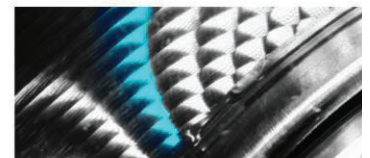
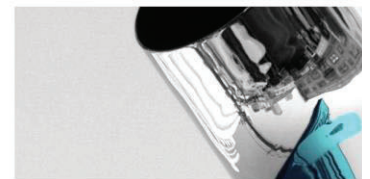


**PROPOSED MIXED-USE DEVELOPMENT
1-19 MILL STREET, YARRABILBA**

TRAFFIC ENGINEERING ASSESSMENT

19 OCTOBER 2022

PREPARED FOR



**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2022/1347

Date: 16 February 2023



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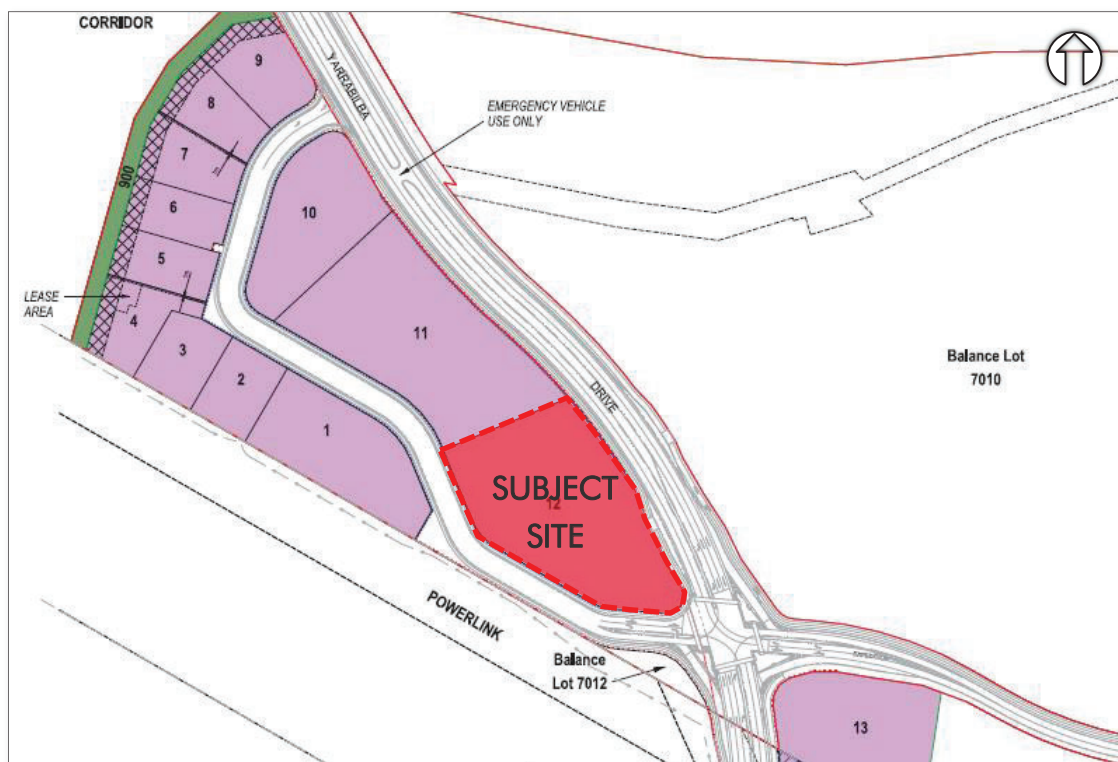
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1.0 INTRODUCTION

1.1 Background

In May 2022, PTT was commissioned by TFA Group Pty Ltd to undertake a traffic engineering assessment for a proposed food and drink development at 1-19 Mill Street, Yarrabilba. The location of the subject site, which is shown on Figure 1.1, falls within Precinct 3D of the Yarrabilba Priority Development Area, and is administered by Economic Development Queensland (EDQ).

Figure 1.1: SITE LOCALITY



1.2 Aim

The aim of this assessment is to evaluate the proposed development in terms of its access, parking and servicing arrangements, pedestrian / cyclist facilities, likely peak hour traffic generation and impact on the surrounding road network.

