

APPENDIX E

TRAFFIC IMPACT ASSESSMENT



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**development
perspectives**

planning
environment
landscape
engineering
survey





TRANSPORT IMPACT ASSESSMENT
PROPOSED WAREHOUSE DEVELOPMENT
1-5 HOMESTYEAD DRIVE, YATALA

Prepared for
DEVMCOZ PROPERTIES PTY LTD

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DOCUMENT REGISTER

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1.0 INTRODUCTION

Rytenskild Traffic Engineering (RTE) has been engaged by Devmcoz Properties Pty Ltd to prepare a Transport Impact Assessment of its proposed warehouse development at Yatala.

This report forms part of a Development Application to be lodged with the City of Gold Coast. The following issues have been addressed during the study:

- Site access arrangements;
- Car parking supply and design;
- Provision for pedestrians and cyclists;
- Provision for heavy vehicles.

Responses to the Gold Coast Transport Code, Driveways and Vehicular Crossings Code and State Code 1 are provided as appendices to this report.

2.0 SUBJECT SITE

As shown in Figure 2.1, the subject site is located on the western side of Homestead Drive and adjacent to the Stapylton – Jacobs Well Road.



FIGURE 2.1 – LOCATION OF SUBJECT SITE

3.0 DEVELOPMENT PROPOSAL

As shown in Figure 3.1, the proposal is for an industrial unit development comprising of 10 warehouse units, each with associated mezzanines. The total Net Leasable Area (NLA) is 2,628.6m².

A total of 52 car parking spaces are proposed to be provided.

Access is proposed to be gained via a crossover located on the southern end of the Homestead Drive frontage.

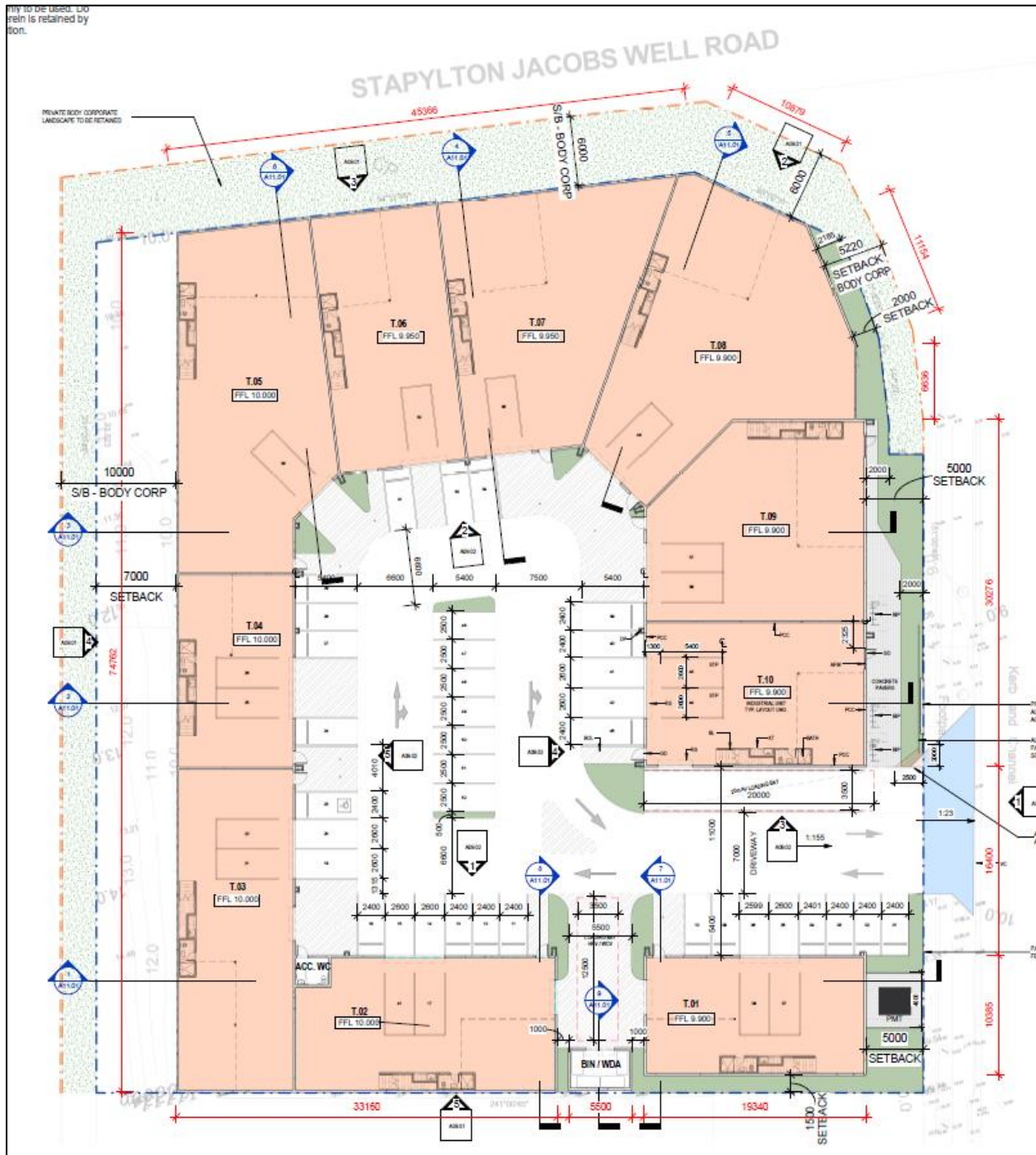


FIGURE 3.1 – PROPOSED SITE PLAN

4.0 CAR PARKING

4.1 Car Parking Supply

The following car parking rates are nominated as an Acceptable Outcome to the Transport Code for the proposed use:

Warehouse:

- 2 spaces per tenancy or lot plus
- 1 space per 50m² of GFA up to and including 500m², and
- 1 space per 100m² of GFA over 500m²

Application of the above rates to the proposal (10 units and 2,628.5m²) results in the following requirement:

- 20 spaces (2 per unit)
- 10 spaces for the first 500m²
- 22 spaces for the balance of 2,128.5m²
- Total – 52 spaces

The proposed supply of 52 spaces therefore meets the Acceptable Outcome.

4.2 Car Parking Design

The geometric layout of the proposed parking facilities has generally been designed to comply with the relevant requirements specified in the Transport Code and AS2890.1: 2004.

The proposed car parking layout has the following dimensions:

Table 4.2 – Car Parking Design Characteristics

Design Aspect	Minimum AS2890.1 Standard	Proposed	Compliance
Parking space length: - General - PWD Bay	5.4 metres 5.4 metres	5.4 metres 5.4 metres	Compliant Compliant
Parking space width: - General - PWD Bay	2.4 metres 2.4 metres, plus 2.4m wide shared zone	2.4 – 2.5 metres 2.4 metres, plus 2.4m wide shared zone	Compliant Compliant
Aisle Width: - Parking aisle - Circulation aisle	5.8 metres 5.8 metres	6.2 metres 6.2 metres	Compliant Compliant
Maximum Gradient - Parking Bay - Parking Aisle - PWD Bay	1:20 (5.0%) 1:16 (6.25%) 1:40 (2.5%)	<1:20 (5.0%) <1:20 (5.0%) <1:40 (2.5%)	Compliant
Maximum Change in Grade	1:8 (12.5%) summit 1:6.67 (15.0%) sag	<1:8 (12.5%) summit <1:8 (12.5%) sag	Compliant
Height Clearance - General Min. - Absolute Min.	2.2 metres N/A	N/A	N/A
Parking Aisle Extension	1 metre beyond last bay	3.3 metres	Compliant

A dimensioned plan of the proposed car parking layout is shown as Figure 4.1.

As shown as Figure 4.2 a B99 car will be able to circulate throughout the site satisfactorily.

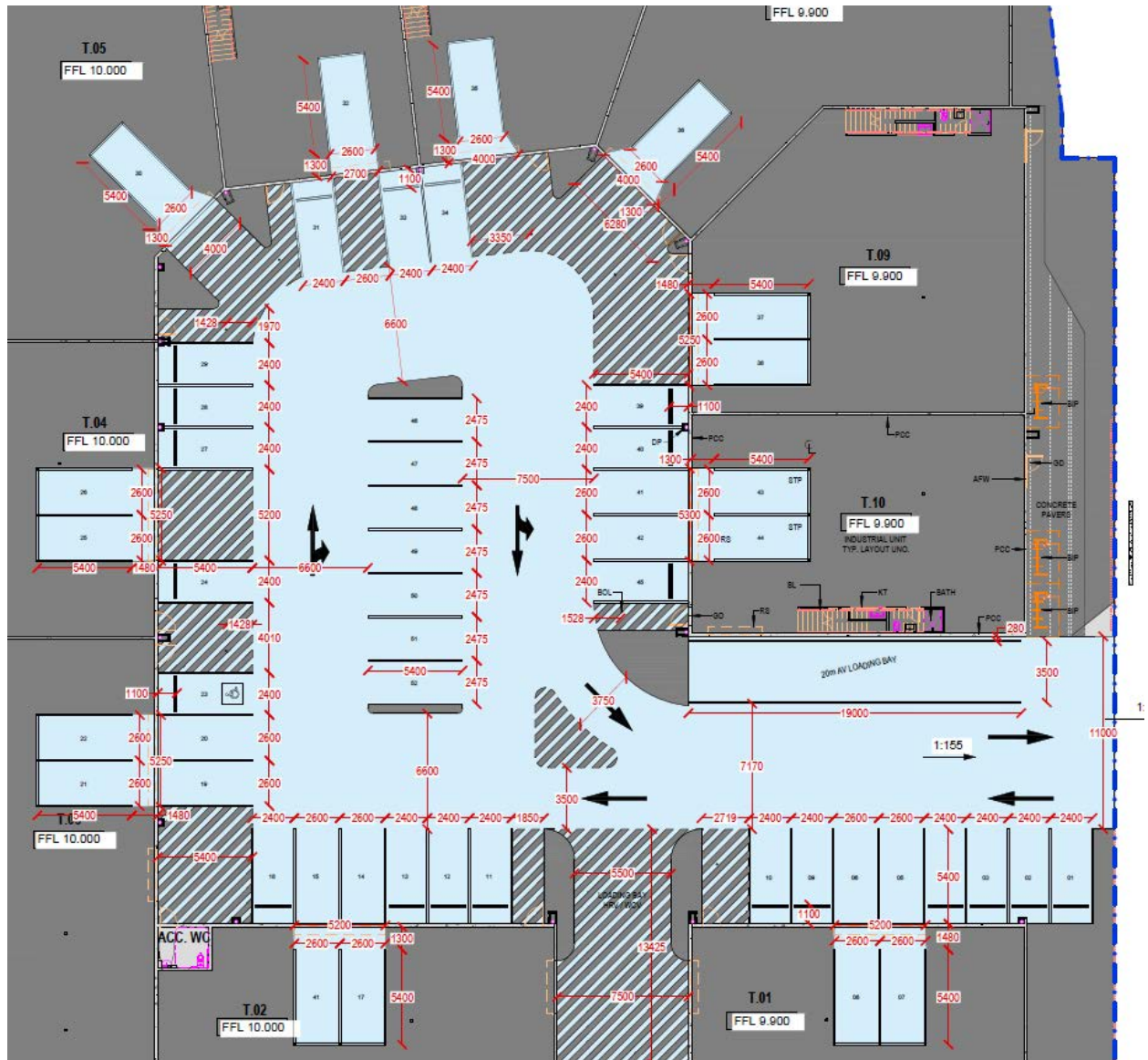


FIGURE 4.1 – DIMENSIONED CAR PARKING LAYOUT

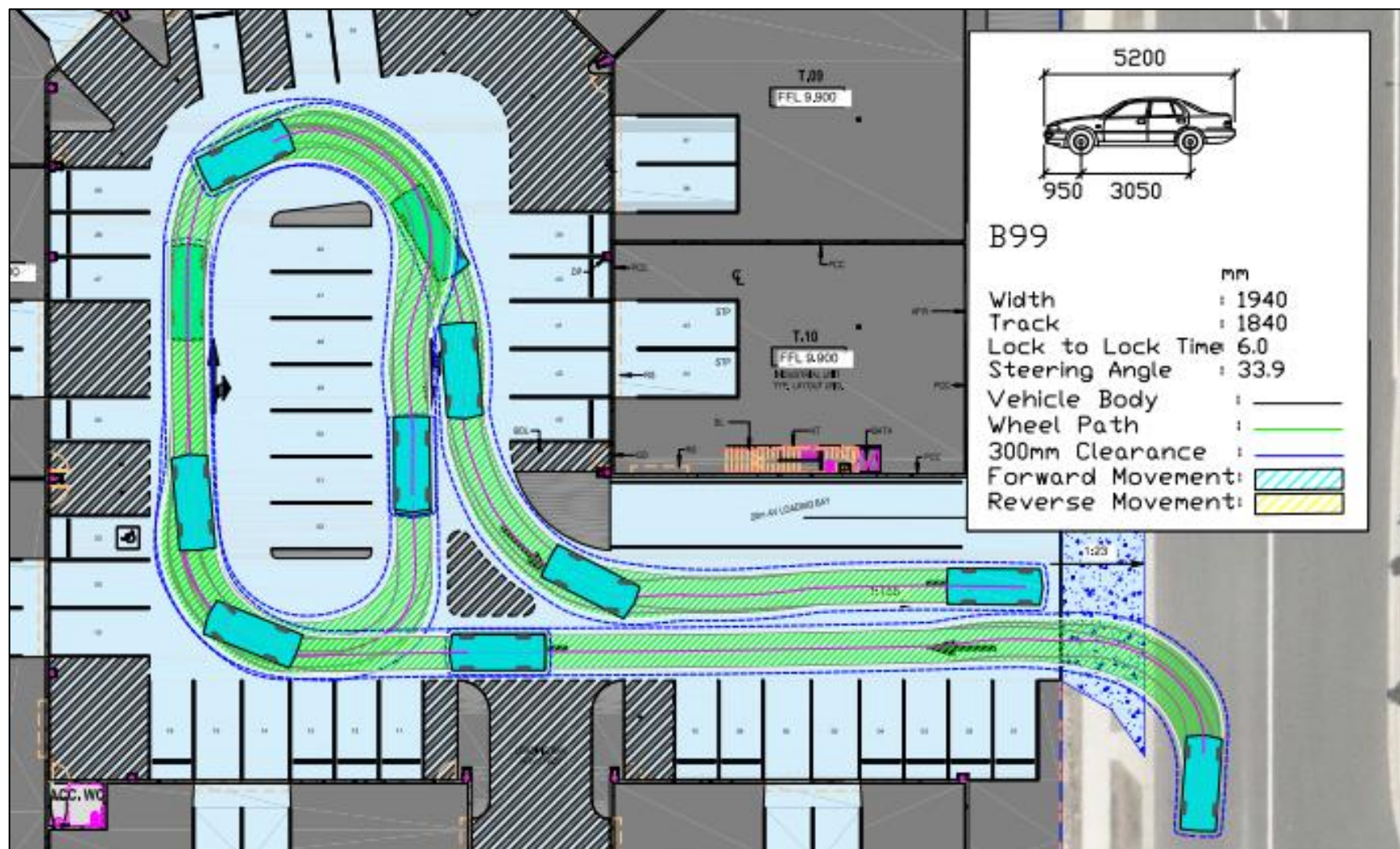


FIGURE 4.2 – B99 VEHICLE CIRCULATION PATH

5.0 ACCESS ARRANGEMENTS

As shown in Figure 5.1, the proposal provides a vehicle crossover at the southern end of the Homestead Drive frontage.

As shown, the proposed vehicle crossover has been designed in accordance with the IPWEA Standard Drawings RS-051 suitable for the intended design vehicle (AV). The nearby KEEP CLEAR painted signage can be removed as access is not proposed for the northern most lot.

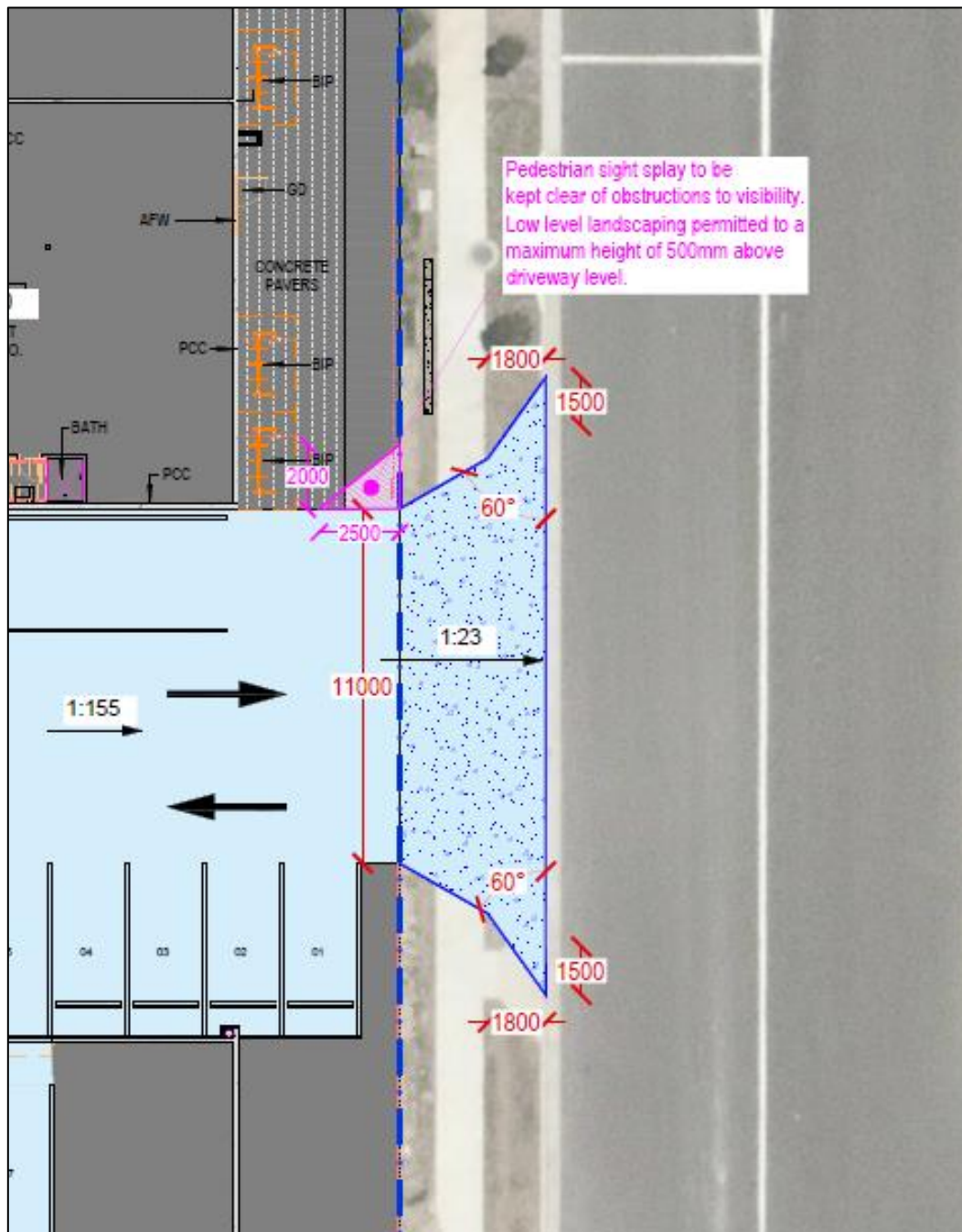


FIGURE 5.1 – CROSSOVER LAYOUT AND DIMENSIONS

6.0 PROVISION FOR SERVICE VEHICLES

The proposed plan of development has been designed to allow vehicles up to a Heavy Rigid Vehicle (HRV) to satisfactorily access and circulate through the site whilst maintaining 0.5 metres clearance to obstructions at all times. A dedicated loading bay has been provided for HRV and waste collection vehicle access/

An Articulated Vehicle will be able to reverse into the site from Homestead Drive with a dedicated loading bay provided adjacent to the driveway. This is considered to satisfactory as the proposed tenancy sizes are relatively small and unlikely to generate a significant demand for AV access.

Swept paths of an AV and HRV are shown in Figures 6.1 - 6.3.

