bicycle rails in the verge area fronting West Coast Drive, adjacent to the entrance of the retail building. A bicycle can be parked either side of the bike rail, essentially providing space for six bicycles in lieu of the required four.
k.	<i>The proposal includes signage which overhangs into public land. This matter is not supported by the City and signage is required to be located within private land. The exact height and size of the sign also needs to be identified as this is unclear through the report/plans.</i>	We confirm that a 6m sign is proposed, as reflected in revised plans. The sign has been relocated slightly to the east to be wholly contained within the boundaries of the subject site and doesn't overhang into public land.
l.	<i>No information has been provided on any equipment, external fixtures and associated screening.</i>	Further detailed information regarding the specifics of equipment, and external fixtures can be provided at the detailed design stage prior to obtaining a building permit, as an appropriately worded condition of approval. All plant will be provided within the service yard which is appropriately screened from view.
m.	<i>The plans identify that the services/refuse yard has a door that opens directly onto a landscaped area. This does not seem practical.</i>	The door that is depicted is an emergency evacuation door. The landscaping plan has been updated to provide a stone path from the emergency evacuation door to the forecourt.
n.	<i>Delivery and waste management will need to be coordinated to ensure there is no conflict.</i>	Service vehicles such as delivery trucks and fuel tankers can be managed to access the site during non-peak times and coordinated to ensure there is no conflict, as part of best practice service station operation. BP are an experienced operator who will appropriately coordinate all delivery and waste management.
o.	<i>No irrigation details have been provided. Stamped Certified Irrigation Design (CID) are required that complies with the Street Verge Guidelines including;</i>	All garden beds are to be irrigated. Irrigation details can be provided as a condition of Development Approval. The water schedule will be as per the Water Corporation's 'Water Efficiency Measures'. A Certified Irrigation Plan has been refereed to in the Landscape Plan notes contained in Appendix 3 . This can be provided at the detailed design stage prior to construction and be a condition of Development Approval.
	<i>a. The City has the following requirements when an owner or occupier installs irrigation to street verges: Irrigation pipes should be laid beneath the verge at a depth between 150mm and 300mm. No fitting connected to the pipes shall protrude above the surface of the lawn or garden.</i>	
	<i>b. Irrigation pipes and connections should be at least 250mm away from the footpath or the kerb alignment. Half sprinklers should be used and should direct the flow of water away from the road or footpath surface. Only the pipes and sprinklers should be located on the verge; all valves, including solenoid valves, should be located within the abutting property.</i>	
p.	<i>Notwithstanding comments from JDRP the plant species appear too big and would potentially impact sightlines for the intersection of Raleigh Road and West Coast Drive.</i>	The plant varieties selected for the landscape area at the intersection of Raleigh Road and West Coast Drive are 50cm in height or less, as approved for verges and surrounding cross overs. Please refer to the plant schedule on the landscaping plan in Appendix 3 for the specific heights and widths of the proposed plant species at maturity.

q.	<i>Hankea undulata</i> grows to 2m high – Needs to be substituted for something else more appropriate on the attached list.	Hankea undulata has been removed from the plant schedule. The plant varieties selected for the landscape area at the intersection of Raleigh Road and West Coast Drive are 50cm in height or less, as approved for verges and surrounding cross overs. Please refer to the plant schedule on the landscaping plan in Appendix 3 for the specific heights and widths of the proposed plant species at maturity.
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RESPONSE TO JDRP COMMENTS

Table 3 below provides a response to the general comments received by the JDRP at the meeting held on 17 July 2019.

Table 3 – Response to JDRP comments

#	JDRP comment	Recommended applicant response
1.	<i>More trees/canopy should be incorporated on site with landscaping being incorporated into the adjoining residential lot. Corner element could be a feature of the site.</i>	<p>Three medium sized trees (Coral Gum and Native Frangipani) are proposed in this area along with medium-sized shrubs, ground covers and grasses.</p> <p>The selected trees are narrow growing and from the City's approved plant material list, which are approved for carparks. Both varieties are low bark/litter varieties, required for a service station.</p> <p>All shrubs, grasses and ground covers specified on the plan are native, low maintenance and water wise varieties from the City's Approved Plant Material list. The planting density is typical of similar sites.</p> <p>Please refer to the plant schedule on the landscaping plan within Appendix 3 for the specific heights and widths of the proposed plant species at maturity.</p>
2.	<i>Rear (north) of the building could be addressed through alternate treatment.</i>	Please refer to the revised north west elevation of the retail building as depicted on the revised development plans. The timber cladding and paint finish has been extended to the rear of the building, adding visual interest and reducing blank wall space.
3.	<i>Signage should comply with the City's policy and be located within the site.</i>	<p>The height of the proposed pylon sign is 6m in accordance with the requirements of the City's signage policy.</p> <p>The sign has been relocated to the east to be wholly contained within the boundaries of the subject site and ensure it does not overhang into public land.</p>
4.	<i>All contamination issues need to be resolved.</i>	<p>This is not considered to be a relevant matter for the JDRP.</p> <p>Contamination will be addressed in accordance with the requirements of the <i>Contaminated Sites Act 2003</i>. Routine environmental monitoring undertaken by BP and a pre-rebuild environmental assessment completed by GHD in April 2019 identified hydrocarbons in groundwater and soil beneath the site. As part of the redevelopment, BP's environmental consultant and an accredited contaminated sites auditor will review all environmental assessment and remediation works.</p>

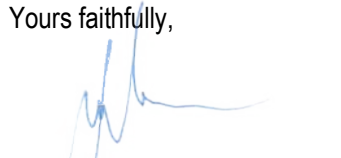
CONCLUSION

In summary, the above response thoroughly addresses the comments raised by the City in their RFI, sent via email on 23 July 2019 and the comments raised by the JDRP at its meeting held on 17 July 2019. A modified north west elevation of the retail building includes increased timber cladding for improved amenity, visual interest and a decrease in the area of blank wall space.

The development is largely compliant with the planning framework and results in a high-quality built form outcome for the subject site, which has been used exclusively as a service station for the past 45 years. Accordingly, we respectfully request the application for development approval be considered on its merits and the City makes a favourable recommendation to the Metro North West JDAP.

Should you have any queries or require further clarification in regard to the proposal, please do not hesitate to contact the undersigned on (08) 9227 7970.

Yours faithfully,



JOSH WATSON
ASSOCIATE

190806 6024 RFI Response Letter

TRAFFIC IMPACT
ASSESSMENT

BP SORRENTO
SERVICE STATION
REDEVELOPMENT

Porter



REPORT PREPARED FOR

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Appendix A – Site Plan

Appendix B – Swept Paths

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1.0 INTRODUCTION

1.1 Background

Porter Consulting Engineers has been commissioned to prepare a Traffic Impact Assessment (TIA) for the development application for the redevelopment of the existing BP Service Station on the corner of West Coast Drive and Raleigh Road, Sorrento within the City of Joondalup.

The site is located approximately 20kms to the north of the Perth CBD and 15km to the south of the Joondalup City Centre. Key distributor roads within close proximity of the site include West Coast Drive (frontage road), Hepburn Avenue to the north, Marmion Avenue to the east and Warwick Road to the southeast.

The site location is shown in a regional context in **Figure 1** and in a local context in **Figure 2**.

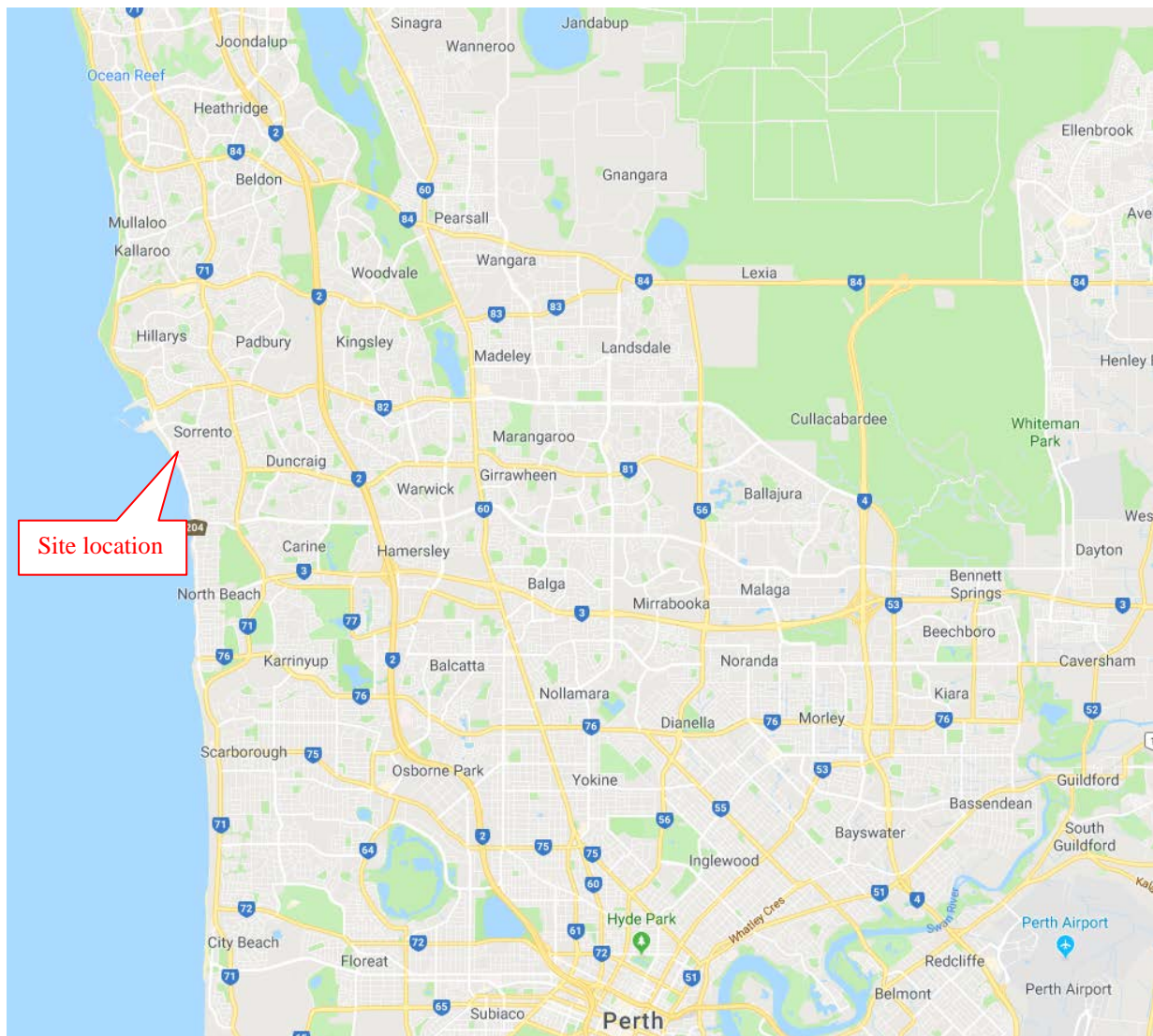


Figure 1: Site Location – Regional Context (GoogleMaps)

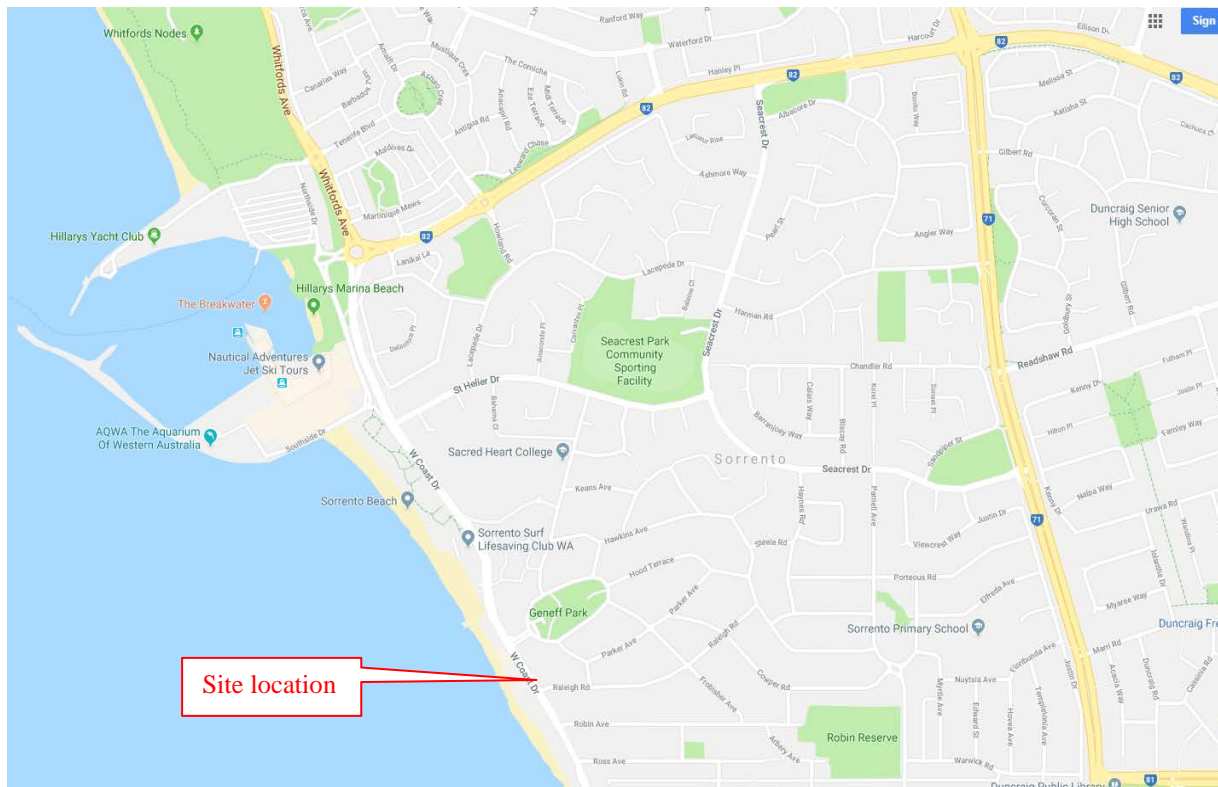


Figure 2: Site Location – Local Context (GoogleMaps)

1.2 Scope of Assessment

The intent of this report is to provide the approving authority with sufficient transport information to confirm that the proponent has adequately considered the transport aspects of the development. This TIA assesses the proposed redevelopment addressing road access, site circulation, parking and pedestrian access as well as traffic safety.

The level of transport assessment is considered to be that of a ‘high impact’ development. A “high impact” development is one that generates over 100 vehicle trips in the development’s peak hour. It is however noted that this is a redevelopment and as such the traffic is already on the existing road network.

2.0 DEVELOPMENT PROPOSAL

2.1 Proposed Land Uses

The proposed redevelopment is for a BP Service Station. Facilities to be included within the development are:

- 8 refueling positions;
- 253m² convenience store; and
- 5 parking bays

Two driveways (existing) are proposed to remain to service the redeveloped site. These are located on West Coast Drive and Raleigh Road. Indirect access is also available via the rear of the site from the adjoining lot.

Appendix A contains a copy of the development plan.

2.2 Context to the Surrounds

The development currently operates as a service station. The redevelopment seeks to improve the existing facilities and layout of the site in line with the Activity Centre Plan for the Sorrento Local Centre.

West Coast Drive in the vicinity of the site is subject to pedestrian activity due to the proximity to the beach and associated activities. It is understood that the City has a vision to improve pedestrian facilities along this section of West Coast Drive. The proposed layout of the redevelopment supports pedestrian access. Unlike typical service stations, the redevelopment proposes two entrances into the store. One entrance is to be located adjacent to the forecourt to service the refueling customers whilst another entrance is to be located directly from the West Coast Drive verge area to cater for “walk in trade” from the surrounds.

3.0 EXISTING SITUATION

3.1 Road Hierarchy and Road Infrastructure

Adjacent to the site, West Coast Drive is constructed to a two-way divided carriageway standard using a combination of painted and solid median treatments. On street parking embayments are provided on the western side of the road. A Principal Shared Path (PSP) is provided along the western side of the road. The existing verge width is paved directly adjacent to the site. Power poles (with street lighting) are located on the eastern side of the road adjacent to the site.

Raleigh Road is constructed to a two-way undivided single carriageway standard. Centreline marking are provided separating the opposing traffic lane flows. Power poles are located on the northern side of the road.

Raleigh Road forms a T-junction at West Coast Drive with Raleigh Road being the minor leg controlled by Give Way.

Figure 3 outlines the existing standard of West Coast Drive and Raleigh Road in the vicinity of the site.



Figure 3: Road Standard of West Coast Drive and Raleigh Road (NearMaps)

West Coast Drive is classified a District Distributor B road under Main Roads WA *Functional Road Hierarchy*. This classification is applied to roads which are to “*carry traffic between industrial, commercial and residential areas and generally connect to Primary Distributors.*” These roads typically have a reduced capacity compared to District Distributor A roads due to flow restrictions from access to and roadside parking alongside adjoining properties. This road is managed by the City of Joondalup.

Raleigh Road is classified as an Access Road under Main Roads WA *Functional Road Hierarchy*. Access roads “*provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian friendly.*” This road is also managed by the City of Joondalup.

Figure 4 outlines the road hierarchy classification of the surrounding road network.

Both West Coast Drive and Raleigh Road are subject to the default urban speed limit of 50km/h.

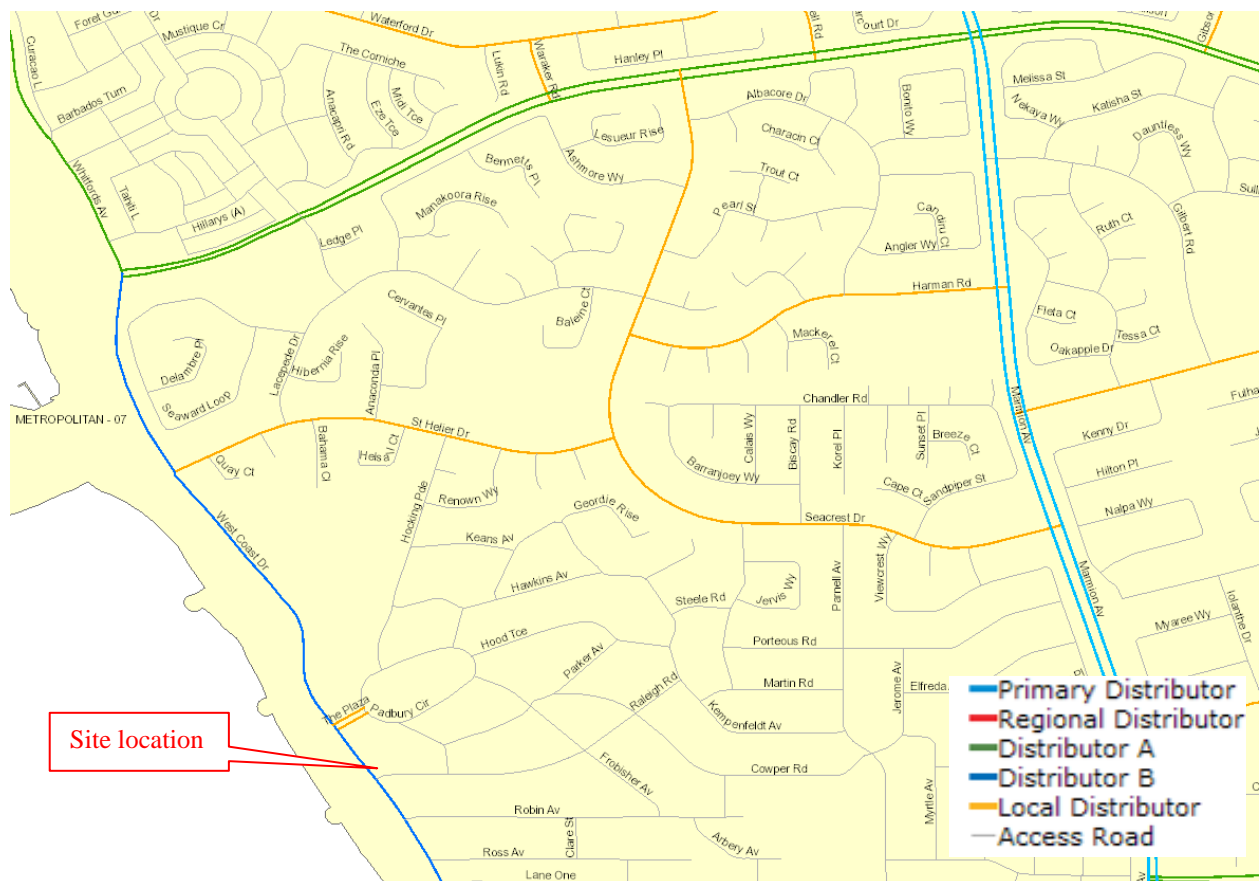


Figure 4: Road Hierarchy of Surrounding Road Network (Main Roads WA website)

3.2 Existing Traffic Volumes

The most recent traffic counts available were sourced from MRWA's "Traffic Map" website and the City of Joondalup. A summary of these are outlined in **Table 1**.

Table 1: Existing Traffic Volumes of Existing Road Network

Road	AWT	Peak	Heavy Vehicles	Date
<i>Main Roads WA Counts</i>				
West Coast Drive (north of Beach Rd)	13,519 (M-F) 16,9003 (S-S)	8.00am 1,430 vph (M-F) 5.00pm 1,245 vph (M-F) 11.00am 1,542 vph (S-S) 12.00pm 1,684 vph (S-S)	5.7% 3.2%	2018/19
West Coast Drive (south of Hepburn Ave)	16,965 (M-F) 19,307 (S-S)	11.00am 1,185 vph (M-F) 5.00pm 1,432 vph (M-F) 11.00am 1,597 vph (S-S) 12.00pm 1,540 vph (S-S)	-	2014/15
<i>City of Joondalup Counts</i>				
West Coast Drive (north of Beach Rd)	13,516	8.00am 1,348 vph 3.00pm 1,415 vph 11.00am 1,087 vph (Sat)	52.5km/h	05/2019
West Coast Drive (south of Troy Ave)	13,389	8.00am 1,353 vph 3.00pm 1,391 vph 11.00am 1,093 vph (Sat)	56.0km/h	05/2019
West Coast Drive (south of Gull St)	13,596	8.00am 1,366 vph 3.00pm 1,418 vph 11.00am 1,108 vph (Sat)	55.6km/h	05/2019
West Coast Drive (south of High St)	13,794	8.00am 1,396 vph 3.00pm 1,424 vph 11.00am 1,129 vph (Sat)	54.6km/h	05/2019
West Coast Drive (south of Ross Ave)	6819(S) 6915(N) 13,834(M-F)	7.00am 909 vph 3.00pm 586 vph 11.00am 582 vph (Sat) 11.00am 531 vph 4.00pm 925 vph 11.00am 559 vph (Sat)	55.6km/h 55.8km/h	05/2019
	6768(S) 6380(N) 13,148 (M-F)	-	-	06/2014
West Coast Drive (north of The Plaza)	6,854(S) 6,847(N) 13,701 (M-F)	7.00am 922 vph 3.00pm 578 vph 10.00am 720 vph (Sat) 11.00am 524 vph 5.00pm 919 vph 12.00pm 826vph (Sat)	55.2km/h 55.3km/h	06/2015
West Coast Drive (south of St Helier Dr)	7,126(S) 6,317(N) 13,443 (M-F)	7.00am 1,009 vph 3.00pm 549 vph 10.00am 571 vph (Sat) 11.00am 471 vph 5.00pm 845 vph 11.00am 525 vph (Sat)	58.6km/h 59.4km/h	05/2019

West Coast Drive (south of Hepburn Ave)	5,936(S)	11.00am 460vph 5.00pm 783 vph 11.00am 488 vph (Sat) 7.00am 914 vph 3.00pm 553 vph 1.00pm 540 vph (Sat)	60.9km/h 60.6km/h	05/2019
	6,676(N)			
	12,612(M-F)			
	6,884(S) 6,192(N) 13,076 (M-F)			07/2015
	8,443(S) 7,698(N) 16,141(M-F)			03/2012
Raleigh Road (east of West Coast Dr)	957	8.00am 108 vph 5.00pm 88 vph	37.8km/h	06/2015

Historical traffic counts indicate the following:

- West Coast Highway, south of Hepburn Avenue traffic volumes have decreased from 2015 to 2019 at approximately 1% per annum
- West Coast Highway, south of Hepburn Avenue traffic volumes have decreased from 2012 to 2015 at approximately 6.8% per annum. This does not take into consideration seasonal variation as the 2012 count was in March compared to the 2015 count undertaken in July.
- West Coast Highway, south of Ross Avenue traffic volumes have increased at an annual average growth of 1% per annum from 2014 to 2019 i.e. a total of 5% growth.