1.3 Scope of Report

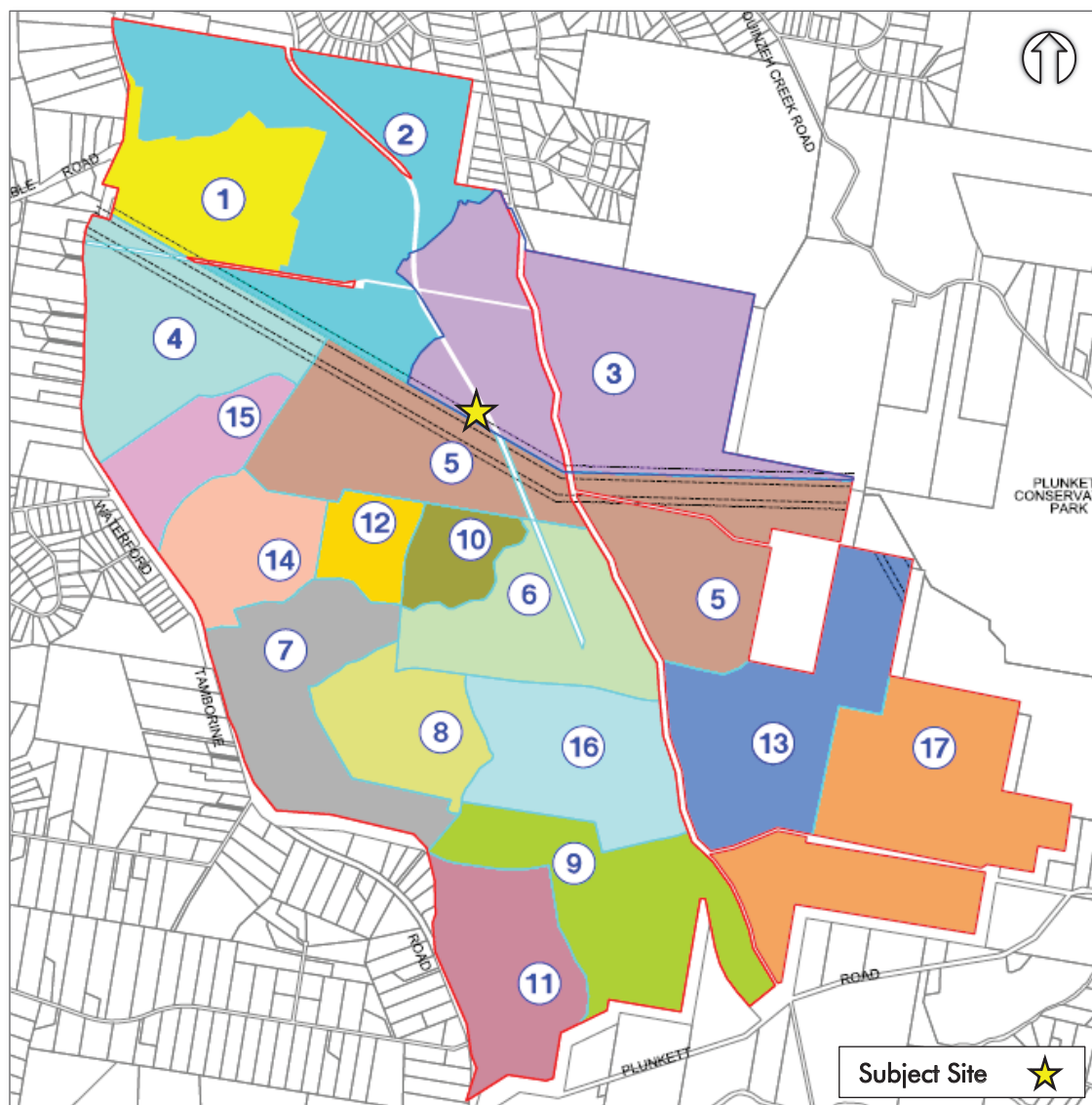
This report begins by summarising the characteristics of the existing road network (Chapter 2), followed by a description of the scope and scale of the proposed development, including access, parking and servicing arrangements (Chapter 3). The predicted peak hour traffic generation of the development is estimated along with a consideration of its likely traffic impact on the surrounding road network (Chapter 4). The report concludes with a summary of key findings and recommendations (Chapter 5).