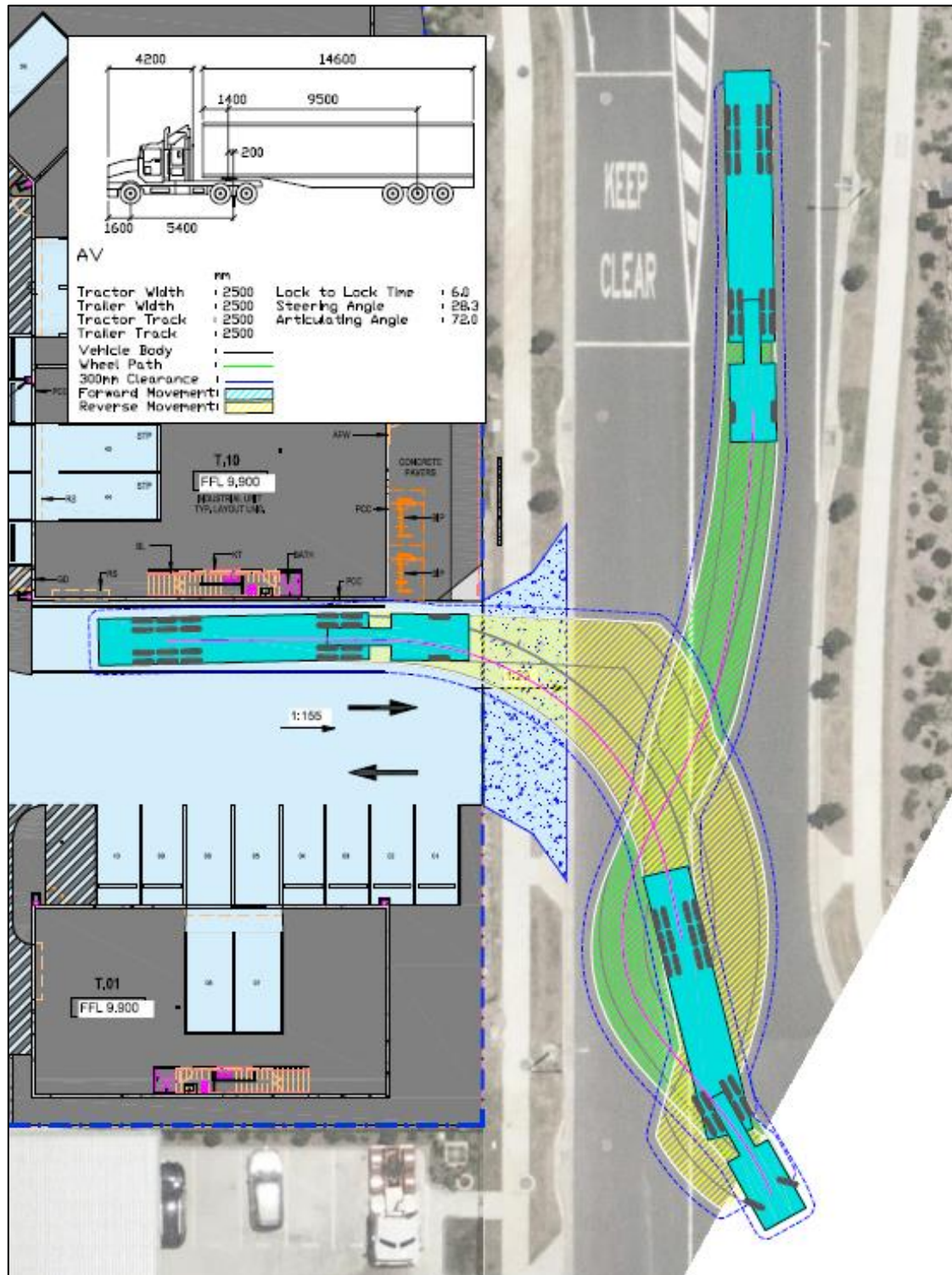


FIGURE 6.1 – ON-SITE ARTICULATED VEHICLE (AV) MANOEUVRING PATHS

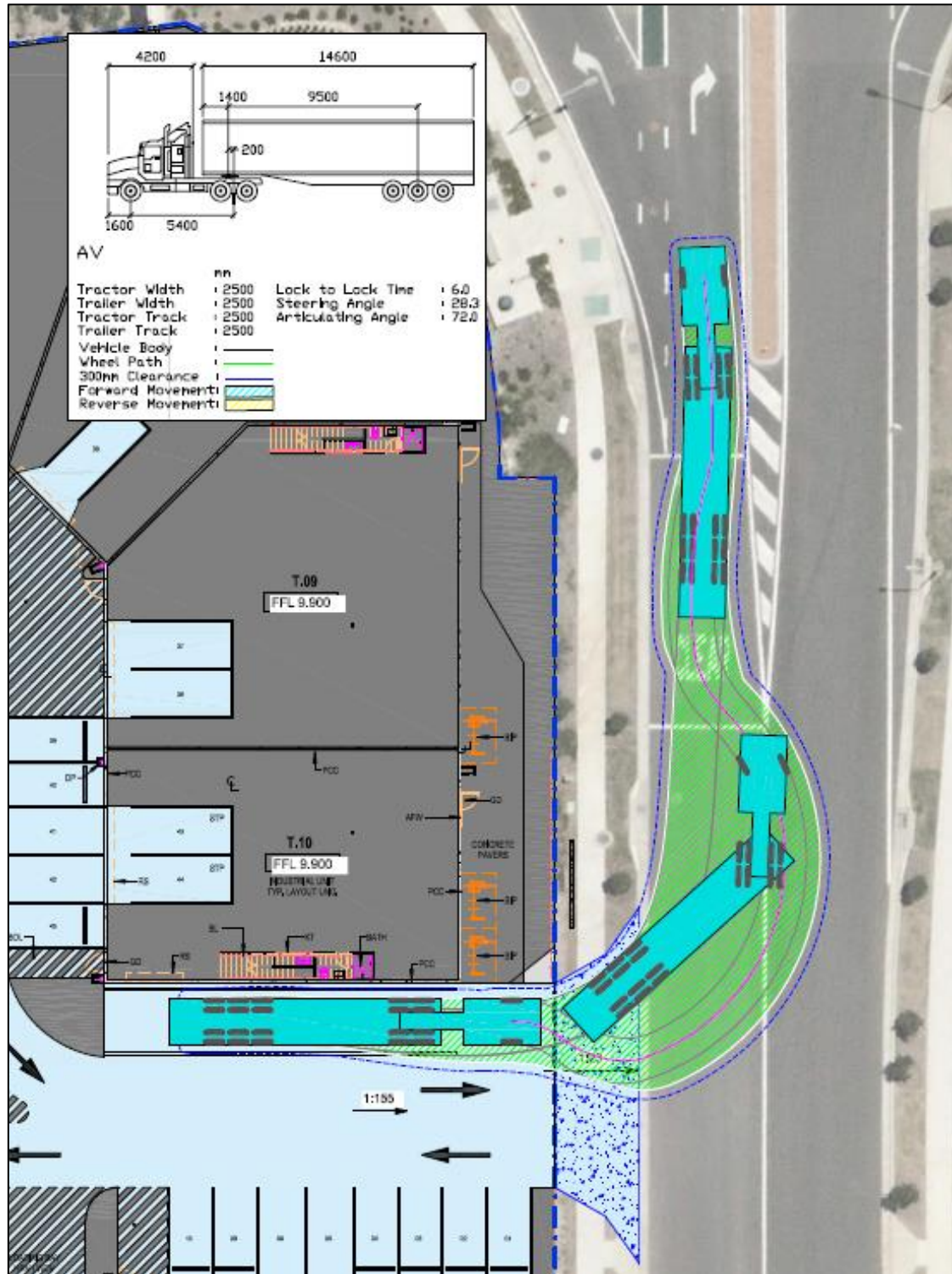


FIGURE 6.2 – ON-SITE ARTICULATED VEHICLE (AV) MANOEUVRING PATHS

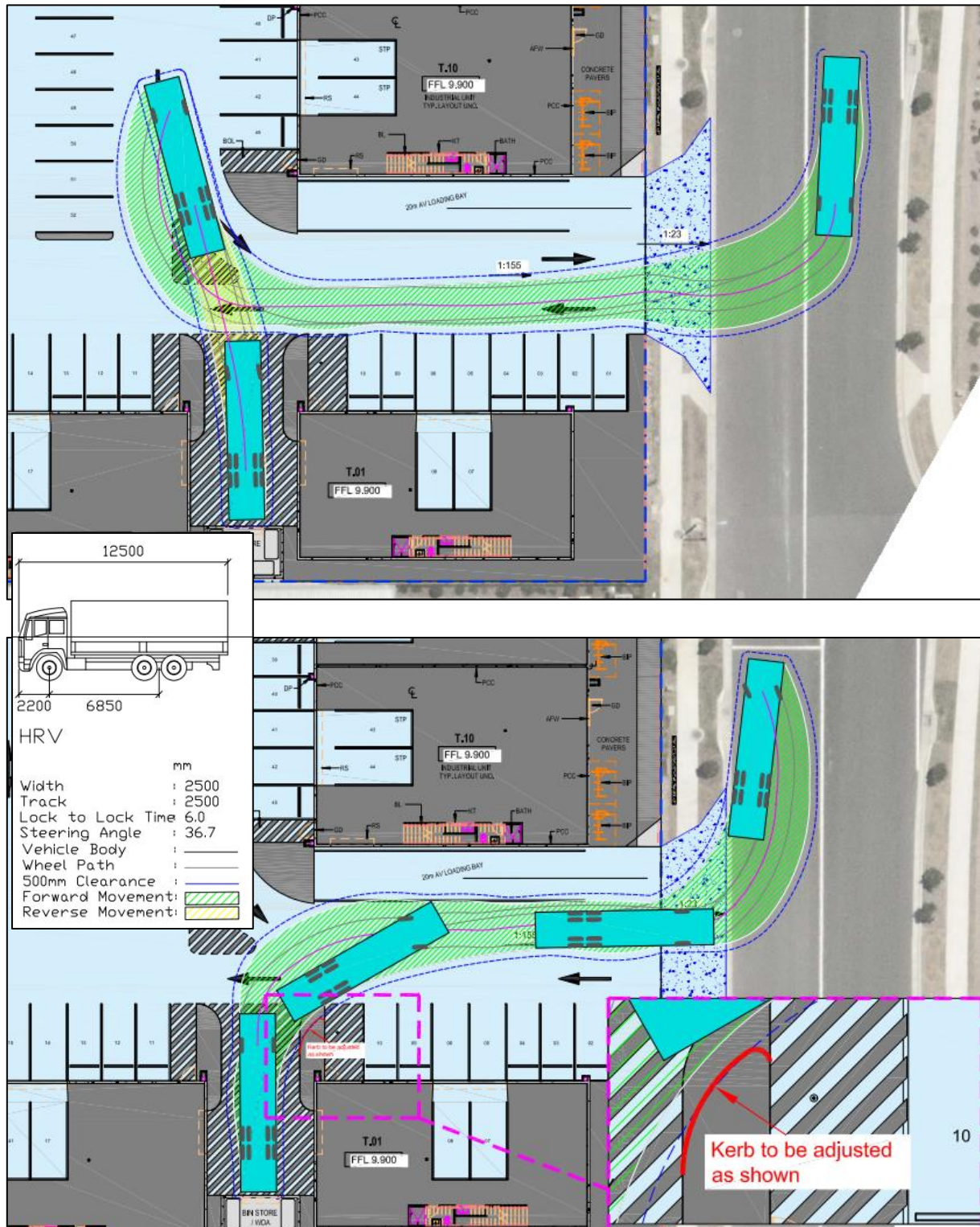


FIGURE 6.3 – ON-SITE HEAVY RIGID VEHICLE (HRV) MANOEUVRING PATHS

7.0 PROVISION FOR PEDESTRIANS AND BICYCLES

In accordance with the *M38 Industrial Place Code – AS41.4*, the following rate applies to the proposed use:

Warehouse:

1 space per 800m² of GFA plus.

Based on the above, the Acceptable Outcome for bicycle parking for the proposed development (2,628m²) is 4 spaces. Secured bicycle parking will be available within each tenancy.

8.0 SUMMARY OF CONCLUSIONS & RECOMMENDATIONS

- The subject site is located on the western side of Homestead Drive and adjacent to the Stapylton – Jacobs Well Road.
- The proposal is for an industrial unit development comprising of 10 warehouse units, each with associated mezzanines. The total Net Leasable Area (NLA) is 2,628.6m². A total of 52 car parking spaces are proposed to be provided. Access is proposed to be gained via a crossover located on the southern end of the Homestead Drive frontage.
- The proposed car parking supply meets the Acceptable outcome to the Transport code.
- The proposed plan of development has been designed to allow vehicles up to a Heavy Rigid Vehicle (HRV) to satisfactorily access and circulate through the site whilst maintaining 0.5 metres clearance to obstructions at all times. A dedicated loading bay has been provided for HRV and waste collection vehicle access.
- An Articulated Vehicle will be able to reverse into the site from Homestead Drive with a dedicated loading bay provided adjacent to the driveway. This is considered to satisfactory as the proposed tenancy sizes are relatively small and unlikely to generate a significant demand for AV access.

APPENDICES

APPENDIX A – TRANSPORT CODE RESPONSE

APPENDIX B – RESPONSE TO DRIVEWAYS AND VEHICULAR CROSSINGS CODE

APPENDIX C – STATE CODE 1 RESPONSE

APPENDIX A – TRANSPORT CODE RESPONSE

Part 7 Codes

Division 3 Constraint Codes

Chapter 4 Car Parking, Access and Transport Integration

1.0 Purpose

To ensure that transport needs, including car parking and service vehicle requirements, associated with the development of land are met by:

- supply of car and bicycle parking facilities;
- provision of loading and service facilities; and
- integration of public transport with private and public development in the City.

Key objectives include:

- a) the availability of car park opportunities that are easy to locate and use, in close proximity to all major developments and uses within the City, with on-site provision available for occupants and on-street provision and/or public car parks available for visitors;
- b) the effective use of all car park infrastructure provided in the City; and
- c) streets that are pedestrian and cyclist friendly.

2.0 Application

- 2.1 This code applies to development indicated as self, code or impact assessable in the Table of Development in the domain or Local Area Plan (LAP) within which the development is proposed.
- 2.2 This code specifically applies to development (whether on private or public land) that requires one or more of the following:
 - private or public car parking;
 - bicycle parking and associated facilities;
 - goods loading and circulation in public or private places; and

- integration of public transport with private or public development in the City.
- 2.3 This code also applies to any development that is proposed for sites identified on Domain Maps or the Priority Infrastructure Plan Maps as being affected by Future Road Requirements, including areas required for future road corridor development.
- 2.4 Where a domain or LAP Place Code contains car parking requirements that differ from this code, the LAP requirements take precedence.
- 2.5 Performance Criteria PC1-PC24 apply to all code and impact assessable development referred to in this code. For development identified as self assessable, in the relevant domain or LAP, only the acceptable solutions to Performance Criteria PC1-PC16 apply.

3.0 Development Requirements

Performance Criteria	Acceptable Solutions	How does the proposal Comply with the Acceptable Solution or Performance Criteria?	Internal Use
Development that is Self-Assessable, Code Assessable or Impact Assessable			
Protection and Preservation of Areas Required for Road Widening, the Provision of Public Transport Facilities or New Transport Corridors			
PC1 Land affected by any proposed road realignment or widening must not have development constructed over that part of the land required for road realignment or road widening.	AS1 All sites that are affected by Future Road Requirement as shown on the Domain Maps, do not have buildings or structures erected forward of the indicated building setback line. This requirement does not apply to a fence with a height not exceeding 1.8 metres and a width not exceeding 0.5 metres.	COMPLIES WITH AS1 – the proposed development is not affected by future road requirement.	
Port Cocheres			

PC2 Where provision is made for a <i>porte cochere</i>, it must be designed to enable vertical clearance, manoeuvring, access and queuing of vehicles. The capacity of the <i>porte cochere</i> and associated access and manoeuvring must accommodate vehicles entirely within the site, including the queuing of vehicles.	AS2 The <i>porte cochere</i> has a minimum vertical clearance of 4.5 metres.	NOT APPLICABLE – There is no <i>Porte Cochere</i> proposed.	
Design of Car Parking Areas and Car Park Spaces			
PC3 All car parking spaces must be constructed and linemarked to the correct size and standard.	AS3.1 All car parking spaces are constructed in compliance with AS2890.1 – Parking Facilities Part 1: Off Street Car Parking. AS3.2 Where the development includes a combination of low turnover and high turnover car spaces, the parking spaces and aisles are designed to the high turnover or Class 3 requirements in AS2980.1 – Parking Facilities Part 1: Off Street Car Parking.	COMPLIES WITH AS3 – The proposed parking spaces are compliant with the listed requirements.	
PC4 Car parking areas must be landscaped to reduce visual impact and to provide opportunities for shade.	AS4 In car parking areas exceeding 300m² in site area: a) at least 5% of the area is landscaped; b) a landscaped buffer, with a minimum height of 600mm and width of 1500mm, is provided along any public street frontage and the common boundary to the adjoining property; and c) one landscaped tree bay is to be provided for every 21 car parking spaces.	COMPLIES WITH AS4 – The proposed development has ample landscaping surrounding the parking area ranging in width from 1.5m to 4m. The internal landscaping is roughly 10% of the site area.	
Signs and Line Marking			
PC5 Signs and line marking must be provided to indicate the location of the car park and the position of the access points for all car	AS5.1 Signs incorporate the standard Service Sign Series 'P' sign, as detailed under Guide Signs in the Manual of Uniform Traffic Control Devices, Queensland. (This does not apply to residential developments with less than 10 units) AS5.2	COMPLIES WITH PC5 – Parking areas will be appropriately marked and signed in accordance with the proposal plans.	

parks used by the public where: a) a car park is located at the rear of the site; b) access to the car park is not located in the main frontage road; c) there are a number of access points serving different parts of the site.	Signs are used to mark car parking bays which are provided for disabled drivers, motorcycles and special zones, such as bus zones.		
Tandem Car Spaces			
PC6 Tandem car parking must only be used in circumstances where no inconvenience arises from its use.	AS6.1 Tandem car parking spaces (ie. two car parking spaces, nose to tail) are counted as one space, except in the following cases: a) the development is for residential purposes; b) the tandem spaces are to be used by the occupants of the site, in one tenancy; c) the car park area is to be operated as a public car park with on-site management. In this case, a tandem car park may be counted as no more than 1.5 car spaces. AS6.2 The minimum length of the tandem car space is 10.4 metres. AS6.3 Tandem garages have a minimum internal length of 11 metres.	COMPLIES WITH AS6.1 – Tandem carparking spaces are counted as two spaces and are used by occupants of each tenancy exclusively. These have only been proposed in tenancies with dual roller door access.	
Access to Car Park Areas			
PC7 Car parking areas must not cause vehicle queues into the frontage road system or encourage drivers to reverse into the road system.	AS7.1 For developments in excess of 100 residential units with frontage to major roads, a turn round facility with a minimum diameter of 12.0m is provided between the gate and the road. OR AS7.2 All car parking facilities, except those associated with detached dwellings and duplex dwellings is designed so that all vehicles enter and exit the site in a forward gear. AS7.3 Provision is made for a defined queuing area, free of any parking manoeuvres or internal intersections in	COMPLIES WITH PC7 – The proposed development will not likely cause queues into the road frontage as a result of their parking area given its recession into the subject site.	

	accordance with the provisions of the Table to Acceptable Solution AS7.3 , for developments comprising of more than two dwelling units and where a security gate is proposed.		
PC8 Car parking areas providing more than 20 car parking spaces must allow for the separation of vehicles and pedestrians.	AS8 Sealed pedestrian footpaths, at a gradient not exceeding 1:12, are provided from the car parking area along the shortest possible route to the point of destination.	COMPLIES WITH PC8 – The development proposes carparking directly adjacent to each individual tenancy. Minimal space sharing will occur between vehicles and pedestrians and chevron areas between within the carparking area will provide a clear distinction between maneuvering areas and pedestrian areas.	
PC9 Access to car parking spaces must be provided foremployees and visitors.	AS9.1 Car park areas have no gateways, doors or similar devices which restrict vehicular access by employees or visitors.	COMPLIES WITH AS9.1 – There are no gates, doors or other blocking access for employees or visitors to use the parks.	
Driveways and Crossovers			
PC10 Driveways from car parks or developments into public roads must be minimised to reduce interference with public road traffic and pedestrians.	AS10.1 The maximum number of crossovers for residential developments is one for detached dwelling properties and two for multiple unit dwelling complexes. AS10.2 The maximum number of crossovers for non-residential developments is two crossovers per property. AS10.3 A vehicle crossover is separated from any other vehicle crossover by a minimum distance of three metres.	COMPLIES WITH AS10.2 – The proposed development features one vehicular crossover, providing access to the subject site.	
PC11 All development must make provision for safe access to roads or streets adjacent to the site. Crossovers must be constructed to a standard consistent with the vehicles using the site.	AS11.1 The geometric design of entry and exit driveways conforms with Standard Drawing No 59218 of Planning Scheme Policy 11 – Land Development Guidelines . AS11.2 Access to roads or streets adjacent to the site is consistent with AS2890.1 – Parking Facilities Part 1: Off Street Car Parking and AS2890.2 – Off Street Parking Part 2: Commercial Vehicles . AS11.3 Where separate entry and exit driveways are used, the first driveway reached from the kerbside land is clearly delineated and sign-posted. AS11.4.1 Access to developments on dual carriageway roads is	COMPLIES WITH PC11 – The proposed crossovers will be designed in accordance with the necessary requirements and provide safe access to the public roads with ample sight lines and unobstructed access.	

	left in/left out. OR AS11.4.2 A new intersection is provided between the access way and the dual carriageway. AS11.5 Developments with traffic signal controlled or roundabout access to the frontage road dedicate land as public road to accommodate all intersection infrastructure, including traffic signal loops. AS11.6 The boundaries of the frontage road are modified to accommodate all intersection infrastructure within the public road. AS11.7 Developments with new traffic signal controlled access, within network traffic systems, provide the necessary infrastructure to integrate the new signals.		
Internal Circulation			
PC12 All developments must provide internal circulation to avoid use of the public road system for movement between different car parking and vehicle service areas in the development.	AS12.1 The internal layout of the site is consistent with AS2890.1 – Parking Facilities Part 1: Off Street Car Parking and AS2890.2 – Off Street Parking Part 2: Commercial Vehicles. AS12.2 Parking and circulation aisles have a maximum length of 100 metres. AS12.3 Dead end aisles do not exceed 20 metres in length. AS12.4 Aisle design does not include cross intersections. AS12.5 Car parking space/s is/are not located in areas used for manoeuvring of heavy vehicles. AS12.6 Car parks are designed so that vehicles do not reverse across pedestrian crossings. AS12.7 Speed humps are not provided in entry or exit queuing areas.	COMPLIES WITH AS12 – The proposed development does not exceed the 100 metre aisle limit, has no dead end aisles, nor do aisles cross intersections. The carparking area is completely separate to the area designated for truck maneuvering. The carparks do not cause reversing over crossings and there are no speed humps within the entry or exit paths.	
Loading Bay and Set Down Area Requirements			

PC13 Development must make provision for loading bays and set down areas for the: a) collection and set down of passengers; b) parking of trailers; c) service vehicle parking; and d) loading and unloading of goods.	AS13 Loading and set down areas are provided consistent with the AS2890.2 – Off Street Parking Part 2: Commercial Vehicles.	COMPLIES WITH AS13 – Loading and unloading is proposed directly adjacent to each tenancy, as necessary, and will remain compliant with the relevant standards.	
Design Service Vehicle Requirements			
PC14 Development must provide for the required 'design service vehicle' to service the development.	AS14.1 Provision is made for service vehicles, in accordance with the Table to Acceptable Solution AS14.1. AS14.2 Provision is made for service vehicles, in accordance with the Table to Acceptable Solution AS14.2, for sites less than 4,000m² in area that require access by service vehicles. AS14.3 Provision is made for height clearance of 4.5 metres for service station canopies and access clearance height associated with the appropriate design vehicle in other applicable developments. AS14.4 A driveway which caters for heavy vehicles is designed in accordance with AS2890.2 – Off Street Parking Part 2: Commercial Vehicles and Standard Drawing No 59218 Section 7.4 of Planning Scheme Policy 11 – Land Development Guidelines.	COMPLIES WITH PC14 – As the site is equipped to handle vehicles up to HRV, and has provisional access for AV achieved via reversing. The access is a bay directly adjacent to the vehicular crossover and only allow egress in a forward gear. The relevant table prescribes full access for all vehicles up to AV, however, given the rarity of this occurring on site, an alternate solution is proposed and supported by the submitted Traffic Impact Assessment.	
Provision of Bicycle Parking Spaces			
PC15 Bicycle parking must be provided for all non-residential developments where the required car parking provision exceeds 20 parking spaces.	AS15.1 Where non-residential development requires the provision of more than 20 car parking spaces, bicycle parking is provided in accordance with the AustroadsGuide to Traffic Engineering Practice: Part 14: Table 10.1. AS15.2 Where bicycle parking is to be provided, additional facilities for bicycle users are designed and constructed in accordance with AS2890.3 – Parking Facilities Part 3: Bicycle Parking Facilities.	COMPLIES WITH PC15 – The proposed development provides an ample bicycle parking area.	
Provision of Car Parking Spaces			

PC16 Sufficient car parking spaces must be provided to meet the car parking needs of the development. The number of car parking spaces provided must be consistent with the practical opportunities available for shared car parking provision and the operation of alternative transport modes to private motor vehicles.	AS16.1 Car parking is provided in accordance with the number of spaces required for the specific use listed in the Table to Acceptable Solution AS16.1. AS16.2 If an additional building is constructed, or an existing building is extended, the car space requirements determined from Table to Acceptable Solution AS16.1 accrue only for the additional building or extension, provided that the use of the land remains the same and any existing area for car parking is not reduced or, if disturbed, any existing car spaces are replaced in the new development.	COMPLIES WITH AS16.1 – The proposed development requires 52 parking spaces as per the Place Code.	
PC17 New development must not result in any adverse impact, through the reduction in the car parking capacity of the site and/or the local area.	AS17.1.1 Any car parking spaces lost are replaced elsewhere on the site. OR AS17.1.2 A monetary contribution is provided to Council for those car parking spaces lost, consistent with AS16.2. OR AS17.1.3 The Building Work is associated with a Material Change of Use that requires a lesser number of parking spaces than the existing use.	NOT APPLICABLE – No carparks are lost/no adverse impact through loss of carparks is felt as a result of the development.	
Driveways and Crossovers			
PC18 Vehicle crossovers must be constructed to minimise conflict with passing traffic and pedestrians.	AS18 Access to developments with more than one frontage road is via minor roads. Impacts of driveway traffic are concentrated on less busy roads, with traffic distributed to major roads via existing intersections.	COMPLIES WITH AS18 – The subject site is accessed through local roads.	
Safe Pedestrian Access			
PC19 All development must make provision for safe pedestrian access to the building from the street and from any car parking or set down area to the building's	AS19.1 The design of the development ensures that priority is given to pedestrians for direct links to the building's main entrance and to any adjoining local activities or public transport services. AS19.2 Landscaping surrounding the pedestrian walkways and shelters is no higher than 600mm and	COMPLIES WITH AS19 – The proposed development has ample pedestrian access, directly from street footpath to building. The landscaping provided in pedestrian areas does not exceed the threshold heights and plenty of shade trees are present. The landscaping also provides opportunity for CPTED.	

main entrance.	incorporates trees with branching not lower than 2m (clear stem trees). AS19.3 Solid walls and fences are avoided adjacent to pedestrian walkways to improve actual and perceived safety. AS19.4 Security is to be enhanced by passive surveillance over the car parking area from nearby residences or other activities, where practicable.		
Safe Pedestrian and Cyclist Facilities			
PC20 The design of pedestrian and cyclist facilities must be safe, useable and readily accessible.	AS20 Pedestrian and cyclist facilities are designed to encourage the use of these modes by: a) minimising distances, and providing safe grading paths, separated from motorised traffic; b) using even, non-slippery pavement materials.	COMPLIES WITH AS20 – The proposed development provides ample bicycle and post trip facilities, as well as pathways connecting street footpaths to entrance.	
Integration of Development with Public Transport			
PC21 Development that attracts a high proportion of people dependent on public transport must provide facilities to accommodate public transport servicing requirements.	AS21.1 Any development that includes activities listed in the Table to Acceptable Solution AS21.1 provides a bus set down facility on and off-site, in close proximity to the entrance of the development. AS21.2 Where a bus set down area is provided, it is integrated into the development, easily accessible, safe, secure, clearly identified, and attractive to use (in the case of major developments providing a covered walkway to the entry).	NOT APPLICABLE – Public transport facilities are not required.	
PC22 Development that attracts a reasonable proportion of people dependent on public transport must assist in supporting facilities for public transport servicing.	AS22.1 Any development that includes activities listed in the Table to Acceptable Solution AS22.1 provides a busstop and/or a bus shelter, if the entry to the development is not within 400 metres of an existing bus stop or within 800 metres of a railway station. AS22.2 The bus shelter is located adjacent to the frontage of the site and is connected to the entry of the development by a sealed footpath.	NOT APPLICABLE – Public transport facilities are not required.	
Cash In Lieu of Car Park Spaces Required			

PC23 Car parking must be provided to meet the car parking needs of the development. If it cannot be provided on site, alternative arrangements may be proposed.	AS23.1.1 The car parking spaces required by Table to Acceptable Solution AS16.1 are provided on the subject site. OR AS23.1.2 A monetary contribution for all or part of the required car parking may be made towards one or more of the following: a) provision of off-street car parking in the vicinity of the development; b) provision of improved on street car parking and streetscape improvement works, in the vicinity of the development; and/or c) provision of improved public transport facilities and services in the vicinity of the development.	NOT APPLICABLE - The proposed development will provide the prescribed amount of carparks.	
Traffic Impact			
PC24 Where appropriate, specific measures must be taken in the provision of car parking spaces and access to these, to ensure that the traffic impacts of the car park area's use does not have a negative impact on the local amenity and the operation of the local street network.	AS24 A Traffic Impact Report is prepared and implemented, unless: a) the development has less than 250 high turnover or 500 low turnover parking spaces; or b) it has less than 100 parking spaces with direct access to a major road; or c) the Assessment Manager advises a Traffic Impact Report is not required. This Traffic Impact Report shows how the proposed development is able to comply with the provisions of this code and Section 7.4 of Planning Scheme Policy 11 – Land Development Guidelines.	COMPLIES WITH AS24 – A Traffic Impact Report has been completed and supports this development application.	