For the purpose of the assessment it has been assumed that a 1% per annum growth will occur over the next 10 years along West Coast Drive and the surrounding road network.

3.3 Existing Service Station Traffic

Data from the existing site suggests that Mondays and Saturdays are the busiest days based on transaction records. Mondays are known as a “cheap fuel” day and as such the vehicle generation is likely to be at its highest. Saturdays are also one of the stores busier days however fuel sales are lower than convenience store transactions. This is likely attributed to the store location near the beach with more “walk in” transactions than on a typical weekday resulting in lower vehicle generation on Saturdays than Mondays. Whilst BP does have a “cheap fuel” day BP are not a discount fuel retailer like other competitors.

Traffic counts were undertaken at the three existing crossovers servicing the existing service station on Saturday 18th May between 11.00am and 1.00pm and Monday 20th May, 2019 between 4.00pm and 6.00pm. These times typically represent the peak times for the adjoining road network on these days.

The Monday peak hour occurred between 5.00 to 6.00pm with a total of 202 vehicles using the three existing crossovers. The 15 minute peak during this peak hour suggests that approximately 15% of the crossover traffic is associated with the adjoining development. Accordingly the service station peak hour volume is estimated to be approximately 172 vehicles per hour.

The Saturday peak hour occurred between 11.45am and 12.45pm with a total of 142 vehicles using these three crossovers. The 15 minute peak during this peak hour suggests that approximately 30% of the crossover traffic is associated with the adjoining development. Accordingly, the service station peak hour volume is estimated to be approximately 99 vehicles per hour.

3.4 Crash History

A study of the recent crash history for West Coast Highway and Raleigh Road in the vicinity of the site has been conducted for the five year period to the end of December 2018 from the Main Roads Western Australia Integrated Road Information System (IRIS) crash database.

There were 4 crashes and the extracted data is summarised in **Table 2**. One (1) crash was recorded at the intersection of West Coast Drive and Raleigh Road and 3 midblock crashes occurred along West Coast Drive adjacent to or just north of the site. No crashes were recorded along Raleigh Road in the vicinity of the site.

Table 2: Summary of Recorded Crashes on West Swan Road and Park Street adjacent to the Site

	West Coast Dr /Raleigh Rd	West Coast Dr (midblock)
Total	1	3
<i>Crash Type</i>		
Rear End	1	3
Right Angle		
Other		
<i>Crash Severity</i>		
Hospital		
Medical		2
Property Damage (Maj)		1
Property Damage (Min)	1	
Wet	-	-
Dusk/Dawn	-	1
Dark – Lights On	-	1

3.5 RAV Network

The Restricted Access Vehicles (RAV) Network documented by Main Roads WA was reviewed. West Coast Drive adjacent to the site does not form part of the existing RAV network. .

4.0 VEHICLE ACCESS AND PARKING

4.1 Vehicle Access

The existing site is serviced directly by two crossovers, one on West Coast Drive and one on Raleigh Road. A third crossover is available from West Coast Drive via the adjoining northern property acting as a shared crossover. A one way link in a northerly direction is provided from the adjoining property to Padbury Circle. This allows indirect access to Padbury Circle.

The existing redevelopment proposes the construction of the building structure (convenience store) adjacent to the northern property boundary of the site in line with the Activity Centre Plan for the Sorrento Local Centre. This effectively reduces direct vehicle access to the site to the two existing site crossovers on West Coast Drive and Raleigh Road. The indirect link at the rear of the site is maintained in accordance with the Sorrento Activity Centre Plan. Under this plan it is envisaged that this existing rear access way be maintained but upgraded to provide access and circulation through the “activity area” for vehicles, cyclists and pedestrians.

Figure 5 shows diagrammatically the existing and future access arrangement to and surrounding the Site.



Figure 5: Existing and Future Access Arrangements to the Site

4.2 Sight Distances

AS2890.1 Parking Facilities, Part 1: Off-street car parking, clause 3.2.4 outlines the required sight distance at access driveway exits. Both roads are subject to the 50km/h urban default speed limit. There is a speed bump with an advisory speed of 20km/h located 65m to the east of the Raleigh Road crossover which is likely to reduce the speed of approaching vehicles to below the default of 50km/h. The sight distance requirements for 50km/h are 45m minimum and 69m desirable.

Figure 6 shows the various sight lines based on 50km/hr. A stopped bus will momentarily restrict the sight lines from the desirable 69m (blue line) to the minimum 45m (red line). On Raleigh Road, a parked vehicle will restrict the sight lines to the east from the crossover. At present a no standing area is marked providing a sight distance of 25m (green line). It is suggested that parking be prohibited up to the first residential driveway to improve the sight lines from this crossover. This would assist in improving traffic flow exiting not only for the service station but in the future with the redevelopment of Sorrento Activity Centre.



Figure 6: Sight Lines from Crossovers



Figure 7: Looking east along Raleigh Road adjacent to the Site
(Google Maps)



Figure 8: Looking north along West Coast Drive adjacent to the Site
(Google Maps)



Figure 9: Looking south along West Coast Drive adjacent to the Site
(GoogleMaps)

4.3 Service Deliveries

Service deliveries to the site will include fuel for the service station and various goods to the convenience store, in addition to garbage collection.

Refuelling tankers proposed to access this site are 15m in length. It is understood that the fuel tankers will approach and depart to the north along West Coast Drive. On this basis the site has been designed for the tanker to enter via the West Coast Drive crossover and exit the site via the Raleigh Road crossover. Within the site the refuelling tanker will be able to stop along the southern side of the fuel canopy with no significant impact to the operation of the nearby crossovers or internal traffic circulation within the site.

The swept paths of various vehicles entering, circulating and exiting the site are included in **Appendix B**.

The various design vehicles are as follows:

- 15m Toll Tanker Refuelling Vehicle
- Convenience Service Area – Single Unit
- Car and Trailer/Boat/Caravan Combinations

4.4 Parking

The proposed site design will provide 5 car parking bays, including a disabled bay. All bays are to be located adjacent to the eastern boundary of the site. The location of the car parking bays limits the number of pedestrian movements through the forecourt.

The eight fuel bowsers positions provide 8 working bays on site to allow refuelling customers to enter the store and pay for the fuel and/or other convenience store items. There is also space for queuing vehicles behind the various bowsers.

The provided parking should be designed to comply with AS2890.1 Parking Facilities Part 1 -Off Street Car Parking.

5.0 TRAFFIC ANALYSIS

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

5.1 Assessment Period

The assessment periods selected are Monday afternoon peak 5.00pm-6.00pm and Saturday midday peak 11.45am-12.45pm which are considered to represent the combined peak of both the site and adjoining road network on these days.

5.2 Trip Generation

Generation rates were sourced from the ITE Trip Generation Manual 9th edition (Institute of Transportation Engineers) for a service station with convenience store. These rates are 162.78 daily trips per fuel position and 10.16 and 13.51 for am and pm peak hour trips per fuel position.

This equates to the following trip forecast estimates:

- Daily Trips = 1,302 trips/weekday
- AM Peak Hour Trips = 81 trips/hour
- PM Peak Hour Trips = 108 trips/hour

These ITE based trip generation forecasts are comparable to those estimated using specific BP data for the average weekday.

Due to “cheap fuel” days the pm peak hour on a Monday is typically higher. This was confirmed from on site surveys. Whilst BP does have a “cheap fuel” day, BP are not a discount fuel retailer like other competitors. It is estimated that the Monday pm peak hour may be in the order of 172 vehicles per hour which is approximately 60% higher. Surveys for a Saturday peak suggested 99 vehicles per hour which is comparable to the pm peak hour on a weekday.

Service stations typically attract a significant percentage of passing through trade. This traffic is already on the road network hence it is not considered as additional traffic. Data suggests that approximately 56% of service station trips are typically passing trade.

Based on the likelihood of passing trade, the additional trips generated by the development are expected to be considerably less, being:

- Daily Trips = 573 trips/weekday
- AM Peak Hour Trips = 36 trips/hour
- PM Peak Hour Trips = 48 trips/hour

5.3 Trip Distribution and Assignment

The traffic distribution considers the two trip types i.e. passing trade trips and additional trips. The traffic movements were distributed onto the site accesses and road network for these two trip types. The trip distribution patterns took into account varying factors including the existing traffic volumes along the adjacent road network during the peak hours, surrounding catchments areas and surrounding similar land uses.

The traffic distribution was undertaken for the Monday pm and Saturday midday peak scenario. **Figure 10** shows diagrammatically the distribution of traffic for these peak hour scenarios for the redevelopment. It is possible that vehicles also enter/exit via the indirect access in the northeast corner of the site. For the purpose of the analysis this access has been ignored which assumes a robust assessment i.e. all traffic on either West Coast Drive or Raleigh Road crossovers.

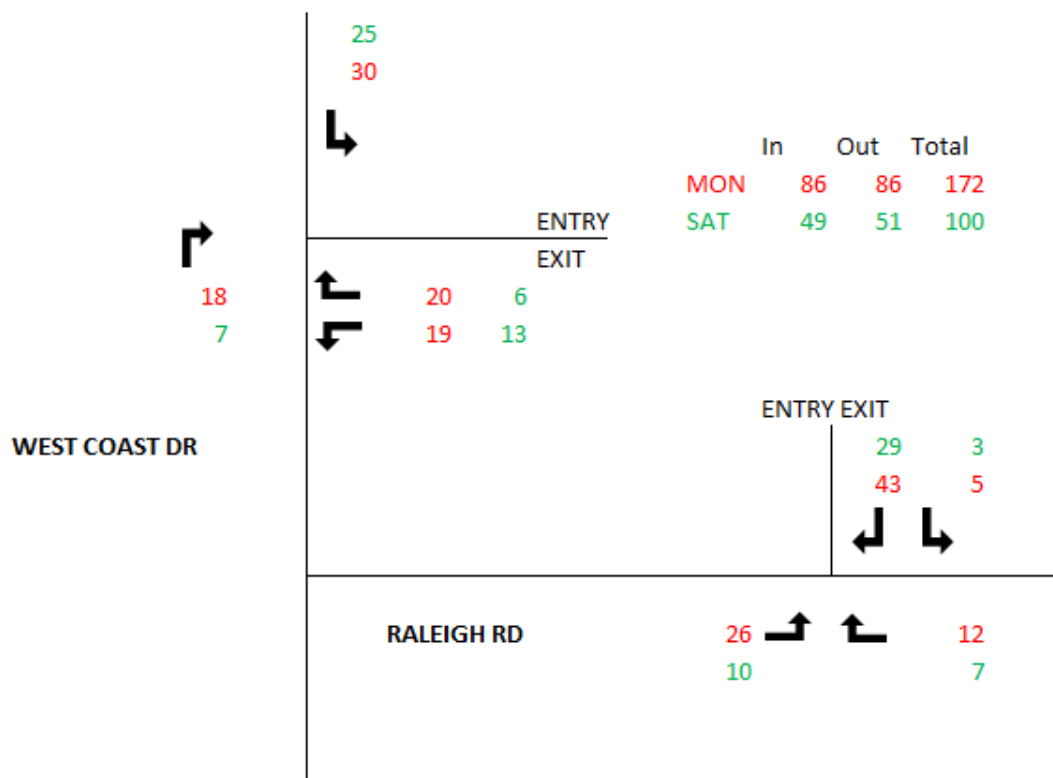


Figure 10: Traffic Distribution for Saturday (Midday Peak Hour and Daily Volumes)

5.4 Impact on Adjacent Road Network

West Coast Drive is classified as a *District Distributor B* road that currently carries in the order of 13,800 vehicles per weekday (May 2019) in the vicinity of the site. The highest hourly flows along West Coast Drive are in the order of 1,400 vehicles per hour during the pm peak hour typically on a Friday. The development's peak does not occur on a Friday. It occurs on a Monday associated with cheaper fuel.

Raleigh Road is classified as a Local Access road and carries in the order of 960 vehicles per weekday (July 2015). The weekday peak hourly flows are in the order of 72 vehicles per hour occurring at 5pm. On the weekend the peak hourly flows are slightly more at 110 vehicles per hour.

Peak hour development traffic on a Monday is in the order of 172 vehicles however on a typical weekday it is more in the order of 108 vehicles per hour. This volume of traffic is already being accommodated on West Coast Drive and Raleigh Road since the development already exists.

5.5 SIDRA Analysis

Intersection capacity analysis using the SIDRA computer package (*version 8*) has been undertaken to assess the operating conditions of the crossovers on West Coast Drive and Raleigh Road. SIDRA is an intersection modelling tool commonly used by traffic engineers for analysing all types of intersections. The key SIDRA outputs are presented in the form of Degree of Saturation, Level of Service, Average Delay and 95% Queue. These characteristics are defined as follows:

Degree of Saturation (DOS): is the ratio of the arrival traffic flow to the capacity of the approach during the same period. The Degree of Saturation ranges from close to zero for extremely low traffic flow up to one for saturated flow or capacity.

Level of Service (LOS): is the qualitative measure describing operational conditions within a traffic stream and the perception by motorists and/or passengers. In general, there are 6 levels of services, designated from A to F, with Level of Service A representing the best operating condition (i.e. free flow) and Level of Service F the worst (i.e. forced or breakdown flow).

Average Delay: is the average of all travel time delays for vehicles through the intersection.

95% Queue: is the queue length below which 95% of all observed queue lengths fall.

A SIDRA analysis of the intersection of West Coast Drive and Raleigh Road has not been undertaken in this assessment. Review of the “Sorrento Activity Centre, Transport Assessment” (Oct 2016) indicates that the intersection will operate satisfactorily with the proposed “Sorrento Activity Centre redevelopment which includes the service station” both at opening and 10 year timeframe. Accordingly, the assessment in this report includes only a SIDRA analysis of the site crossovers with respect to the service station development.

The crossover analysis was undertaken for the pm peak hour period on a Monday and midday peak on a Saturday as these are the development peak days. The development peak hour on these days also occurs during the peak hour of the road network on these days.

SIDRA analysis of the development crossovers indicate satisfactory conditions. Analysis has been undertaken both at opening and a 10 year time horizon. The 10 year time horizon allows for traffic growth on both the road network and development generated traffic to ensure a robust assessment. The average delay and queue lengths should not adversely impact the through traffic along either West Coast Drive or Raleigh Road.

West Coast Drive has a 2.0m painted median to allow a vehicle to queue while waiting to turn right without significantly impeding through traffic. The advantage of some traffic slowing to turn into the site is that it assists to create a “self-regulating street” i.e. the speed of the through traffic is naturally controlled creating a slow speed environment which is desirable within areas of pedestrian activity.

The analysis shows that there are sufficient gaps along both West Coast Highway and Raleigh Road to allow traffic to exit the site with acceptable delays and internal queues.

Detailed summary of the SIDRA results are included in **Appendix C**.

6.0 OTHER ISSUES

6.1 Pedestrian and Cyclist Facilities

West Coast Drive has a Principal Shared Path (PSP) located on its western side adjacent to the Site. **Figure 11** shows the PSP as well as other existing cycling facilities within the surrounding road network as documented within the Department of Transport “Perth Map Series”.

West Coast Drive in the vicinity of the site is subject to pedestrian activity due to the proximity to the beach and associated activities. It is understood that the City has a vision to improve pedestrian facilities along this section of West Coast Drive. The proposed layout of the redevelopment supports pedestrian access. Unlike typical service stations, the redevelopment proposes two entrances into the store. One entrance is to be located adjacent to the forecourt to service the refueling customers whilst another entrance is to be located directly from the West Coast Drive verge area to cater for “walk in trade” from the surrounds.

Whilst the nature of the development traditionally relies on private vehicle patronage the surrounding path facilities provide opportunities for both staff and patrons to use pedestrian and cycling facilities to/from the site if residing in the local area.



Figure 11: Existing Cycling Facilities Surrounding the Site (DoT Perth Bike Maps)

6.2 Public Transport

Due to the nature of the development the need or demand for public transport is considered to be low as the development tends to rely on private vehicle patronage. However there is the opportunity for staff and others to use public transport if this is the preferred mode of transport.

The site has good access to public transport with a bus stop located along West Coast Drive opposite the site (bus stop ID 18867) serviced by Route 423.

Figure 12 outlines the public transport routes surrounding the site.

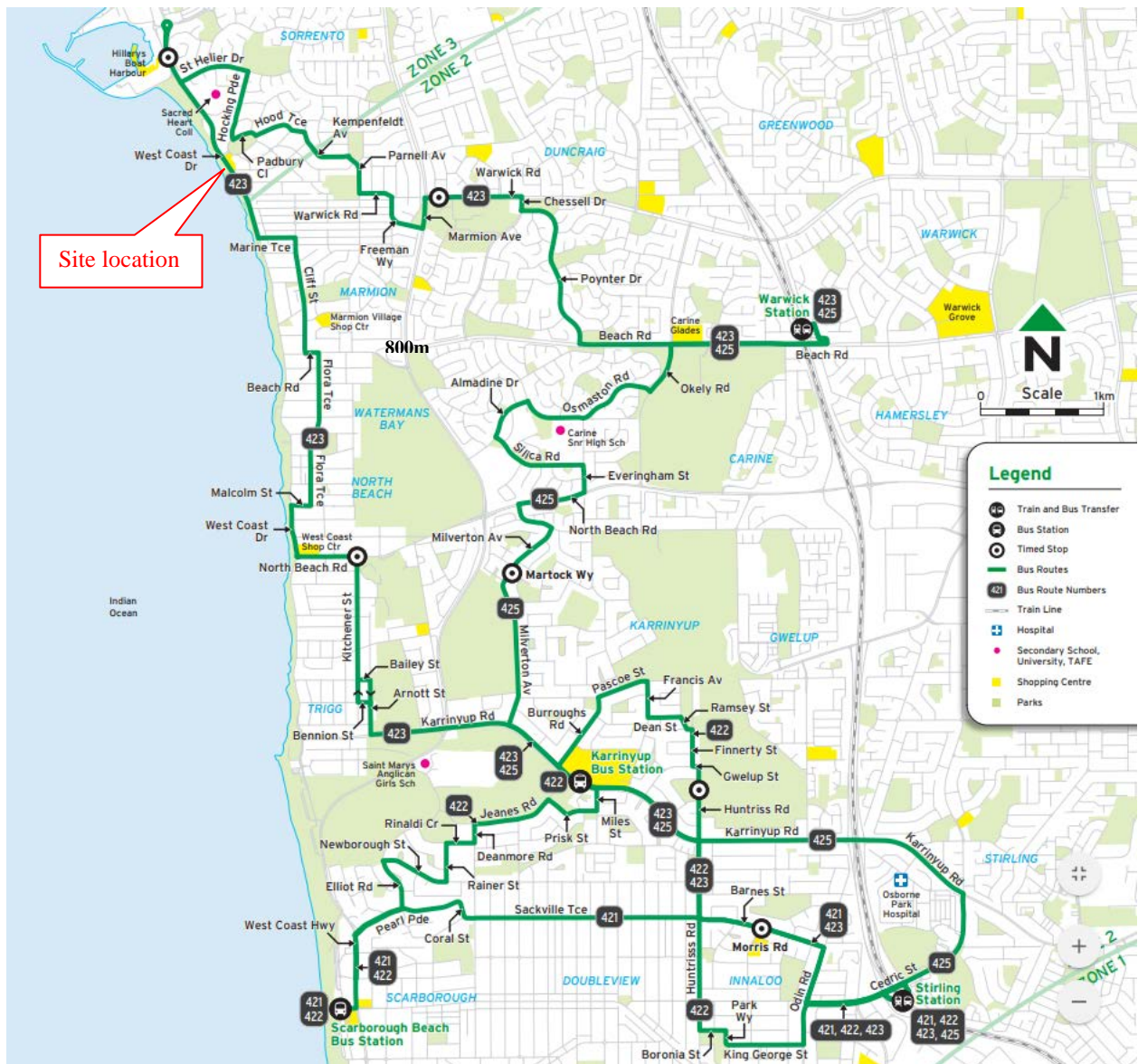


Figure 12: Public Transport routes

7.0 SUMMARY AND CONCLUSION

Porter Consulting Engineers has been commissioned to prepare a Traffic Impact Assessment (TIA) for the redevelopment of the existing BP Service Station located on the corner of West Coast Drive and Raleigh Road, Sorrento within the City of Joondalup. The development site is to comprise of 8 refuelling bowzers, a convenience store and parking facilities. The redevelopment seeks to improve the existing facilities and layout of the site in line with the Activity Centre Plan for the Sorrento Local Centre.

Two driveways (existing) are proposed to remain to service the redeveloped site. These are located on West Coast Drive and Raleigh Road. Indirect access is also available via the rear of the site from the adjoining lot.

Sight lines from the existing West Coast Drive crossover to be maintained are adequate. Sight lines from the Raleigh Road existing crossover are potentially restricted to the east by verge parking. Consideration should be given to extending the length of no standing area to the east of this crossover to improve sight lines.

The site is estimated to generate approximately 1,300 vehicle trips daily or 650 customers or 650 trips inbound and 650 trips outbound. Approximately 85 vehicle trips and 108 vehicle trips are forecast during the am and pm peak hours respectively on a typical weekday.

These existing volumes are currently accommodated on the existing road network and are in context of their current standards and function.

Due to “cheap fuel” days the pm peak hour on a Monday is typically higher than the average weekday peak. This was confirmed from transaction data from the store and on site surveys. It is estimated that the Monday pm peak hour may be in the order of 172 vehicles per hour which is approximately 60% higher than the average weekday. Surveys for a Saturday peak suggested 99 vehicles per hour which is comparable to the pm peak hour on a weekday. Whilst BP does have a “cheap fuel” day, BP are not a discount fuel retailer like other competitors.

The analysis was undertaken for the pm peak hour period on a Monday and midday peak on a Saturday as these are the development peak days. The peak hour on these days also occurs during the peak hour of the road network.

SIDRA analysis of the development crossovers indicate satisfactory conditions. Analysis has been undertaken both at opening and a 10 year time horizon. The 10 year time horizon allows for traffic growth on both the road network and service station traffic. The average delay and queue lengths should not adversely impact the through traffic along either West Coast Drive or Raleigh Road.

West Coast Drive has a 2.0m painted median to allow a vehicle to queue while waiting to turn right without significantly impeding through traffic. The advantage of some traffic slowing to turn into the site is that it assists to create a “self-regulating street”. That is the speed of the through traffic is naturally controlled creating a slow speed environment which is desirable

within areas of pedestrian activity.

The analysis shows that there are sufficient gaps along both West Coast Highway and Raleigh Road to allow the development traffic to exit the site with acceptable delays and internal queues.

A SIDRA analysis of the intersection of West Coast Drive and Raleigh Road has not been undertaken in this assessment. Review of the “Sorrento Activity Centre, Transport Assessment” (Oct 2016) indicates that the intersection will operate satisfactorily with the proposed “Sorrento Activity Centre redevelopment which includes the service station” at opening and 10 year timeframe.

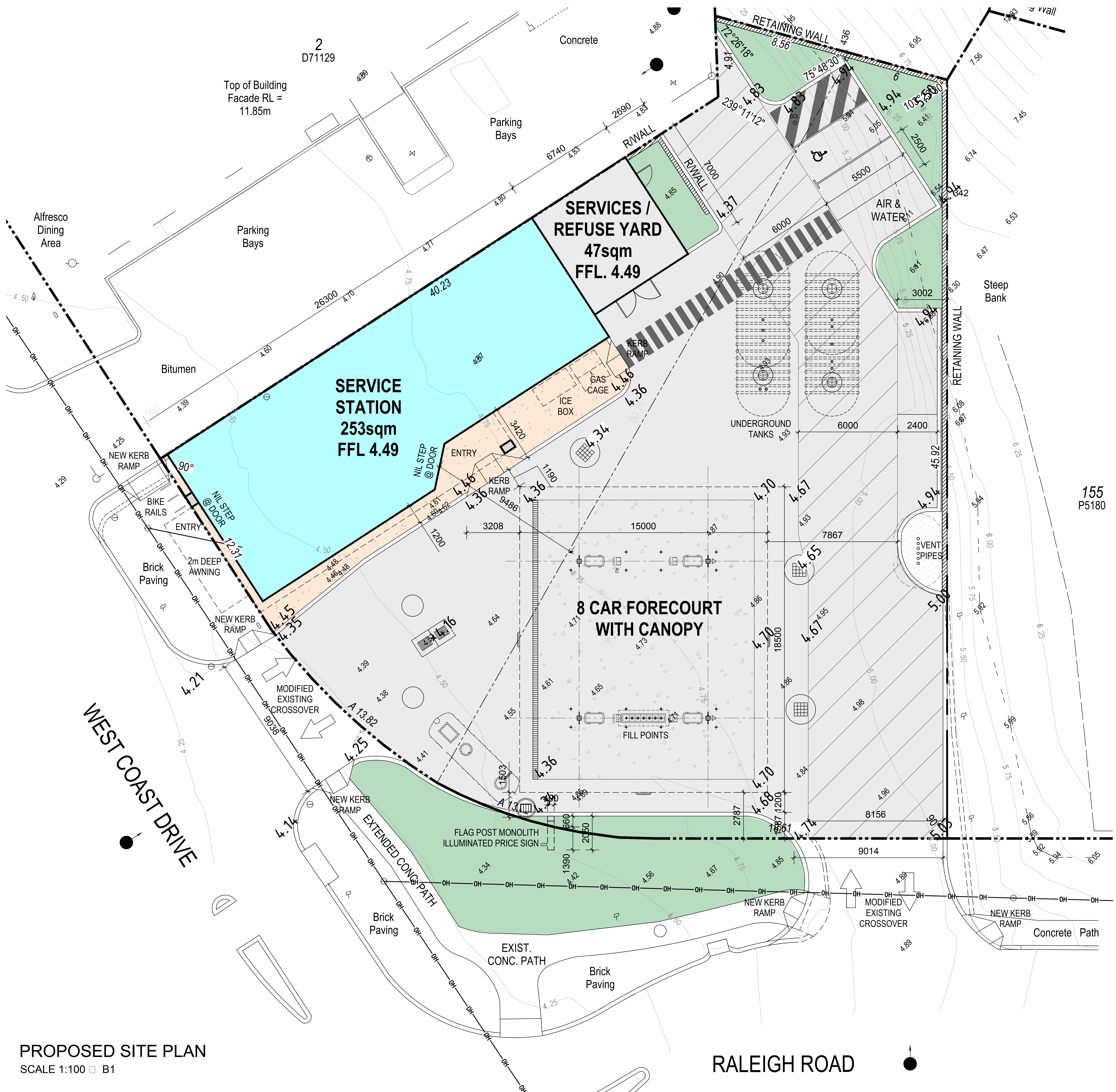
The site has good access to the path network for walking and cycling as well as public transport. Given the nature of the development the need or demand for alternative modes of transport such as public transport is considered to be low as the development tends to rely on private vehicle patronage. Regardless, there is the opportunity for staff and others to use other modes of transport if preferred.

It is understood that West Coast Drive in the vicinity of the site is to consider increased pedestrian activity due to the proximity to the beach and associated activities. The redevelopment proposes two entrances into the site store. One entrance is to be located adjacent to the forecourt to service the refueling customers whilst the other entrance is to be located directly from the West Coast Drive verge area to cater for “walk in trade” from the surrounds.

In conclusion, based on the analysis presented in this report with the recommendations made, the development proposal presents no significant traffic capacity or road safety issues, and is therefore supported.

APPENDIX A

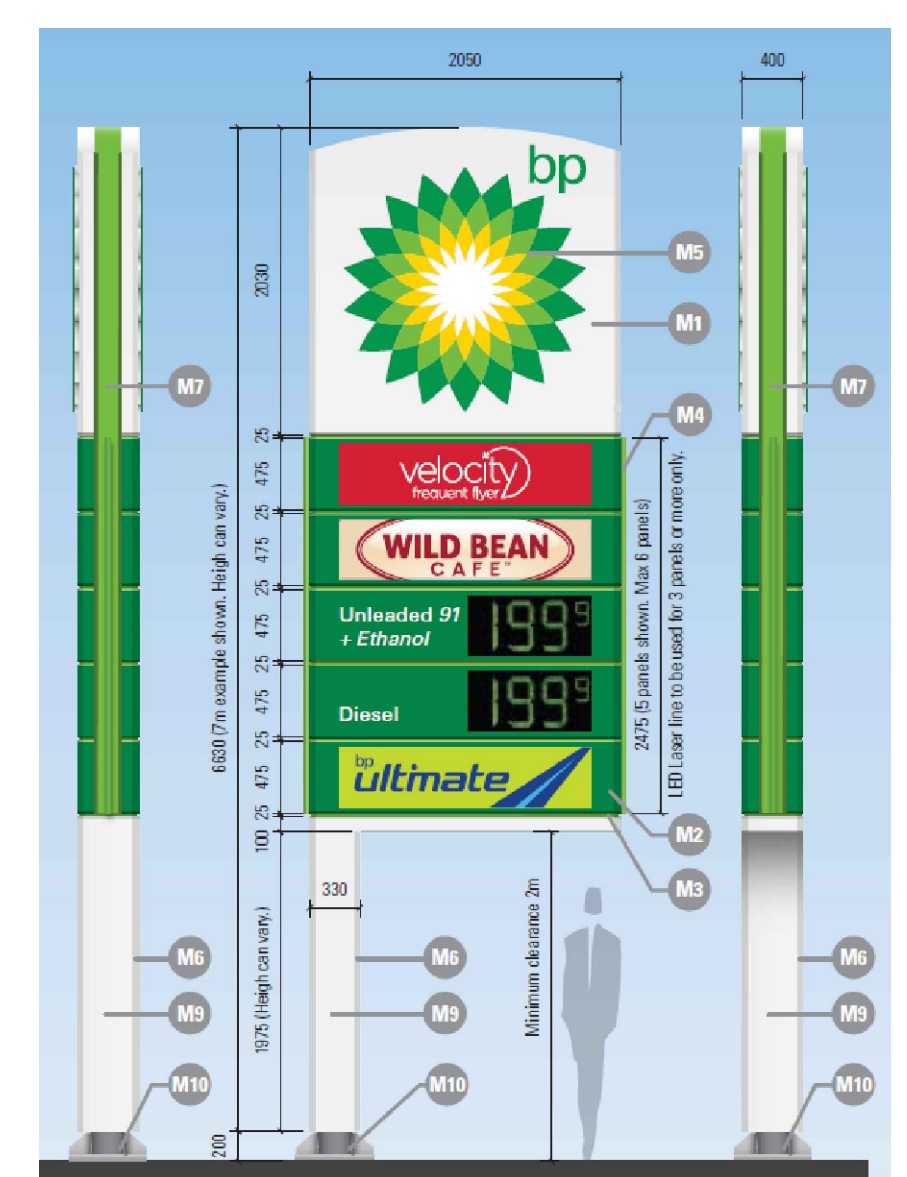
Site Plan



PROPOSED SITE PLAN
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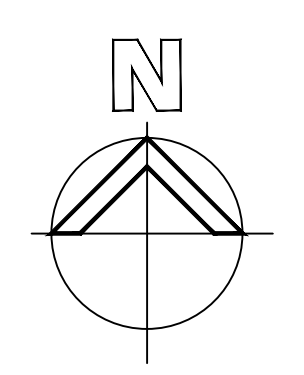
LEGEND:

- EXTENT OF LANDSCAPING - REFER TO LANDSCAPING PLAN FOR DETAILS
- EXTENT OF CONCRETE PAVING TO CANOPY FORECOURT
- EXTENT OF CONCRETE PAVING
- EXTENT OF BUILDING
- EXTENT OF HARDSTAND
- EXISTING RL
- PROPOSED FFL □ RL



Flag Post Monolith
7m 5 panel option shown
Side Elevation
Scale 1:50

PROPOSED FLAG POST
MONOLITH ILLUMINATED PRICE SIGN
SCALE 1:100 □ B1

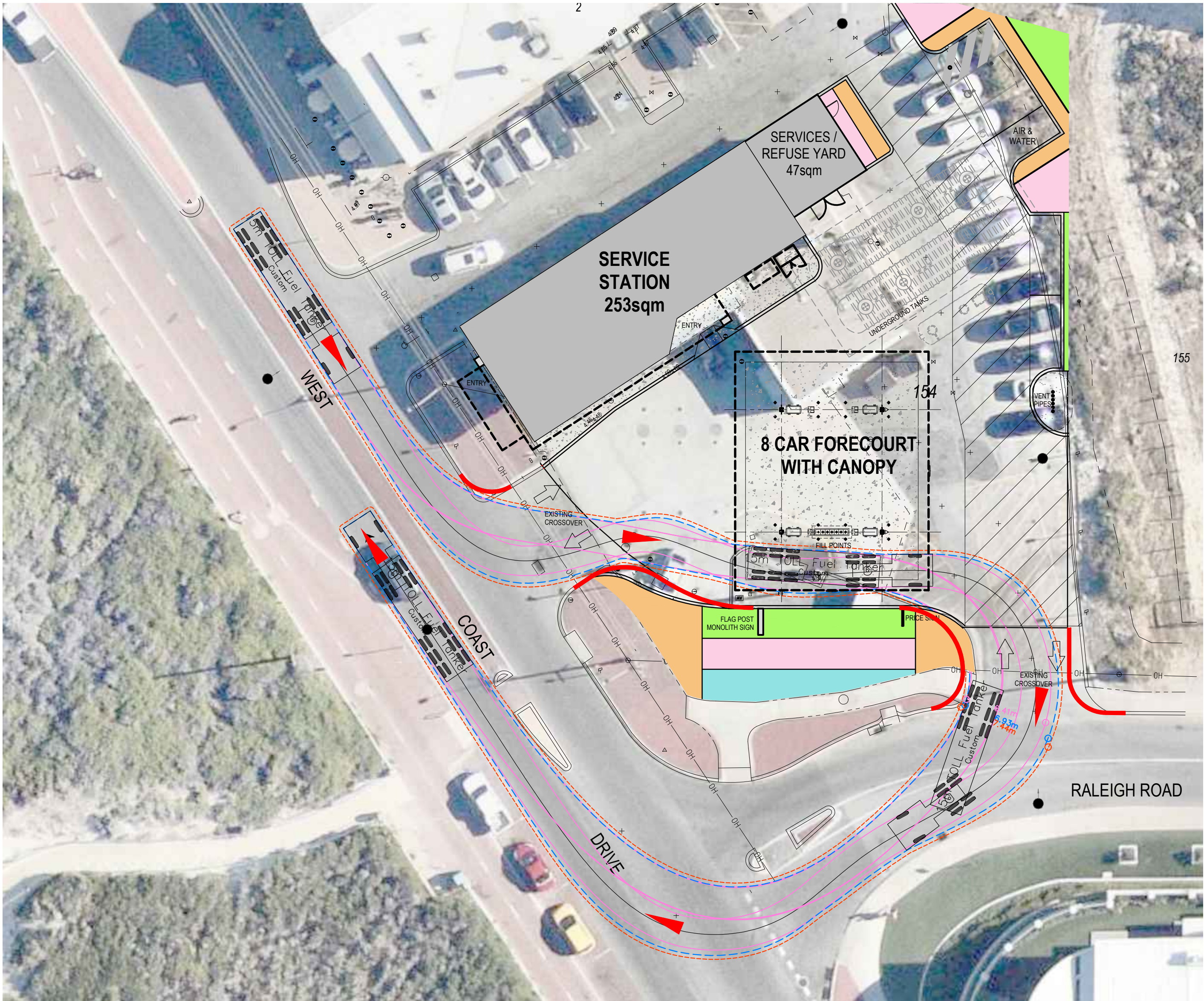


B	ISSUED FOR DA	AC	AK	29.05.2019
A	ISSUED FOR CLIENT REVIEW	AC	AK	08.05.2019
revision/issue	description	drawn	checked	date
project	BP SORRENTO	drawn	description	
location	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	AC	PROPOSED SITE PLAN	
		checked	AK	
scale	1:100	date	07.05.2019	
project no	18.19	dwg no	S01	
rev	B			

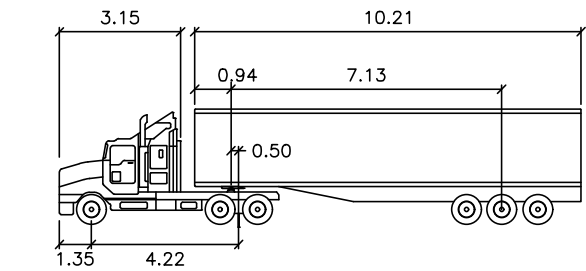
APPENDIX B

Swept Paths

Drawing 19-3-34/801 Rev D – 15m Toll Tanker Vehicle
Drawing 19-3-34/802 Rev B – Boat and Caravan Options
Drawing 19-3-34/803 Rev A – Single Unit Truck

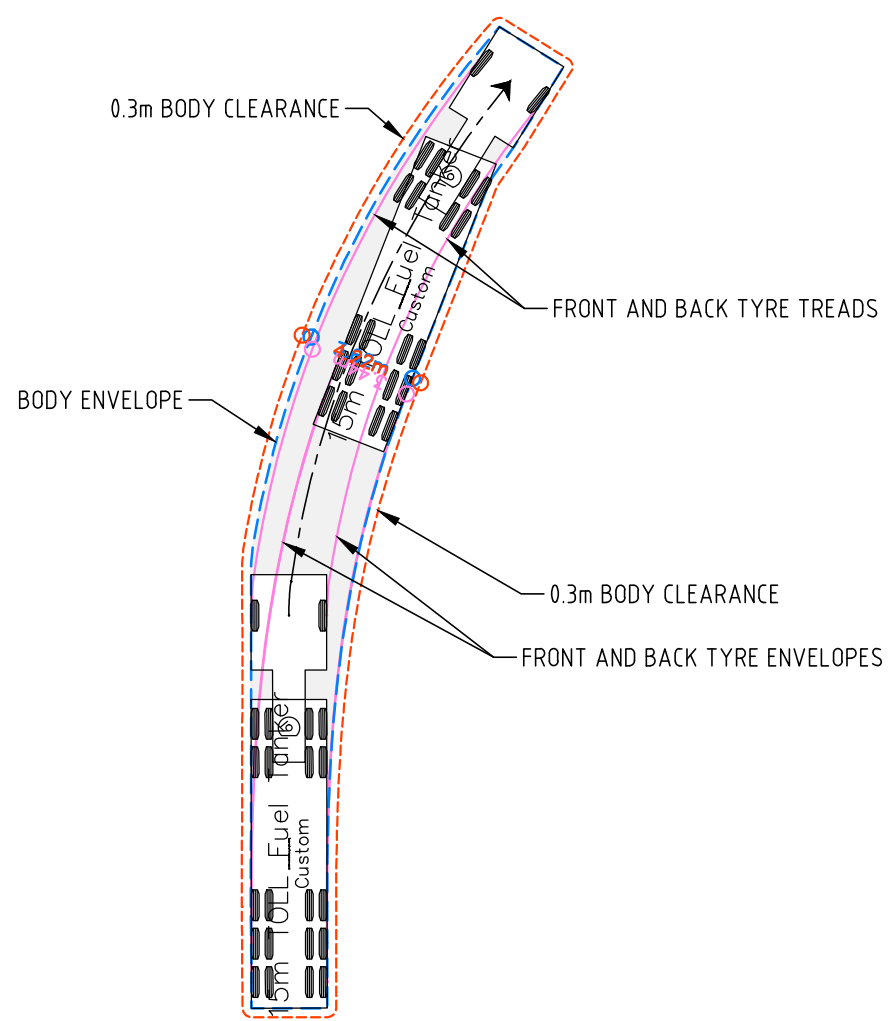


15m TOLL TANKER SWEEP PATH



15m TOLL Fuel Tanker			
Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	27.7
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

15m TOLL TANKER DIMENSIONS



TURNING TEMPLATE DETAIL

PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

NO.	DATE	REVISION
D	15-5-2019	SITE LAYOUT PLAN UPDATED
C	14-5-2019	CROSSOVERS REVISED TO SUIT CADASTRAL BOUNDARY.
B	1-4-2019	FUEL TANKER POSITION RELOCATED TO NEW POSITION.
A	1-4-2019	PRELIMINARY PLOT FOR APPROVAL.

MJV	BY
MJV	
MJV	
MJV	

Porter
Consulting Engineers

Level 2 Kishore Court
58 Kishore Road
Mt Pleasant 4553 WA
PO Box 1036
Canning Bridge 6153 WA
Tel (08) 9315 9955
Fax (08) 9315 9955
Email office@portereng.com.au
www.portereng.com.au

CLIENT:

**BP
AUSTRALIA**

DRAWING:
15m TOLL TANKER SWEEP PATHS

STATUS: **FOR APPROVAL**

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DATE	MAY 2019
DESIGN	JH
DRAWN	MJV
CHECK	

DRAWING No.
19-3-34/801

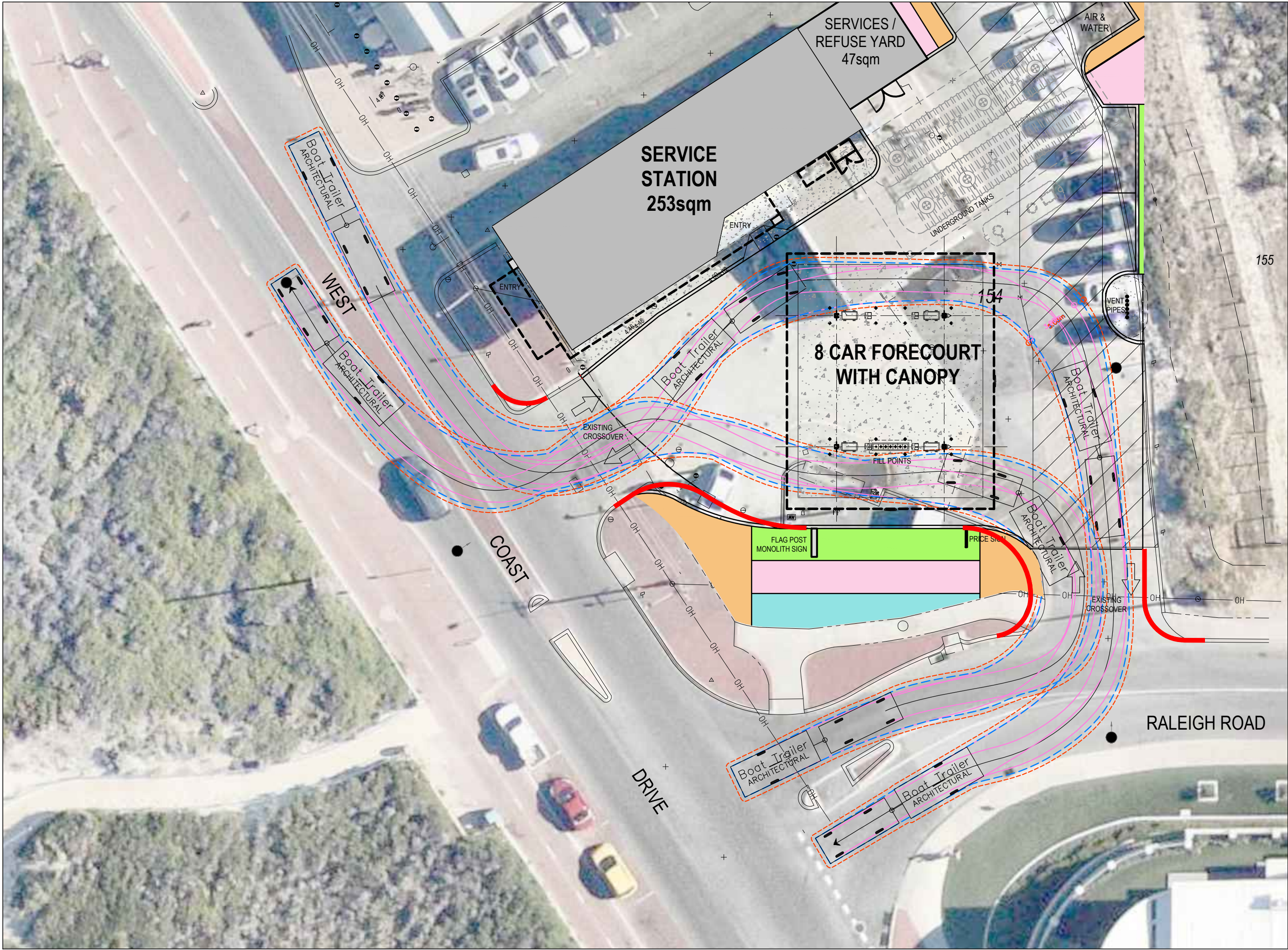
REV No.
D

ORIGINAL
DRAWING
SIZE
A1

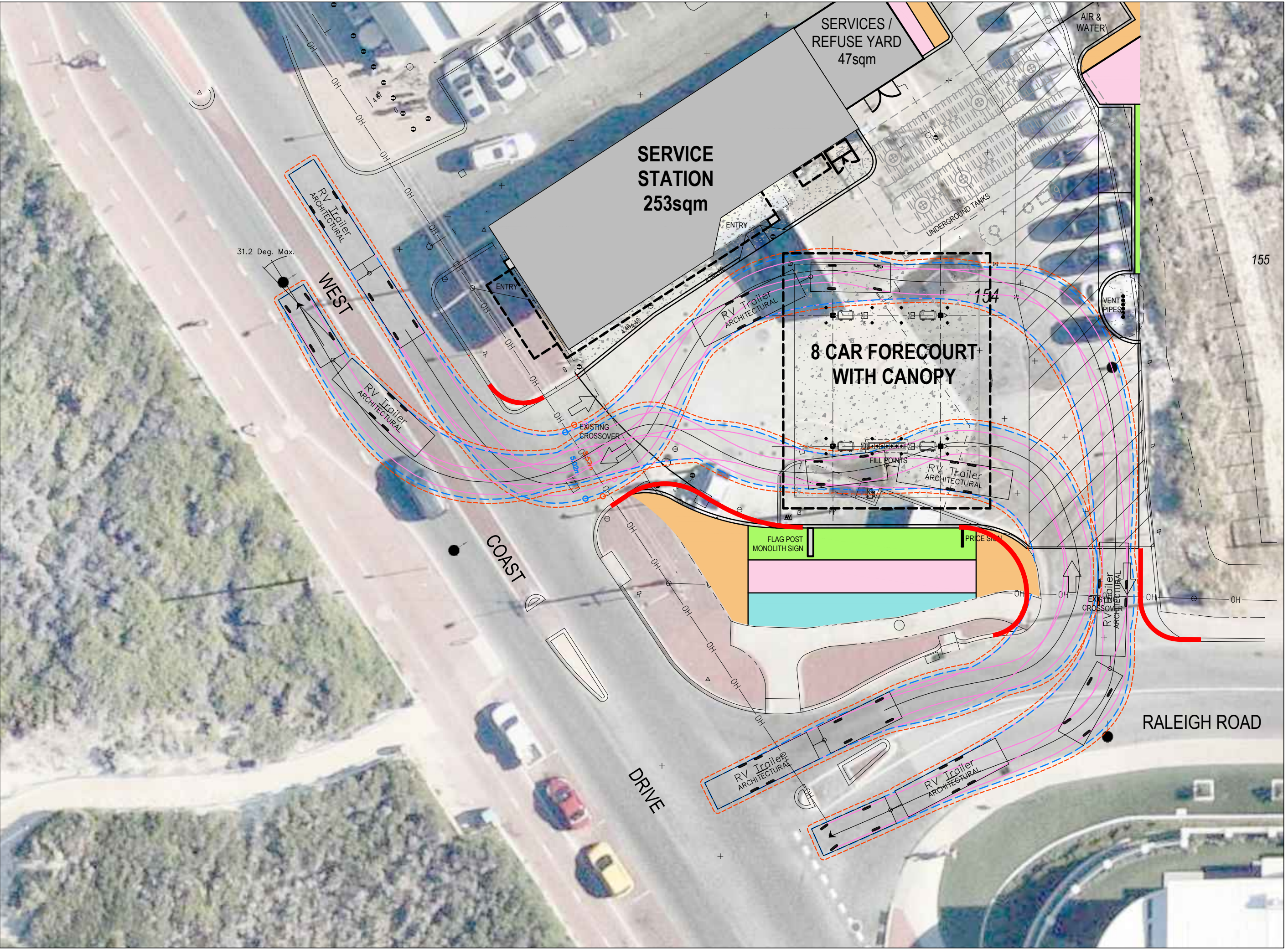
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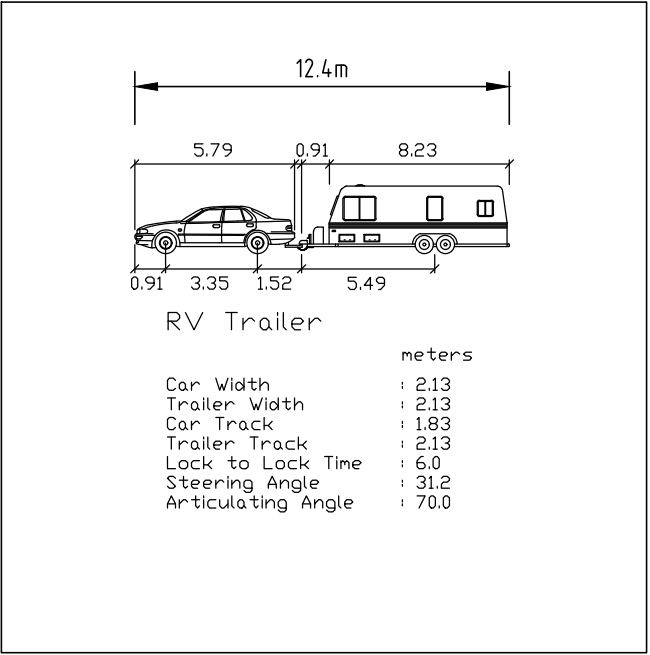
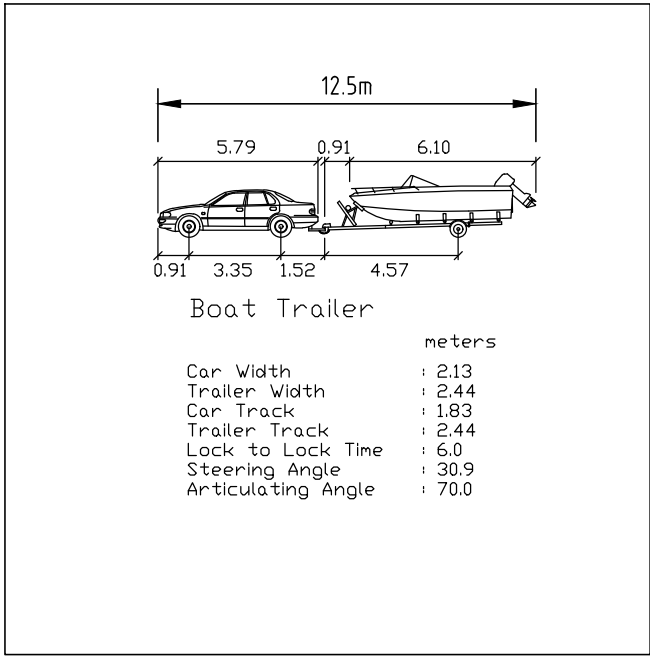