Table to Acceptable Solution AS7.3

Car Park Capacity (Number of Spaces)	Minimum Queue Length (Vehicles) *
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 250	7
More than 250	7 plus 1% of capacity over 250 spaces

*** Note:** *Each vehicle shall be taken to occupy 6.0 metres in length.*

Table to Acceptable Solution AS14.1

Use or Development	Service Vehicle Provisions
Aged Persons Accommodation	HRV
Animal Husbandry	AV
Aquaculture	HRV
Bulk Garden Supplies	HRV
Cafe	SRV
Cinema	SRV
Commercial Services	SRV
Community Care Centre	SRV
Community Purposes	SRV
Convenience Shop	SRV
Educational Establishment	SRV
Fast Food Premises	HRV
Freight Depot	AV
Fuel Depot	AV
Funeral Parlour	SRV
Hospital	HRV
Industry	AV
Indoor Recreation including: a) squash court or any other court game; b) meeting place, public hall, pinball parlour, amusement arcade; c) theatre, cinema; d) licensed club; e) skating rink, swimming pool; f) gymnasium; and g) public library, public lecture hall, art gallery, museum, any other indoor recreation.	SRV

Use or Development	Service Vehicle Provisions
Kennel	SRV
Manufacturers Shop	HRV
Marina	AV
Marina Shop	SRV
Market	SRV
Medical Centre	SRV
Milk Depot	AV
Mini-Storage Warehousing	HRV
Minor Tourist Facility	SRV
Motel	SRV
Motor Vehicle Repairs	HRV
Night Club	SRV
Outdoor Sport and Recreation: a) tennis court or other court game (where not ancillary to other development); b) lawn bowls; c) skating rinks, swimming pools; d) golf course.	SRV
Office	SRV
Place of Worship	SRV
Reception Room	SRV
Resort Hotel	HRV
Restaurant	SRV
Restricted Club	HRV
Retail Plant Nursery	HRV
Rural Industry	AV
Salvage Yard	HRV
Service Industry	SRV
Service Station	AV
Shop	SRV
Shop with GFA of less than 400m ²	SRV
Shop with GFA 400m ² – 1500m ²	HRV
Shop with GFA larger than 1500m ²	AV
Shopping Centre Development	AV
Showroom	HRV
Storage	SRV
Take-Away Food Premises	SRV
Tavern	HRV
Temporary Use	AV
Theatre	SRV
Tourist Shop	SRV
Transit Centre	HRV
Transport Terminal	AV
Vehicle Hire Premises	AV
Vehicle Sales Premises	AV
Warehouse	AV
Waterfront Industry	HRV

Note: *SRV: Small Rigid Vehicle as defined in AS2890.2 – Off Street Parking Part 2: Commercial Vehicles.*

HRV: Heavy Rigid Vehicle as defined in AS2890.2 – Off Street Parking Part 2: Commercial Vehicles.

AV: Articulated Vehicle as defined in AS2890.2 – Off Street Parking Part 2: Commercial Vehicles.

Table to Acceptable Solution AS14.2

HRV and AV Requirements	
Site Area (m²)	Requirement
Less than 1000m ²	Demonstrate that the development can accommodate the particular design vehicle but a separate service bay and associated manoeuvring are not required. Where it can be demonstrated that loading and unloading can take place within the road reserve, without impacting on the safe and efficient operation of traffic and with no detrimental impact on amenity, Council or its delegate may determine that HRV and AV access is not required.
1000m ² – 2000m ²	a) service bay for HRV is required. b) restricted manoeuvring on site for HRV or AV (as required). c) full on-site manoeuvring for other classes of service vehicle is required.
2000m ² – 4000m ²	a) service bay to be provided for HRV or AV (as required). b) restricted manoeuvring on site for AV (as required). c) full on-site manoeuvring for HRV and other classes of service vehicle is required.

Table to Acceptable Solution AS16.1

This table sets out the minimum number of car parking spaces required according to the use of the land.

Where the calculated number of car spaces is not a whole number, the number of car parking spaces required must be the next higher whole number.

Material Change of Use	Minimum Number of Car Parking Spaces to be Provided
Aged Persons Accommodation	a) one (1) space per self-contained dwelling, plus one (1) visitor space per 10 self-contained dwellings; b) one (1) space per two hostel units; c) one (1) space per four nursing home beds; d) 50% of the total number of car parking spaces required should be provided for visitor parking in a central location.
Amusement Parlour	5 spaces per 100m ² of GFA – one (1) space per 20m ² .

Apartments

- a) for developments with up to 20 apartments, one (1) space per one (1) bedroom apartment, and 2 spaces per 2 bedroom and larger apartments, plus one (1) space per four apartments for visitor parking.
- b) for developments with more than 20 apartments, requirements for first 20 apartments as in a) plus, one (1) space per apartment and one (1) space per 10 apartments for visitor parking for subsequent units.
- c) for developments in excess of 20 apartments, the units with 2, 3 or 4 bedrooms shall be considered first in the determination of total parking spaces.
- d) for mixed-use development with a single apartment, visitor parking for the apartment is not required.
- e) where development:
 - is on a site that only has frontage to a road listed below; or
 - the access to the proposed development is to a road listed below; and
 - where the frontage is included in that part of the road listed below; additional visitor car parking shall be provided at a rate of one (1) car parking space for every two (2) visitor car parking spaces required.

Road	Part of Road
Aloha Lane	The whole
Cooinda Avenue	Northern alignment
Beulah Lane	The whole
Cronin Avenue	The whole
Darwalla Avenue	The whole
Eden Avenue	Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot 1 RP 188138), and to and including Lot 6 RP154810
Fenton Place	The whole
Garfield Terrace	The whole
Hedges Avenue	The whole
Jefferson Lane	North of Third Avenue
Lennie Avenue	The whole
Little Norman Street	The whole
Montgomery Avenue	The whole
Mountbatten Avenue	The whole
Northcliffe Terrace	The whole
Nagel Avenue	Western alignment from and including Lot 12 RP 46948 to and including Lot 1 RP 46948
O'Connor Street	Western Alignment from Wybera Street to and including Lot 26 RP 49999
Owens Lane	The whole
Pacific Parade	The whole
Park Lane	The whole
Peak Avenue	The whole
Schuster Avenue	The whole
Sunshine Court	The whole
Swan Lane	The whole

Material Change of Use	Minimum Number of Car Parking Spaces to be Provided																																																		
Attached Dwelling	a) 2 spaces per dwelling, of which one (1) is to be covered, plus one (1) space per two dwellings for visitor parking. b) where development: ■ is on a site that only has frontage to a road listed below; or ■ the access to the proposed development is to a road listed below; and ■ where the frontage is included in that part of the road listed below; additional visitor car parking shall be provided at a rate of one (1) car parking space for every two (2) visitor car parking spaces required. <table border="1"> <thead> <tr> <th>Road</th><th>Part of Road</th></tr> </thead> <tbody> <tr> <td>Aloha Lane</td><td>The whole</td></tr> <tr> <td>Cooinda Avenue</td><td>Northern alignment</td></tr> <tr> <td>Beulah Lane</td><td>The whole</td></tr> <tr> <td>Cronin Avenue</td><td>The whole</td></tr> <tr> <td>Darwalla Avenue</td><td>The whole</td></tr> <tr> <td>Eden Avenue</td><td>Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810</td></tr> <tr> <td>Fenton Place</td><td>The whole</td></tr> <tr> <td>Garfield Terrace</td><td>The whole</td></tr> <tr> <td>Hedges Avenue</td><td>The whole</td></tr> <tr> <td>Jefferson Lane</td><td>North of Third Avenue</td></tr> <tr> <td>Lennie Avenue</td><td>The whole</td></tr> <tr> <td>Little Norman Street</td><td>The whole</td></tr> <tr> <td>Montgomery Avenue</td><td>The whole</td></tr> <tr> <td>Mountbatten Avenue</td><td>The whole</td></tr> <tr> <td>Northcliffe Terrace</td><td>The whole</td></tr> <tr> <td>Nagel Avenue</td><td>Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948</td></tr> <tr> <td>O'Connor Street</td><td>Western alignment from Wybera Street to and including Lot 26 RP 49999</td></tr> <tr> <td>Owens Lane</td><td>The whole</td></tr> <tr> <td>Pacific Parade</td><td>The whole</td></tr> <tr> <td>Park Lane</td><td>The whole</td></tr> <tr> <td>Peak Avenue</td><td>The whole</td></tr> <tr> <td>Schuster Avenue</td><td>The whole</td></tr> <tr> <td>Sunshine Court</td><td>The whole</td></tr> <tr> <td>Swan Lane</td><td>The whole</td></tr> </tbody> </table> Note: <i>The visitor parking space may be provided on street in the case of a duplex development.</i>	Road	Part of Road	Aloha Lane	The whole	Cooinda Avenue	Northern alignment	Beulah Lane	The whole	Cronin Avenue	The whole	Darwalla Avenue	The whole	Eden Avenue	Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810	Fenton Place	The whole	Garfield Terrace	The whole	Hedges Avenue	The whole	Jefferson Lane	North of Third Avenue	Lennie Avenue	The whole	Little Norman Street	The whole	Montgomery Avenue	The whole	Mountbatten Avenue	The whole	Northcliffe Terrace	The whole	Nagel Avenue	Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948	O'Connor Street	Western alignment from Wybera Street to and including Lot 26 RP 49999	Owens Lane	The whole	Pacific Parade	The whole	Park Lane	The whole	Peak Avenue	The whole	Schuster Avenue	The whole	Sunshine Court	The whole	Swan Lane	The whole
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Bed and Breakfast	one (1) space per guest room (in addition to the requirement of 2 spaces per dwelling, of which one (1) is to be covered).																																																		
Bulk Garden Supplies	2 spaces per 100m ² of Total Use Area (one (1) space per 50m ² of Total Use Area).																																																		
Cafe	6.7 spaces per 100m ² of GFA (including any outdoor dining areas) (one (1) space per 15m ² of GFA).																																																		
Caravan Park	one (1) space per site, plus visitor parking of one (1) space per ten sites.																																																		
Caretaker's Residence	2 spaces, of which one (1) is to be covered.																																																		
Child Care Centre	one (1) space per employee, plus on-site passenger set down area of one (1) space for every five children enrolled.																																																		
Cinema	as determined by Council, requiring a Traffic Impact Report.																																																		
Commercial Services	4 spaces per 100m ² of GFA (one (1) space per 25m ² of GFA).																																																		

Community Care Centre	one (1) space per employee, based on the maximum number of employees on the premises at any one time, plus one (1) space per ten residents or other occupants of the premises.
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Material Change of Use	Minimum Number of Car Parking Spaces to be Provided																
Community Purposes	as determined by Council.																
Convenience Shop	6.7 spaces per 100m ² of GFA (one (1) space per 15m ² of GFA).																
Detached Dwelling	2 spaces per dwelling, of which one (1) is to be covered.																
Display Home	as determined by Council.																
Ecotourism Facility	as determined by Council, requiring Traffic Impact Report.																
Educational Establishment: a) primary school b) secondary school c) tertiary and further education d) other	a) one (1) space per staff member; b) one (1) space per staff member, plus one (1) space per each ten Year 12 students enrolled; c) as determined by Council, requiring Traffic Impact Report; and d) as determined by Council, requiring Traffic Impact Report.																
Estate Sales Office	5 spaces.																
Family Accommodation	one (1) space, in addition to the spaces required for the main dwelling.																
Family Day Care Home	no on-site spaces required.																
Farm Stay	one (1) space for each guest bedroom (in addition to the requirement of 2 spaces per dwelling, of which one (1) is to be covered).																
Fast Food Premises	a) 0.4 spaces per seat, plus one (1) space per 100m ² of GFA; OR b) 10 spaces per 100m ² of GFA, plus 20 spaces per 100m ² of GFA outdoor seating areas, whichever is the greater, plus queuing area for 10 vehicles associated with any drive through sales facility.																
Freight Depot	one (1) space per employee, plus one (1) visitor parking space.																
Fuel Depot	one (1) space per employee, plus one (1) visitor parking space.																
Funeral Parlour	10 spaces per 100m ² of GFA (one (1) space per 10m ² of GFA).																
Home Occupation	2 spaces for the purposes of the Home Occupation, in addition to the spaces required for the dwelling.																
Home Office	one (1) space for the purpose of the Home Office, in addition to the spaces required for the dwelling.																
Hospital	as determined by Council, requiring a Traffic Impact Report.																
Hostel Accommodation	a) one (1) car space per 15m ² of the total sleeping accommodation area, plus one (1) car space for any manager's or caretakers unit. b) where development: ■ is on a site that only has frontage to a road listed below; or ■ the access to the proposed development is to a road listed below; and ■ where the frontage is included in that part of the road listed below. additional visitor car parking shall be provided at a rate of one (1) car parking space for every two (2) visitor car parking spaces required. <table> <tr> <th>Road</th><th>Part of Road</th></tr> <tr> <td>Aloha Lane</td><td>The whole</td></tr> <tr> <td>Cooinda Avenue</td><td>Northern alignment</td></tr> <tr> <td>Beulah Lane</td><td>The whole</td></tr> <tr> <td>Cronin Avenue</td><td>The whole</td></tr> <tr> <td>Darwalla Avenue</td><td>The whole</td></tr> <tr> <td>Eden Avenue</td><td>Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810</td></tr> <tr> <td>Fenton Place</td><td>The whole</td></tr> </table>	Road	Part of Road	Aloha Lane	The whole	Cooinda Avenue	Northern alignment	Beulah Lane	The whole	Cronin Avenue	The whole	Darwalla Avenue	The whole	Eden Avenue	Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810	Fenton Place	The whole
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Material Change of Use	Minimum Number of Car Parking Spaces to be Provided
Hostel Accommodation (cont.)	Garfield Terrace The whole Hedges Avenue The whole Jefferson Lane North of Third Avenue Lennie Avenue The whole Little Norman Street The whole Montgomery Avenue The whole Mountbatten Avenue The whole Northcliffe Terrace The whole Nagel Avenue Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948 O'Connor Street Western alignment from Wybera Street to and including Lot 26 RP 49999 Owens Lane The whole Pacific Parade The whole Park Lane The whole Peak Avenue The whole Schuster Avenue The whole Sunshine Court The whole Swan Lane The whole
Indoor Recreation Facility: a) squash court or any other court game b) meeting place, public hall c) pinball parlour, amusement arcade d) theatre, cinema e) licensed club f) skating rink or swimming pool g) gymnasium h) public library, public lecture hall, art gallery, museum, any other indoor recreation	a) 4 spaces per court; b) 10 spaces per 100m² of GFA (one (1) space per 10m² of GFA); c) 5 spaces per 100m² of GFA (one (1) space per 20m² of GFA); d) as determined by Council, requiring Traffic Impact Report; e) 6 spaces per 100m² of GFA (one (1) space per 17m² of GFA), additional parking for gaming machines at the rate of one (1) space per 3 gaming machines; f) 15 spaces, plus one (1) space per 100m² of GFA; g) 10 spaces per 100m² of GFA; h) as determined by Council or its delegate.
Industry	2.5 spaces per 100m ² of GFA (one (1) space per 40 m ² of GFA)
Integrated Housing	2 spaces per dwelling, of which one (1) must be covered, plus 0.5 spaces per dwelling visitor parking, distributed throughout the site in accessible locations.
Kennel	one (1) space per employee, with a minimum of two spaces plus one (1) visitor parking space.
Laundromat	5 spaces per 100m ² of GFA (one (1) space per 20m ² of GFA).
Manufacturers Shop	a) 6.7 spaces per 100m² of area used for retail (one (1) space per 15m² of area used for retail); b) 2.5 spaces per 100m² of area used for manufacturing (one (1) space per 40m² of area used for industry).

Marina	a) 0.6 spaces for each wet berth designed for boats ten metres and under; b) 0.8 spaces for each wet berth designed for boats between ten metres and 15 metres; c) one (1) space for each wet berth designed for boats greater than 15 metres; d) 0.2 spaces for each dry berth or swing mooring; plus e) 0.5 spaces for each employee; f) one (1) space per 50m² of GFA of ancillary activities associated with the marina; g) one (1) space for each wet berth designed for boats greater than 15 metres.
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Material Change of Use	Minimum Number of Car Parking Spaces to be Provided																																																		
Marina Shop	6.7 spaces per 100m ² of GFA (one (1) space per 15m ² of GFA).																																																		
Market	as determined by Council, requiring Traffic Impact Report.																																																		
Medical Centre	5 spaces per 100m ² of GFA (one (1) space per 20m ² of GFA).																																																		
Mini-Storage Warehousing	a) one (1) space per ten (10) storage sheds; plus b) one (1) space per 30m ² GFA administration office area; plus c) a minimum traffic circulation aisle width of 6.5 metres.																																																		
Minor Tourist Facility	as determined by Council, requiring Traffic Impact Report.																																																		
Motel	a) one (1) space per room, plus one (1) space for the manager's residence. b) where a restaurant is included, 0.15 spaces per seat or 3.5 spaces per 100m ² of the restaurant GFA, whichever is the greater. c) where development: ■ is on a site that only has frontage to a road listed below; or ■ the access to the proposed development is to a road listed below; and ■ where the frontage is included in that part of the road listed below. additional visitor car parking shall be provided at a rate of one (1) car parking space for every two (2) visitor car parking spaces required. <table border="1"> <thead> <tr> <th>Road</th><th>Part of Road</th></tr> </thead> <tbody> <tr> <td>Aloha Lane</td><td>The whole</td></tr> <tr> <td>Cooinda Avenue</td><td>Northern alignment</td></tr> <tr> <td>Beulah Lane</td><td>The whole</td></tr> <tr> <td>Cronin Avenue</td><td>The whole</td></tr> <tr> <td>Darwalla Avenue</td><td>The whole</td></tr> <tr> <td>Eden Avenue</td><td>Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810</td></tr> <tr> <td>Fenton Place</td><td>The whole</td></tr> <tr> <td>Garfield Terrace</td><td>The whole</td></tr> <tr> <td>Hedges Avenue</td><td>The whole</td></tr> <tr> <td>Jefferson Lane</td><td>North of Third Avenue</td></tr> <tr> <td>Lennie Avenue</td><td>The whole</td></tr> <tr> <td>Little Norman Street</td><td>The whole</td></tr> <tr> <td>Montgomery Avenue</td><td>The whole</td></tr> <tr> <td>Mountbatten Avenue</td><td>The whole</td></tr> <tr> <td>Northcliffe Terrace</td><td>The whole</td></tr> <tr> <td>Nagel Avenue</td><td>Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948</td></tr> <tr> <td>O'Connor Street</td><td>Western alignment from Wybera Street to and including Lot 26 RP 49999</td></tr> <tr> <td>Owens Lane</td><td>The whole</td></tr> <tr> <td>Pacific Parade</td><td>The whole</td></tr> <tr> <td>Park Lane</td><td>The whole</td></tr> <tr> <td>Peak Avenue</td><td>The whole</td></tr> <tr> <td>Schuster Avenue</td><td>The whole</td></tr> <tr> <td>Sunshine Court</td><td>The whole</td></tr> <tr> <td>Swan Lane</td><td>The whole</td></tr> </tbody> </table>	Road	Part of Road	Aloha Lane	The whole	Cooinda Avenue	Northern alignment	Beulah Lane	The whole	Cronin Avenue	The whole	Darwalla Avenue	The whole	Eden Avenue	Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810	Fenton Place	The whole	Garfield Terrace	The whole	Hedges Avenue	The whole	Jefferson Lane	North of Third Avenue	Lennie Avenue	The whole	Little Norman Street	The whole	Montgomery Avenue	The whole	Mountbatten Avenue	The whole	Northcliffe Terrace	The whole	Nagel Avenue	Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948	O'Connor Street	Western alignment from Wybera Street to and including Lot 26 RP 49999	Owens Lane	The whole	Pacific Parade	The whole	Park Lane	The whole	Peak Avenue	The whole	Schuster Avenue	The whole	Sunshine Court	The whole	Swan Lane	The whole
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Motor Vehicle Workshop	6.7 spaces per 100m ² of GFA (one(1) space per 15m ² of GFA).																																																		
Night Club	6 spaces per 100m ² of GFA (one (1)space per 17m ² of GFA).																																																		
Office	3 spaces per 100m ² of GFA (one (1) space per 33m ² of GFA).																																																		

Material Change of Use	Minimum Number of Car Parking Spaces to be Provided
Outdoor Sport and Recreation: a) tennis court or other court game (where not ancillary to other development) b) lawn bowls c) skating rinks, swimming pools d) golf course e) racecourse f) sporting arena g) clubhouse	a) 4 spaces per court; b) 20 spaces per green; c) 15 spaces, plus one (1) space per 100m ² of Total Use Area; d) the greater of: ■ 4 spaces per hole, plus 3 spaces per 100m ² of GFA of club house area; or ■ 6 spaces per 100m ² of GFA of club house area; e) as determined by Council, requiring Traffic Impact Report; f) as determined by Council, requiring Traffic Impact Report; g) 6 spaces per 100m ² of GFA (one (1) space per 17m ² of GFA).
Place of Worship	10 spaces per 100m ² of GFA (one (1) space per 10m ² of GFA).
Reception Room	6 spaces per 100m ² of GFA (one (1) space per 17m ² of GFA).
Relocatable Home Park	one (1) space per Relocatable Home plus visitor parking of one (1) space per 5 dwellings.
Residential Hotel	a) one (1) space per residential unit plus 10 spaces per 100m ² of GFA lounge, bar and beer garden area; plus b) 10 spaces per 100m ² of GFA retail floor area for liquor barns or bulk liquor sales; plus c) a reservoir space for 12 cars for a drive-in bottle shop.