CAR WITH BOAT TRAILER SWEEP PATH



CAR WITH RV TRAILER (CARAVAN) SWEEP PATH



PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

REVISION		DATE	BY
B		15-5-2019	MJV
A		15-5-2019	MJV

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ONLY PLANS WITH NUMERICAL REVISION (REV '1' OR HIGHER) AND SIGNED AS APPROVED SHALL BE USED FOR CONSTRUCTION

Porter
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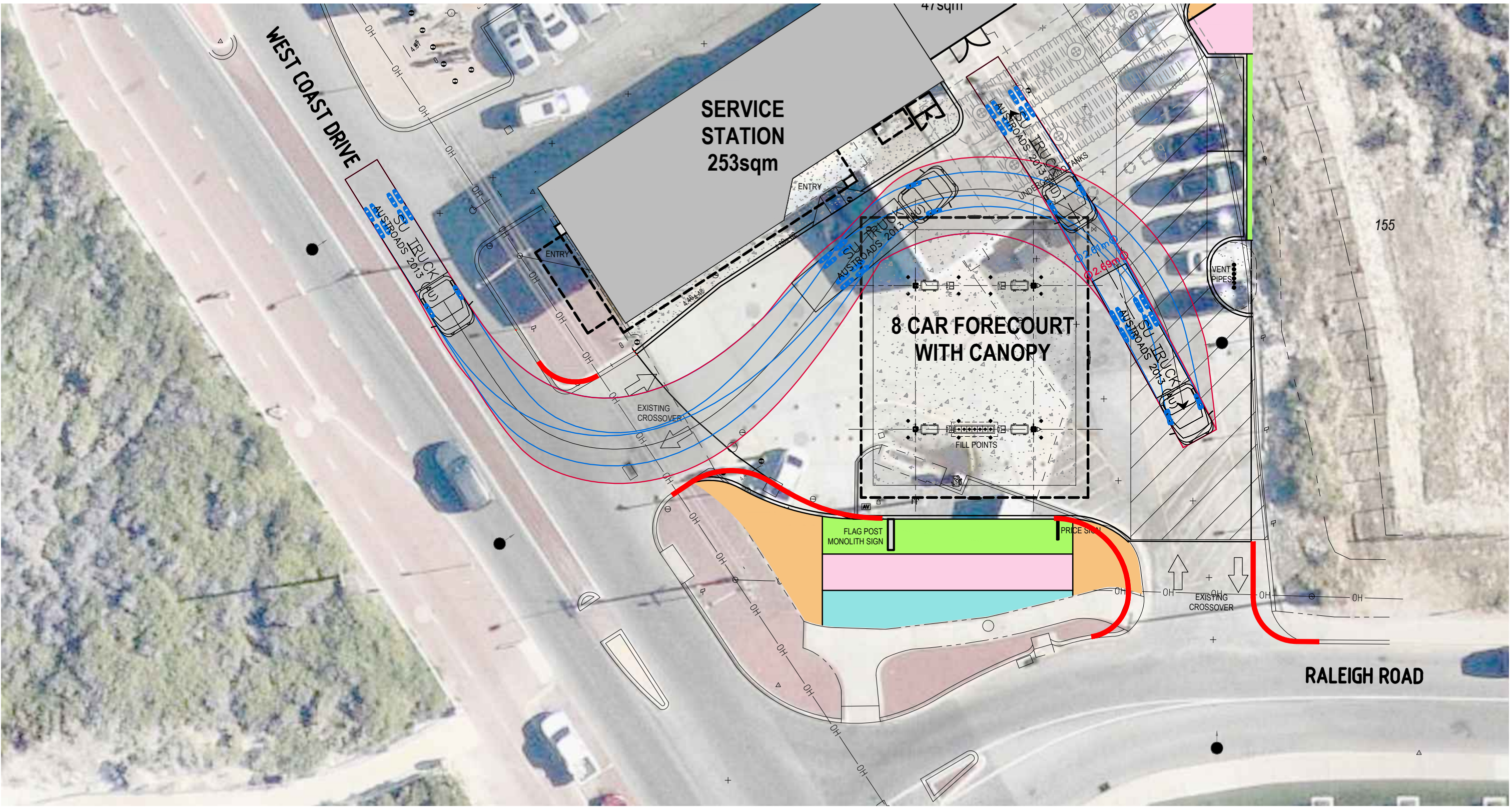
Level 2 Kishore Court
50 Kishore Road
Mt Pleasant 6153 WA
PO Box 1036
Canning Bridge 6153 WA
Tel (08) 9315 9955
Fax (08) 9315 9955
Email office@portereng.com.au
www.portereng.com.au

CLIENT:
**BP
AUSTRALIA**

DRAWING:
BOAT AND CARAVAN OPTIONS

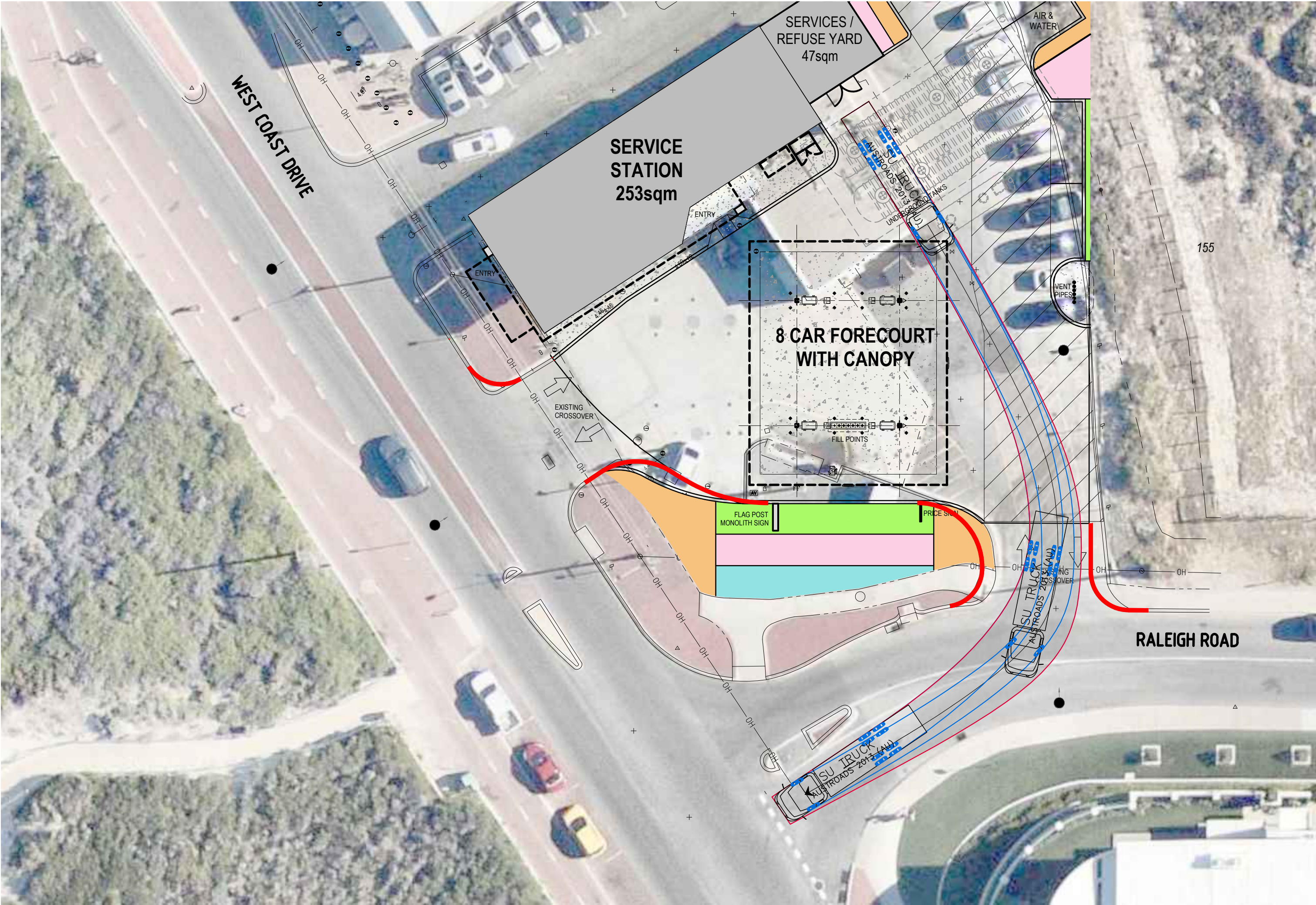
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CHECK:			



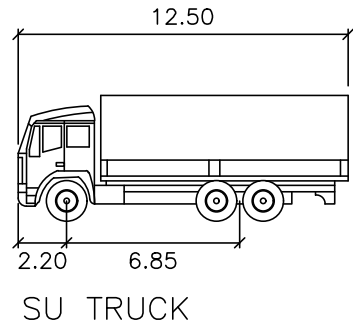
ENTER OFF WEST COAST DRIVE AND REVERSE TO SERVICE AREA

1:250



EXIT ONTO RALEIGH ROAD

1:250



SU TRUCK
Width : 2.20
Track : 2.50
Lock to Lock Time : 6.0
Steering Angle : 36.6

PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

DATE	5-6-2019	PRELIMINARY PLOT FOR APPROVAL
REVISION		

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T2086 Pty Ltd ACN 670 871 148 is a franchisee for the Consulting Engineering Unit Trading as Porter Consulting Engineers ABN 18 616 396 385

CLIENT:
**BP
AUSTRALIA**

DRAWING:
**SINGLE UNIT TRUCK SWEEP PATH
SERVICE AREA**
STATUS: **FOR APPROVAL**

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DRAWN	MJV			
CHECK		APPD		

APPENDIX C

SIDRA Analysis Results

West Coast Drive

West Coast Drive Access, Monday: PM Peak, At Opening

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: West Coast Dr												
2	T1	821	5.0	0.491	0.2	LOS A	0.4	3.2	0.05	0.01	0.06	48.9
3	R2	19	0.0	0.491	8.3	LOS A	0.4	3.2	0.05	0.01	0.06	48.7
Approach		840	4.9	0.491	0.4	NA	0.4	3.2	0.05	0.01	0.06	48.9
East: Driveway												
4	L2	21	0.0	0.103	1.6	LOS A	0.3	2.3	0.64	0.58	0.64	22.3
6	R2	20	0.0	0.103	13.8	LOS B	0.3	2.3	0.64	0.58	0.64	21.9
Approach		41	0.0	0.103	7.5	LOS A	0.3	2.3	0.64	0.58	0.64	22.1
North: West Coast Dr												
7	L2	32	0.0	0.266	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	26.0
8	T1	429	5.0	0.266	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	48.9
Approach		461	4.7	0.266	0.3	NA	0.0	0.0	0.00	0.04	0.00	47.1
All Vehicles		1342	4.7	0.491	0.6	NA	0.4	3.2	0.05	0.04	0.06	47.1

Raleigh Road Access, Monday: PM Peak, At Opening

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Raleigh Road												
5	T1	23	5.0	0.021	0.1	LOS A	0.1	0.5	0.12	0.19	0.12	40.7
6	R2	13	0.0	0.021	4.8	LOS A	0.1	0.5	0.12	0.19	0.12	39.5
Approach		36	3.2	0.021	1.8	NA	0.1	0.5	0.12	0.19	0.12	40.3
North: Driveway												
7	L2	5	0.0	0.042	0.2	LOS A	0.1	1.0	0.17	0.18	0.17	32.2
9	R2	45	0.0	0.042	1.0	LOS A	0.1	1.0	0.17	0.18	0.17	16.1
Approach		51	0.0	0.042	0.9	LOS A	0.1	1.0	0.17	0.18	0.17	18.2
West: Raleigh Road												
10	L2	27	0.0	0.047	2.6	LOS A	0.0	0.0	0.00	0.17	0.00	14.3
11	T1	55	5.0	0.047	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	45.7
Approach		82	3.3	0.047	0.9	NA	0.0	0.0	0.00	0.17	0.00	33.6
All Vehicles		168	2.3	0.047	1.1	NA	0.1	1.0	0.08	0.18	0.08	30.3

West Coast Drive Access, Saturday: Midday Peak, At Opening

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: West Coast Dr												
2	T1	589	5.0	0.349	0.1	LOS A	0.2	1.2	0.03	0.01	0.03	49.3
3	R2	7	0.0	0.349	9.3	LOS A	0.2	1.2	0.03	0.01	0.03	49.3
Approach		597	4.9	0.349	0.2	NA	0.2	1.2	0.03	0.01	0.03	49.3
East: Driveway												
4	L2	14	0.0	0.037	2.6	LOS A	0.1	0.9	0.60	0.54	0.60	25.1
6	R2	6	0.0	0.037	10.5	LOS B	0.1	0.9	0.60	0.54	0.60	24.6
Approach		20	0.0	0.037	5.1	LOS A	0.1	0.9	0.60	0.54	0.60	25.0
North: West Coast Dr												
7	L2	26	0.0	0.368	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	26.2
8	T1	611	5.0	0.368	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
Approach		637	4.8	0.368	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.2
All Vehicles		1254	4.8	0.368	0.3	NA	0.2	1.2	0.02	0.02	0.03	48.2

Raleigh Road Access, Saturday: Midday Peak, At Opening

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Raleigh Road												
5	T1	60	5.0	0.039	0.0	LOS A	0.0	0.3	0.04	0.06	0.04	46.6
6	R2	7	0.0	0.039	4.8	LOS A	0.0	0.3	0.04	0.06	0.04	45.0
Approach		67	4.5	0.039	0.5	NA	0.0	0.3	0.04	0.06	0.04	46.4
North: Driveway												
7	L2	3	0.0	0.029	0.2	LOS A	0.1	0.7	0.19	0.19	0.19	32.0
9	R2	31	0.0	0.029	1.0	LOS A	0.1	0.7	0.19	0.19	0.19	16.0
Approach		34	0.0	0.029	1.0	LOS A	0.1	0.7	0.19	0.19	0.19	17.9
West: Raleigh Road												
10	L2	11	0.0	0.041	2.6	LOS A	0.0	0.0	0.00	0.08	0.00	14.6
11	T1	60	5.0	0.041	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	48.0
Approach		71	4.3	0.041	0.4	NA	0.0	0.0	0.00	0.08	0.00	41.9
All Vehicles		172	3.5	0.041	0.6	NA	0.1	0.7	0.05	0.09	0.05	38.3

West Coast Drive Access, Monday: PM Peak, +10 Years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: West Coast Dr												
2	T1	907	5.0	0.544	0.2	LOS A	0.6	4.2	0.05	0.01	0.08	48.6
3	R2	21	0.0	0.544	9.3	LOS A	0.6	4.2	0.05	0.01	0.08	48.3
Approach		928	4.9	0.544	0.4	NA	0.6	4.2	0.05	0.01	0.08	48.6
East: Driveway												
4	L2	22	0.0	0.151	1.9	LOS A	0.4	3.3	0.72	0.68	0.72	19.6
6	R2	23	0.0	0.151	18.9	LOS C	0.4	3.3	0.72	0.68	0.72	19.3
Approach		45	0.0	0.151	10.6	LOS B	0.4	3.3	0.72	0.68	0.72	19.4
North: West Coast Dr												
7	L2	35	0.0	0.294	4.6	LOS A	0.0	0.0	0.00	0.04	0.00	26.0
8	T1	475	5.0	0.294	0.0	LOS A	0.0	0.0	0.00	0.04	0.00	48.9
Approach		509	4.7	0.294	0.3	NA	0.0	0.0	0.00	0.04	0.00	47.1
All Vehicles		1483	4.7	0.544	0.7	NA	0.6	4.2	0.06	0.04	0.07	46.7

Raleigh Road Access, Monday: PM Peak, +10 Years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back Vehicles veh	of Queue Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Raleigh Road												
5	T1	26	5.0	0.024	0.1	LOS A	0.1	0.6	0.13	0.19	0.13	40.4
6	R2	15	0.0	0.024	4.8	LOS A	0.1	0.6	0.13	0.19	0.13	39.3
Approach		41	3.2	0.024	1.8	NA	0.1	0.6	0.13	0.19	0.13	40.0
North: Driveway												
7	L2	6	0.0	0.047	0.2	LOS A	0.2	1.1	0.18	0.19	0.18	32.1
9	R2	49	0.0	0.047	1.0	LOS A	0.2	1.1	0.18	0.19	0.18	16.1
Approach		56	0.0	0.047	0.9	LOS A	0.2	1.1	0.18	0.19	0.18	18.3
West: Raleigh Road												
10	L2	31	0.0	0.053	2.6	LOS A	0.0	0.0	0.00	0.17	0.00	14.3
11	T1	61	5.0	0.053	0.0	LOS A	0.0	0.0	0.00	0.17	0.00	45.7
Approach		92	3.3	0.053	0.9	NA	0.0	0.0	0.00	0.17	0.00	33.6
All Vehicles		188	2.3	0.053	1.1	NA	0.2	1.1	0.08	0.18	0.08	30.4

West Coast Drive Access: Saturday: Midday Peak, +10 Years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: West Coast Dr												
2	T1	652	5.0	0.387	0.2	LOS A	0.2	1.6	0.03	0.01	0.04	49.0
3	R2	8	0.0	0.387	10.6	LOS B	0.2	1.6	0.03	0.01	0.04	49.0
Approach		660	4.9	0.387	0.3	NA	0.2	1.6	0.03	0.01	0.04	49.0
East: Driveway												
4	L2	15	0.0	0.050	3.1	LOS A	0.2	1.1	0.67	0.63	0.67	23.3
6	R2	7	0.0	0.050	13.5	LOS B	0.2	1.1	0.67	0.63	0.67	22.9
Approach		22	0.0	0.050	6.6	LOS A	0.2	1.1	0.67	0.63	0.67	23.2
North: West Coast Dr												
7	L2	29	0.0	0.407	4.6	LOS A	0.0	0.0	0.00	0.02	0.00	26.1
8	T1	675	5.0	0.407	0.0	LOS A	0.0	0.0	0.00	0.02	0.00	49.3
Approach		704	4.8	0.407	0.2	NA	0.0	0.0	0.00	0.02	0.00	48.1
All Vehicles		1386	4.8	0.407	0.4	NA	0.2	1.6	0.03	0.03	0.03	48.0

Raleigh Road Access, Saturday: Midday Peak, +10 Years

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
East: Raleigh Road												
5	T1	66	5.0	0.043	0.0	LOS A	0.0	0.4	0.04	0.06	0.04	46.4
6	R2	8	0.0	0.043	4.8	LOS A	0.0	0.4	0.04	0.06	0.04	44.9
Approach		75	4.4	0.043	0.6	NA	0.0	0.4	0.04	0.06	0.04	46.3
North: Driveway												
7	L2	3	0.0	0.032	0.2	LOS A	0.1	0.8	0.20	0.20	0.20	31.9
9	R2	34	0.0	0.032	1.1	LOS A	0.1	0.8	0.20	0.20	0.20	15.9
Approach		37	0.0	0.032	1.0	LOS A	0.1	0.8	0.20	0.20	0.20	17.6
West: Raleigh Road												
10	L2	12	0.0	0.045	2.6	LOS A	0.0	0.0	0.00	0.08	0.00	14.6
11	T1	66	5.0	0.045	0.0	LOS A	0.0	0.0	0.00	0.08	0.00	48.0
Approach		78	4.3	0.045	0.4	NA	0.0	0.0	0.00	0.08	0.00	41.9
All Vehicles		189	3.5	0.045	0.6	NA	0.1	0.8	0.06	0.10	0.06	38.3

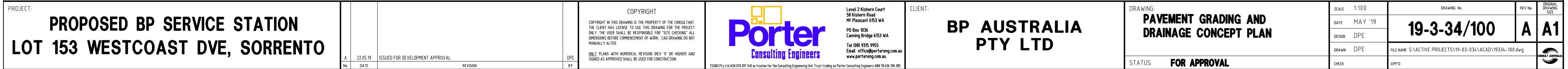


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Appendix 2
Porter Consulting Engineers Technical Note and Swept Paths

TECHNICAL NOTE

Project: BP Sorrento

Date Issued: 1 August 2019

Issued to: BP Australia Pty Ltd

Job Number: 19-03-034

This Technical Note has been prepared to address the traffic issues raised by the City of Joondalup in their email dated 23 July, 2019 in relation to the proposed redevelopment of the existing BP Service Station located on the corner of West Coast Drive and Raleigh Road, Sorrento.

Item c – No landscaping strip is proposed on the eastern boundary of Lot 154 as required by SACP Plan 2 and element 5.4.4.

The existing Raleigh Road crossover has been maintained in its current location abutting the adjacent lot 155. The Sorrento Activity Centre Plan (SACP) envisaged a landscaping strip along the entire length of the boundary between lot 154 and lot 155. This would require moving the existing Raleigh Road crossover to the west and subsequently closer to the intersection of West Coast Drive and Raleigh Road. From a traffic perspective a greater separation distance between the intersection and the crossover is preferred to minimise points of conflict and confusion and to improve safety.

Item d – The transport report (specifically swept paths) show conflicts between vehicle movements and the fill points. The development also has a significant number of movements that cross to the wrong side of the road.

The swept paths for vehicles towing trailers (such as boats) were checked due to the nature of the surrounding environment (such as the nearby Hillary's Boat Harbour). The number of towing vehicles likely to use the site simultaneously is considered to be low. The possibility of towing vehicles entering and exiting simultaneously would be rare. In any instance the revised swept paths clearly demonstrate that two vehicles towing boats could enter and exit the site simultaneously and would be able to access all bowzers.

Vehicles towing larger items such as caravans will be restricted as to which bowzers are used with some constraints with entering and exiting on West Coast Drive. The number of vehicles likely to be towing larger items such as caravans is likely to be very low. In any instance, driver behaviour is such that drivers will give way to each other to allow respective vehicle movements when larger vehicles are involved.

It is common practice for service vehicles to use the full width of the crossover. Reference is made to MRWA standard drawing 200431-0200-1 Service vehicles such as single unit trucks and fuel tankers will be managed by the operator to access the site during non peak times such that the full width of crossover can be used for the turning manoeuvre. This is common practice not only at service stations but other sites requiring service deliveries. The number of deliveries to the site is minimal compared to the majority of traffic using the site. To design a crossover to cater for service vehicles to turn lane correct within the crossover would result in an excessive driveway width. Allowing larger vehicles to use the majority of the crossover width whilst turning ensures that the width of the crossover is not excessive. This is considered desirable in high pedestrian activity areas.

Item e - Noting the access points are existing, they are not in accordance with the SAPC.

The transport assessment for the SAPC analysed two scenarios both of which included the access to the service station site. Service stations by nature will require two crossovers for operational purposes. It is not practical or in deed possible for fuel tankers to turn around within the constraints of a site. Main Roads WA acknowledge this design requirement in their driveway policy Document (D12#57413) which states “Service stations on a corner lot may have one driveway up to 11 .0 m wide to a State road and another to the minor road. Those not on a corner may have two driveways, each up to 11.0 m wide”

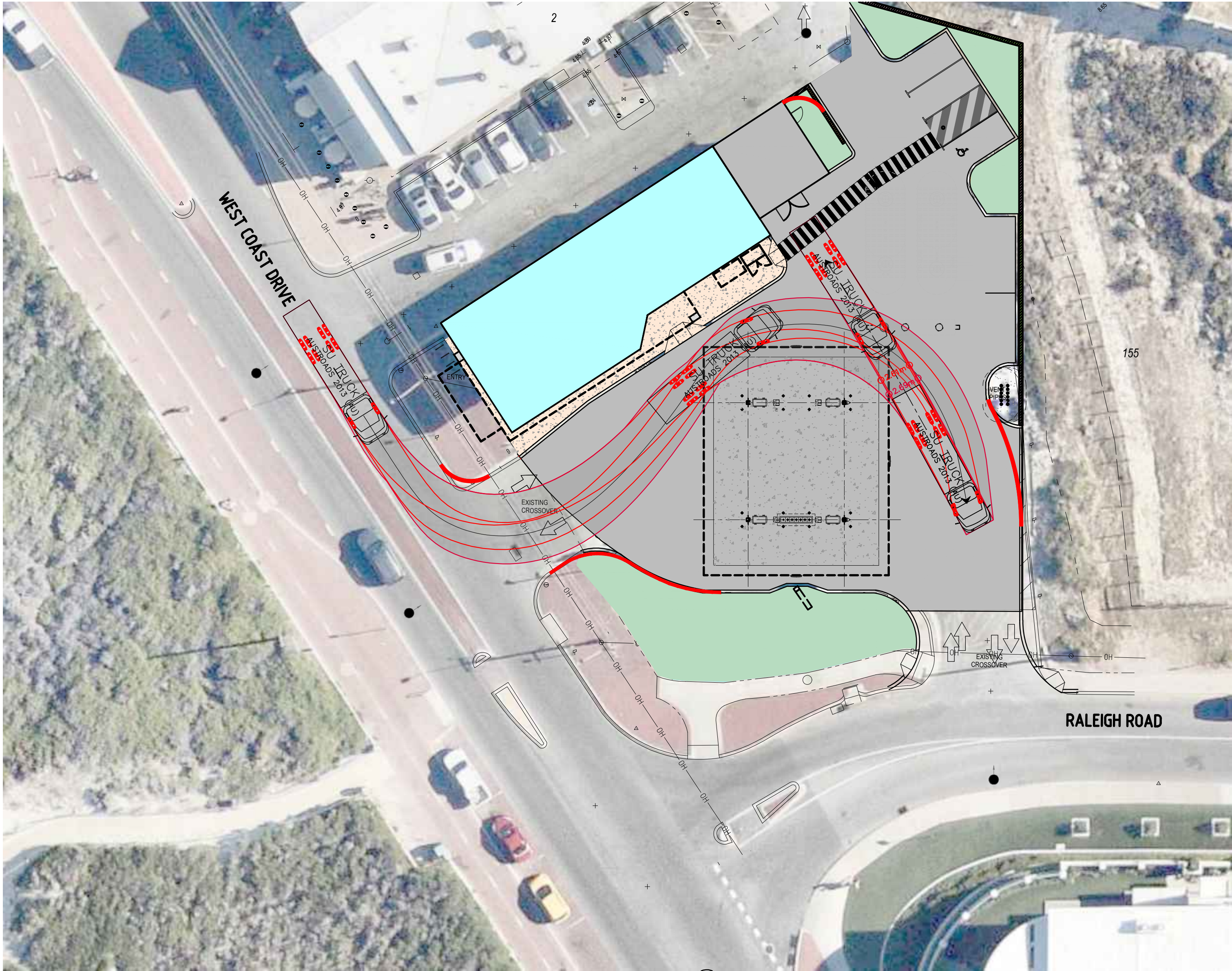
West Coast Drive is classified as a District Distributor B road which by definition carries traffic between industrial, commercial and residential areas. They have a reduced capacity compared to District Distributor A roads due to flow restrictions from access to and roadside parking alongside adjoining properties. Accesses at this location along with streetscaping and active roadside could assist to create a slower speed environment.

Item g – The proposal does not permit for sufficient truncation on the eastern side of the development to allow safe interaction between the vehicles leaving lot 2 and the pedestrians in front of the subject site.

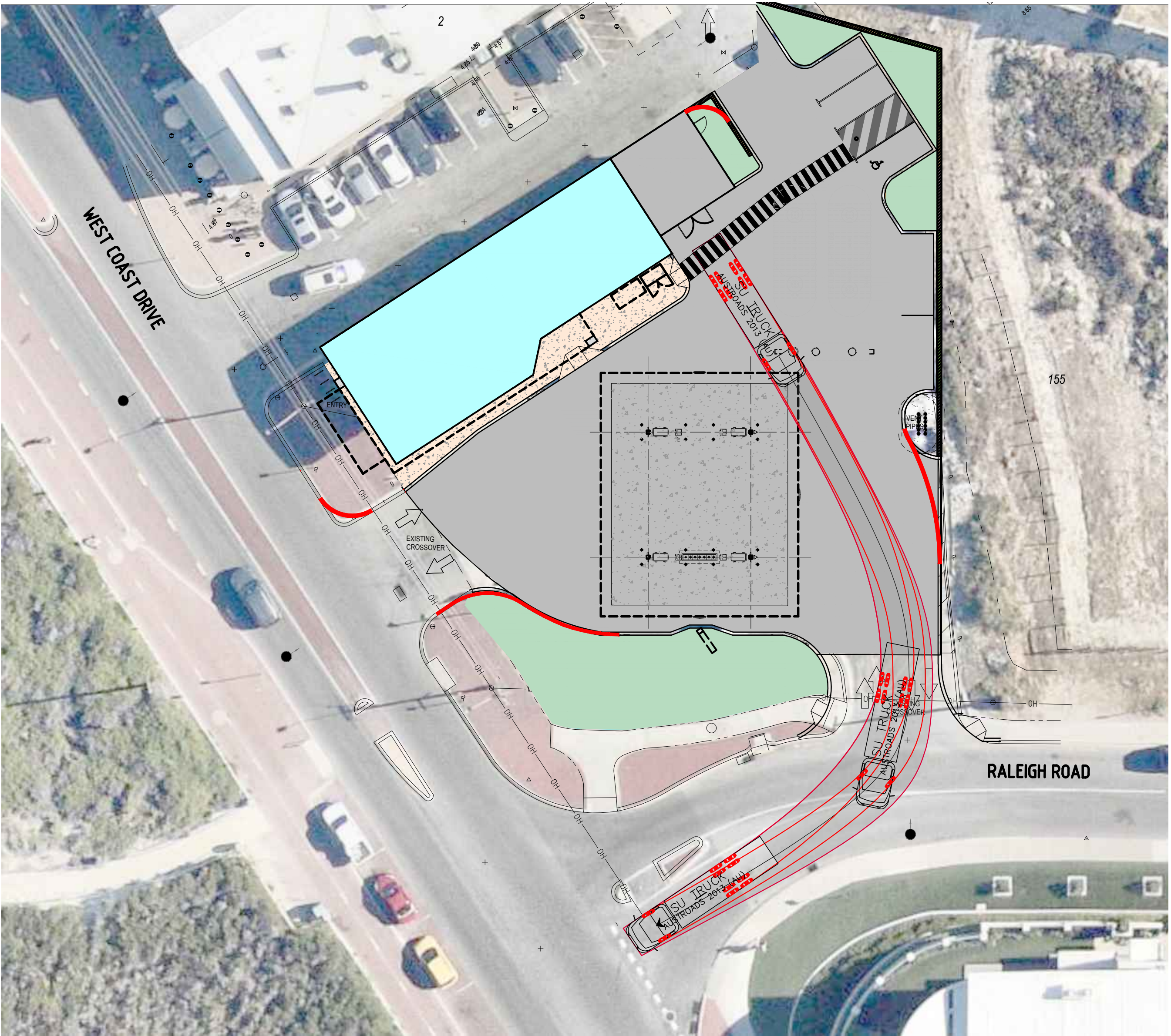
The rear access to/from Lot 2 is a slow speed environment. Vehicles travelling from Lot 2 into the site (lot 153/154) (i.e. southbound) have clear sight lines to pedestrians on the cross walk walking from the store to the parking spaces (with low level landscaping). The pedestrian cross walk has been aligned with the shared zone to improve sight lines to pedestrians waiting to cross the road. The carpark is a slow speed environment with the presence of pedestrians highlighted with the use of a cross walk alerting drivers to their presence. The severity of vehicle-pedestrian conflicts increases at speeds of 30km/h and higher. Typically, traffic speeds at this location within the carpark will be lower due to the constrained environment. The use of a speed hump immediately north of the cross walk would assist in further reducing vehicle speeds at this location if required.

Enc.

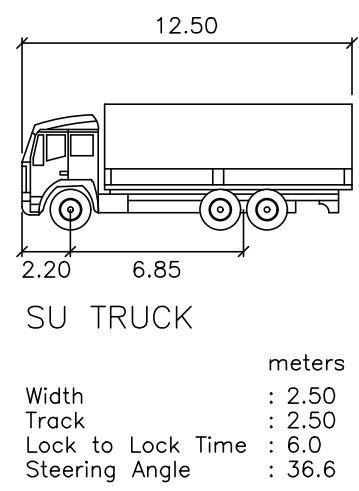
Drawing 19-3-34/801 Rev E – 15m Toll Tanker Vehicle
Drawing 19-3-34/802 Rev C – Boat and Caravan Options
Drawing 19-3-34/803 Rev B – Single Unit Truck



ENTER OFF WEST COAST DRIVE AND REVERSE TO SERVICE AREA
1:250



EXIT ONTO RALEIGH ROAD
1:250



PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

REVISION	
B	1-8-2019 REV C SITE PLAN UPDATED BASE FILE
A	5-6-2019 PRELIMINARY PLOT FOR APPROVAL
No.	DATE

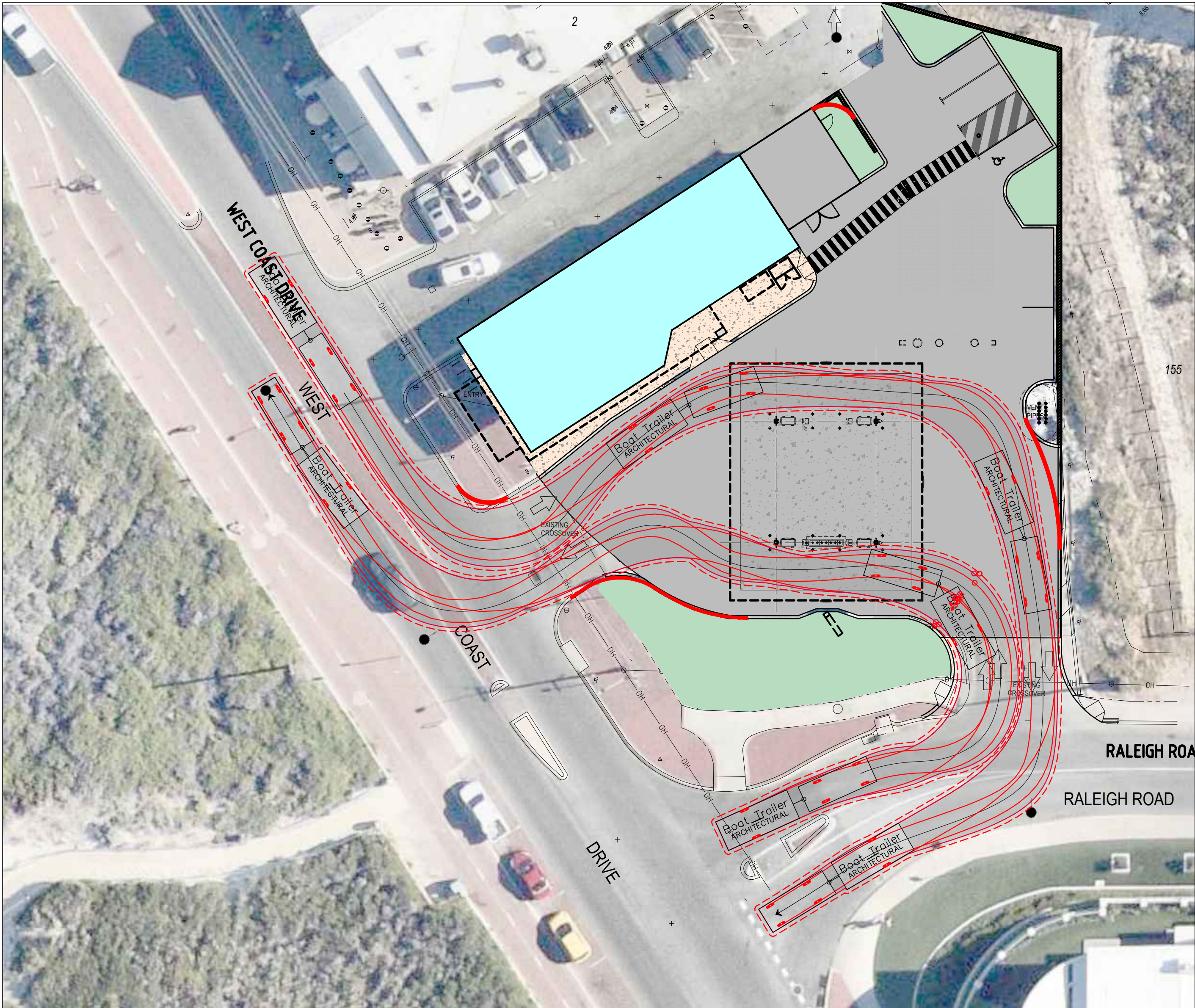
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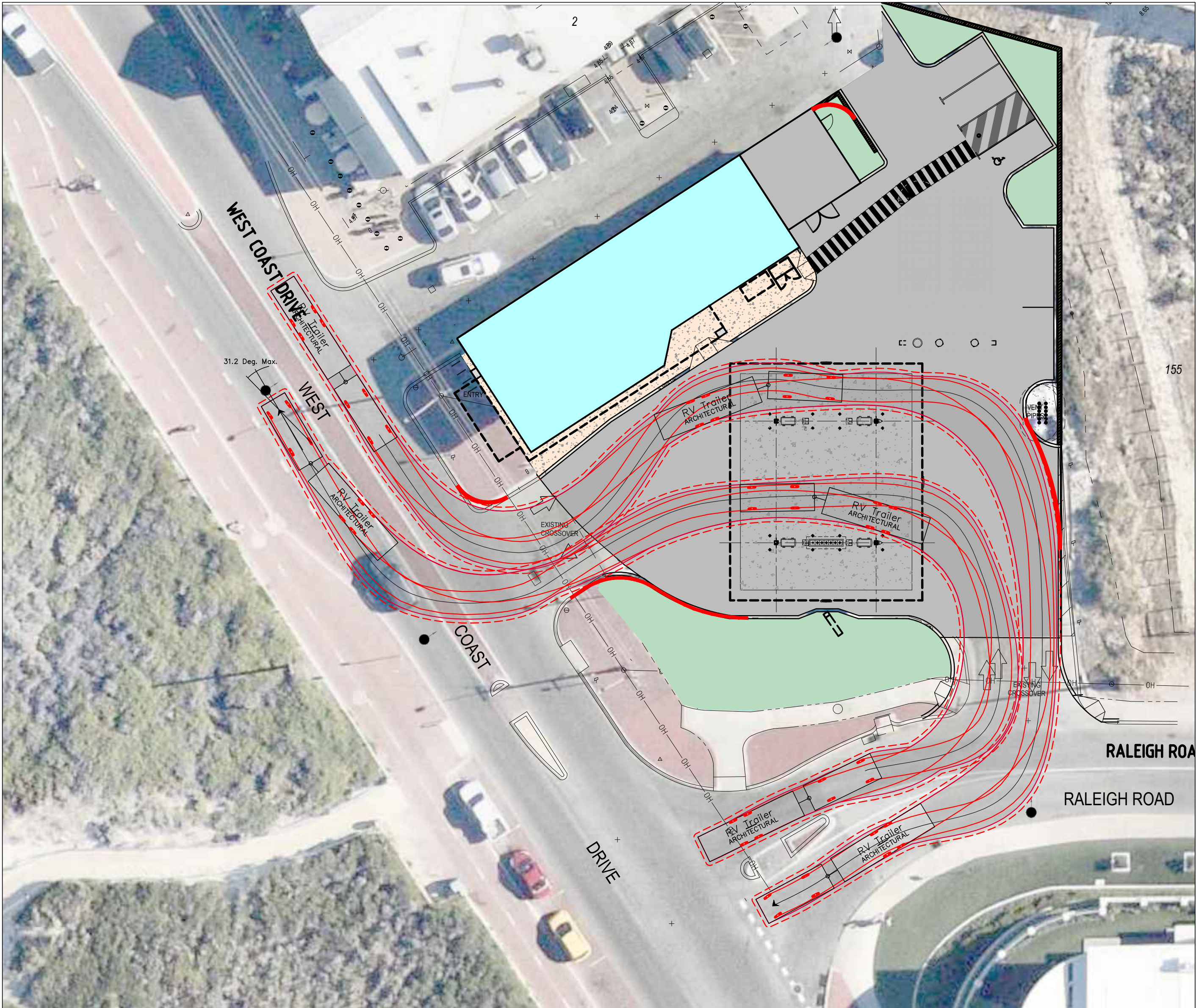
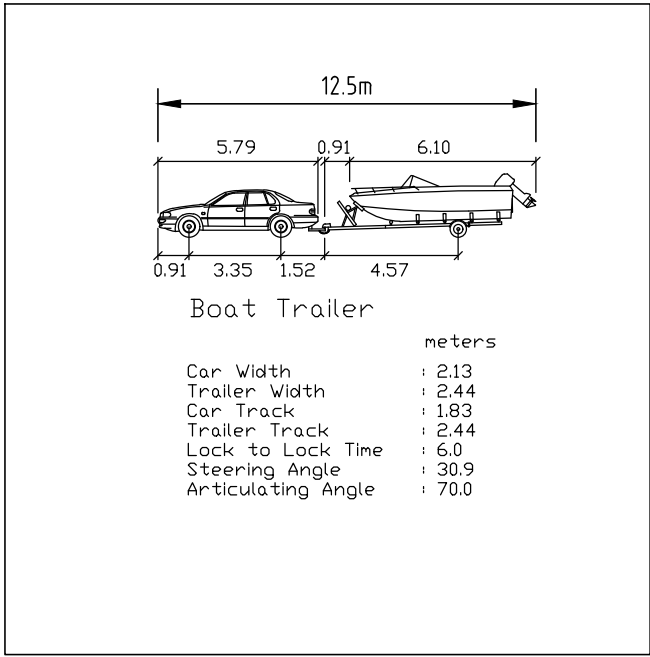
CLIENT:
**BP
AUSTRALIA**

DRAWING:
**SINGLE UNIT TRUCK SWEEP PATH
SERVICE AREA**
STATUS: **FOR APPROVAL**

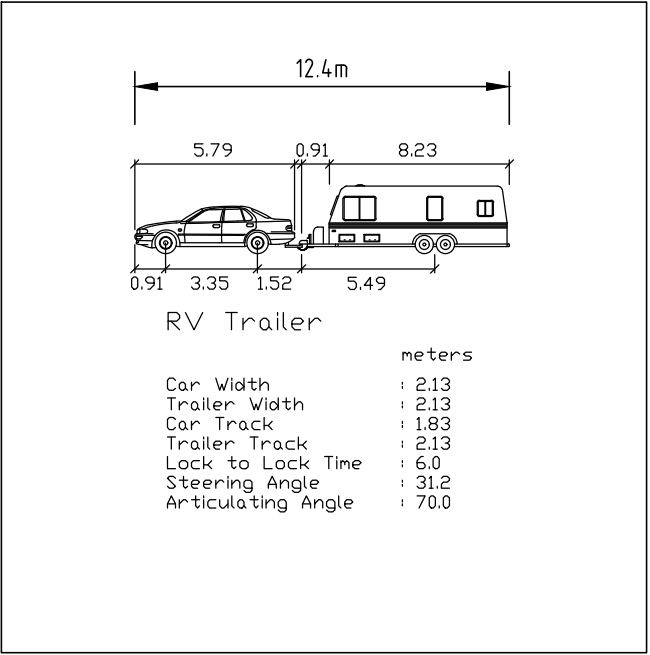
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DATE JUNE 2019	19-3-34/803	B	A1
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DRAWN MJV	APP'D		
CHECK			



CAR WITH BOAT TRAILER SWEEP PATH



CAR WITH RV TRAILER (CARAVAN) SWEEP PATH



PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

C	24-7-2019	CAR AND BOAT SWEEP PATHS REVISED. REV C SITE PLAN UPDATED BASE FILE
B	15-5-2019	SITE LAYOUT PLAN UPDATED
A	15-5-2019	PRELIMINARY PLOT FOR APPROVAL. 17.5m TANKER SWEEP PATH
No.	DATE	REVISION