Resort Hotel	a) one (1) space for each guest room or suite, for the first 75 guest rooms or suites, plus 0.1 space for each additional guest room or suite. b) where the development includes commercial facilities that are available for use by the general public, car parking for such facilities shall be provided at 75% of the standard requirements of this table. c) where development: ■ is on a site that only has frontage to a road listed below; or ■ the access to the proposed development is to a road listed below; and ■ where the frontage is included in that part of the road listed below; additional visitor car parking shall be provided at a rate of one (1) car parking space for every two (2) visitor car parking spaces required. <table border="1"> <thead> <tr> <th>Road</th><th>Part of Road</th></tr> </thead> <tbody> <tr> <td>Aloha Lane</td><td>The whole</td></tr> <tr> <td>Cooinda Avenue</td><td>Northern alignment</td></tr> <tr> <td>Beulah Lane</td><td>The whole</td></tr> <tr> <td>Cronin Avenue</td><td>The whole</td></tr> <tr> <td>Darwalla Avenue</td><td>The whole</td></tr> <tr> <td>Eden Avenue</td><td>Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810</td></tr> <tr> <td>Fenton Place</td><td>The whole</td></tr> <tr> <td>Garfield Terrace</td><td>The whole</td></tr> <tr> <td>Hedges Avenue</td><td>The whole</td></tr> <tr> <td>Jefferson Lane</td><td>North of Third Avenue</td></tr> <tr> <td>Lennie Avenue</td><td>The whole</td></tr> <tr> <td>Little Norman Street</td><td>The whole</td></tr> <tr> <td>Montgomery Avenue</td><td>The whole</td></tr> <tr> <td>Mountbatten Avenue</td><td>The whole</td></tr> <tr> <td>Northcliffe Terrace</td><td>The whole</td></tr> <tr> <td>Nagel Avenue</td><td>Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948</td></tr> <tr> <td>O'Connor Street</td><td>Western alignment from Wybera Street to and including Lot 26 RP 49999</td></tr> <tr> <td>Owens Lane</td><td>The whole</td></tr> <tr> <td>Pacific Parade</td><td>The whole</td></tr> <tr> <td>Park Lane</td><td>The whole</td></tr> <tr> <td>Peak Avenue</td><td>The whole</td></tr> <tr> <td>Schuster Avenue</td><td>The whole</td></tr> <tr> <td>Sunshine Court</td><td>The whole</td></tr> <tr> <td>Swan Lane</td><td>The whole</td></tr> </tbody> </table>	Road	Part of Road	Aloha Lane	The whole	Cooinda Avenue	Northern alignment	Beulah Lane	The whole	Cronin Avenue	The whole	Darwalla Avenue	The whole	Eden Avenue	Both alignments from Hill Street to Ward Street and from Ward Street to and including BUP 5455 (Lot RP 1881138), and to and including Lot 6 RP154810	Fenton Place	The whole	Garfield Terrace	The whole	Hedges Avenue	The whole	Jefferson Lane	North of Third Avenue	Lennie Avenue	The whole	Little Norman Street	The whole	Montgomery Avenue	The whole	Mountbatten Avenue	The whole	Northcliffe Terrace	The whole	Nagel Avenue	Western alignment from including Lot 12 RP 46948 to and including Lot 1 RP 46948	O'Connor Street	Western alignment from Wybera Street to and including Lot 26 RP 49999	Owens Lane	The whole	Pacific Parade	The whole	Park Lane	The whole	Peak Avenue	The whole	Schuster Avenue	The whole	Sunshine Court	The whole	Swan Lane	The whole
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Material Change of Use	Minimum Number of Car Parking Spaces to be Provided
Restricted Club	6 spaces per 100m ² of GFA (one (1) space per 17m ² of GFA).
Restaurant	6.7 spaces per 100m ² of GFA (including any outdoor dining areas) (one (1) space per 15 m ² of GFA).
Retail Plant Nursery	10 spaces, plus one (1) space per 100m ² of Total Use Area in excess of 3,000 metres.
Rural Industry	one (1) space for each employee who does not reside on-site, plus one (1) visitor parking space.
Salvage Yard	0.7 space per 100m ² of Total Use Area, with a minimum of five spaces.
Serviced Apartment	a) one (1) space per apartment, plus 0.25 per apartment for visitor parking, where parking is contained in a single parking garage and spaces are not dedicated to particular units; OR b) one (1) space per one (1) bedroom apartment and 2 spaces per 2 bedroom and larger apartments, where spaces are dedicated to each apartment, plus 0.25 visitor spaces per apartment.
Service Industry	2.5 spaces per 100m ² of GFA (one (1) space per 40m ² of GFA).
Service Station	a) 2 spaces, plus 5 spaces per service bay; plus b) 4 spaces per 100m² of GFA of shop sales area of less than 150m²; plus c) 5 spaces per 100m² of GFA of shop sales area exceeding 150m²; plus d) 10 spaces per 100m² of GFA of restaurant or café, or 0.4 spaces per seat, whichever is the greater.
Shop	6.7 spaces per 100m ² of GFA (one (1) space per 15m ² of GFA).
Shopping Centre Development: a) 0 – 10,000m ² of EGFA b) 10,000 – 20,000m ² of EGFA c) 20,000 – 30,000m ² of EGFA d) > 30,000m ² of EGFA	a) 7 spaces per 100m² of EGFA (one (1) space per 15m² of EGFA); b) 6.5 spaces per 100m² of EGFA (one (1) space per 16m² of EGFA); c) 5 spaces per 100m² of EGFA (one (1) space per 20m² of EGFA); d) 4.5 spaces per 100m² of EGFA (one (1) space per 23m² of EGFA).
Showroom	2 spaces per 100m ² of GFA (one (1) space per 50m ² of GFA).
Special Accommodation	2 spaces.
Stall	4 spaces.
Storage	a) one (1) space per ten (10) storage sheds; plus b) one (1) space per 30m² GFA administration office area; plus c) a minimum traffic circulation aisle width of 6.5 metres.
Take-Away Food Premises	6.7 spaces per 100m ² of GFA (one (1) space per 15m ² of GFA).
Tavern	a) 10 spaces per 100m² of GFA lounge, bar and beer garden area, (excluding 'staff only' areas); plus b) 10 spaces per 100m² of GFA retail floor area for liquor barns or bulk liquor sales; plus c) a reservoir space for 12 cars for a drive in bottle shop; d) additional parking for gaming machines, at the rate of one (1) space per 3 gaming machines.
Theme Park	at the rate of (number of 'design day' visitors x 0.2347) + 87, where the design day corresponds to the existing 85 percentile day, subject to confirmation of this approach from Council's Manager of Transport Planning.

Tourist Cabins	as determined by Council, requiring Traffic Impact Report.
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Material Change of Use	Minimum Number of Car Parking Spaces to be Provided
Tourist Facility	as determined by Council, requiring Traffic Impact Report.
Tourist Shop	5 spaces per 100m ² of GFA (one (1) space per 20m ² of GFA).
Transit Centre	as determined by Council, requiring Traffic Impact Report.
Transport Terminal	as determined by Council, requiring Traffic Impact Report.
Vehicle Hire Office	one (1) car space per employee, or one (1) car space per 30m ² , whichever is the greater.
Vehicle Hire Premises	one (1) car space per employee, or one (1) car space per 30m ² , whichever is the greater, plus a minimum of one (1) on-site wash bay, plus a minimum of one(1) car space per every 1.5 vehicles (or part thereof) in the hire vehicle fleet, provided that such spaces may be located in tandem.
Vehicle Sales Premises	3.3 spaces per 100m ² of GFA plus 0.5 spaces per 100m ² of display area.
Veterinary Clinic or Veterinary Hospital	3 spaces per practitioner.
Warehouse	2 spaces per tenancy or lot plus one (1) space per 50m ² of GFA up to 500m ² plus one (1) space per 100m ² of GFA over 500m ² .
Waterfront (or Marine) Industry	2 spaces per 100m ² of GFA (one (1) space per 50m ² of GFA).
Any Other Use	as determined by Council, requiring a Car Parking Assessment Report.

Table to Acceptable Solution AS21.1

-
- a) Educational Establishment
 - b) International Hotel
 - c) Resort Hotel
 - d) Transit Centre
 - e) Shopping Centre Development (more than 4,000m² of EGFA retail floor space)
 - f) Public Events
 - g) Spectator Sports
 - h) Convention Centre
-

Table to Acceptable Solution AS22.1

-
- a) Apartment Buildings with more than 60 units
 - b) Townhouse Complexes with more than 60 units
 - c) Active Recreation Facility
 - d) Bulky Goods Retailers (more than 2,000m² of GFA retail floor space)
 - e) Hospitals
 - f) Community Centres
 - g) Entertainment Venues
 - h) Aged Persons Accommodation
-

4.0 Car Parking Assessment Report

Where this Planning Scheme gives no specific car parking provision for a particular use or development, Council may require the submission of a Car Parking Assessment Report to support an application for development assessment. The following details must be included in such a report:

- a) the specific nature of the development to be undertaken and the method of operation and all facilities proposed to be provided;
- b) the maximum number of employees likely to be engaged on the premises;
- c) the maximum number of persons, other than employees, anticipated to attend the premises at any time;
- d) the hours of operation of the development;
- e) the location of the site and the nature of existing and likely development in the vicinity of the site;
- f) the existing on-road parking situation and operating conditions of the road in the vicinity of the site;
- g) the anticipated demand for on-site loading by trucks and other delivery vehicles;
- h) the anticipated demand for bus, coach and taxi set down and parking;
- i) the likely use of other modes of transport or pedestrian access, and the frequency and proximity of existing public transport services;
- j) the assignment of development generated traffic to the road network, and prediction of operating conditions within and without the proposed development for the appropriate design years; and
- k) any other relevant information requested by Council or its delegate.

Council will form a view on the appropriate minimum number of car parking spaces and other facilities to be provided for the new development, based on the above information and any other relevant matter.

5.0 Reduction of the Minimum Number of Car Parking Spaces to be Provided

The minimum number of car spaces to be provided may be reduced where the applicant can satisfy Council, or its delegate, that less provision is justified, having regard to any one or more of the following:

- a) the extent to which the development is serviced by public transport;
- b) the proposed development is located within a Public Transport Precinct, as shown on **Planning Strategy Map PS8 – Public Transport System**;
- c) the car spaces that are available on nearby land and suitable roads;
- d) any new car spaces that can be provided by the applicant on nearby land;
- e) the existing development on the site;
- f) the overall pedestrian accessibility of the site;
- g) the intensity of the use of the land;
- h) the proposed hours of operation of the development or use;
- i) any Council traffic management or parking scheme for the area;
- j) the effect of any additional traffic generated by the lack of parking spaces;
- k) the mix of land uses on the site or nearby (for example, whether the site is included within an

- identified Activity Centre);
- l) the car parking area is directly connected to the parking area of an adjoining development;
- m) the parking spaces are to be individually allocated to tenancies or consolidated into a common area available to all tenants and to visitors; and
- n) the provision of cyclist facilities, including showers and lockers and additional secure bicycle parking.

6.0 Traffic Impact Report

The Traffic Impact Report shall contain the following information:

- a) the maximum number of employees to be engaged on the premises;
- b) the maximum number of persons, other than employees, anticipated to attend the premises at any time;
- c) the hours of operation of the development;
- d) the location of the site and the nature of existing and proposed buildings;
- e) likely development in the vicinity of the site;
- f) the existing on-road parking situation in the vicinity of the site;
- g) the existing operating conditions of the roads in the vicinity of the site;
- h) the position and nature of vehicular access to the site and the need for any changes to existing roads infrastructure;
- i) the expected demand for site access loading by trucks and other delivery vehicles;
- j) the anticipated demand for bus, coach and taxi set down and parking;
- k) the likely use of other modes of transport;
- l) the frequency and proximity of existing or proposed public transport services;
- m) assignment of development generated traffic to the road network, and prediction of operating conditions within and without the proposed development for the appropriate design years (generally a ten year horizon from the time of opening of the proposed development); and
- n) any other relevant information requested by Council, or its delegate.

Council may request electronic outputs for perusal, where traffic analysis computer packages have been used in the determination of impacts.

7.0 Future Road Requirement Information

With reference to Future Road Requirement information on Domain Maps:

- Future Road Requirement lines indicate, a line which shall be deemed to be the frontage of a site solely for the purposes of determining building setbacks and the distribution and development of landscaping open space.

-
- Where sites are influenced by more than one Future Road Requirement line, for example a site has more than one road frontage, reference should be made to all Future Road Requirement line maps which effect the site.
 - Where sites are influenced by a Future Road Requirement line or more than one Future Road Requirement line, the road has been identified as being either a road under the Main Roads jurisdiction or a road under the Gold Coast City Council jurisdiction. This is indicated by the reference term in the brackets.

Future Road Requirement lines shown on these maps that relate to State-controlled roads are indicative only and are subject to survey a

APPENDIX B –RESPONSE TO DRIVEWAYS AND VEHICULAR CROSSINGS CODE

City Plan code template

This code template supports the preparation of a development application against either the acceptable outcome(s) or performance outcome(s) contained in the code. Development assessment rules are outlined in **Section 5.3.3** of the City Plan.

Please note:

For assessment against the overall outcomes, refer to the appropriate code.

Note: The whole of the planning scheme is identified as the assessment benchmark for impact assessable development. This specifically includes assessment of impact assessable development against this strategic framework. The strategic framework may contain intentions and requirements that are additional to and not necessarily repeated in zone, overlay or other codes. In particular, the performance outcomes in zone codes address only a limited number of aspects, predominantly related to built form. Development that is impact assessable must also be assessed against the overall outcomes of the code as well as the strategic framework.

9.4.2 Driveways and vehicular crossings code

9.4.2.1 Application

This code applies to assessing operational work for vehicle crossing works and material change of use for any development involving vehicle access or driveway works where indicated within **Part 5 Tables of assessment**.

When using this code, reference should be made to **Section 5.3.2** and, where applicable, **Section 5.3.3**, in **Part 5**.



Figure 9.4.2-1

Illustration showing driveway and vehicle crossing for access to parking spaces

9.4.2.2 Purpose

- (1) The purpose of the Driveways and vehicular crossings code is to provide design standards for the construction, repair or modification to a driveway and/or a vehicular crossing and to ensure that the decisions are compatible.
- (2) The purpose of the code will be achieved through the following overall outcomes:
 - (a) Vehicular crossings provide safe access from the edge of the road carriageway to the property boundary.
 - (b) Vehicular crossings are located and constructed to avoid adverse impacts on City or utility infrastructure.
 - (c) Vehicular crossings are constructed to a standard that is consistent with a standard vehicle.
 - (d) Vehicular crossings are designed to ensure that there is minimal loss of on-street car parking spaces.
 - (e) Driveways provide safe access from the property boundary to the on-site vehicle accommodation or standing area.
 - (f) Driveways are located to ensure damage to existing street trees located within the verge is avoided.
 - (g) Driveways are located to retain space for the future planting of street trees.
 - (h) The construction, location and design of vehicular crossings and driveways prevent interference with the safe movement of vehicles or the safe use of the footpath to maintain the amenity of the area.
 - (i) The design and construction of the driveway and vehicular crossing are such that vertical and horizontal alignments provide a continuous, smooth access of good rideability and clearance for vehicles and driveway and vehicular crossing do not cause adverse stormwater drainage impacts.

9.4.2.3 Specific benchmarks for assessment

Table 9.4.2-3: Driveways and vehicular crossings code – assessable development for driveways

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
Location			
PO1 The location of the driveway is considered at the design stage of the development to ensure it does not unnecessarily damage street trees and	AO1 The design of the driveway: (a) does not cause damage to street trees in the verge; and	COMPLIES	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
allows space for the planting of street trees within the verge.	(b) retains space for the planting of street trees within the verge.		
Design			
PO2 The driveway is designed and constructed to ensure: (c) safe access for a B85 vehicle (AS2890) from the property boundary to the on-site vehicle accommodation or standing area; (d) it does not cause adverse stormwater drainage impacts on or off the site; and (e) safe pedestrian movement in the proximity of the site.	AO2 The driveway is designed in accordance with the following design standards:	COMPLIES	
	Land use	Design standard	
	- Dual occupancy - Dwelling house - Multiple dwellings (where the development is for townhouses)	Queensland Development Code – NMP 1.1 - Driveways	
	All other land uses	AS/NZS 2890.1:2004 – Parking facilities – Part 1: Off-street car parking	
	OR Where particularly restrictive physical conditions exist and the above standard arrangements are not attainable, the design and construction of the proposed driveway is certified by a RPEQ having regard to the following: (f) Disability Discrimination Act 1992; (g) AS 2890.1; (h) QUDM; and (i) Good engineering practice.		

Table 9.4.2-4: Driveways and vehicular crossings code – assessable development for vehicular crossings

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
Construction of vehicular crossings			
PO1 The vehicle crossing is designed and constructed to ensure: (a) safe access for a B85 vehicle (AS2890) from the road carriageway to the property boundary; (b) it does not cause adverse stormwater drainage impacts on or off the site; and (c) safe pedestrian movement in the proximity of the site.	AO1 Prior to the use commencing a vehicular crossing is constructed to provide access from the road to the property. Either: (j) The vehicular crossing is designed and constructed in accordance with the relevant vehicular crossing standards drawing in SC6.9 City Plan policy – Land development guidelines; or (k) where particularly restrictive physical conditions exist and the above standard arrangements are not attainable, the design and construction of the proposed vehicular crossing is certified by a RPEQ having regard to the following: (i) <i>Disability Discrimination Act 1992</i>; (ii) <i>AS 2890.1</i>; (iii) <i>QUDM</i>; and (iv) Good engineering practice.	WILL COMPLY	
PO2 Location and construction of the vehicular crossing avoids damage to utility services, pathways, kerbs, road	AO2 The vehicular crossing is designed and constructed in accordance with the relevant vehicular crossing standards in	COMPLIES	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
pavement and seal and other municipal infrastructure.	SC6.9 City Plan policy – Land development guidelines.		
Maximum number of vehicular crossings per site			
PO3 The number of vehicular crossings per site are minimised to avoid the loss of on-street car parking spaces and to prevent adverse interference with: (l) the safety, capacity and operations of the existing or planned road network; (m) the proposed driveway; and (n) cycleways or pedestrian footpaths.	AO3 The maximum number of vehicular crossings per site, for the following land uses, is as follows:		ONLY A SINGLE VXO IS PROPOSED.
	Land use	Maximum number of vehicular crossings per site	
	Dwelling house	1 OR 2 - when the road frontage at the kerb is at least 40m	
	Dual occupancy Multiple dwelling	1 OR 2 - where the road frontage at the kerb is greater than 20m	
	Non-residential use	2	
Separation distances			
PO4 Vehicular crossings are appropriately separated from other vehicular crossings and side property	AO4 Vehicular crossings are separated from:		COMPLIES
	Instance	Minimum distance (m)	

Performance outcomes	Acceptable outcomes		Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
boundaries to prevent interference with: (o) the safety, capacity and operations of the existing or planned road network; (p) adjoining properties; and (q) cycleways or pedestrian footpaths.	Any other vehicular crossing	3m		
	Any side property boundary: for residential development of 2 dwellings or less	1.5m		
	All other development	2m		

Location				
PO5 Vehicle access to a public roadway is safe and does not compromise the efficiency, function, convenience of use or capacity of the road network.	AO5.1 The location of the vehicular crossing to a public roadway is consistent with AS2890.1 and AS2890.2.		COMPLIES	
	AO5.2 No new vehicular crossings are created on roads identified on the Functional Road Hierarchy as shown on the Zone maps or the Pacific motorway service road types overlap map.		COMPLIES	
PO6 Vehicular crossings are located to: (r) avoid damage to existing street trees located within the verge; and (s) retain space for the future planting of street trees within the verge.	AO6 No acceptable outcome provided.		COMPLIES	

Sight distances and lines				
PO7	AO7.1		COMPLIES	

Performance outcomes	Acceptable outcomes	Does the proposal meet the acceptable outcome? If not, justify how the proposal meets <u>either</u> the performance outcome or overall outcome	Internal use
Vehicular crossings are designed to prevent conflict between vehicles with cyclists and pedestrians.	Safe sight distances are provided, based on the vehicle speed at the vehicular crossing. Note: This AO does not apply to the following uses: • Dwelling house; • Secondary dwelling; • Dual occupancy; or • Multiple dwelling (where there are 3 dwellings or less).		
	AO7.2 Vehicular crossings are designed to provide safe sight lines for vehicles exiting the vehicular crossing in accordance with AS2890.2. Where no service vehicle is required to access the site, including waste collection, the requirements for sight lines at the vehicular crossing are in accordance with AS2890.1. Note: This AO does not apply to the following uses: • Dwelling house; • Secondary dwelling; • Dual occupancy; or • Multiple dwelling (where there are 3 dwellings or less).	COMPLIES	

APPENDIX C – STATE CODE 1 RESPONSE

State code 1: Development in a state-controlled road environment

Table 1.2.1: Development in a state-controlled road environment

Performance outcomes	Acceptable outcomes	Response
Buildings and structures		
PO1 The location of buildings, structures, infrastructure, services and utilities does not create a safety hazard in a state-controlled road, or cause damage to, or obstruct road transport infrastructure.	AO1.1 Buildings, structures, infrastructure, services and utilities are not located in a state-controlled road. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
	AO1.2 Buildings, structures, infrastructure, services and utilities can be maintained without requiring access to a state-controlled road.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO2 The design and construction of buildings and structures does not create a safety hazard by distracting users of a state-controlled road.	AO2.1 Facades of buildings and structures facing a state-controlled road are made of non-reflective materials. OR	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
	AO2.2 Facades of buildings and structures do not reflect point light sources into the face of oncoming traffic on a state-controlled road. AND	
	AO2.3 External lighting of buildings and structures is not directed into the face of oncoming traffic on a state-controlled road and does not involve flashing or laser lights. AND	

Performance outcomes	Acceptable outcomes	Response
	AO2.4 Advertising devices visible from a state-controlled road are located and designed in accordance with the Roadside Advertising Guide, 2 nd Edition, Department of Transport and Main Roads, 2017.	
PO3 Road, pedestrian and bikeway bridges over a state-controlled road are designed and constructed to prevent projectiles from being thrown onto a state-controlled road.	AO3.1 Road, pedestrian and bikeway bridges over a state-controlled road include throw protection screens in accordance with section 4.9.3 of the Design Criteria for Bridges and Other Structures Manual, Department of Transport and Main Roads, 2018.	
Filling, excavation and retaining structures		
PO4 Filling and excavation does not interfere with, or result in damage to, infrastructure or services in a state-controlled road. Note: Information on the location of services and public utility plants in a state-controlled road can be obtained from the Dial Before You Dig service. Where development will impact on an existing or future service or public utility plant in a state-controlled road such that the service or public utility plant will need to be relocated, the alternative alignment must comply with the standards and design specifications of the relevant service or public utility provider, and any costs of relocation are to be borne by the developer. Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO5 Filling, excavation, building foundations and retaining structures do not undermine, or cause subsidence of, a state-controlled road. Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment, prepared in accordance with the Road Planning and Design Manual 2nd Edition: Volume 3, Department of Transport and Main Roads, 2016, is provided.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

Performance outcomes	Acceptable outcomes	Response
Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome and prepare a geotechnical assessment.		
PO6 Filling, excavation, building foundations and retaining structures do not cause ground water disturbance in a state-controlled road. Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment, prepared in accordance with the Road Planning and Design manual 2nd Edition: Volume 3, Department of Transport and Main Roads, 2016, is provided. Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome and prepare a geotechnical assessment.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO7 Excavation, boring, piling, blasting or fill compaction during construction of a development does not result in ground movement or vibration impacts that would cause damage or nuisance to a state-controlled road, road transport infrastructure or road works. Note: To demonstrate compliance with this performance outcome, it is recommended an RPEQ certified geotechnical assessment, prepared in accordance with Road Planning and Design Manual 2nd Edition: Volume 3, Department of Transport and Main Roads, 2016, is provided. Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome and prepare a geotechnical assessment.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO8 Development involving the haulage of fill, extracted material or excavated spoil material exceeding 10,000 tonnes per year does not damage the pavement of a state-controlled road.	AO8.1 Fill, extracted material and spoil material is not transported to or from the development site on a state-controlled road.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

Performance outcomes	Acceptable outcomes	Response
Note: It is recommended a pavement impact assessment is provided. Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, and the Guide to Traffic Impact Assessment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome and prepare a pavement impact assessment.		
PO9 Filling and excavation associated with the construction of vehicular access to a development does not compromise the operation or capacity of existing drainage infrastructure for a state-controlled road. Note: Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO10 Fill material used on a development site does not result in contamination of a state-controlled road. Note: Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO10.1 Fill material is free of contaminants including acid sulfate content. Note: Soils and rocks should be tested in accordance with AS 1289.0 – Methods of testing soils for engineering purposes and AS 4133.0-2005 – Methods of testing rocks for engineering purposes. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
	AO10.2 Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO11 Filling and excavation does not cause wind-blown dust nuisance in a state-controlled road. Note: Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for	AO11.1 Compaction of fill is carried out in accordance with the requirements of AS 1289.0 2000 – Methods of testing soils for engineering purposes. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

Performance outcomes	Acceptable outcomes	Response
further guidance on how to comply with this performance outcome.	AO11.2 Dust suppression measures are used during filling and excavation activities such as wind breaks or barriers and dampening of ground surfaces.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
Stormwater and drainage		
PO12 Development does not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a state-controlled road. Note: Refer to the SDAP Supporting Information: Stormwater and drainage in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO13 Run-off from the development site is not unlawfully discharged to a state-controlled road. Note: Refer to the SDAP Supporting Information: Stormwater and drainage in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO13.1 Development does not create any new points of discharge to a state-controlled road. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
	AO13.2 Stormwater run-off is discharged to a lawful point of discharge. Note: Section 3.9 of the Queensland Urban Drainage Manual, Institute of Public Works Engineering Australasia (Queensland Division) Fourth Edition, 2016, provides further information on lawful points of discharge. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
	AO13.3 Development does not worsen the condition of an existing lawful point of discharge to the state-controlled road.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
PO14 Run-off from the development site during construction does not cause siltation of stormwater infrastructure affecting a state-controlled road. Note: Refer to the SDAP Supporting Information: Stormwater and drainage in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO14.1 Run-off from the development site during construction is not discharged to stormwater infrastructure for a state-controlled road.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
Vehicular access to a state-controlled road		

Performance outcomes	Acceptable outcomes	Response
PO15 Vehicular access to a state-controlled road that is a limited access road is consistent with government policy for the management of limited access roads. Note: Refer to the SDAP Supporting Information: Vehicular access to a state-controlled road, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO15.1 Development does not require new or changed access to a limited access road. Note: Limited access roads are declared by the transport chief executive under section 54 of the <i>Transport Infrastructure Act 1994</i> and are identified in the DA mapping system. OR	N/A – ACCESS IS FROM A LOCAL ROAD
	AO15.2 A new or changed access to a limited access road is consistent with the limited access policy for the state-controlled road. Note: Limited access policies for limited access roads declared under the <i>Transport Infrastructure Act 1994</i> can be obtained by contacting the relevant Department of Transport and Main Roads regional office. AND	
	AO15.3 Where a new or changed access is for a service centre, access is consistent with the Service centre policy, Department of Transport and Main Roads, 2013 and the Access policy for roadside service centre facilities on limited access roads, Department of Transport and Main Roads, 2013, and the Service centre strategy for the state-controlled road. Note: The Service centre policy, Department of Transport and Main Roads, 2013, Access policy for roadside service centre facilities, Department of Transport and Main Roads, 2013 and the relevant Service centre strategy for a state-controlled road can be accessed by contacting the relevant Department of Transport and Main Roads regional office.	
PO16 The location and design of vehicular access to a state-controlled road (including access to a limited access road) does not create a safety hazard for users of a state-controlled road or result in a worsening of operating conditions on a state-controlled road.	AO16.1 Vehicular access is provided from a local road.	N/A – ACCESS IS FROM A LOCAL ROAD
	OR all of the following acceptable outcomes apply:	