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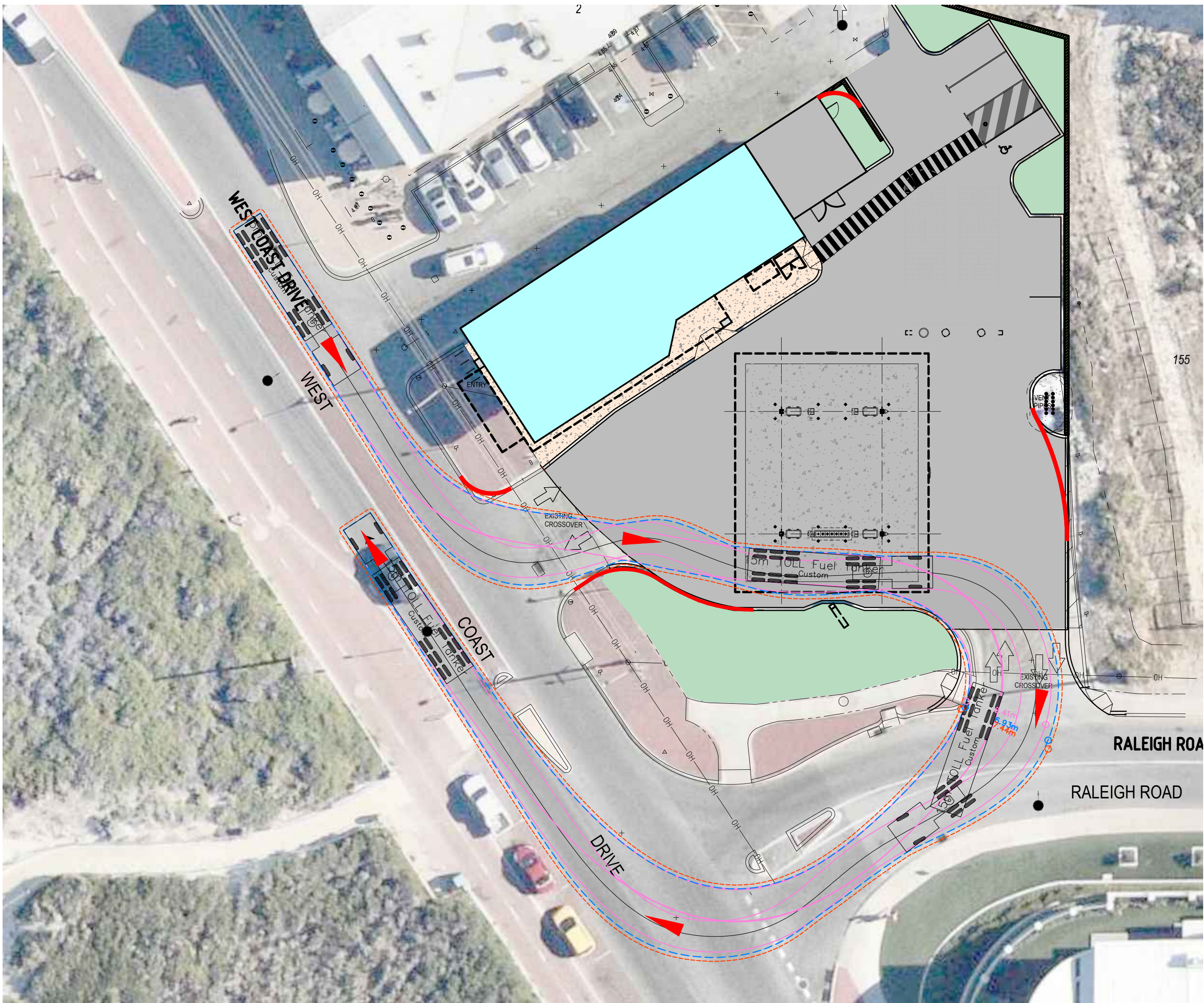
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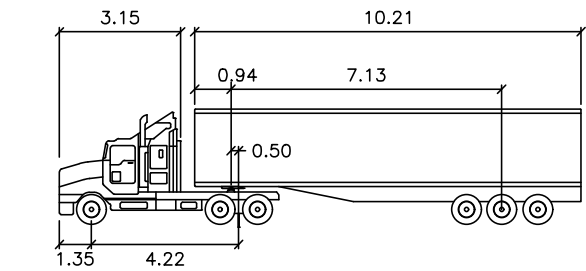
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DRAWING:
BOAT AND CARAVAN OPTIONS
STATUS: **FOR APPROVAL**

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DRAWN	MJV			
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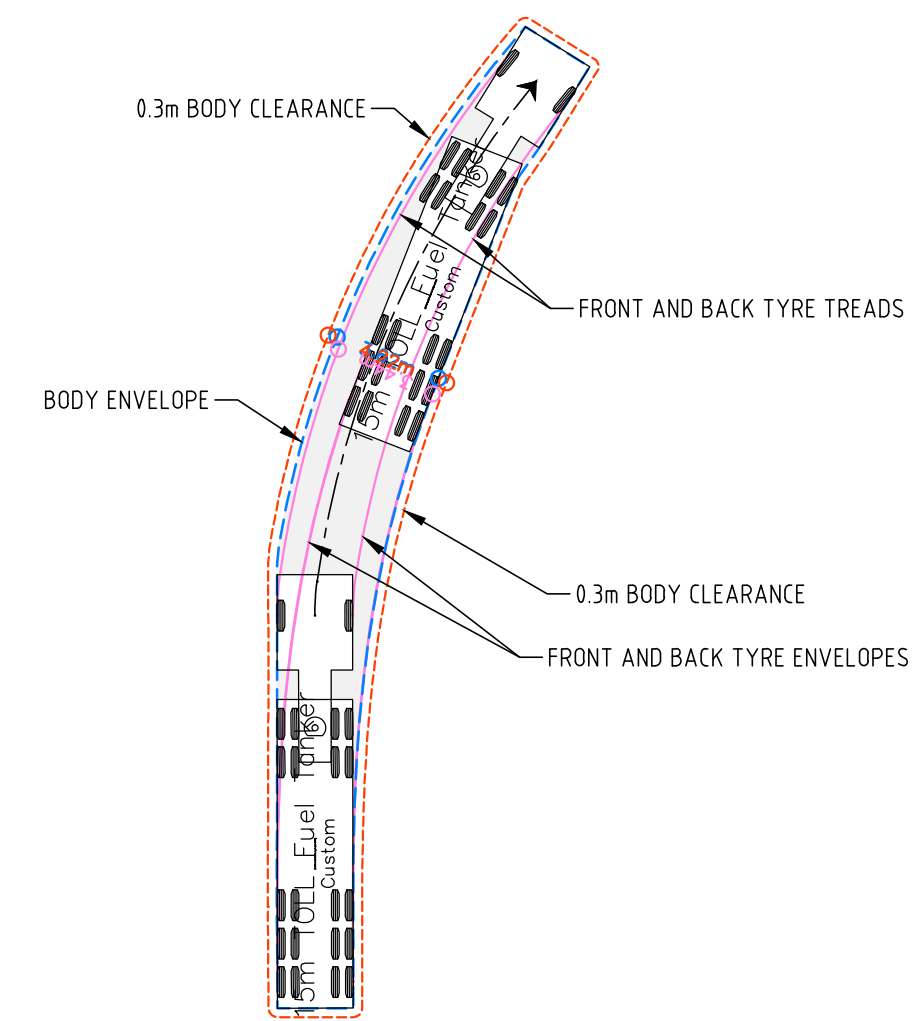


15m TOLL TANKER SWEEP PATH



15m TOLL Fuel Tanker			
Tractor Width	2.50	Lock to Lock Time	6.0
Trailer Width	2.50	Steering Angle	27.7
Tractor Track	2.50	Articulating Angle	70.0
Trailer Track	2.50		

15m TOLL TANKER DIMENSIONS



TURNING TEMPLATE DETAIL

PROJECT:
**WEST COAST HWY - RALEIGH RD
SORRENTO**

REV	DATE	REVISION
E	1-8-2019	REV C SITE PLAN UPDATED BASE FILE
D	15-5-2019	SITE LAYOUT PLAN UPDATED
C	14-5-2019	CROSSOVERS REVISED TO SUIT CADASTRAL BOUNDARY.
B	1-4-2019	FUEL TANKER POSITION RELOCATED TO NEW POSITION.
A	1-4-2019	PRELIMINARY PLOT FOR APPROVAL.

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DRAWING:
15m TOLL TANKER SWEEP PATHS
STATUS: **FOR APPROVAL**

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DRAWN	MJV			
CHECK		APP'D		

Environmental Noise Assessment

Lot 153 West Coast Drive & Lot 154 Raleigh
Road, Sorrento

Service Station Development

Reference: 19024845-01A

Prepared for:
BP Australia Pty Ltd

Report: 19024845-01A

Lloyd George Acoustics Pty Ltd

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Date:	Rev	Description	Prepared By	Verified
5-Jun-19	-	Issued to Client	Matt Moyle	Terry George
13-Jun-19	A	Updated to address future developments	Matt Moyle	Terry George

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1 INTRODUCTION

A service station redevelopment is proposed at Lot 153 West Coast Drive & Lot 154 Raleigh Road, Sorrento (refer *Figure 1-1*). A service station currently exists on the site, which will be demolished to make way for the proposed new structures. The most critical premises identified in this assessment are to the northeast, east and south. The subject site is amongst commercial business use to the north.

Noise sources considered were those associated with the rooftop and service yard mechanical plant, service station equipment and car park use. Noise from these items was assessed against the prescribed standards of the *Environmental Protection (Noise) Regulations 1997* by way of noise modelling.

Included in the assessment is consideration for the Sorrento Plaza Activity Centre which is proposed and has built-form approvals at 130-136 West Coast Hwy. The centre is likely to have commercial uses on ground floor and residential uses on upper floors, ranging from 3 to 5 storeys.



Figure 1-1 Site Locality

The service station is proposed to operate 24 hours a day, 7-days a week. The existing service station also operates at these same hours. Site drawings used in this assessment are included in *Appendix A*.

Appendix C contains a description of some of the terminology used throughout this report.

2 CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

Regulation 7 defines the prescribed standard for noise emissions as follows:

“7. (1) Noise emitted from any premises or public place when received at other premises –

- a) must not cause or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and
- b) Must be free of:
 - i. Tonality;
 - ii. Impulsiveness; and
 - iii. Modulation”.

A “...noise emission is taken to *significantly contribute to* a level of noise if the noise emission exceeds a value which is 5 dB below the assigned level...”

Tonality, impulsiveness and modulation are defined in Regulation 9. Noise is to be taken to be free of these characteristics if:

- a) The characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and
- b) The noise emission complies with the standard after the adjustments of *Table 2-1* are made to the noise emission as measured at the point of reception.

Table 2-1 Adjustments for Intrusive Characteristics

Tonality	Modulation	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB

Note: The above are cumulative to a maximum of 15dB.

The baseline assigned levels (prescribed standards) are specified in Regulation 8 and are shown in *Table 2-2*.

Table 2-2 Baseline Assigned Noise Levels

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
Noise sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial	All hours	60	75	80

The influencing factor was calculated for the nearest noise sensitive premises, shown on *Figure 3-1*, being a recent aerial image of the subject area. As per the relevant Planning Scheme map, the subject site is amongst “Commercial” and “Residential” zoning (Refer *Appendix B*).

An influencing factor of 7 dB has been calculated for the nearby residential premises, based on a transport factor of 6 dB from West Coast Highway (16,935 vpd¹ for 2015), and 1 dB from commercial land uses – refer *Table 2-3*.

Table 2-3 Influencing Factor Calculation – All Residences

Description	Within 100 metre Radius	Within 450 metre Radius	Total
Commercial Land	0.6-1.0 dB	0.1 dB	1 dB
Major Road	6 dB	-	6 dB
Total			7 dB

Table 2-4 shows the assigned levels (including the influencing factors for residential premises). The L_{A10} assigned level is applicable to the mechanical plant and fuel pump noise while the L_{Amax} is applicable to the air service alarm and car door closing noise.

¹ Based on Main Roads Traffic map sourced data from Site 554

Table 2-4 Assigned Noise Levels

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L _{A10}	L _{A1}	L _{Amax}
All Residences	0700 to 1900 hours Monday to Saturday (Day)	52	62	72
	0900 to 1900 hours Sunday and public holidays (Sunday)	47	57	72
	1900 to 2200 hours all days (Evening)	47	57	62
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	42	52	62
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial	All hours	60	75	80

It is noted the assigned noise levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as *a period of time of not less than 15 minutes, and not exceeding 4 hours*, which is determined by an *inspector or authorised person* to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission. An *inspector or authorised person* is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Environment Regulation. Acoustic consultants or other environmental consultants are not appointed as an *inspector or authorised person*. Therefore, whilst this assessment is based on a 4 hours RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

Under regulation 3, nothing in the Noise Regulations applies to the following relevant noise emissions –

- (a) noise emissions from the propulsion and braking systems of motor vehicles operating on a road;
- (b) noise emissions from a safety warning device, other than a reversing alarm, fitted to a motor vehicle operating on a road;
- (c) noise emissions –
 - (i) from a safety warning device fitted to a building as a requirement of the Building Code as defined in the *Building Regulations 2012* regulation 3; or
 if every reasonable and practicable measure has been taken to reduce the effect of the noise emission consistent with providing an audible warning to people;

Since the development is open to the public, the service station, car park and associated like areas are considered to be a road and therefore vehicle noise (propulsion and braking) is not strictly assessed. Vehicle door closing noise is assessable in any parts of the car park, as this does not form part of the 'propulsion or braking' systems.

Bulk refuelling/fuel delivery is understood to be gravity fed with the truck engine turned off and generally occurs during the day. As such, it does not represent a significant noise scenario warranting assessment.

Regulation 14A provides requirements for the collection of waste stating that this activity can also be exempt from having to comply with Regulation 7 prescribed standards provided it is undertaken between 7am and 7pm Mondays to Saturdays and undertaken in the quietest reasonable manner.

3 METHODOLOGY

Computer modelling was undertaken, using the software *SoundPLAN 8.1* with the ISO 9613 algorithms (ISO 17354 compliant) selected. These algorithms have been selected as they include the influence of wind. Input data required in the model are:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

3.1 Meteorological Information

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

Table 3-1 Modelling Meteorological Conditions

Parameter	Night (1900-0700)
Temperature (°C)	15
Humidity (%)	50
Wind Speed (m/s)	Up to 5m/s
Wind Direction*	All

* Note that the modelling package used allows for all wind directions to be modelled simultaneously.

It is generally considered that compliance with the assigned noise levels needs to be demonstrated for 98% of the time, during the day and night periods, for the month of the year in which the worst-case weather conditions prevail. In most cases, the above conditions occur for more than 2% of the time and therefore must be satisfied.

3.2 Topographical Data

Topographical data was adapted from *Google Earth*, site photographs and proposed plans. Existing and future buildings have also been included as these can provide barrier attenuation when located between a source and receiver, much the same as a hill. Parapets are assumed to be atop the service station building and at 1-metre higher than the roof.

3.3 Ground Absorption

Ground absorption varies from a value of 0 to 1, with 0 being for an acoustically reflective ground (e.g. water or bitumen) and 1 for acoustically absorbent ground (e.g. grass). In this instance, a value of 0.0 has been used for the carpark, road and service station areas, and 0.5 has been used for the remaining areas.

3.4 Source Sound Levels

The sound power levels used in the modelling are provided in *Table 3-2*.

Table 3-2 Source Sound Power Levels, dB

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
Fuel Bowsers x 4	-	65	68	65	67	65	59	50	71
Air Service Alarm - L_{max}	-	-	-	-	-	91	96	92	99
Toilet Exhaust Fan		61	67	61	64	60	52	46	67
Exhaust Fan x2	79	77	73	70	61	63	62	52	72
4 x Actron 20kW Condensers (Service Yard)	-	70	70	68	66	62	57	55	71
Pulford Silenced Compressor	73	72	75	71	67	63	59	51	73
Ice Box Compressor	51	61	61	63	63	59	56	47	69
Car Door Closings – L_{Amax}	71	74	77	81	80	78	72	61	84

With regards to the above noise sources, please note the following:

- Service station mechanical plant sound levels have been sourced from file data for previous similar projects.
- The ice box compressor source is 2.0m above ground level positioned as shown in site plans.
- A fully enclosed service/plant yard is shown on the plans (including a *Colorbond* roof). This has been represented in the noise model.
- An existing 1.8m fence is observed along the northern boundary and has been included in the noise model.
- The service station mechanical plant will operate at all times, due to the 24-hour nature of the store.
- The Sorrento Plaza Activity Centre has been considered by way of utilising upper floor receivers close to the BP site boundary. The receivers of note here are Receivers A and G.
- Two scenarios are considered as follows:
 1. Night L_{A10} Noise – All service station plant running including all bowsers simultaneously.
 2. Night L_{Amax} Noise – All plant from scenario 1 and with car door and air service alarm noise sources.
- An image of the noise model for Scenario 2 is shown in *Figure 3-1*. Note that the yellow receivers are existing noise sensitive and the green are potential multi-storey residential and ground floor commercial.

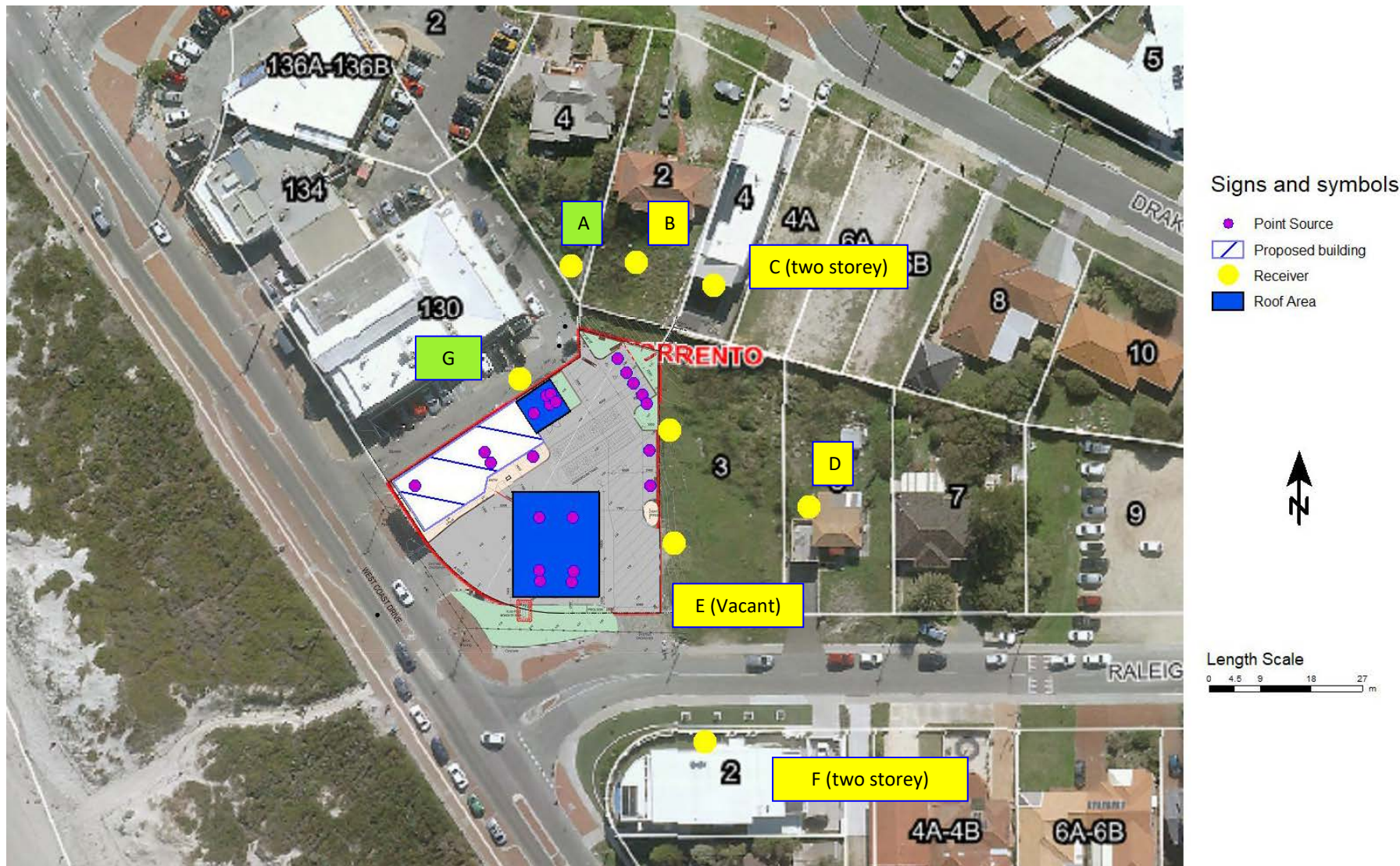


Figure 3-1 2D Image of Noise Model

4 RESULTS AND ASSESSMENT

4.1 Scenario 1 – Night L_{A10}

Table 4-1 provides the results for the night time L_{A10} scenario with all mechanical plant and all fuel bowzers in use. Figure 4-1 provides the noise contour plots for the Night L_{A10} Scenario.

Table 4-1 Predicted Noise Levels, Scenario 1: Night, L_{A10} dB

Location	Predicted Noise Level Worst-Case Downwind			Critical Assigned Level	Calculated Exceedence
	Mechanical Plant	Fuel Bowzers	Combined ²		
Residence A	29	35	36	42	Complies
Residence B	28	34	35	42	Complies
Residence C Ground Floors	22	22	25	42	Complies
Residence C Upper Floor	27	31	33	42	Complies
Residence D	33	33	36	42	Complies
Residence E (Vacant) ¹	34	39	40	60 (42)	Complies
Residence E Upper Floor (Vacant) ¹	35	42	41	60 (42)	Complies
Residence F Ground Floors	27	36	37	42	Complies
Residence F Upper Floors	28	37	37	42	Complies
Commercial G Ground floor	40	25	40	60	Complies
Residential G Upper Floor	43	33	43	42	+1 dB

1. This location is currently vacant, however if developed to noise sensitive the assigned level is shown in brackets.
2. Includes + 5 dB adjustment for tonality.

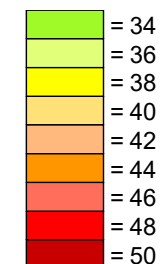
The most critical existing receiving premises is Receiver G which is the upper floor of the adjacent Lot 130 activity centre. The predicted level of is 43 dB L_{A10} . Note that this residence is part of the approved activity centre and will likely comprise multi storey residential. The Mechanical plant noise during the night period, when background noise is lowest, may be considered to have tonal characteristics, attracting a +5 dB adjustment. Therefore, the assigned level is exceeded by 6 dB at this location. Other existing residences would similarly be assessed as marginal exceedences with the tonality adjustment. The dominant noise sources are primarily due to rooftop mechanical plant, therefore suitable mitigation should be investigated – refer Section 5.

Residence E is currently a vacant residential block, which is not classified as highly noise sensitive and therefore, noise emissions will comply whilst vacant or when developed.

Figure 4-1



Predicted Noise level
L_{A10} dB



Signs and symbols

- * Point source
- Blue square Canopy Area

BP Service Station, Sorrento - Predicted Noise Levels
L_{A10} Noise Level Contours - Mechanical Plant - Ground Floor



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by Matt Moyle
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(61) 412 611 330

4.2 Scenario 2 – Night L_{Amax}

Table 4-2 provides the results for the night time L_{Amax} scenario.

Table 4-2 Predicted Noise Levels, Scenario 2: Night, L_{Amax} dB

Location	Predicted Noise Level Worst-Case Downwind			Critical Assigned Level	Calculated Exceedence
	Air-Service Alarm	Car Doors	Maximum*		
Residence A	60 + 5	47 + 10	65	62	+3 dB
Residence B	56 + 5	44 + 10	61	62	Complies
Residence C Ground Floors	43 + 5	34 + 10	48	62	Complies
Residence C Upper Floor	52 + 5	42 + 10	57	62	Complies
Residence D	58 + 5	43 + 10	63	62	+1 dB
Residence E (Vacant)	72 + 5	59 + 10	77	80 (62)	Complies (+15)
Residence E Upper Floor (Vacant)	72 + 5	59 + 10	77	80 (62)	Complies (+15)
Residence F Ground Floors	52 + 5	45 + 10	57	62	Complies
Residence F Upper Floors	52 + 5	45 + 10	57	62	Complies
Commercial G	63 + 5	51 + 10	68	80	Complies
G Upper Floor Residential	65 + 5	51 + 10	70	62	+8 dB

* "+ 5" in the table has been assumed for potential tonal penalty and "+ 10" for impulsive penalty and included in the maximum.

Where the maximum level is a car door, a +10 dB adjustment is applied for impulsiveness. Where the maximum level is the air alarm, a +5 dB adjustment is applied for tonality. For a given receiver the maximum noise source is the air service alarm.

Noise levels exceed at Residence D and Residence E and upper residential floors of the proposed activity centre (when developed). It is recommended that a non-beeping unit be selected to ensure compliance. At Residence E, the car doors are also shown to exceed by 7 dB, therefore a solid fence should be constructed along this boundary to mitigate this noise source. With both of these mitigation options, the L_{Amax} assigned noise level will be complied with at all times. In the future if the residence is constructed as two storey, a carport/awning type structure may be required over the closest car bays. Note that all other noise sensitive and commercial boundaries comply with their respective assigned levels.

5 RECOMMENDATIONS

The two most critical scenarios for the proposed concept plan are predicted to exceed the assigned levels at Residence D and future Residences E and G. Noise controls are therefore required.

To ensure compliance, the following measures are to be applied in the design as a minimum:

- Mechanical plant to be located within a solid screened service yard of at least 2.0m wall height, an acoustic absorptive lining should be installed to the inside facades of this wall to reduce reflection noise. Any ventilation louvers required are to be acoustically rated;
- Roof top exhaust fans to be axial type with inline attenuators/silencers.
- Eastern boundary to be fenced with a minimum *colorbond*-type fence construction of minimum 1.8m height above retaining walls. In the future if the residence at 3 Raleigh Road is constructed as two storey, a carport type structure may be required over the closest carbays.
- Rooftop mechanical plant (exhaust fans) to be located behind local screening or as close to parapets as possible;
- Mechanical plant to be in line with those assumed in the modelling – refer *Table 3-2*;
- Air service alarm to be replaced with a non-audible unit or selected to be 8 dB quieter than the modelled unit.

Some best practice recommendations have been included below – to be implemented in the design and operation where practicable.

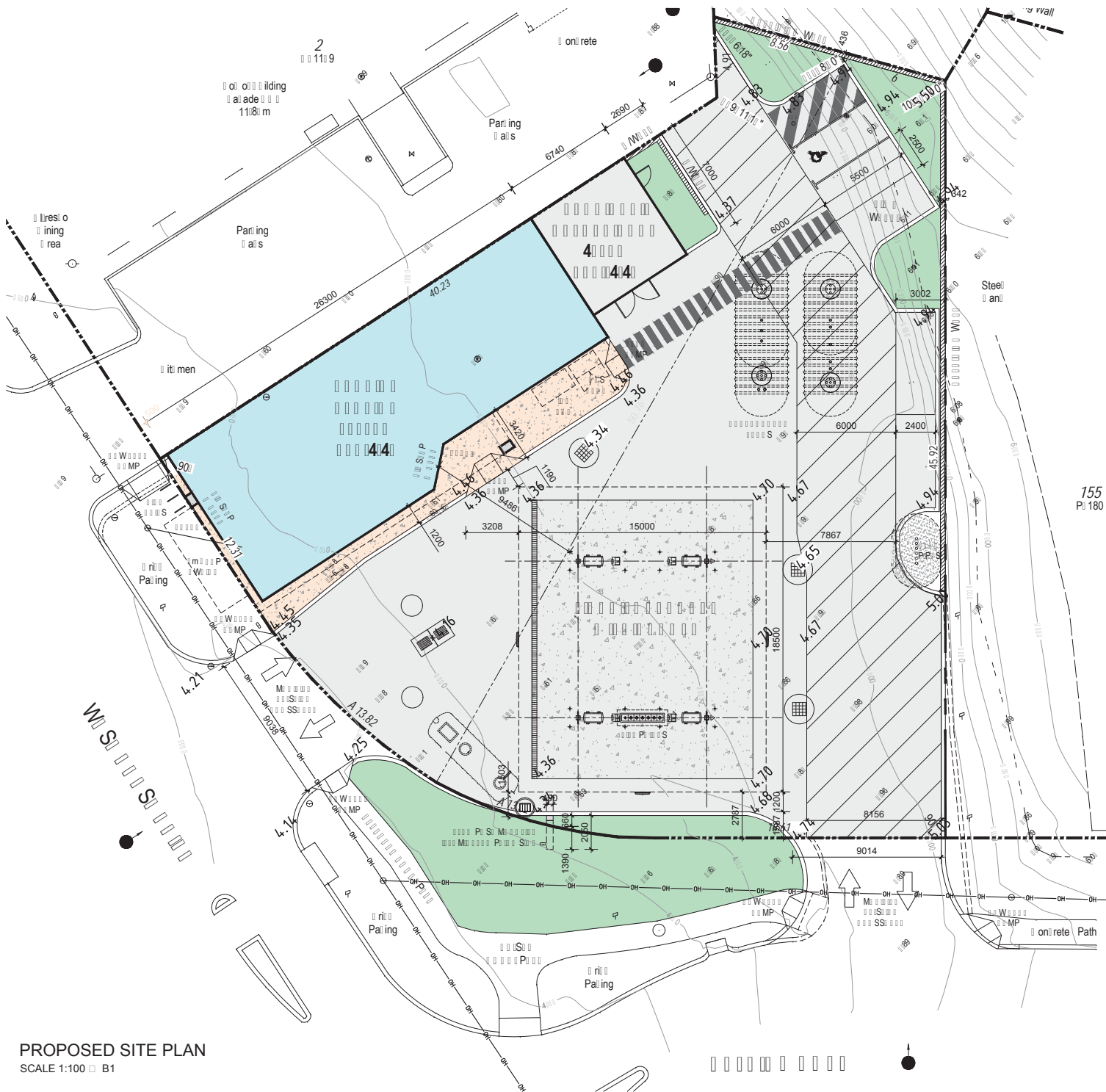
- Mechanical plant that will operate during the night (e.g. refrigeration condensers) to be selected having a low speed option;
- Mechanical plant to be maintained to ensure noise levels do not increase over time;
- Mechanical plant to be installed using anti-vibration isolation mounts;
- Any external music or the like shall be low level and completely inaudible at residences. Public address system may be used for emergency purposes and driver communication;
- Bin servicing shall occur between 7am and 7pm Mondays to Saturdays. The servicing of bins would fall under regulation 14A and provided it is carried out within the stipulated hours and undertaken as quietly as reasonably practicable, the 'normal' assigned levels do not apply. Where possible, bins shall be located in areas away from and/or screened from residences;
- Access grates shall be firmly seated in position and fitted with rubber gaskets to avoid excess banging.

6 CONCLUSION

The potential noise impacts resulting from the proposed service station redevelopment at Lot 153 West Coast Drive & Lot 154 Raleigh Road, Sorrento have been assessed in accordance with the *Environmental Protection (Noise) Regulations 1997*. Compliance with the assigned levels is considered achievable with the implementation of mitigation measures detailed in *Section 5*.

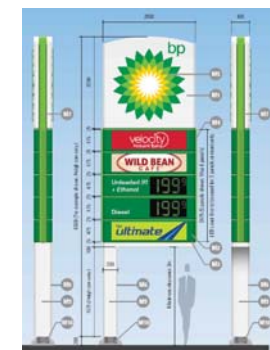
Appendix A

Site Plans



LEGEND:

- EXTENT OF LANDSCAPING - REFER TO LANDSCAPING PLAN FOR DETAILS
- EXTENT OF CONCRETE PAVING TO CANOPY FORECOURT
- EXTENT OF CONCRETE PAVING
- EXTENT OF BUILDING
- EXTENT OF HARDSTAND
- EXISTING RL
- PROPOSED FFL RL


















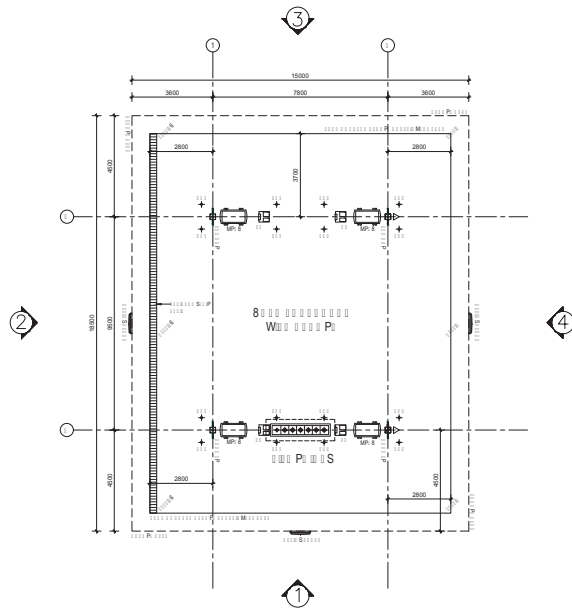
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MONOLITH ILLUMINATED PRICE SIGN**
SCALE 1:100 B1



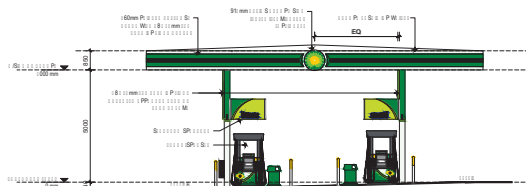
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SCALE 1:100 B1

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project	description	checked	date
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location	SITE PLAN		
LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO			
scale	1:100	date	07.05.2019
project no	18.19	rev no	01
rev	B		

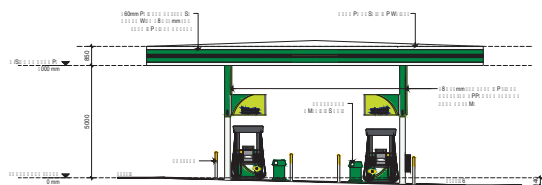
SOFT LANDSCAPING LEGEND:																																					
TOTAL SOFT LANDSCAPING AREA : 232' x 111' E: 14.49' OF THE TOTAL SITE AREA																																					
GROUND COVERS SPECIES	POT SIZE	SPACING	QUANTITY (EST)																																		
 LOBELIA ALATA	140" □	500" □	300																																		
SHRUB SPECIES	POT SIZE	SPACING	QUANTITY (EST)																																		
 BAN: SIA NIVEA	140" □	500" □	250																																		
 HA: EA UNULATA	140" □	400" □	360																																		
 LECHENAUTIA BILOBA	140" □	300" □	370																																		
 LOBELIA ALATA  BAN: SIA NIVEA  HA: EA UNULATA  LECHENAUTIA BILOBA																																					
LANDSCAPING NOTES:																																					
1. FINAL DENSITY, SPECIES AND PLANTING LOCATIONS OF SHRUBS AND GROUND COVERS ARE TO BE CONFIRMED BY CONTRACTOR WITH THE SUPERINTENDENT PRIOR TO PLANTING. 2. FINAL LOCATIONS OF TREES TO BE DETERMINED BY ACTUAL SERVICES LOCATIONS AND ARE TO BE CONFIRMED ON SITE. 3. PLANTS TO BE OFFSET 1' FROM CENTERLINE TO ALLOW FOR OVERHANGS IF APPLICABLE. 4. GROUND COVERS ARE TO BE PLANTED IN GROUPS OF 3 AND 5. 5. SQUARE SHOULDER CONCRETE CURBS TO DEFINE GARDEN AREAS. 6. CONCRETE SQUARE SHOULDER CURBS 3" AROUND VENT STACKS WITH 20" BLUE METAL AT BASE OF STACKS. 7. RETICULATION CONTROLLER FIELD IN SERVICES YARD WITH WATERPROOF GPO. 8. ALL GARDEN AREAS SUPPLIED WITH WOOD CHIP MULCH. 9. IRRIGATION TO ALL GARDEN AREAS WITH 13" COMMERCIAL BORE DRIP LINE. 10. 1000" SPACINGS BETWEEN PLANT VARIETIES.																																					
		<table border="1"> <tr> <td>B</td><td>ISSUED FOR DA</td><td>AC</td><td>AK</td><td>29.05.2019</td></tr> <tr> <td>A</td><td>ISSUED FOR CLIENT REVIEW</td><td>AC</td><td>AK</td><td>08.05.2019</td></tr> <tr> <td>revision/</td><td>description</td><td>drawn</td><td>checked</td><td>date</td></tr> <tr> <td>project</td><td>BP SORRENTO</td><td>drawn</td><td>AC</td><td rowspan="3">description PROPOSED LANDSCAPING PLAN</td></tr> <tr> <td>location</td><td>LOT 153 WEST COAST DRIVE, & LOT 154 RALEIGH ROAD SORRENTO</td><td>checked</td><td>AK</td></tr> <tr> <td></td><td></td><td></td><td></td></tr> <tr> <td colspan="2">  </td><td colspan="2"> 1:100  </td><td> date 07.05.2019 project no 18,19 sheet no S02 rev 0 </td></tr> </table>			B	ISSUED FOR DA	AC	AK	29.05.2019	A	ISSUED FOR CLIENT REVIEW	AC	AK	08.05.2019	revision/	description	drawn	checked	date	project	BP SORRENTO	drawn	AC	description PROPOSED LANDSCAPING PLAN	location	LOT 153 WEST COAST DRIVE, & LOT 154 RALEIGH ROAD SORRENTO	checked	AK							1:100 		date 07.05.2019 project no 18,19 sheet no S02 rev 0
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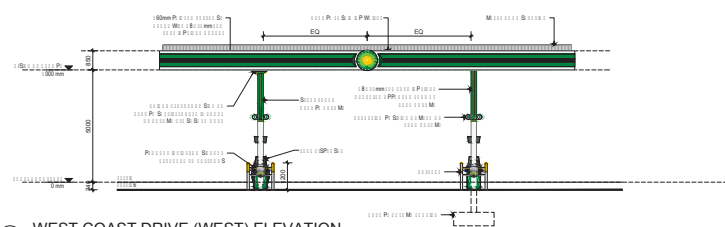
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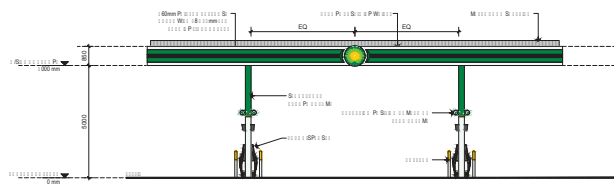
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3 NORTH ELEVATION
1:100



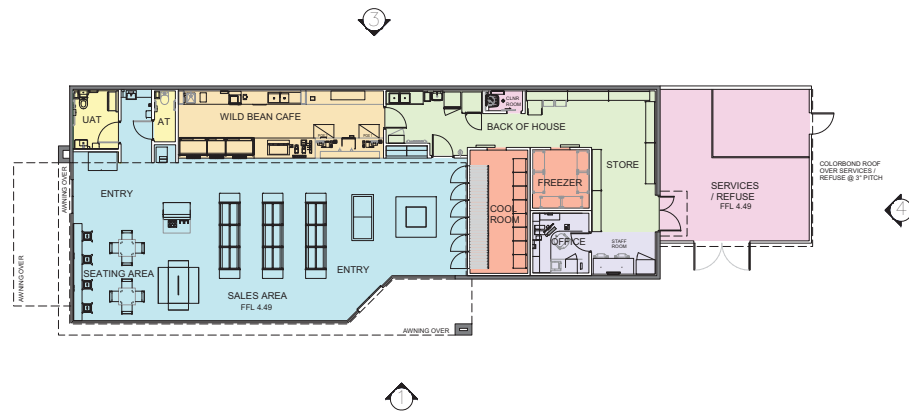
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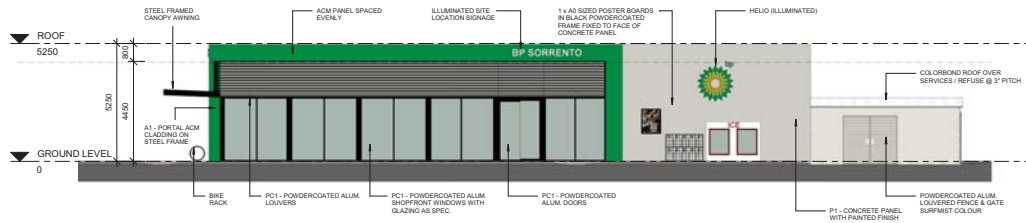
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LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO		AK		ELEVATIONS	
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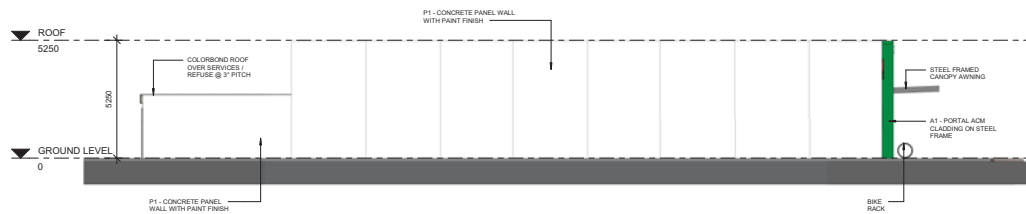
A PROPOSED FLOOR PLAN
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1 SOUTH-EAST
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2 SOUTH-WEST
1 : 100



3 NORTH-WEST
1 : 100



4 NORTH-EAST
1 : 100



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location	AK	LOT 153 WEST COAST DRIVE & LOT 154 RALEIGH ROAD SORRENTO	checked	SERVICE STATION FLOOR PLAN & ELEVATIONS	
Hodge Collard Preston		This Plan: 38 Richardson Street, West Perth, WA 6005		scale	date
		PO Box 743, West Perth, WA 6872		1 : 100	07.06.2019
		Ph: (08) 9332 5746		project no	dwg no
		Email: admin@hpcpa.com.au		18.19	S07
				rev	A



VIEW FROM WEST COAST DRIVE & RALEIGH ROAD INTERSECTION



VIEW FROM CAR PARKING



VIEW OF SHOP ENTRY FROM STREET

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revision	issue	description	drawn by	check by	date
project			drawn	description	
			AC		
			checked		
			AK		
			scale	date	07.06.2019
			project no	18.19	dwg no S08
					rev A

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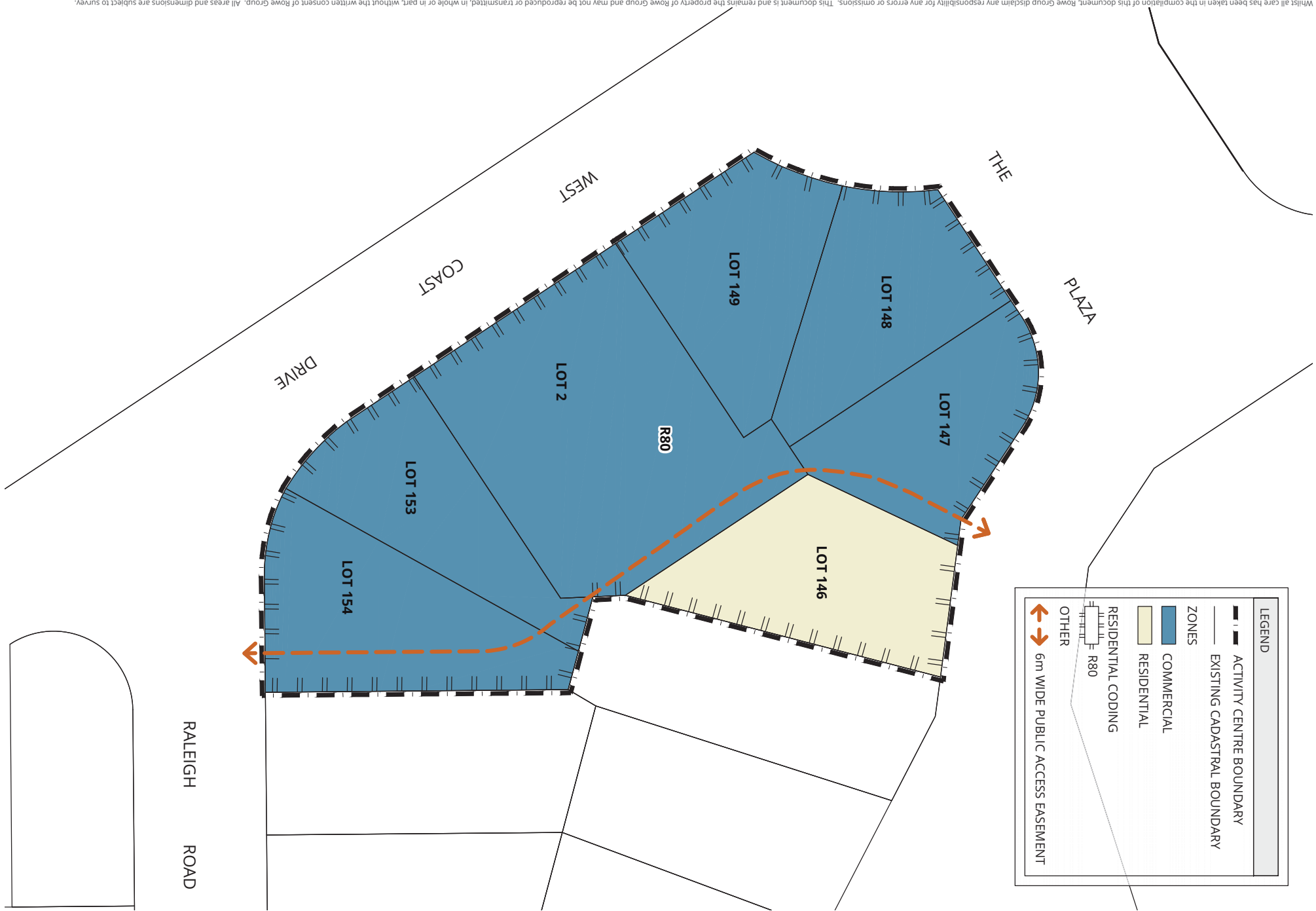
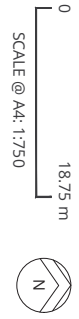
VIEW OF SHOP FRONT



VIEW OF CANOPY PROXIMITY FROM WEST COAST DRIVE

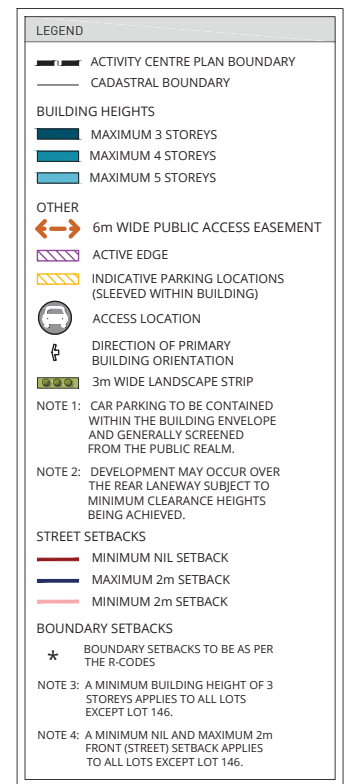
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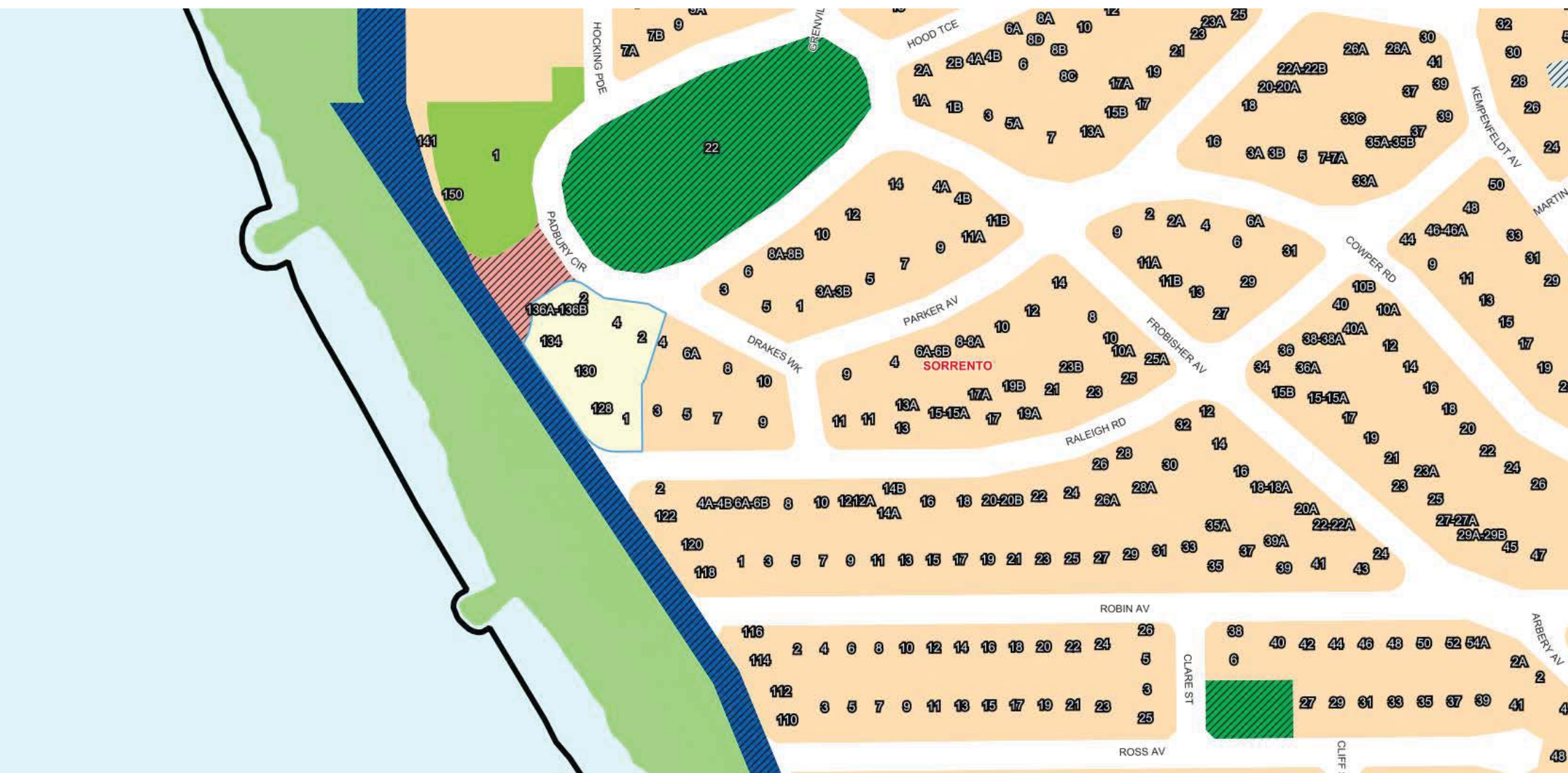
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	EXISTING CADASTRAL BOUNDARY
ZONES	
	COMMERCIAL
	RESIDENTIAL
RESIDENTIAL CODING	
	R80
	OTHER
	6m WIDE PUBLIC ACCESS EASEMENT