Performance outcomes	Acceptable outcomes	Response
Note: Where a new or changed access between the premises and a state-controlled road is proposed, the Department of Transport and Main Roads will need to assess the proposal to determine if the vehicular access for the development is safe. An assessment can be made by Department of Transport and Main Roads as part of the development assessment process and a decision under section 62 of <i>Transport Infrastructure Act 1994</i> issued. Refer to the SDAP Supporting Information: Vehicular access to a state-controlled road, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO16.2 Vehicular access for the development is consistent with the function and design of the state-controlled road. AND	
	AO16.3 Development does not require new or changed access between the premises and the state-controlled road. Note: A decision under section 62 of the <i>Transport Infrastructure Act 1994</i> outlines the approved conditions for use of an existing vehicular access to a state-controlled road. Current section 62 decisions can be obtained from the relevant Department of Transport and Main Roads regional office. AND	
	AO16.4 Use of any existing vehicular access to the development is consistent with a decision under section 62 of the <i>Transport Infrastructure Act 1994</i>. Note: The development which is the subject of the application must be of an equivalent use and intensity for which the section 62 approval was issued and the section 62 approval must have been granted no more than 5 years prior to the lodgement of the application. AND	
	AO16.5 On-site vehicle circulation is designed to give priority to entering vehicles at all times so vehicles do not queue in a road intersection or on the state-controlled road.	
Vehicular access to local roads within 100 metres of an intersection with a state-controlled road		
PO17 The location and design of vehicular access to a local road within 100 metres of an intersection with a state-controlled road does not create a safety hazard for users of a state-controlled road.	AO17.1 Vehicular access is located as far as possible from the state-controlled road intersection. AND	

Performance outcomes	Acceptable outcomes	Response
Note: Refer to the SDAP Supporting Information: Vehicular access to a state-controlled road, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO17.2 Vehicular access is in accordance with parts, 3, 4 and 4A of the Road Planning and Design Manual, 2nd Edition: Volume 3, Department of Transport and Main Roads, 2016. AND	
	AO17.3 On-site vehicle circulation is designed to give priority to entering vehicles at all times so vehicles do not queue in the intersection or on the state-controlled road.	
Public passenger transport infrastructure on state-controlled roads		
PO18 Development does not damage or interfere with public passenger transport infrastructure, public passenger services or pedestrian or cycle access to public passenger transport infrastructure and public passenger services. Note: Refer to the SDAP Supporting Information: Vehicular access to a state-controlled road, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	AO18.1 Vehicular access and associated road access works are not located within 5 metres of existing public passenger transport infrastructure. AND	COMPLIES
	AO18.2 Development does not necessitate the relocation of existing public passenger transport infrastructure. AND	COMPLIES
	AO18.3 On-site vehicle circulation is designed to give priority to entering vehicles at all times so vehicles using a vehicular access do not obstruct public passenger transport infrastructure and public passenger services or obstruct pedestrian or cycle access to public passenger transport infrastructure and public passenger services. AND	COMPLIES
	AO18.4 The normal operation of public passenger transport infrastructure or public passenger services is not interrupted during construction of the development.	COMPLIES

Performance outcomes	Acceptable outcomes	Response
Planned upgrades		
PO19 Development does not impede delivery of planned upgrades of state-controlled roads.	AO19.1 Development is not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a state-controlled road. Note: Land required for the planned upgrade of a state-controlled road is identified in the DA mapping system . OR	COMPLIES – LAND HAS PREVIOUSLY BEEN DEDICATED FOR STATE CONTROLLED ROAD WIDENING
	AO19.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a state-controlled road.	
	OR all of the following acceptable outcomes apply: AO19.3 Structures and infrastructure located on land identified by the Department of Transport and Main Roads as land required for the planned upgrade of a state-controlled road are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	
	AO19.4 Vehicular access for the development is consistent with the function and design of the planned upgrade of the state-controlled road. AND	
	AO19.5 Development does not involve filling and excavation of, or material changes to, land required for a planned upgrade to a state-controlled road. AND	

Performance outcomes	Acceptable outcomes	Response
	AO19.6 Land is able to be reinstated to the pre-development condition at the completion of the use.	
Network impacts		
PO20 Development does not result in a worsening of operating conditions on the state-controlled road <u>network</u> . Note: To demonstrate compliance with this performance outcome, it is recommended that an RPEQ certified traffic impact assessment is provided. Please refer to the Guide to Traffic Impact Assessment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	COMPLIES
PO21 Development does not impose traffic loadings on a state-controlled road which could be accommodated on the local road network.	AO21.1 The layout and design of the development directs traffic generated by the development to the local road network.	COMPLIES
PO22 Upgrade works on, or associated with, a <u>state-controlled road</u> are built in accordance with Queensland road design standards.	AO22.1 Upgrade works required as a result of the development are designed and constructed in accordance with the <i>Road Planning and Design Manual</i> , 2 nd edition, Department of Transport and Main Roads, 2016. Note: Road works in a state-controlled road require approval under section 33 of the <i>Transport Infrastructure Act 1994</i> before the works commence.	COMPLIES

Table 1.2.3: Development in a future state-controlled road environment

Performance outcomes	Acceptable outcomes	
PO32 Development does not impede delivery of a future state-controlled road.	AO32.1 Development is not located in a future state-controlled road. OR	COMPLIES

Performance outcomes	Acceptable outcomes	
	A032.2 Development is sited and designed so that permanent buildings, structures, infrastructure, services or utilities are not located in a future state-controlled road.	
	OR all of the following acceptable outcomes apply: A032.3 Structures and infrastructure located in a future state-controlled road are able to be readily relocated or removed without materially affecting the viability or functionality of the development. AND	
	A032.4 Development does not involve filling and excavation of, or material changes to, a future state-controlled road. AND	
	A032.5 Land is able to be reinstated to the pre-development condition at the completion of the use.	
P033 Vehicular access to a future state-controlled road is located and designed to not create a safety hazard for users of a future state-controlled road or result in a worsening of operating conditions on a future state-controlled road. Note: Where a new or changed access between the premises and a future state-controlled road is proposed, the Department of Transport and Main Roads will need to assess the proposal to determine if the vehicular access for the development is safe. An assessment can be	A033.1 Development does not require new or changed access between the premises and a future state-controlled road. AND	COMPLIES
	A033.2 Vehicular access for the development is consistent with the function and design of the future state-controlled road.	

Performance outcomes	Acceptable outcomes	
made by Department of Transport and Main Roads as part of the development assessment process and a decision under section 62 of <i>Transport Infrastructure Act 1994</i> issued.		
PO34 Filling, excavation, building foundations and retaining structures do not undermine, or cause subsidence of, a future state-controlled road. Note: To demonstrate compliance with this performance outcome, it is recommended that an RPEQ certified geotechnical assessment is provided, prepared in accordance with the Road Planning and Design Manual, 2nd edition: Volume 3, Department of Transport and Main Roads, 2016. Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome and prepare a geotechnical assessment.	No acceptable outcome is prescribed.	COMPLIES
PO35 Fill material from a development site does not result in contamination of land for a future state-controlled road. Note: Refer to the SDAP Supporting Information: Filling, excavation and retaining structures in a state-controlled road environment,	A035.1 Fill material is free of contaminants including acid sulfate content. Note: Soil and rocks should be tested in accordance with AS1289 – Methods of testing soils for engineering purposes and AS4133 2005 – Methods of testing rocks for engineering purposes. AND	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

Performance outcomes	Acceptable outcomes	
Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	A035.2 Compaction of fill is carried out in accordance with the requirements of AS1289.0 2000 – Methods of testing soils for engineering purposes.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
P036 Development does not result in an actionable nuisance, or worsening of, stormwater, flooding or drainage impacts in a future state-controlled road. Note: Refer to the SDAP Supporting Information: Stormwater and drainage in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	No acceptable outcome is prescribed.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS
P037 Run-off from the development site is not unlawfully discharged to a future state-controlled road. Note: Refer to the SDAP Supporting Information: Stormwater and drainage in a state-controlled road environment, Department of Transport and Main Roads, 2017, for further guidance on how to comply with this performance outcome.	A037.1 Development does not create any new points of discharge to a future state-controlled road. AND A037.2 Stormwater run-off is discharged to a lawful point of discharge. Note: Section 3.9 of the Queensland Urban Drainage Manual, Institute of Public Works Engineering Australasia (Queensland Division), Fourth Edition, 2016, provides further information on lawful points of discharge.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

Performance outcomes	Acceptable outcomes	
	AND	
	A037.3 Development does not worsen the condition of an existing lawful point of discharge to the future state-controlled road.	NOT APPLICABLE TO TRAFFIC IMPACT ANALYSIS

APPENDIX F

NOISE IMPACT ASSESSMENT



g a s s m a n
**development
perspectives**

planning
environment
landscape
engineering
survey





Proposed Industrial/Warehouse Development

Lots 101 - 102 Homestead Drive,
Stapylton

ACOUSTIC REPORT



Client:

Devmcoz Properties Pty Ltd

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1. Introduction

This report is in response to a request by Devmcoz Properties Pty Ltd for an environmental noise assessment of a proposed industrial/warehouse development to be located at Lots 101 - 102 Homestead Drive, Stapylton. To facilitate the assessment, unattended noise monitoring data was utilised from a previous assessment in the immediate vicinity to determine the criteria and assess impacts to sensitive receivers in proximity to the development. Based on the outcomes of the assessment, recommendations for acoustic treatments and management strategies are specified.

2. Site Description

2.1 Site Location

The site is described by the following:

1 and 5 Homestead Drive, Stapylton
Lots 101 and 102 on SP316137

Refer to Figure 1 for site location.

Figure 1: Site Location (Not to Scale)



A desktop site survey was conducted and identified the following:

- a) The site is located within 'Vantage Industrial Estate' with industrial land uses adjacent the southern boundary.
- b) Homestead Drive is located adjacent the eastern site boundary, separating the development from industrial land uses.
- c) Located adjacent the western site boundary are residential land uses.
- d) Stapylton Jacobs Well Road bounds the site to the north, separating the development from a residential dwelling and vacant land.

2.2 Proposal

The proposal is to construct 10 premises to be a combination of low impact industrial and warehouse premises as follows:

- Total site area of 5,448m².
- 10 two storey industrial/warehouse tenancies, each with mezzanine levels and amenities.
- Tenancies are to vary in size with a total ground floor area of 175m² (ground floor) and 574m² (mezzanine level).
- A total of 52 car parking spaces are with each tenancy containing internal parking.
- HRV loading bay and waste collection area proposed on the southern aspect of the site.
- Vehicular access via Homestead Drive.

The proposed hours of operation are between 7am and 8pm, Monday to Friday.

Refer to the Appendices for development plans.

2.3 Acoustic Environment

The surrounding area is primarily affected by noise from the surrounding road network and existing industrial land uses.

3. Equipment

The following equipment was used to facilitate the ambient noise monitoring:

- Rion NL42 Environmental Noise Monitor.
- BSWA Technology Co. Ltd Sound Calibrator.

The environmental noise monitor holds current NATA Laboratory Certification and was field calibrated before and after the monitoring period, with no significant drift from the reference signal recorded.

4. Receivers and Noise Monitoring

4.1 Receiver Locations

The nearest sensitive receiver locations were identified as follows:

1. Single storey residential dwellings are located to the west at 21-33 Cedar Drive.
2. A raised single storey residential dwelling is located to the west at 33 Stapylton Jacobs Well Road.
3. A raised single storey residential dwelling is located to the northeast at 21 Hillside Drive.

These locations were chosen as being representative of the nearest sensitive receivers to the proposed development. Refer to Figure 2 for these locations.

Figure 2: Receivers and Noise Monitoring Locations



4.2 Unattended Noise Monitoring

Unattended noise monitoring data was utilised from a previous assessment in the immediate vicinity where a Rion NL42 environmental noise monitor was placed at 60 Stapylton Jacobs Well Road to measure ambient noise levels. This location is considered representative of the nearest sensitive receivers. The monitor was located in a free-field position, approximately 1.4 metres above ground surface level. The noise monitor was set to record noise levels between the 11th and 24th of October 2019.

The environmental noise monitor was set to record noise levels in "A" weighting, Fast response using 15-minute statistical intervals. Ambient noise monitoring was conducted generally in accordance with Australian Standard AS1055:2018 *Acoustics – Description and measurement of environmental noise*.

For the unattended noise monitoring location refer to Figure 2.

5. Measured Noise Levels

The following table present the measured noise levels from the unattended noise survey. Any periods of inclement weather or extraneous noise were omitted from the measured data prior to determining the results.

5.1 Ambient Noise Levels

The ambient noise levels measured at the monitoring locations are as follows:

Table 1: Measured Ambient Noise Levels – All Time Periods

Day	Date	Background Noise Level L90 dB(A)		
		Day	Evening	Night
Saturday	12/10/19	53	50	45
Sunday	13/10/19	48	47	46
Monday	14/10/19	50	53	48
Tuesday	15/10/19	51	56	49
Wednesday	16/10/19	52	52	52
Thursday	17/10/19	53	55	52
Friday	18/10/19	48	50	50
Saturday	19/10/19	45	53	46
Sunday	20/10/19	49	47	46
Monday	21/10/19	49	48	46
Tuesday	22/10/19	48	49	49
Wednesday	23/10/19	47	47	49
Overall Value		49	51	48

Graphical presentation of the measured noise levels is presented in the Appendices.

6. Noise Criteria

6.1 Environmental Noise Criteria

The noise criteria as applied by City of Gold Coast are as follows:

6.1.1 Acoustic Quality Objectives

Table 2 presents the acoustic quality objectives at noise sensitive receptors as detailed in Schedule 1 of the EPP (Noise) 2008.

Table 2: Acoustic Quality Objectives at Noise Sensitive Properties

Sensitive Receptor	Time of Day	Acoustic Quality Objectives, dB(A)		
		L _{Aeq,adj,1hr}	L _{A10,adj,1hr}	L _{A1,adj,1hr}
Dwelling (outdoors)	Day and Evening (7am – 10pm)	50	55	65
Dwelling (Indoors)	Day and Evening (7am – 10pm)	35	40	45
	Night (10pm – 7am)	30	35	40

6.1.2 Background Creep

The Background Creep criteria are as follows:

Time-varying noise:

$$L_{Aeq,adj,T} \leq \text{Ambient } L_{A90,T} + 5\text{dB(A)}$$

Steady-state noise:

$$L_{A90,T} \leq \text{Ambient } L_{A90,T}$$

The time period (T) is a time interval of at least 15 minutes, or if the noise continues for less than 15 minutes, the duration of the noise source.

Based on the results of ambient noise monitoring, the project specific background creep noise limits are shown in Table 3.

Table 3: Background Creep Noise Limits

Time Period	Noise Level Limits SPL dB(A)	
	L _{Aeq,T}	L _{A90,T}
Day 7am – 6pm	54	49
Evening 6pm – 10pm	56	51
Night 10pm – 7am	53	48

6.2 Sleep Disturbance Criteria

Criteria for sleep disturbance under the WHO Guideline is addressed is as follows:

"As a rule for planning for short-term or transient noise events, for good sleep over 8 hours the indoor sound pressure level measured as a maximum instantaneous value should not exceed approximately 45 dB(A) $L_{A,(Max)}$ more than 10 or 15 times per night'.

'Where noise is continuous, the equivalent sound pressure level should not exceed 30 dB(A) indoors, if negative effects on sleep are to be avoided'."

7. Environmental Assessment

7.1 Onsite Activities

As the final use for each of the proposed tenancies is unknown at this stage, noise sources from general activities associated with low impact warehouse/industrial operations was utilised. Noise associated with the development was assessed based on previous measurements of similar activities. The calculations assume that the nominated activities are located at the closest representative point within the development site to each receiver location. Any relevant shielding, room correction or building transmission loss is taken into account for these activities.

7.1.1 Acoustic Quality Objectives

The average maximum noise source levels and predicted impacts at the receiver locations are shown in Table 4. Note: L_{A10} and L_{A1} results are not shown in cases where the total duration of the events is less than the minimum time required e.g. $L_{A10(1hr)}$ requires noise events to occur for at least 360 seconds of an hour-long period. L_{Aeq} results are not shown where the calculated total is less than 0dBA.

Table 4: Acoustic Quality Objective Noise Levels, 1 hour

Receiver	Description	Receivers																Amenity																			
		1. 21-33 Cedar Drive (W) 2. 33 Stapylton Jacobs Well Road (W) 3. 21 Hillside Drive (NE)																L _{Aeq} Compliance																			
		Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 1hr Day	No. of events per 1hr Eve	Duration per event	Distance (m)	No	Barrier (height (m))	Barrier screening dB	Transmission loss dB	Building Screening dB	Dist atten. @-6dB/dd	L _{Aeq} adj, 1hr ext. dB(A) Day	L _{Aeq} adj, 1hr int. dB(A) Day	L _{Aeq} adj, 1hr ext. dB(A) Eve	L _{Aeq} adj, 1hr int. dB(A) Eve	L _{A10} adj, 1hr ext. dB(A) Day	L _{A10} adj, 1hr int. dB(A) Day	L _{A10} adj, 1hr ext. dB(A) Eve	L _{A10} adj, 1hr int. dB(A) Eve	Day / eve	Day / eve indoor	Night indoor	Day / eve	Day / eve indoor	Night indoor	Day / eve	Day / eve indoor	Night indoor						
1	Criteria																						50	35	30	55	40	35	65	45	40						
	Car door closure	75	2	77	80	80	2	41					-17	-33	13	3	13	3					19	9	19	9	Yes	Yes	n/a	Yes	Yes	n/a					
	Car passby	69	69	80	80	15	41						-17	-32	15	5	15	5					20	10	20	10	Yes	Yes	n/a	Yes	Yes	n/a					
	Car start	74	2	76	80	80	2	41					-17	-32	12	2	12	2					18	8	18	8	Yes	Yes	n/a	Yes	Yes	n/a					
	Forklift passby	92	92	20	20	10	41						-17	-32	30	20	30	20					38	28	38	28	Yes	Yes	n/a	Yes	Yes	n/a					
	Forklift reverse	89	5	94	20	20	10	41					-17	-32	32	22	32	22					40	30	40	30	Yes	Yes	n/a	Yes	Yes	n/a					
	Forklift unloading	82	2	84	4	4	240	41					-17	-32	29	19	29	19					32	22	32	22	Yes	Yes	n/a	Yes	Yes	n/a					
	Truck air brakes	102	2	104	4	4	1	41					-17	-32	25	15	25	15					22	36	26	36	26	Yes	Yes	n/a	Yes	Yes	n/a				
	Truck idle	93	93	20	20	30	41						-17	-32	36	26	36	26					38	28	38	28	40	30	40	30	Yes	Yes	n/a				
	Truck door closure	97	97	20	20	2	41						-17	-32	28	18	28	18					32	22	32	22	Yes	Yes	n/a	Yes	Yes	n/a					
	Truck passby	82	82	20	20	30	41						-17	-32	25	15	25	15					29	19	29	19	32	22	32	22	Yes	Yes	n/a				
	Truck manoeuvring	86	86	20	20	30	41						-17	-32	29	19	29	19					33	23	36	26	36	26	Yes	Yes	n/a	Yes	Yes	n/a			
	Truck reverse alarm	92	5	97	12	12	30	41					-17	-32	38	28	38	28					42	32	46	36	46	36	Yes	Yes	n/a	Yes	Yes	n/a			
	Hand tools (pneumatic)	108	108	120	120	5	93			-15	-16	-27	-41	31	41	31	45	35	45	35	50	40	50	40	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a				
	Hand tools (electric)	94	94	120	120	5	93			-15	-16	-27	-41	31	21	31	21	35	25	35	25	40	30	40	30	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Voice conversation	70	70	4	4	900	23			-15	-16	-27	-41	1	1	1	1	14	4	14	4	18	8	18	8	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
Total														45	35	45	35	48	38	48	38	53	43	53	43	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
2	Criteria																						50	35	30	55	40	35	65	45	40						
	Car door closure	75	2	77	80	80	2	125					-17	-42	3	3	3	3					9	9	9	9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
	Car passby	69	69	80	80	15	125						-17	-42	4	4	4	4					7	7	7	7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
	Car start	74	2	76	80	80	2	125					-17	-42	3	3	3	3					9	9	9	9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
	Forklift passby	92	92	20	20	10	125						-17	-42	19	9	19	9					27	17	27	17	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Forklift reverse	89	5	94	20	20	10	125					-17	-42	22	12	22	12					30	20	30	20	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Forklift unloading	82	2	84	4	4	240	125					-17	-42	18	8	18	8					21	11	21	11	25	15	25	15	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck air brakes	102	2	104	4	4	1	125					-17	-42	16	6	16	6					Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Truck idle	93	93	20	20	30	125						-17	-42	26	16	26	16					28	18	28	18	30	20	30	20	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck door closure	97	97	20	20	2	125						-17	-42	19	9	19	9					23	13	23	13	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Truck passby	82	82	20	20	30	125						-17	-42	15	5	15	5					19	9	19	9	22	12	22	12	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck manoeuvring	86	86	20	20	30	125						-17	-42	19	9	19	9					23	13	26	16	26	16	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a
	Truck reverse alarm	92	5	97	12	12	30	125					-17	-42	28	18	28	18					32	22	32	22	36	26	36	26	Yes	Yes	n/a	Yes	Yes	n/a	
	Hand tools (pneumatic)	108	108	120	120	5	93			-16	-39	-45	-35	45	35	45	39	49	39	49	39	54	44	54	44	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Hand tools (electric)	94	94	120	120	5	93			-16	-39	-31	-21	31	21	31	21	35	25	35	25	40	30	40	30	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Voice conversation	70	70	4	4	900	93			-16	-39	-15	-5	15	5	15	5	18	8	18	8	22	12	22	12	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
Total														45	35	45	35	49	39	49	39	54	44	54	44	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				
3	Criteria																						50	35	30	55	40	35	65	45	40						
	Car door closure	75	2	77	80	80	2	330					-19	-51									6	6	6	6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a			
	Car passby	69	69	80	80	15	330						-19	-50									5	5	5	5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a			
	Car start	74	2	76	80	80	2	330					-19	-50									6	6	6	6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a			
	Forklift passby	92	92	20	20	10	330						-18	-50	11	1	11	1					19	9	19	9	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Forklift reverse	89	5	94	20	20	10	330					-18	-50	13	3	13	3					21	11	21	11	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Forklift unloading	82	2	84	4	4	240	330					-18	-50	10	10	10	10					13	3	13	3	17	7	17	7	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck air brakes	102	2	104	4	4	1	330					-17	-50	7	7	7	7					Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Truck idle	93	93	20	20	30	330						-17	-50	18	8	18	8					20	10	20	10	22	12	22	12	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck door closure	97	97	20	20	2	330						-17	-50	10	10	10	10					14	4	14	4	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Truck passby	82	82	20	20	30	330						-17	-50	7	7	7	7					11	1	11	1	14	4	14	4	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck manoeuvring	86	86	20	20	30	330						-17	-50	11	1	11	1					15	5	15	5	18	8	18	8	Yes	Yes	n/a	Yes	Yes	n/a	
	Truck reverse alarm	92	5	97	12	12	30	330					-17	-50	20	10	20	10					24	14	24	14	28	18	28	18	Yes	Yes	n/a	Yes	Yes	n/a	
	Hand tools (pneumatic)	108	108	120	120	5	300			-16	-50	-35	-25	35	25	39	29	39	29	39	29	44	34	44	34	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
	Hand tools (electric)	94	94	120	120	5	300			-16	-50	-21	-11	21	11	25	15	25	15	30	20	30	20	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a		
	Voice conversation	70	70	4	4	900	300			-16	-50	-4	-4	4	4	7	7					11	1	11	1	Yes	Yes	n/a	Yes	Yes	n/a	Yes	Yes	n/a			
Total														35	25	35	25	39	29	39	29	44	34	44	34	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the acoustic quality objectives criteria for all onsite activities during all proposed hours of operation.

7.1.2 Background Creep

Based on assessment of all time periods, the noise source levels and predicted impacts at the receiver locations are shown as follows:

Table 5: Background Creep Noise Levels, 15 min

		Receivers															L _{Aeq} 15 min Compliance	
Receiver	Description	1. 21-33 Cedar Drive (W) 2. 33 Stapylton Jacobs Well Road (W) 3. 21 Hillside Drive (NE)															Day	Eve
		Source Leq@1m dB(A)	Correction dB(A)*	Corrected Leq@1m dB(A)	No. of events per 15min Day	No. of events per 15min Eve	Duration per event	Distance (m)	No. Barrier (height (m))	Barrier screening dB	Transmission Loss dB	Building Screening dB	Dist atten. @-6dB/dd	L _{Aeq} adj, T ext. dB(A) Day	L _{Aeq} adj, T ext. dB(A) Eve			
1	Criteria															54	56	
	Car door closure	75	2	77	20	20	2	41				-17	-33	13	13	Yes	Yes	
	Car passby	69		69	20	20	15	41				-17	-32	15	15	Yes	Yes	
	Car start	74	2	76	20	20	2	41				-17	-33	12	12	Yes	Yes	
	Forklift passby	92		92	5	5	10	41				-16	-33	30	30	Yes	Yes	
	Forklift reverse	89	5	94	5	5	10	41				-16	-33	32	32	Yes	Yes	
	Forklift unloading	82	2	84	1	1	240	41				-16	-33	29	29	Yes	Yes	
	Truck air brakes	102	2	104	1	1	1	41				-16	-33	25	25	Yes	Yes	
	Truck idle	93		93	5	5	30	41				-16	-33	36	36	Yes	Yes	
	Truck door closure	97		97	5	5	2	41				-16	-33	28	28	Yes	Yes	
	Truck passby	82		82	5	5	30	41				-16	-33	25	25	Yes	Yes	
	Truck manoeuvring	86		86	5	5	30	41				-16	-33	29	29	Yes	Yes	
	Truck reverse alarm	92	5	97	3	3	30	41				-16	-33	38	38	Yes	Yes	
	Hand tools (pneumatic)	108		108	30	30	5	23	-15	-16		-28	41	41	Yes	Yes		
	Hand tools (electric)	94		94	30	30	5	23	-15	-16		-28	27	27	Yes	Yes		
	Voice conversation	70		70	1	1	900	23	-15	-16		-28	11	11	Yes	Yes		
	Total														45	45	Yes	Yes
2	Criteria															54	56	
	Car door closure	75	2	77	20	20	2	125				-18	-42	3	3	Yes	Yes	
	Car passby	69		69	20	20	15	125				-18	-42	4	4	Yes	Yes	
	Car start	74	2	76	20	20	2	125				-18	-42	3	3	Yes	Yes	
	Forklift passby	92		92	5	5	10	125				-18	-42	19	19	Yes	Yes	
	Forklift reverse	89	5	94	5	5	10	125				-18	-42	22	22	Yes	Yes	
	Forklift unloading	82	2	84	1	1	240	125				-18	-42	18	18	Yes	Yes	
	Truck air brakes	102	2	104	1	1	1	125				-17	-42	16	16	Yes	Yes	
	Truck idle	93		93	5	5	30	125				-17	-42	26	26	Yes	Yes	
	Truck door closure	97		97	5	5	2	125				-17	-42	19	19	Yes	Yes	
	Truck passby	82		82	5	5	30	125				-17	-42	15	15	Yes	Yes	
	Truck manoeuvring	86		86	5	5	30	125				-17	-42	19	19	Yes	Yes	
	Truck reverse alarm	92	5	97	3	3	30	125				-17	-42	28	28	Yes	Yes	
	Hand tools (pneumatic)	108		108	30	30	5	93		-16		-39	45	45	Yes	Yes		
	Hand tools (electric)	94		94	30	30	5	93		-16		-39	31	31	Yes	Yes		
	Voice conversation	70		70	1	1	900	93		-16		-39	15	15	Yes	Yes		
	Total														45	45	Yes	Yes
3	Criteria															54	56	
	Car door closure	75	2	77	20	20	2	330				-19	-51			Yes	Yes	
	Car passby	69		69	20	20	15	330				-19	-50			Yes	Yes	
	Car start	74	2	76	20	20	2	330				-19	-50			Yes	Yes	
	Forklift passby	92		92	5	5	10	330				-18	-50	11	11	Yes	Yes	
	Forklift reverse	89	5	94	5	5	10	330				-18	-50	13	13	Yes	Yes	
	Forklift unloading	82	2	84	1	1	240	330				-18	-50	10	10	Yes	Yes	
	Truck air brakes	102	2	104	1	1	1	330				-17	-50	7	7	Yes	Yes	
	Truck idle	93		93	5	5	30	330				-17	-50	18	18	Yes	Yes	
	Truck door closure	97		97	5	5	2	330				-17	-50	10	10	Yes	Yes	
	Truck passby	82		82	5	5	30	330				-17	-50	7	7	Yes	Yes	
	Truck manoeuvring	86		86	5	5	30	330				-17	-50	11	11	Yes	Yes	
	Truck reverse alarm	92	5	97	3	3	30	330				-17	-50	20	20	Yes	Yes	
	Hand tools (pneumatic)	108		108	30	30	5	300		-16		-50	35	35	Yes	Yes		
	Hand tools (electric)	94		94	30	30	5	300		-16		-50	21	21	Yes	Yes		
	Voice conversation	70		70	1	1	900	300		-16		-50	4	4	Yes	Yes		
	Total														35	35	Yes	Yes

*Correction due to tonality and impulsiveness as per AS1055:2018.

Compliance is predicted with the background creep criteria for all onsite activities during all proposed hours of operation.

8. Recommendations

8.1 Onsite Activities

Compliance is predicted for the proposed development activities at the receiver locations during all proposed hours of operation (7am to 8pm, Monday to Friday) without the need for further treatment.

8.2 Mechanical Plant

No information regarding mechanical services was available at the time of the assessment. We recommend that any new mechanical plant is designed to comply with the criteria stated in Section 6 with an assessment undertaken by a qualified acoustic consultant to be conducted prior to installation.

9. Conclusion

An environmental noise assessment was conducted for the proposed industrial/warehouse development to be located at Lots 101 - 102 Homestead Drive, Stapylton. On the condition the recommendations detailed in Section 8 are implemented, compliance is predicted with the City of Gold Coast assessment criteria.

If you should have any queries, please do not hesitate to contact us.

Report Prepared By



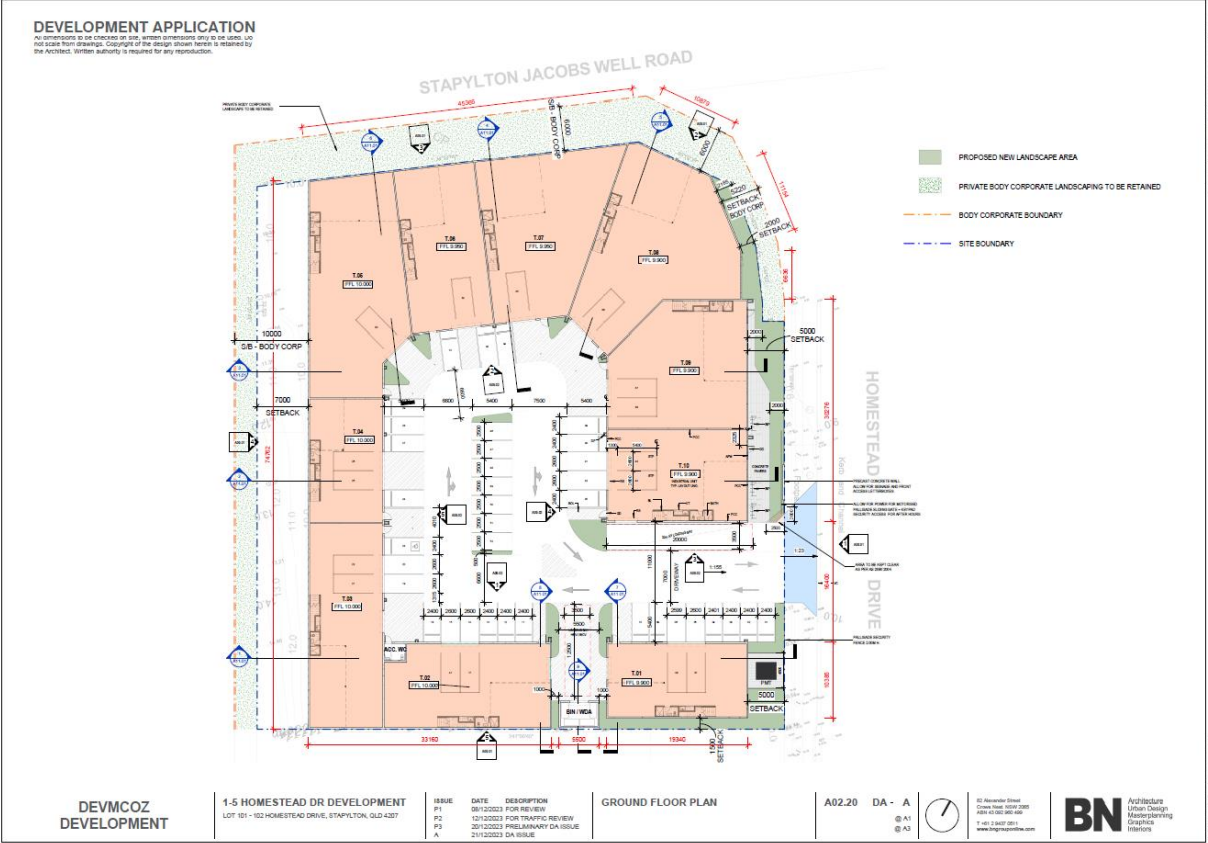
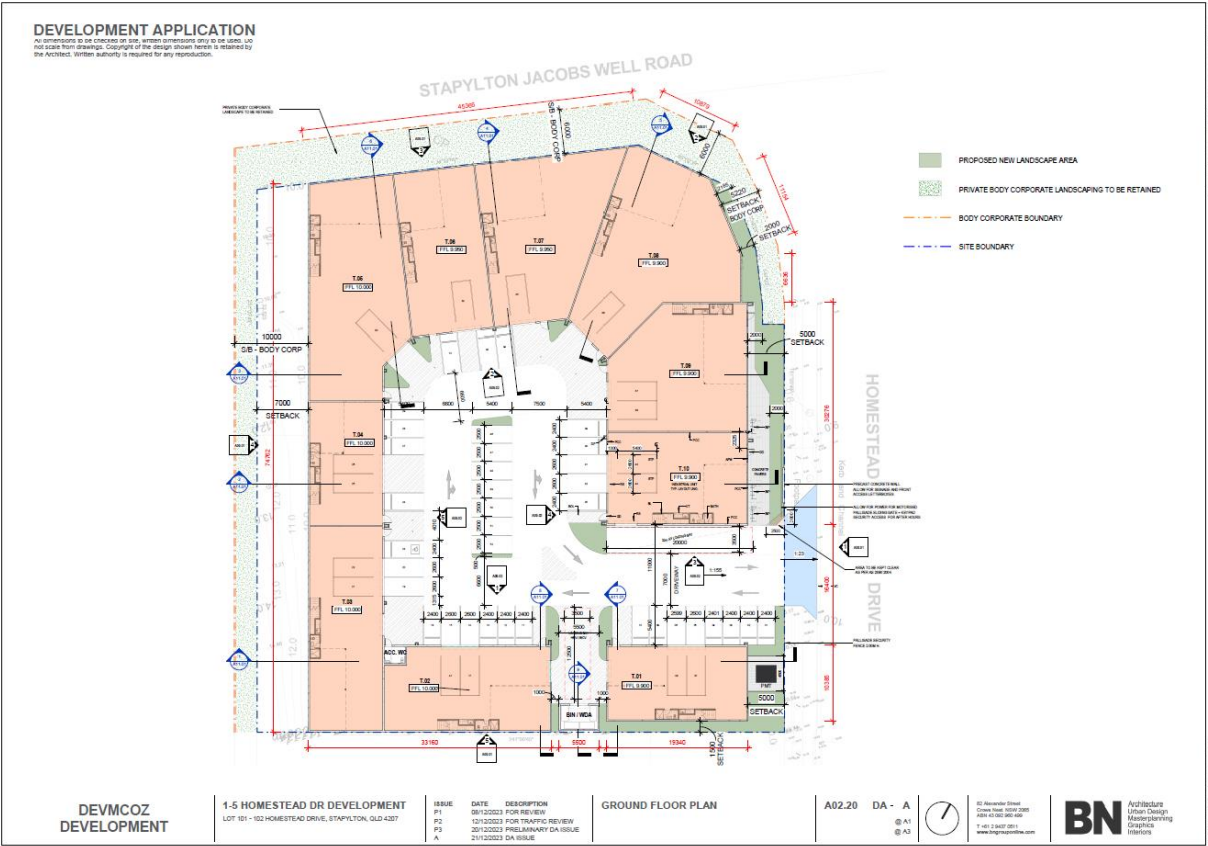
David Dadd

Senior Acoustic Consultant (B.Sc. (Env.) MAAS)

acousticworks)))

10.Appendices

10.1 Development Plans



DEVELOPMENT APPLICATION

All dimensions to be checked on site, written dimensions only to be used. Do not scale from drawings. Copyright of the design shown herein is retained by the Architect. Written authority is required for any reproduction.



DEVMCOZ
DEVELOPMENT

1-5 HOMESTEAD DR DEVELOPMENT
LOT 101 - 102 HOMESTEAD DRIVE, STAPYLTON, QLD 4207

ISSUE: P1
DATE: 20/12/2023
DESCRIPTION: PRELIMINARY DA ISSUE

SECTIONS

A11.01 DA - A
A1
A2

62 Alexander Street
Crows Nest, NSW 1585
A/NR 43 500 000 000
T +61 2 9437 0011
www.bngroup.com.au

BN Architecture
Urban Design
Masterplanning
Graphics
Interiors

DEVELOPMENT APPLICATION

All dimensions to be checked on site, written dimensions only to be used. Do not scale from drawings. Copyright of the design shown herein is retained by the Architect. Written authority is required for any reproduction.

GROSS FLOOR AREA	
Name	Area
ACC TOY	8.37 m ²
T.01	200.85 m ²
T.01 (B)	38.74 m ²
T.02	261.58 m ²
T.02 (B)	53.58 m ²
T.03	231.58 m ²
T.03 (B)	89.58 m ²
T.04	175.58 m ²
T.04 (B)	34.58 m ²
T.05	371.50 m ²
T.05 (B)	76.42 m ²
T.06	243.12 m ²
T.06 (B)	50.32 m ²
T.07	333.82 m ²
T.07 (B)	71.31 m ²
T.08	458.90 m ²
T.08 (B)	85.86 m ²
T.09	308.42 m ²
T.09 (B)	61.36 m ²
T.10	244.31 m ²
T.10 (B)	45.51 m ²
TOTAL GFA	3487.58 m ²

SITE INFORMATION	
TOTAL SITE AREA	5448 sqm
MAX. BUILDING HEIGHT	15m
FRONT SETBACK	
GFA FOR THE PURPOSE OF CALCULATING PARKING SPACES	
2628.6 sqm	
REQUIRED PARKING SPACES	
2 / TENANCY	20
+150 UP TO 500SQM	10
+150 THEREAFTER	22
TOTAL PARKING SPACES REQUIRED	52
PROPOSED PARKING SPACES	
CAR SPACES	35
TANDEM CAR SPACES	16
DISABLED PARKING	1
TOTAL PARKING SPACES PROPOSED	52

FLOOR AREAS (GFA)	
GROUND FLOOR	2883 sqm
MEZZANINE LEVEL	574 sqm
TOTAL GFA	3457 sqm
AREA EXCLUDED FROM GFA FOR THE PURPOSE OF CALCULATING CAR PARKING	
TANDEM PARKING	354.0 sqm
STAFF TOILET	51.6 sqm
ACCESSIBLE TOILET	9.0 sqm
STAFF USE ONLY AREA	413.7 sqm (12% of GFA)
TOTAL	828.4 sqm
LANDSCAPE AREA	
TOTAL CARPARK AREA	1,745.00 sqm
5% LANDSCAPE REQUIRED	87.25 sqm
LANDSCAPE AREA PROPOSED	167.30 sqm
SITE COVER	
BUILDING FOOTPRINT	2883 sqm
SITE COVER: 52.9% OF TOTAL SITE AREA	



DEVMCOZ
DEVELOPMENT

1-5 HOMESTEAD DR DEVELOPMENT
LOT 101 - 102 HOMESTEAD DRIVE, STAPYLTON, QLD 4207

ISSUE: P2
DATE: 15/12/2023
DESCRIPTION: FOR REVIEW

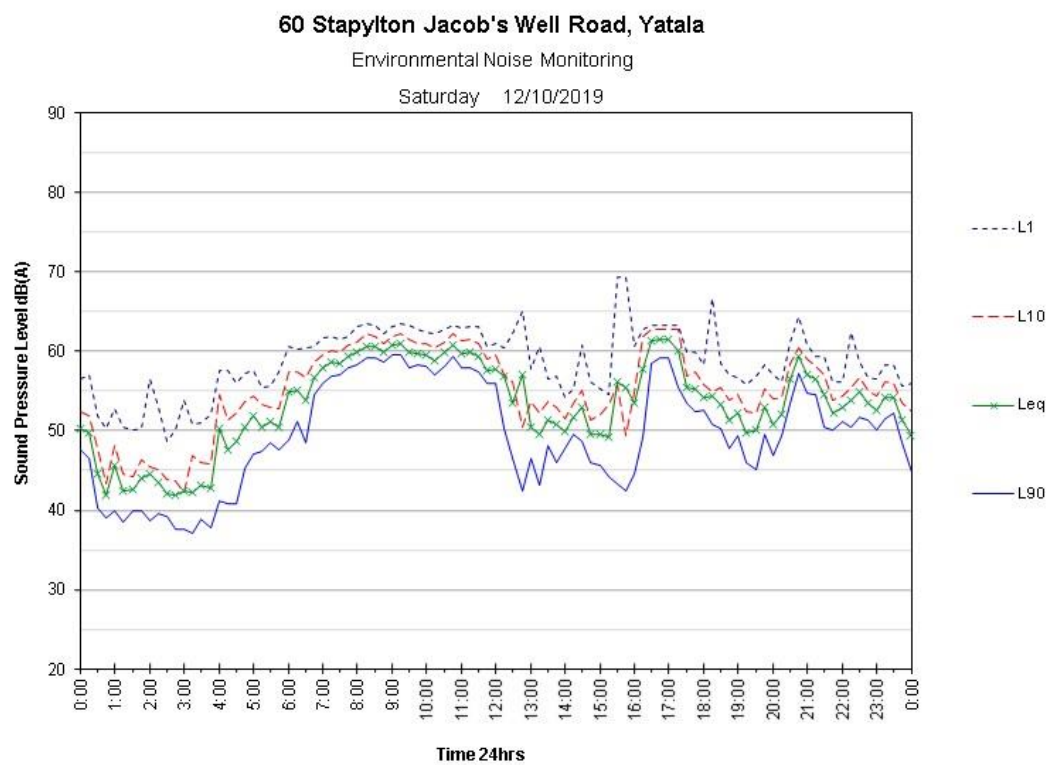
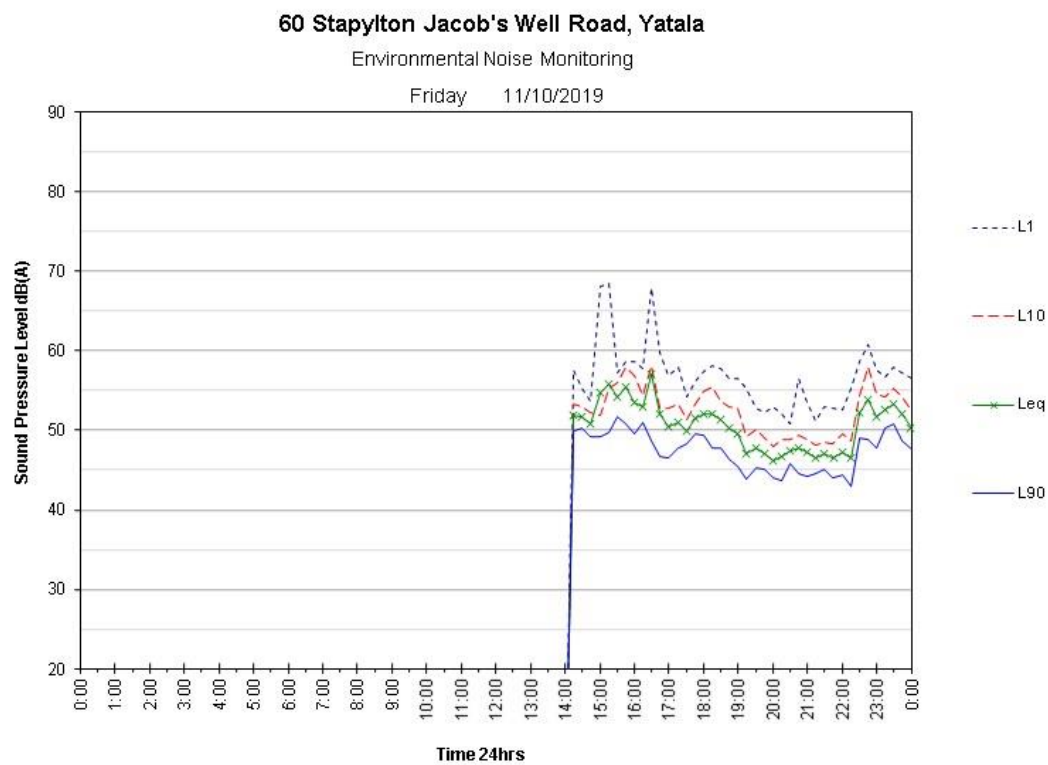
GFA AND CAR PARKING ANALYSIS

A100.21 DA - A
A1
A2

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Interiors

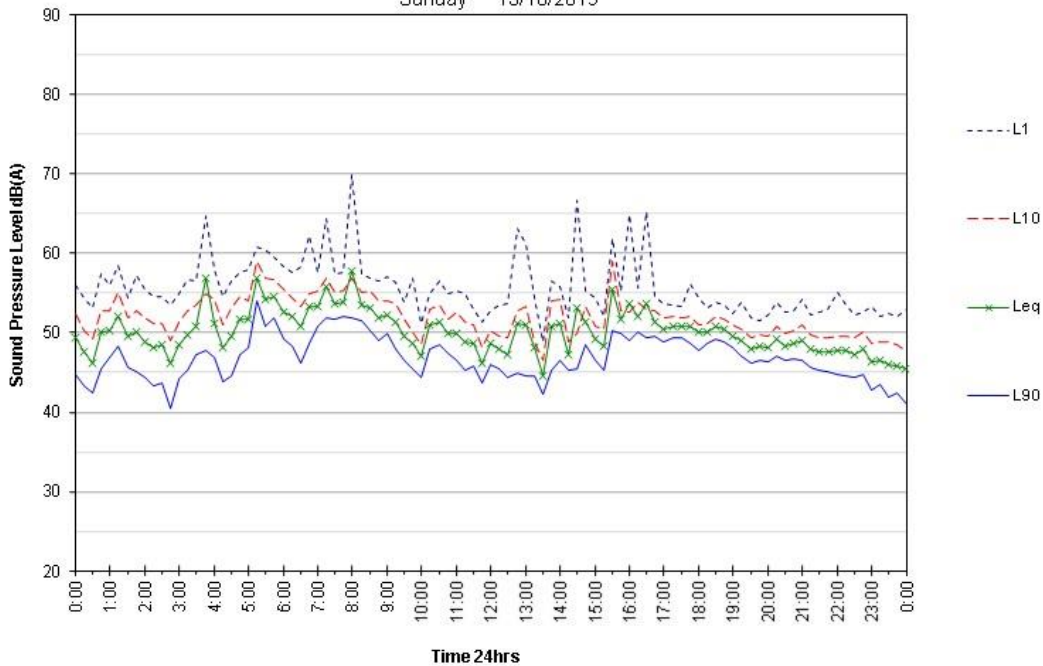
10.2 Noise Monitoring Charts



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

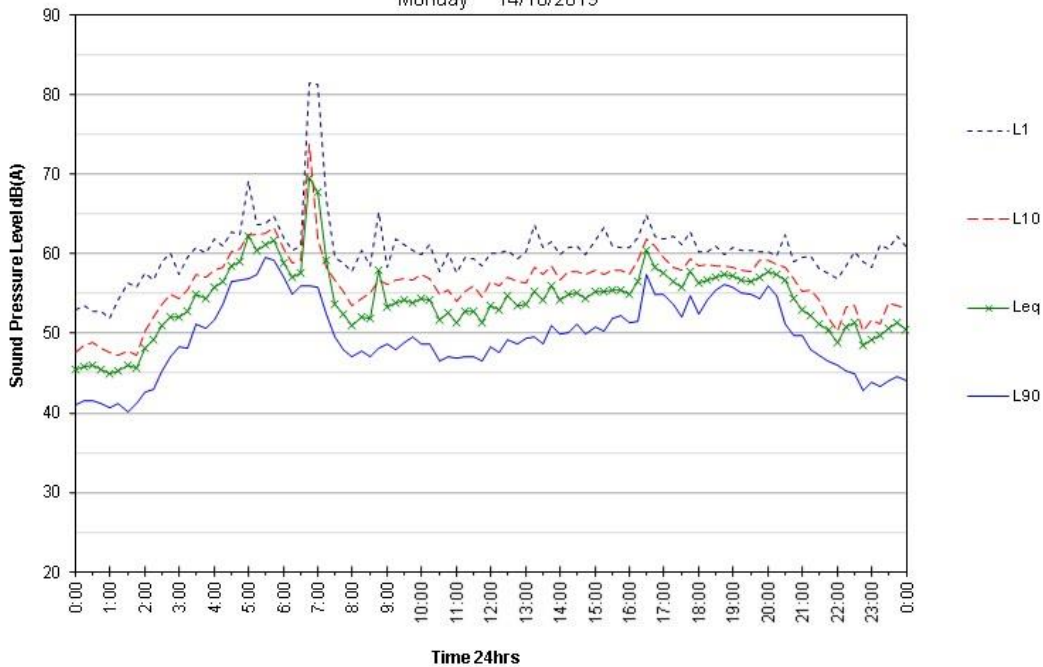
Sunday 13/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