PLAN 1
ACTIVITY CENTRE PLAN

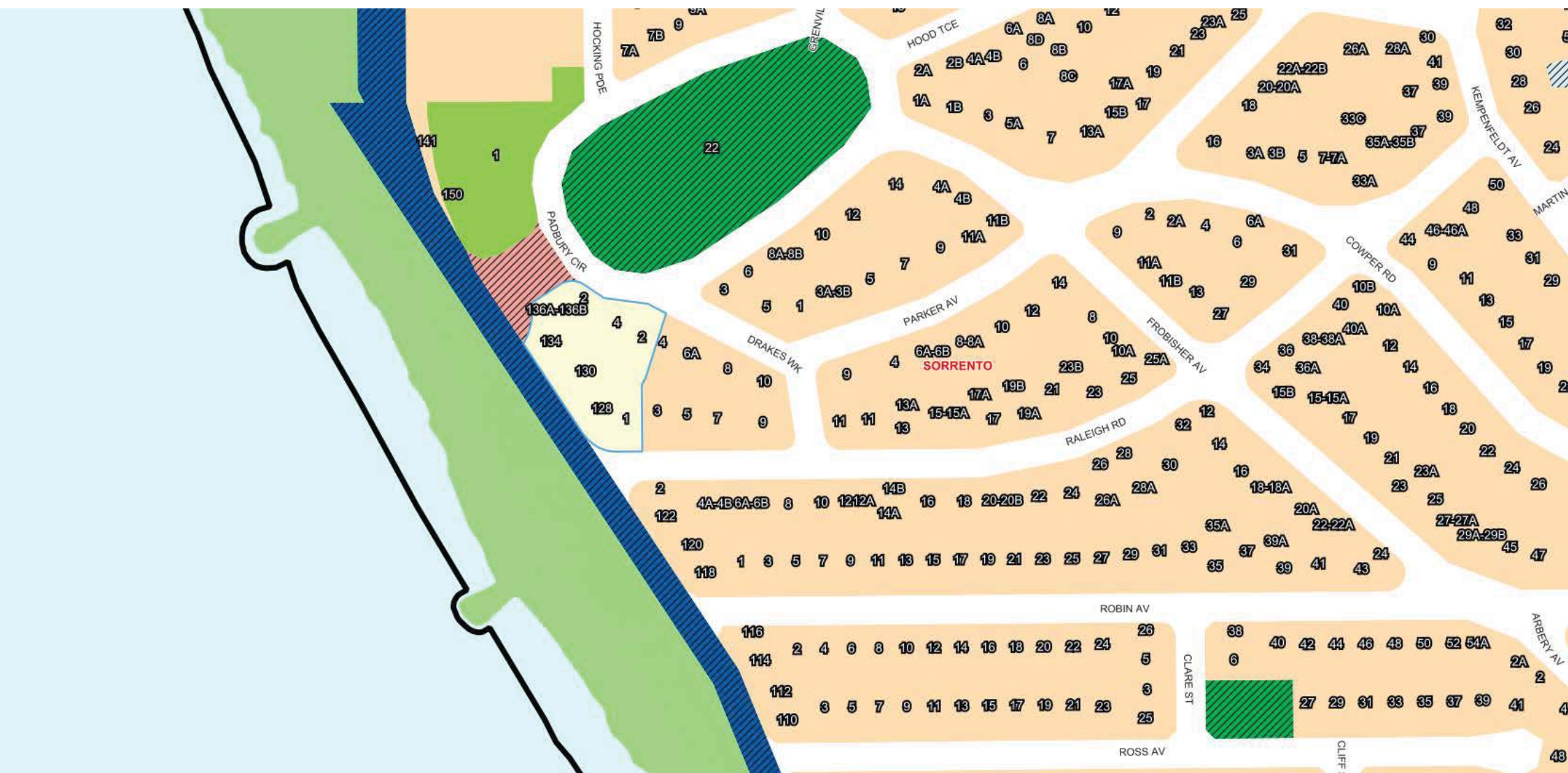


Appendix B

Zoning Map









Appendix C

Terminology

The following is an explanation of the terminology used throughout this report.

Decibel (dB)

The decibel is the unit that describes the sound pressure and sound power levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

A-Weighting

An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as L_A dB.

Sound Power Level (L_w)

Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure levels at known distances. Noise modelling incorporates source sound power levels as part of the input data.

Sound Pressure Level (L_p)

The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

L_{ASlow}

This is the noise level in decibels, obtained using the A frequency weighting and the S time weighting as specified in AS1259.1-1990. Unless assessing modulation, all measurements use the slow time weighting characteristic.

L_{AFast}

This is the noise level in decibels, obtained using the A frequency weighting and the F time weighting as specified in AS1259.1-1990. This is used when assessing the presence of modulation only.

L_{APeak}

This is the maximum reading in decibels using the A frequency weighting and P time weighting AS1259.1-1990.

L_{Amax}

An L_{Amax} level is the maximum A-weighted noise level during a particular measurement.

L_{A1}

An L_{A1} level is the A-weighted noise level which is exceeded for one percent of the measurement period and is considered to represent the average of the maximum noise levels measured.

L_{A10}

An L_{A10} level is the A-weighted noise level which is exceeded for 10 percent of the measurement period and is considered to represent the “intrusive” noise level.

L_{Aeq}

The equivalent steady state A-weighted sound level ("equal energy") in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the "average" noise level.

L_{A90}

An L_{A90} level is the A-weighted noise level which is exceeded for 90 percent of the measurement period and is considered to represent the "background" noise level.

One-Third-Octave Band

Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20 000 Hz inclusive.

L_{Amax} assigned level

Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded at any time.

L_{A1} assigned level

Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 1% of the representative assessment period.

L_{A10} assigned level

Means an assigned level which, measured as a $L_{A\ Slow}$ value, is not to be exceeded for more than 10% of the representative assessment period.

Tonal Noise

A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

the presence in the noise emission of tonal characteristics where the difference between -

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

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

This is relatively common in most noise sources.

Modulating Noise

A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

a variation in the emission of noise that —

- (a) is more than 3 dB $L_{A\ Fast}$ or is more than 3 dB $L_{A\ Fast}$ in any one-third octave band;
- (b) is present for at least 10% of the representative.

Impulsive Noise

An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness is:

a variation in the emission of a noise where the difference between $L_{A\ peak}$ and $L_{A\ Max\ slow}$ is more than 15 dB when determined for a single representative event;

Major Road

Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

Secondary / Minor Road

Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.

Influencing Factor (IF)

$$= \frac{1}{10} (\% \text{ Type A}_{100} + \% \text{ Type A}_{450}) + \frac{1}{20} (\% \text{ Type B}_{100} + \% \text{ Type B}_{450})$$

where :

% Type A₁₀₀ = the percentage of industrial land within
a 100m radius of the premises receiving the noise

% Type A₄₅₀ = the percentage of industrial land within
a 450m radius of the premises receiving the noise

% Type B₁₀₀ = the percentage of commercial land within
a 100m radius of the premises receiving the noise

% Type B₄₅₀ = the percentage of commercial land within
a 450m radius of the premises receiving the noise

+ Traffic Factor (maximum of 6 dB)

= 2 for each secondary road within 100m

= 2 for each major road within 450m

= 6 for each major road within 100m

Representative Assessment Period

Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

Background Noise

Background noise or residual noise is the noise level from sources other than the source of concern. When measuring environmental noise, residual sound is often a problem. One reason is that regulations often require that the noise from different types of sources be dealt with separately. This separation, e.g. of traffic noise from industrial noise, is often difficult to accomplish in practice. Another reason is that the measurements are normally carried out outdoors. Wind-induced noise, directly on the microphone and indirectly on trees, buildings, etc., may also affect the result. The character of these noise sources can make it difficult or even impossible to carry out any corrections.

Ambient Noise

Means the level of noise from all sources, including background noise from near and far and the source of interest.

Specific Noise

Relates to the component of the ambient noise that is of interest. This can be referred to as the noise of concern or the noise of interest.

Peak Component Particle Velocity (PCPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

Peak Particle Velocity (PPV)

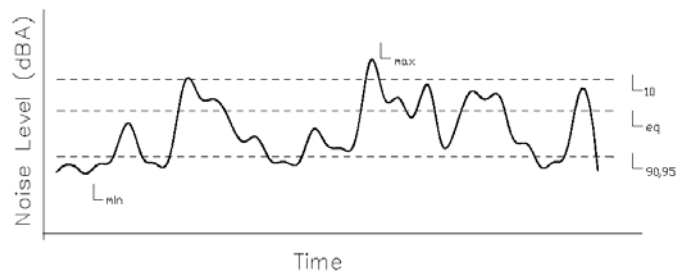
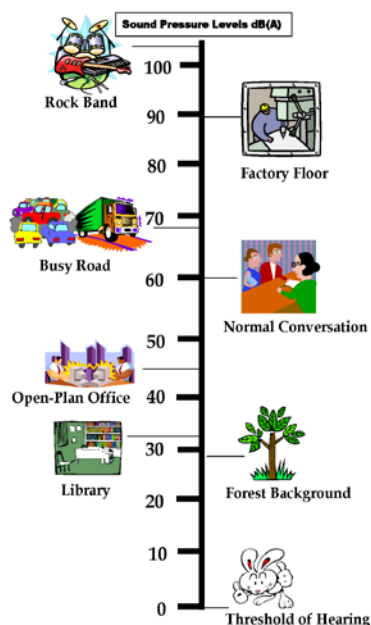
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a peak response. Peak velocity is normally used for the assessment of structural damage from vibration.

RMS Component Particle Velocity (PCPV)

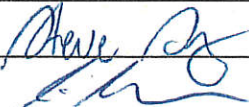

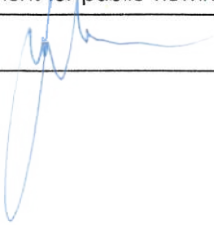
The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and in one of the three orthogonal directions (x, y or z) measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

Peak Particle Velocity (PPV)

The maximum instantaneous velocity in mm/s of a particle at a point during a given time interval and is the vector sum of the PCPV for the x, y and z directions measured as a root mean square (rms) response. RMS velocity is normally used for the assessment of human annoyance from vibration.

Chart of Noise Level Descriptors**Typical Noise Levels**

Application for Development Approval

Owner details			
Name: BP Australia Pty Ltd			
ABN (if applicable):			
Address: 717 Bourke St, Docklands, Victoria 3008			
Home Telephone:		Work Telephone: 6113 5920 X	
Fax: X		Mobile: 0433392109 X	
Email Address: daniel.hazebroek@bp.com			
Contact person for correspondence:			
Signature:  X		Date: 20/5/19 X	
Signature:  X		Date: 23-5-19 X	
The signature of the owner(s) is required on all applications. This application will not proceed without that signature(s). For the purposes of signing this application, an 'owner' includes the persons referred to in the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 clause 62(2).			
Applicant details (if different from owner)			
Name: Planning Solutions			
Address: GPO Box 2709, Cloisters Square PO 6850			
Home Telephone: N/A		Work Telephone: (08) 9227 7970	
Fax: N/A		Mobile: N/A	
Email Address: admin@planningsolutions.com.au			
Contact person for correspondence: Josh Watson / Oliver Basson			
The information and plans provided with this application may be made available by the local government for public viewing in connection with the application.			Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Signature: 		Date: 18/06/19	

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SPEL

PURACEPTOR



Pollution Prevention

Stormwater Treatment & Hydrocarbon Capture

Petrol Stations

Australia

SPEL STORMWATER SOLUTIONS

Standards & Guidelines for Petrol Station Stormwater Pollution Control

There is no Australian Standard for oil/water separators.

There are only guidelines for hydrocarbon discharge limits for stormwater discharge.

All State and territory regulating environmental authorities (or EPA) have guidelines with varying terminology stating that hydrocarbons are not to be visual (10ppm) in stormwater and receiving waters.

European Standard (oil and petrol separators)

In the absence of an Australian Standard, the European British Standard 858.1 applies when compliance is the regulating issue.

It is the world's most stringent standard for hydrocarbons separation for the use of oil/petrol separators in surface water drainage systems. Prevents the emission of petrol odours.

Australian Runoff Quality

The Australian Runoff Quality A Guide to Water Sensitive Urban Design (Engineers Australia) ISBN 0 85825 852 8 Chapter 9 'Hydrocarbon Management' refers to The Standard and the European Agency UK Oil Separator Selection and Design' for petrol stations.



Picture shows an under-sized canopy with fuel pumps outside the canopy dripline



Non-Compliant Sites

Petrol stations with the following defects.

- Canopy drip line that does not allow for the 10 degree inset
- Fuel hose line that reaches outside the drip line
- Fuel bowsers that have no canopy
- Defective Oil/Water plate separator (Sewer connected)



Picture shows a common site at petrol stations - uncovered fuel pumps.



Picture shows a defective forecourt design with oils and fuels discharging directly to the street drain.



Unseemly & highly visible hydrocarbons polluting the stormwater. The concentration in the picture is in excess of 100ppm

Solution for Non-Compliant Petrol Stations

SPEL Puraceptor Class 1 stormwater treatment system is a solution for the treatment, capture and retention of hydrocarbons off petrol stations.

SPEL Puraceptor Class 1 can rationalize the existing use of service stations in conformity with the applicable environmental guidelines and put in place ongoing operational measures to prevent the likelihood of contamination in the case of an unforeseen future event.

SPEL's Puraceptor Class 1 oil/water separator is connected to the stormwater [provides the site with the highest degree of environmental protection; - a protection that complies with the councils, and the EPA's guidelines.]



Petrol forecourt and surrounds at a busy metropolitan petrol station rendered compliant. The catchment consists of a grated drain encompassing the complete perimeter of the under-sized canopy. Surface water and forecourt runoff drains to the Puraceptor located under the two trafficable covers in the foreground.

Puraceptor Benefits

- Full retention Class 1 treatment oil/water separator. It treats all liquid. There is no bypass.
- Complies with federal and state government regulating environmental guidelines for water quality.
- University tested and certified to independent European Standard EN BS 858.1 for the capture and retention of hydrocarbons with a discharge quality of no visible trace from a tested inflow concentration of 5,000ppm.
- Capture and contain oil/fuel spillages.
- Can be sized to capture and contain a spill from a refuelling tanker and prevent discharge to stormwater.
- Passive gravity function ensuring treatment is continuous.
- Equipped with an intrinsically safe oil alert probe providing regular detection for oil build-up. Set to alarm when oil hydrocarbons attain 10% of the chamber's volume.
- Oil alert probe enables 'self-monitoring', suitable for unmanned and remote locations.
- Equipped with a flame trap ensuring fire water is extinguished.
- Equipped with a vapour trap preventing vapours from discharging and preventing the emission of odours.
- Water tight structure
- Minimum 50 years life span.
- Low frequency and low cost maintenance
- Operations & Maintenance manual with a ledger for accurate recording of maintenance operations.
- Maintenance performed from ground level; no entering of tank is required, satisfying O.H. & S. requirements.

Puraceptor Certification

Australian Independent Tests

The Puraceptor has been independently tested at Australia's pre-eminent hydraulics research facility, the University of South Australia (UNISA), and at the UK's leading hydraulics research faculty HR Wallingford.

- NATA analysis of the tests shows a water quality of 'no visible trace' of hydrocarbons from an inflow concentration of 5,000ppm.

In-Situ Testing

NATA analysis of Puraceptors operating at similar applications in Australia reveal 'no detection' of hydrocarbons from a captured concentration of 8,000ppm.

Council Approvals

The increasing awareness by councils of the superior European Standard has prompted many to review their current procedures and in only the past eighteen months over sixty councils have approved SPEL for service stations and similar applications with units' already operational in excess of forty sites.

Independently tested for reducing the average annual loads:

- ✓ 97% total suspended solids (TSS)
- ✓ 100% > 5mm gross pollutant solids (GP)
- ✓ 99.9% light liquids (TPH)
(certified discharge quality of 5PPM or less, European standard BS EN 858.1 2006)
- ✓ >45% total phosphorous
- ✓ >45% total nitrogen
- ✓ >90% heavy metals



MAINTENANCE

- Designed for high performance and low maintenance over a long life span
- Visible oils (TPH) are skimmed from the surface of the water level
- Easy and safe to access and clean, with access shafts positioned on all chambers.
- No entering of the unit is required
- Not mandatory for the unit to be cleaned every 3 months.
- Only oils, sediment and gross pollutants need to be removed. All stormwater does not require removal.
- The cylindrical design ensures sediment collects easily on the floor of the chambers effecting easy, quick removal. There are no square corners or unreachable cavities and recesses.
- Waste is removed by a vacuum loading truck. (Suction truck)



Stormwater discharge quality is < 1.86 mg/l hydrocarbon content exceeding the Environmental Protection Agency (E.P.A.) requirements of 10mg/l hydrocarbon content.

Test sampling access: Field test discharged samples are taken from sampling point and analysed by NATA accredited laboratories.



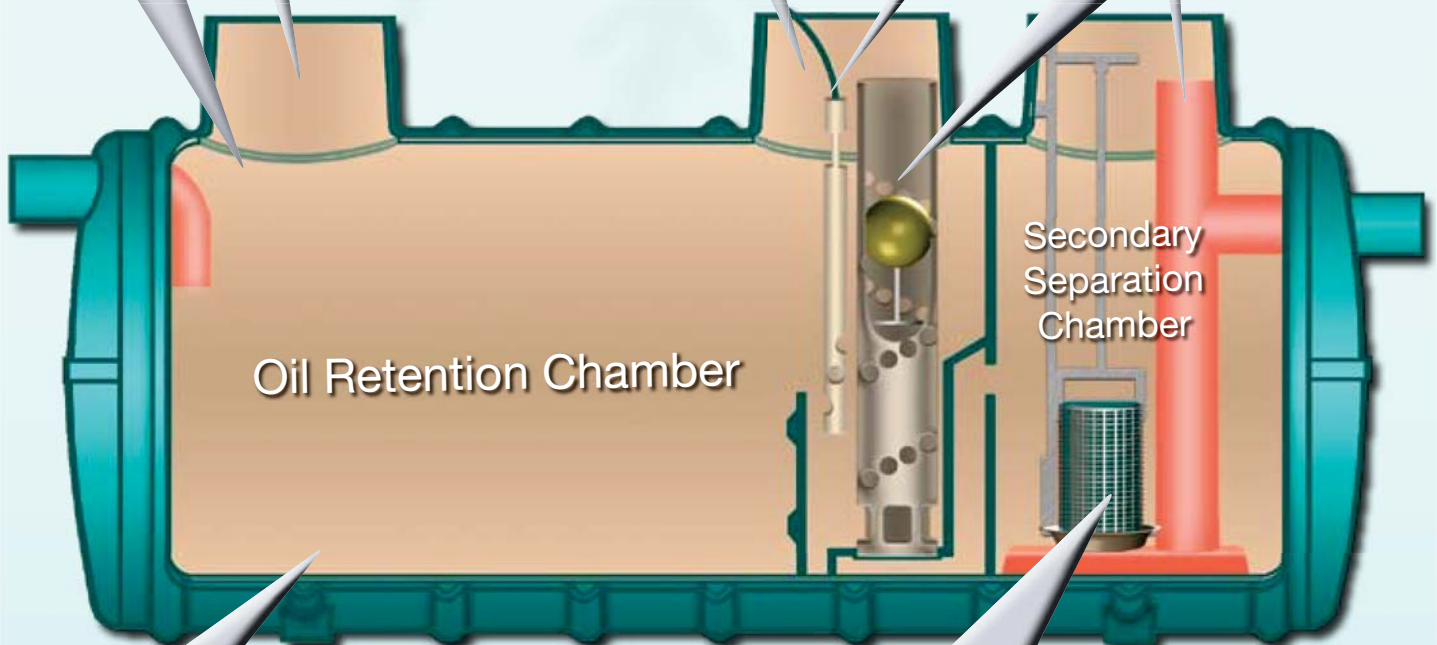
The probe is freely suspended in the probe protection tube in the separator at the correct level. When the oil-layer or depth of hydrocarbons reaches the predetermined level, the top of the probe will be immersed in the oil, breaking the circuit and activating the alarm. It is intrinsically 'fail-safe' system providing complete assurance that is operative. If a fault occurs it will be signaled immediately.



SPEL® PURACEPTOR tanks contain an immersed inlet dip pipe to extinguish flames and prevent inflammable vapours from passing through to the drainage system. Complies with Section 6.3.4 of BS EN 858.1.2006. SPEL PURACEPTOR can withstand temperatures of up to 140°C.



The AUTOMATIC CLOSURE DEVICE (A.C.D.) is a precisely engineered device comprising a water-buoyant ball that is sensitive to any change in the water density as a consequence of light liquids build up, thereby automatically activating a process of depressing the A.C.D. to SHUT OFF the separator, preventing pollutants from discharging to drains and waterways.



Oil Retention Chamber

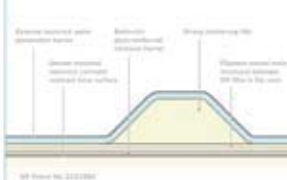
Secondary Separation Chamber

SPEL® PURACEPTOR units are glass reinforced plastic vessels made by the technical advanced chop hoop filament winding process (patented) producing circumferential and longitudinal strength complying with AS 2634-1983 for tank design.



Laminate construction

- Tank shell designed in accordance with BS4834/AS 2634 (R15)
- Fourteen second shells are lightweight, but have great strength and durability and carry a 25 year warranty
- Life expectancy in excess of 50 years
- Smooth, high gloss, corrosion resistant, non-toxic internal surface
- External flow coat water penetration barrier



SPEL PURACEPTOR Class 1 separators incorporate coalescer units. They consist of a quality stainless steel mesh container with an adjustable handle and high volume reticulated foam insert.

The coalescer unit is mounted in the second chamber, providing a coalescence process for the separation of smaller globules of light liquid pollutants before final discharge to stormwater.



SPEL PURACEPTOR™
OIL CAPTURE & CONTAINMENT

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