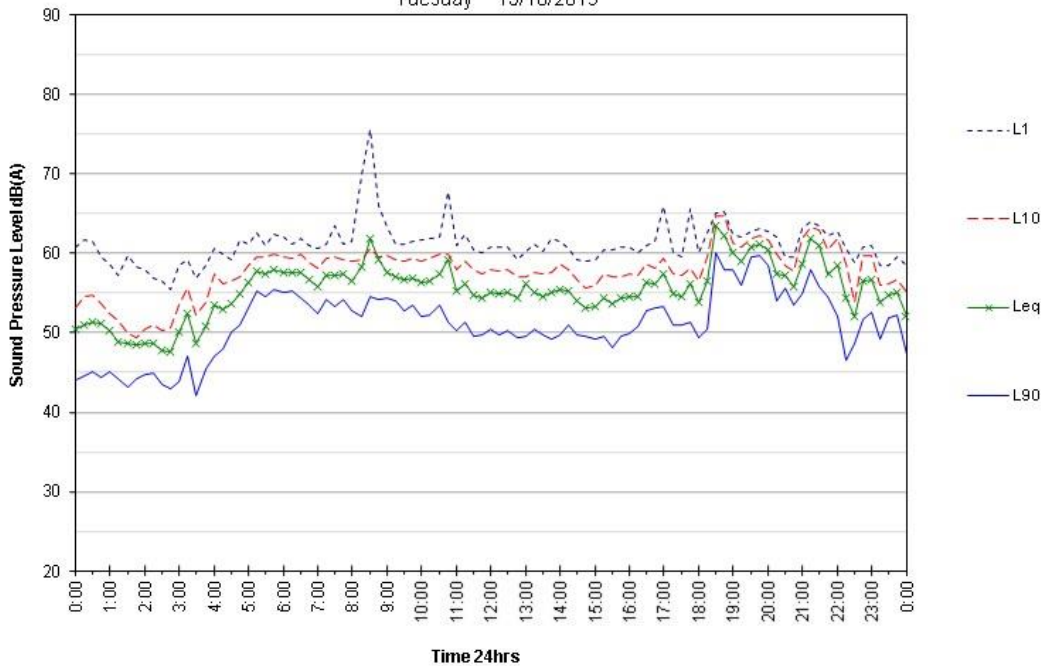
Monday 14/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

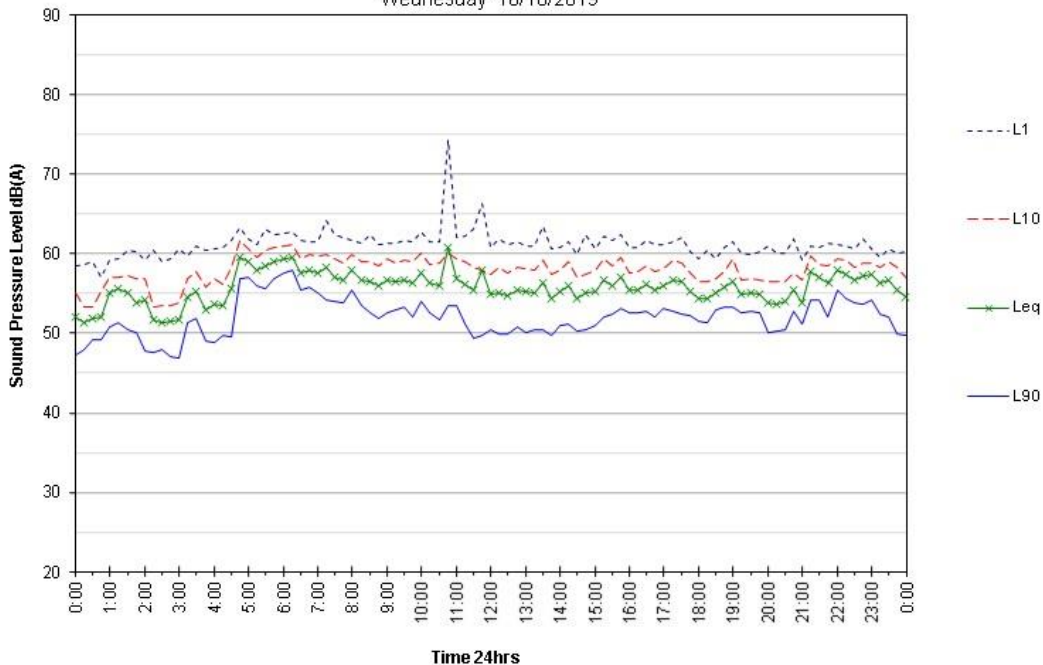
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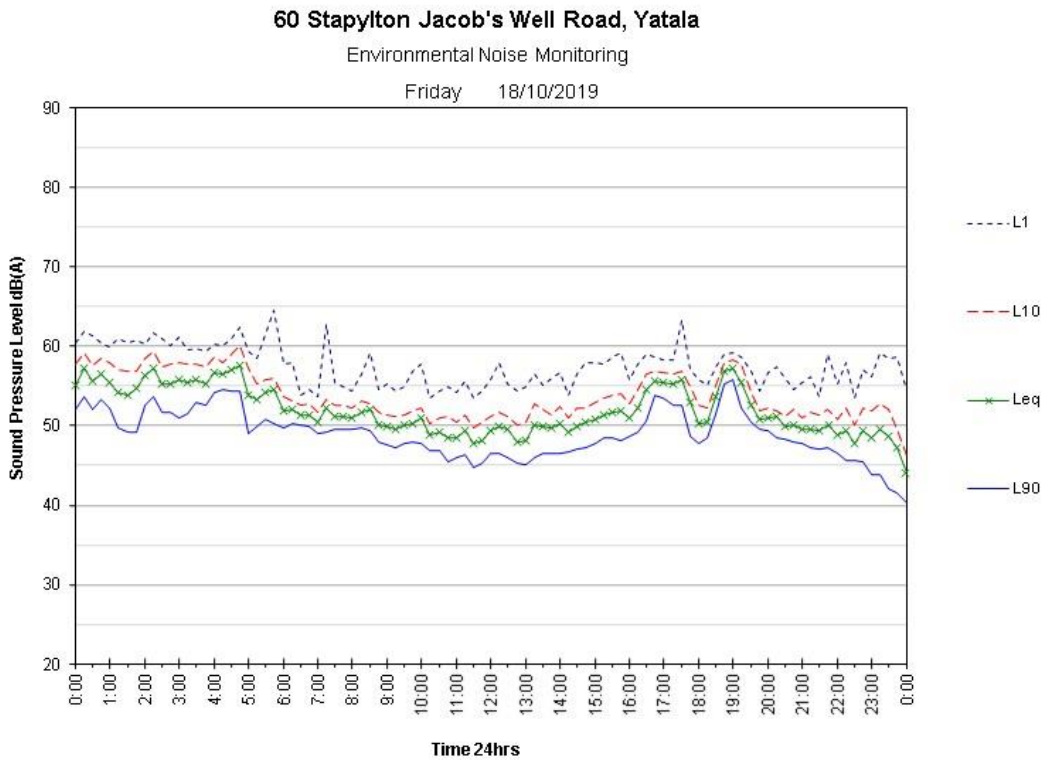
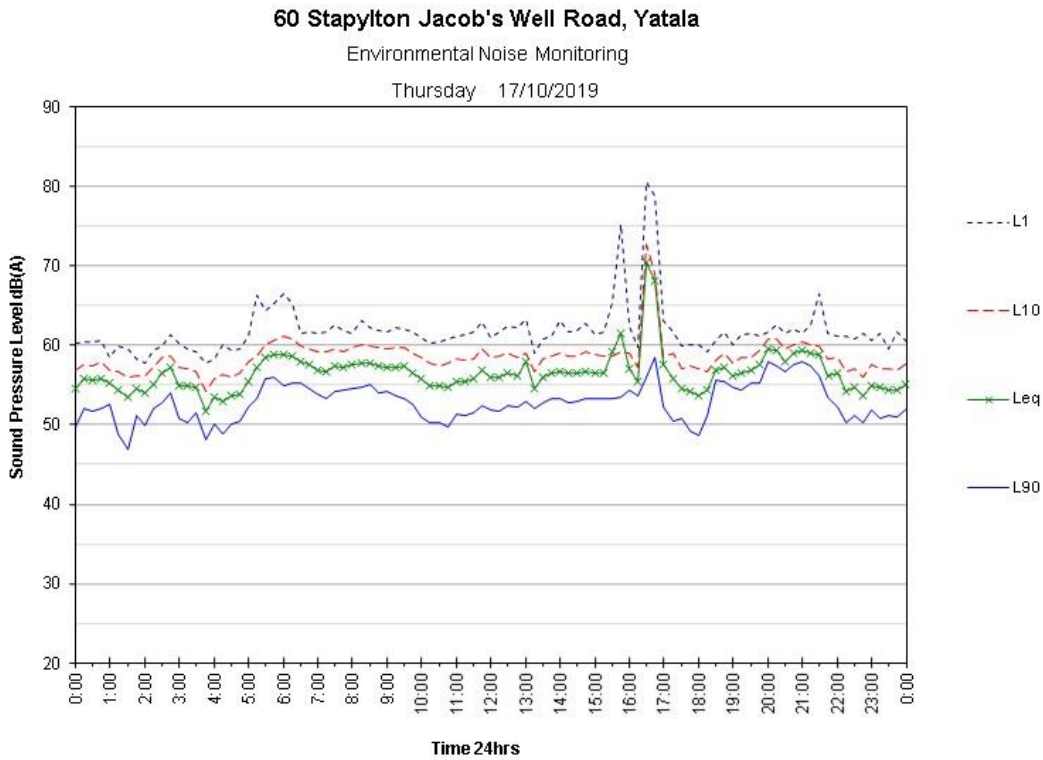


60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Wednesday 16/10/2019

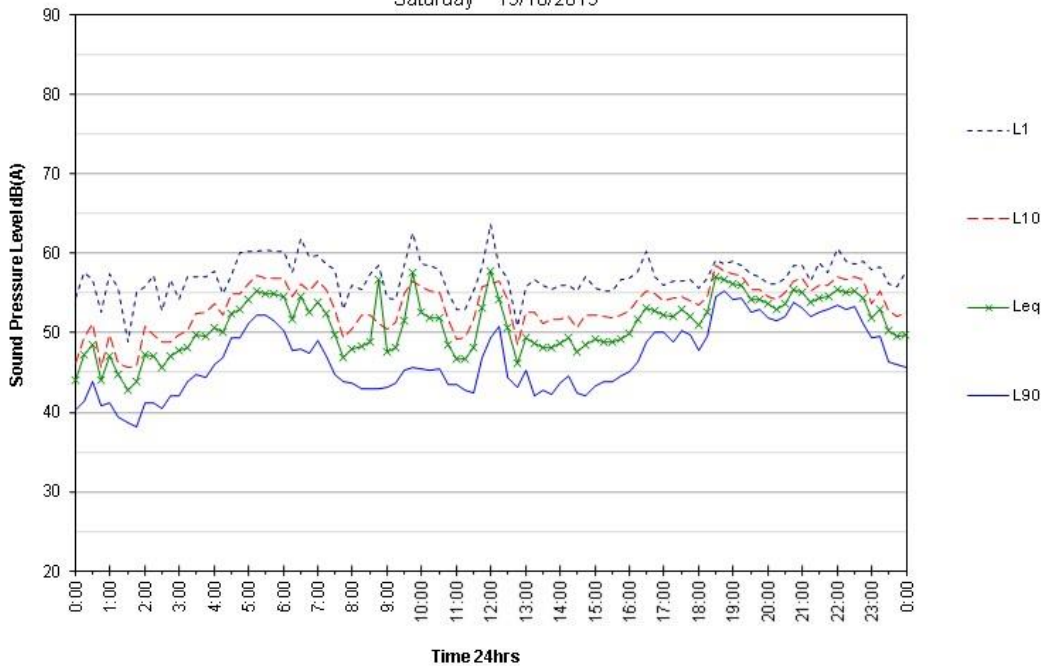




60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

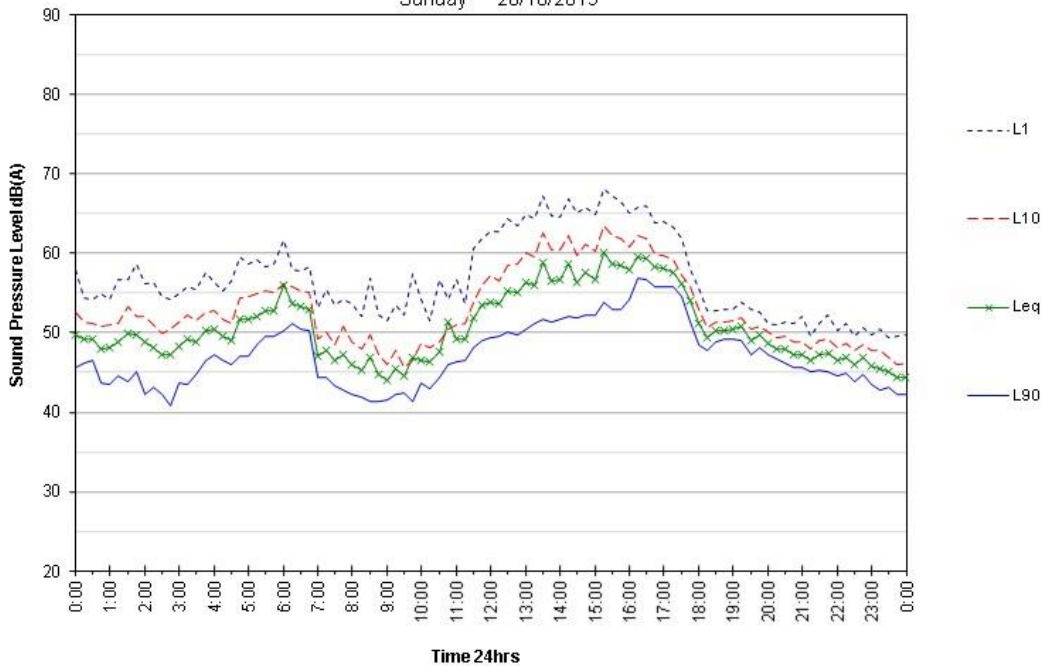
Saturday 19/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

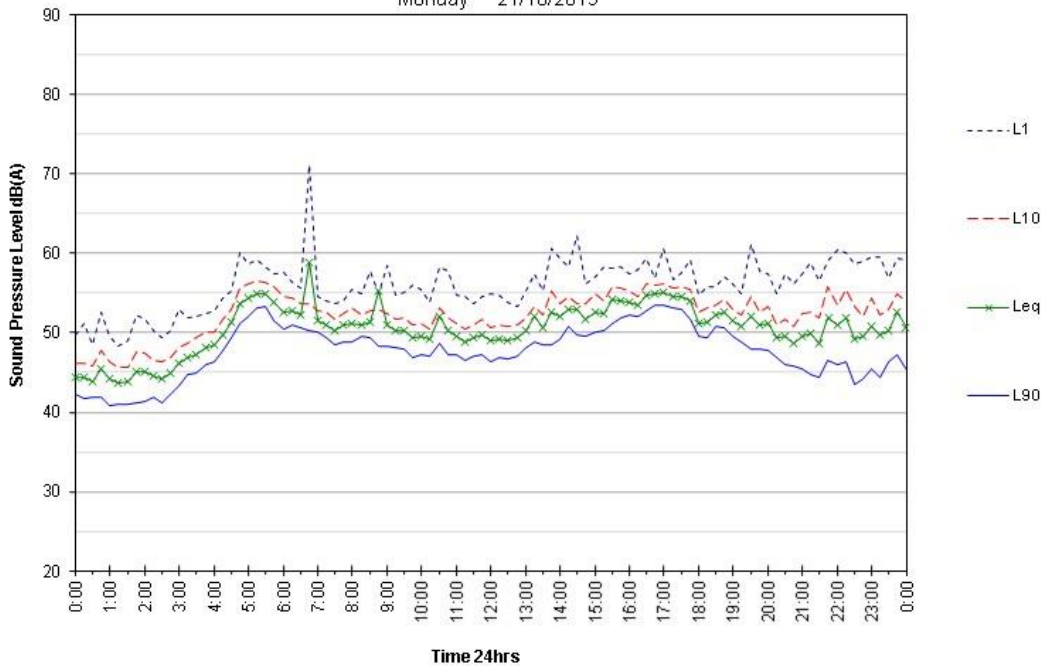
Sunday 20/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

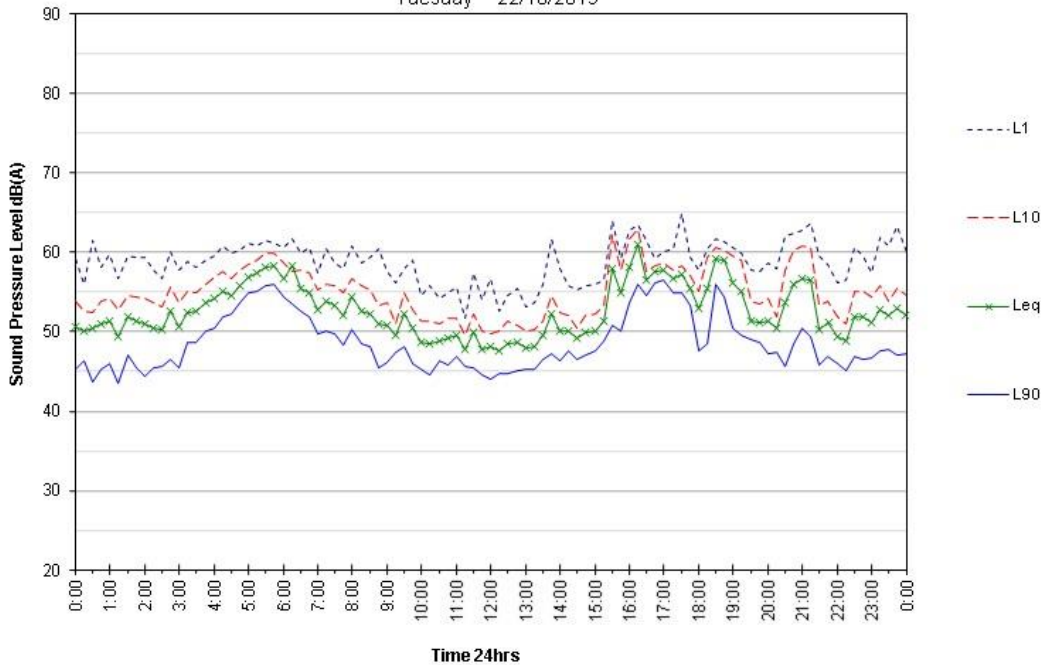
Monday 21/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

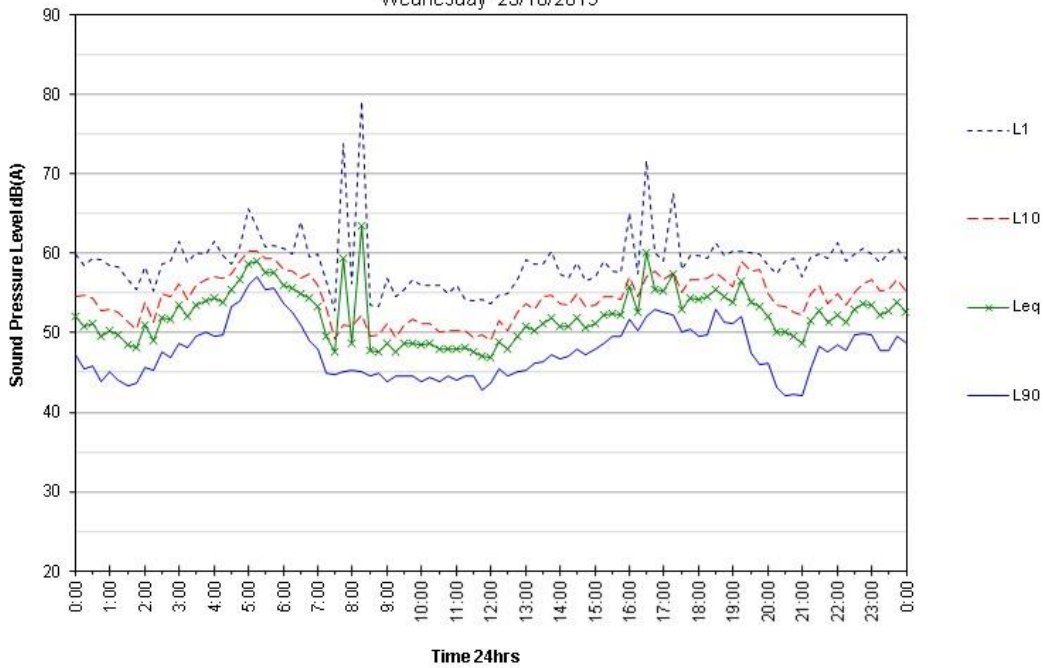
Tuesday 22/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

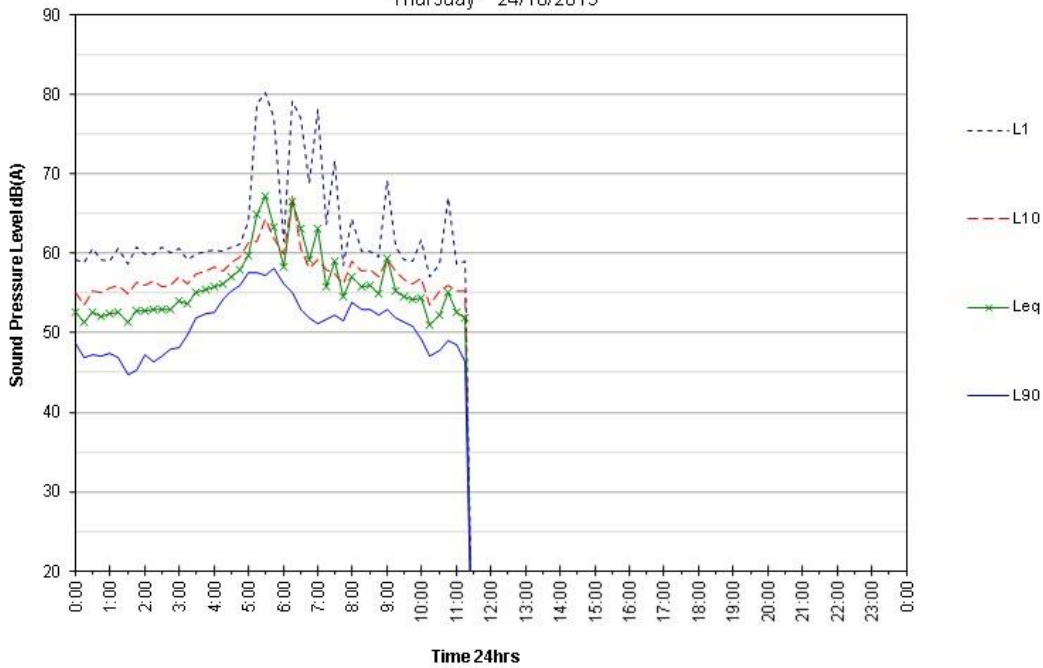
Wednesday 23/10/2019



60 Stapylton Jacob's Well Road, Yatala

Environmental Noise Monitoring

Thursday 24/10/2019



APPENDIX G

LANDSCAPE INTENT PLAN



g a s s m a n
**development
perspectives**

planning
environment
landscape
engineering
survey



1 & 5 Homestead Drive, Stapylton

LANDSCAPE INTENT PACKAGE

DEVMCOZ PROPERTIES PTY LTD

DEVELOPMENT PERMIT FOR MATERIAL
CHANGE OF USE
(LOW IMPACT INDUSTRY AND WAREHOUSE)

Lot 101 and 102 on SP316137

VANTAGE INDUSTRIAL ESTATE
STAGE 1, LOT 101 and 102
1 AND 5 HOMESTEAD DRIVE, STAPYLTON

JANUARY 2024
Issue - For Approval
Revision - A

Prepared By
Gassman Development Perspectives
Job No. 6228



CONTENTS

- 02** Site Characteristics & Development Proposal
- 03** Site Locality Plan
- 04** Landscape Strategy
- 05** Landscape Intent Plan
- 06** Materials & Softscape Guide
- 07** Planting Palette
- 08** Planting Palette
- 09** Planting Palette

SITE CHARACTERISTICS

The subject site 5,548m² in size, consists of a single freehold allotment owned by Devmcoz Properties Pty Ltd. In terms of locational context, the subject site is located within Stage 1 of Vantage Industrial Estate at 60 Staplyton-Jacobs Well Road in Staplyton, Gold Coast.

The subject site at 1 and 5 Homestead Drive, Staplyton (Lot 101 and 102 on SP316137 and is a rectangular shaped allotment, situated on the corner adjacent to the Staplyton Jacobs Well Road entry point of the estate, with singular access via Homestead Drive within the northern aspect of the industrial estate. The subject land is vacant and resembles a civil construction site as it has been provisionally prepared to accommodate the Vantage industrial subdivision, through the undertaking of bulk earthworks and vegetation clearing.

DEVELOPMENT PROPOSAL

The proposed development seeks to establish a combination of low impact industry and warehouse land uses, featuring multiple warehouse tenancies within the site.

The proposed development will include the following development aspects:

- Code Assessable Development

Supporting documentation to be read in conjunction with this landscape intent package, is as follows;

- Preliminary Approval, Current Decision Notice MIN/2023/64 - Gassman Development Perspectives
- Proposal Plans - Gassman Development Perspectives
- Code Assessment - Gassman Development Perspectives
- Traffic Impact Assessment - Ryterskild Traffic Engineering
- Noise Impact Assessment - Acoustic Works
- Civil Engineering Services Letter - Gassman Development Perspectives

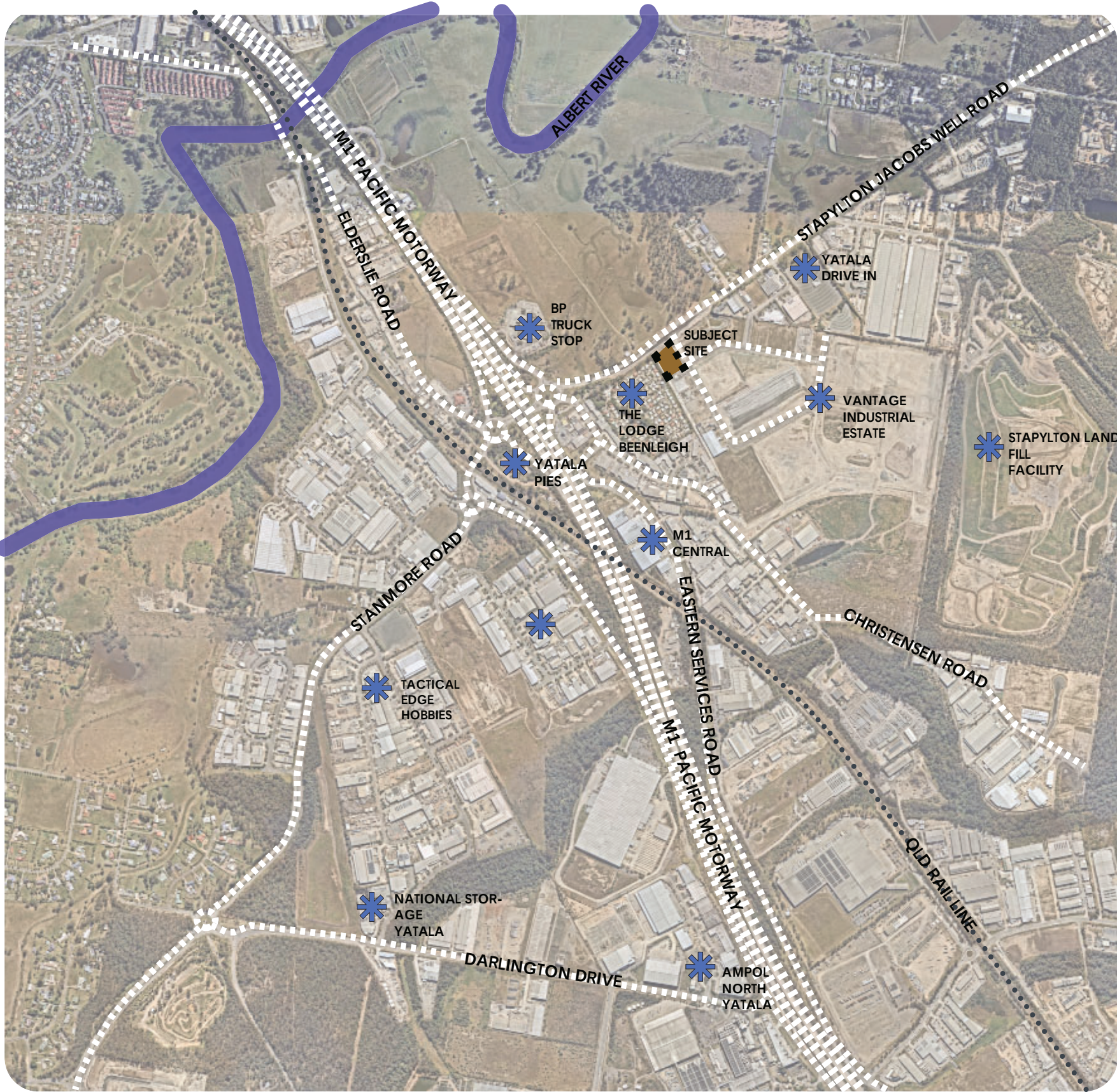


SITE LOCALITY

In terms of locational context, the subject site is located within Stage 1 of Vantage Industrial Estate at Stapylton, Gold Coast at 10 Homestead Drive Stapylton (Lot 122 on SP316137).

The site is situated;

- 0.5 kilometers from the Pacific Motorway, Yatala north interchange,
- 5.5 kilometers from the Beenleigh CBD
- 5 kilometres from Beenleigh Transit Centre
- 36.5 kilometers from Southport CBD
- 38.2 kilometres from Brisbane CBD



LANDSCAPE STRATEGY

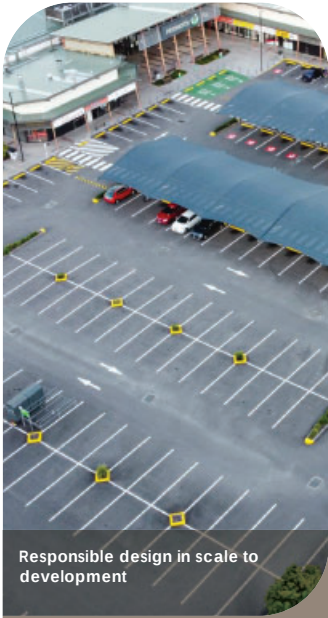
The landscape design intent for 1 - 5 Homestead Drive Stplyton is to establish an industrial warehouse, providing tenencies to companies that host low imacpt industry.

The landscape design will respect the environmental aspects of responsible design, planing and construction which will respond to issues of biodiversity.

The scale and nature of landscaping materials and selected plant species will be appropriately selected to compliment the size of proposed warehouse and office structure nominated for the site, whilst being sensitive to available space.

Way finding will be promoted by using nominated hardscape and planting palettes, that will be reflected through the site. Clear view lines will further promote legibility and safety in design.

Planting will be selected for suitability and tolerance to the varying site conditions. The planting scheme used is predominantly native species which has been nominated to soft-en the built form, compliment the surrounding natural ecosystems, minimize water usage and limit maintenance.



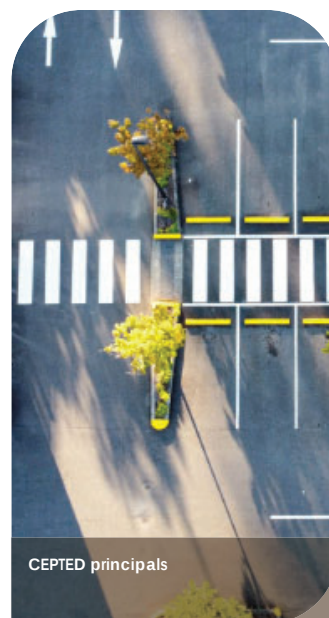
Responsible design in scale to development

To facilitate the development of functional, well serviced, amenable, and attractive warehouse. To create a sense of spaciousness defined by wide roads and buildings, and a flow of landscape between.



Integrated design

To promote a development that integrates with the surrounding environment through the use of compatible landscaping, materials, colours and building forms.



CEPTED principals

To reduce the potential for conflict between vehicle and pedestrian traffic there will be an appropriate level of separation and/or wayfinding throughout the site.



Way finding

Way finding will be promoted by using nominated hardscape, furnishing and planting and palettes, that will be reflected through the site's entirety. Clear view lines will further promote legibility.



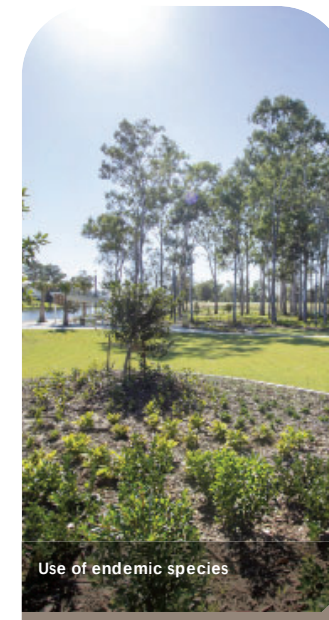
Mass planting arrangement

The planting arrangement has been designed in a contemporary arrangement with mass planting of individual species. The arrangement will be laid in a three tier arrangement of trees, shrubs and groundcovers with accent feature planting as well as cascading species to fall over retaining wall structures.



Contemporary planting arrangement

A contemporary planting arrangement consisting of groupings of endemic species will be used to screen and frame the built form, whilst highlighting entry areas, providing shade to car parking and pedestrian paths.



Use of endemic species

The proposed planting arrangement will consist of mainly Australian native species suitable for growth within South-east Queensland. The nature of such plants are more drought tolerant and most suitable for the site.

LANDSCAPE INTENT PLAN

LEGEND

-  Site Boundary
-  Proposed Fencing 2
1.8m black palisade fencing to boundary
-  Site Triangles
Planting within this zone to remain low growing (max. 500mm in height). Groundcover species nominated, refer to planting palette on page 8 for further detail.
-  Streetscape
Existing approved streetscape under Lot 501 SP295994 - OPW/2020/960 to be retained.
Should damage occur to turf, pavement, or street trees due to construction of this proposed development replacement will be required.
-  Proposed Tree Species
Refer to planting palette on page 9 for further detail.
-  Proposed Shrub Species
Refer to planting palette on pages 8 and 9 for further detail.
-  Proposed Groundcover Species
Refer to planting palette on page 8 for further detail.



MATERIALS AND SOFTSCAPE GUIDE



Organic Mulch
To comply with AS4454-2012



Feature Mulch
75 - 125mm basalt spalls (grey)



Turf
A-Grade 'wintergreen' turf



Irrigation
Back to base irrigation system with drippers



Black palisade fencing
1.8m high, set back 2m front boundary

PLANTING PALETTE

GROUND COVER, TUFTING GRASS AND CLIMBING SPECIES



SHRUB SPECIES



gassman
development
perspectives

planning
environment
landscape
engineering
survey

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PLANTING PALETTE

Date: 11.01.24
Project no: 6228
Rev: A Dwn: JLS

07

PLANTING PALETTE

SHRUB SPECIES



Acmena smithii
lily pilly



Melaleuca 'claret tops'
claret tops



Philodendron 'rojo congo'
rojo congo



Philodendron xanadu
xanadu



Crinum pedunculatum
swamp lily

SCREENING SHRUB SPECIES



Callistemon endeavour
bottle brush



Grevillea moonlight
moonlight grevillea



Grevillea rosmarinifolia
rosmarinifolia



Michelia figo
port wine magnolia



Photinia 'red robin'
red robin

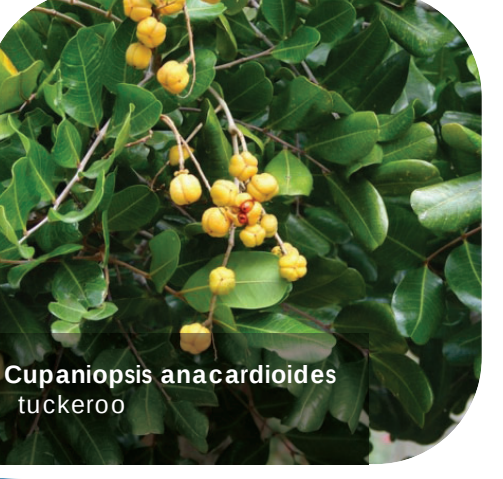
TREE SPECIES



Brachychiton acerifolius
illawarra flame tree



Waterhousia floribunda
weeping lilly pilly



Cupaniopsis anacardioides
tuckeroo



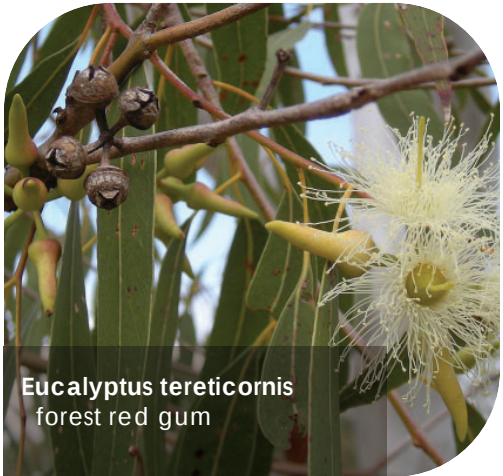
Delonix regia
poinciana



Corymbia citriodora
lemon scented gum

PLANTING PALETTE

TREE SPECIES



APPENDIX H

CIVIL SERVICES LETTER



g a s s m a n
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survey





ENGINEERING SERVICES REPORT

DEVELOPMENT APPLICATION
FOR MATERIAL CHANGE OF USE
– LOW IMPACT INDUSTRY AND
WAREHOUSE

ADDRESS

1 and 5 Homestead Drive, Stapylton, QLD
4207

REAL PROPERTY DESCRIPTION

Lot 101 and 102 on SP316137

PREPARED FOR

Devmoz Properties Pty Ltd.

January 2024



gassman
development
perspectives

project coordination
urban + regional planning
landscape + urban design
engineering services
environmental management
visualisation + spatial services
surveying services
advisory services

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In preparing this report we have made certain assumptions. We have assumed that all information and documents provided to us by the Client or as a result of a specific request or enquiry were complete, accurate and up-to-date. Where we have obtained information from a government register or database, we have assumed that the information is accurate. Where an assumption has been made, we have not made any independent investigations with respect to the matters the subject of that assumption. We are not aware of any reason why any of the assumptions are incorrect.

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GDP DOCUMENT CONTROL

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Revision / Checking History

No.	Author	Reviewer
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1.	Thais Prata	Mitchell Gassman

Approval for Issue

Rev. No.	Name	Position	Signature	Date
1.	Mitchell Gassman	Civil Project Engineer RPEQ 16939		17 January 2024

Final Distribution

Devmoz Properties Pty Ltd (Client)	1 electronic copy
Gold Coast City Council (Assessment Manager)	1 electronic copy
GDP File	1 electronic copy

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1.0 INTRODUCTION

Gassman Development Perspectives (GDP) has been engaged by Devmcoz Properties Pty. Ltd. (Applicant) to prepare an Engineering Services Report over land situated at 1 and 5 Homestead Drive, Stapylton, QLD 4207 (Lot 101 & 102 on SP316137) being the 'subject site'.

This report has been prepared for submission to Council of the City of Gold Coast (Council) as part of a combined Development Application for a *Material Change of Use – Low Impact Industry and Warehouse*. The purpose of this report is to supply information relating specifically to Civil Engineering infrastructure, services and issues over the subject site.

2.0 SITE DESCRIPTION

2.1 SITE LOCATION

The subject site is located within the City of Gold Coast Council's (Council) local government boundaries, within the Gold Coast suburb of Stapylton (4207), Lot 101 & 102 on SP316137, refer to **Figure 1**.



Figure 1: Site Locality Plan, Source: QLD Globe (January 2024)

2.2 LAND ENCUMBRANCES

The subject site consists of the combination of two single freehold allotment owned by Devmcoz Properties Pty Ltd. There are no easements or encumbrances over the subject site, but there is an easement near the subject site, refer to **Figure 2**.



Figure 2: Easement Location near the subject site, Source: QLD Globe (January 2024)

2.3 EXISTING LAND USES

The subject land is vacant and benefits from existing lawful infrastructure connections provided by delivery of **Stage 1 of the Vantage Industrial Estate**.

2.4 TOPOGRAPHY

As the subject site is located within **Stage 1 of the Vantage Industrial Estate**, large scale of bulk earthworks has been undertaken on the subject site to provide future industrial pads within the initial stages of development. Only minimal augmentation will be required to facilitate the proposed lot layout arrangements.

2.5 EXISTING VEGETATION

The subject site is clear of vegetation due to vegetation clearing and large scale of flat industrial pads previously been undertaken within the approved and completed

OPW201801218 and OPW201801219 application, as part of **Stage 1 of the Vantage Industrial Estate** works.

2.6 CONTAMINATED LAND

The subject site is not known to be contaminated.

3.0 EARTHWORKS

A minor bulk earthworks change has been developed by Gassman Development Perspectives over the subject site to help the stormwater drain through the proposed stormwater structures. These minor earthworks changes are shown within the Civil Servicing Strategy plan contained within **Appendix A**.

4.0 ROADWORKS AND ACCESS

The proposed development seeks to establish a combination of low impact industry and warehouse land uses, featuring multiple warehouse tenancies within the site, as shown within **Figure 3** below. A copy of the Proposal Plans is also provided within **Appendix B**.

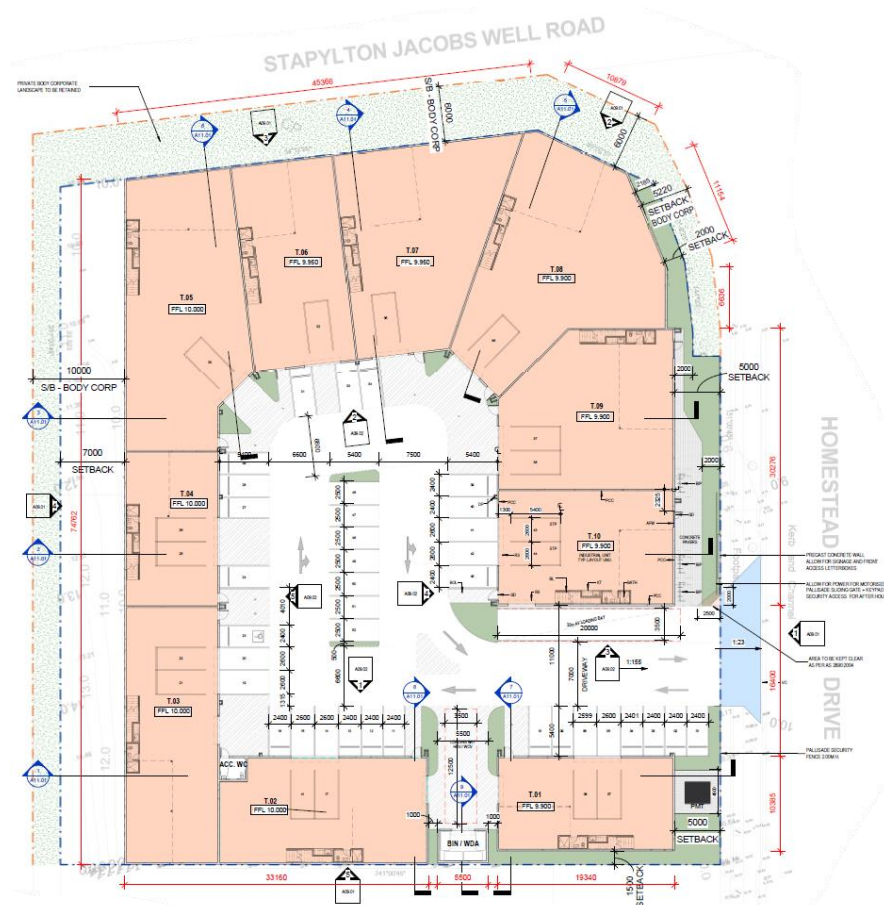


Figure 3: Proposed Development Layout (GDP File, 2024)

As shown at the proposed Layout plan, the subject site is going to have one access through Homestead Drive road (11.00m wide VXO).

5.0 INFRASTRUCTURE SERVICES

5.1 SEWERAGE

The subject site is currently connected to CoGC Sewer Infrastructure network. This sewer strategy was constructed as part of **Stage 1 of the Vantage Industrial Estate** works and confirm the presence of an existing 150mm diameter SN8 uPVC sewer pipe non-pressure running along the Homestead Drive on the East of the subject site. The existing sewer connection are contained within Civil Servicing Strategy Plan, refer to **Appendix A**.

5.2 WATER SUPPLY

The subject site is currently connected to CoGC Water Infrastructure network. This water reticulation strategy was constructed as part of **Stage 1 of the Vantage Industrial Estate** works and confirm the presence of an existing 150mm diameter Ductile Iron Water Reticulation pipe running along the Homestead Drive on the East of the subject site. The proposed location for Water meter to service the Lots are contained within Civil Servicing Strategy Plan, refer to **Appendix A**.

5.3 ELECTRICITY AND TELECOMMUNICATIONS

A Dial-before-you-dig (DBYD) search was undertaken over the subject site as part of **Stage 1 of the Vantage Industrial Estate** works, which confirmed the presence of electrical reticulation to the subject site's road frontage.

The adequacy of this infrastructure in its current form along with the necessity for any augmentation or upgrades to cater for the proposed use will be confirmed through the detailed design process for the subject site by the appointed electrical consultant.

6.0 SITE BASED STORMWATER MANAGEMENT

It is noted that the configuration of registered Lot 101 and 102 on SP316137 does not require any changes to the stormwater quantity or quality measures associated with **Stage 1 of the Vantage Industrial Estate** which have previously been approved by Council and constructed. GDP has designed an internal stormwater drainage network only to connect within the existing structure to match the new proposed layout for the subject site.

6.1 STORMWATER QUANTITY

Suitable attenuation measures are able to be incorporated into the proposed development to ensure there is no adverse impacts to downstream properties, waterways or infrastructure as a result of an increase in peak stormwater flow rates discharging from the subject site upon development. This is achieved through the conceptual design of appropriately sized detention

basins that comply with City of Gold Coast's Land Development Guidelines along with the Queensland Urban Drainage Manual (QUDM).

An internal stormwater drainage network has been designed by Gassman Development Perspectives to ensure the proposed layout configuration adequately drains to the previously approved Lawful Point of Discharge for this Lot.

The development proposed over the subject lot is consistent with the catchment attributes assumed within the approved Stormwater Management Plan (SWMP) prepared by Gassman Development Perspectives Pty Ltd as part of **Stage 1 of the Vantage Industrial Estate** works.

6.2 STORMWATER QUALITY

Stormwater quality objectives for the subject site are achieved through the conceptual design of a suitable series of stormwater treatment drains that implement all necessary steps to ensure that the quality of stormwater discharging from the subject site meets the necessary standards to comply with City of Gold Coast's Water Sensitive Urban Design (WSUD) requirements, Queensland Urban Drainage Manual (QUDM) and the performance objectives of the Queensland State Planning Policy (SPP).

7.0 CONCLUSION

The above reporting demonstrates that the proposed development can be undertaken through the construction of Civil Engineering infrastructure and services that meet the requirements of Gold Coast City Council's Land Development Guidelines and associated Australian Standards.

Appendix A – Civil Servicing Strategy Plan

Appendix B – Proposed Ground Floor Layout Plan

All dimensions to be checked on site, written dimensions only to be used. Do not scale from drawings. Copyright of the design shown herein is retained by the Architect. Written authority is required for any reproduction.



1-5 HOMESTEAD DR DEVELOPMENT

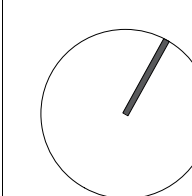
LOT 101 - 102 HOMESTEAD DRIVE, STAPYLTON, QLD 4207

ISSUE	DATE	DESCRIPTION
P1	08/12/2023	FOR REVIEW
P2	12/12/2023	FOR TRAFFIC REVIEW
P3	20/12/2023	PRELIMINARY DA ISSUE
A	21/12/2023	DA ISSUE

A02.20 **DA - A**

@ A1

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