2.0 EXISTING CONDITIONS

2.1 Yarrabilba Priority Development Area

The Yarrabilba Priority Development Area (PDA) was adopted by EDQ in 2011, with a purpose of providing housing for up to 50,000 people in 20,000 dwellings. The PDA is approximately 2,200 hectares in size and is located within the Logan City Council (Council) local government area. It is bounded by Plunkett Conservation Park to the east, Plunket Road to the south and Waterford Tamborine Road to the west. The PDA is expected to be fully developed within 20 – 30 years and will comprise 17 precincts. The Yarrabilba precinct plan is shown in Figure 2.1, including the subject site within Precinct 3.

Figure 2.1: YARRABILBA PDA PRECINCT PLAN



2.2 Subject Site

The subject site is located at 1-19 Mill Street, Yarrabilba and is formally identified as Lot 12 on SP304357. The site is located in Precinct 3D of the PDA and according to the approved plan of development (approval reference: DEV2018/922), the site is zoned as mixed business / infrastructure.

A service station and food and drink outlet with a drive through was approved on the eastern side of the site in April 2022 (approval reference: DEV2022/1259). The service station has been constructed and is currently operating, as shown in Figure 2.2

Figure 2.2: SUBJECT SITE



2.3 Surrounding Area

As illustrated in Figure 2.2 the subject site is bounded by:

- Yarrabilba Drive and vacant land to the north
- Yarrabilba Drive to the east
- Mill Street to the south and west

The surrounding area is currently undeveloped, although planning zones indicate the area will comprise predominantly commercial and residential uses.

2.4 Access

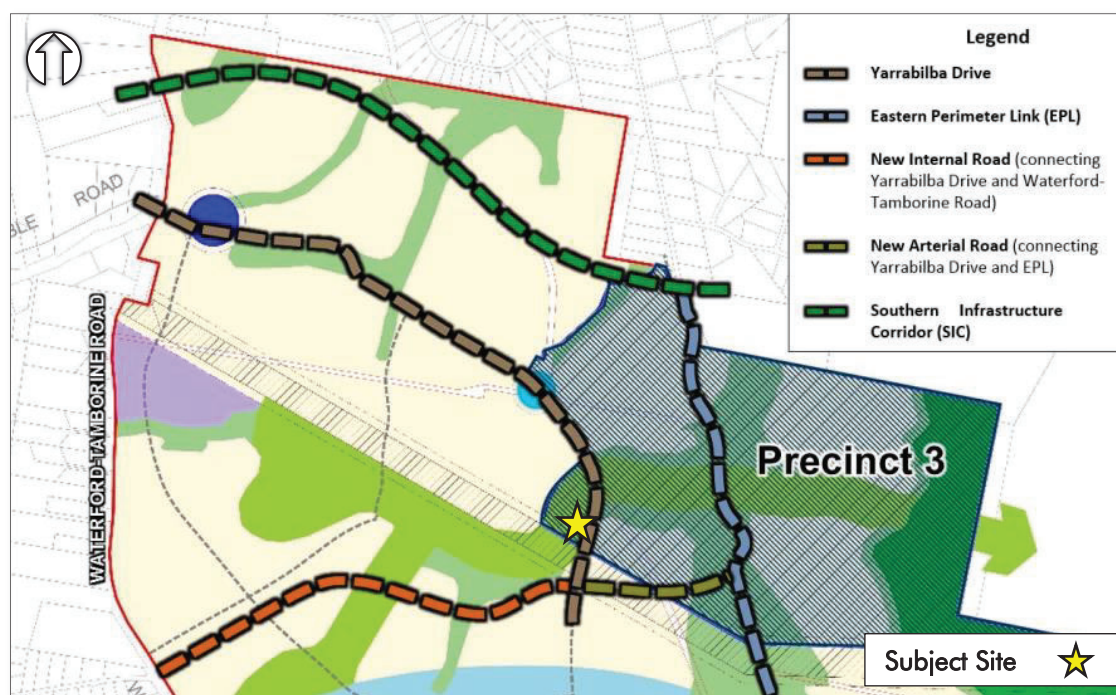
Vehicular access to the site is facilitated via an internal access road accessed via an 11.0m wide all-movements crossover on Mill Street and a 9.5m wide left-in / left-out crossover on Yarrabilba Drive, as shown in Figure 2.2.

2.5 Surrounding Road Network

Traffic modelling for Precinct 3D and the Yarrabilba Masterplan area was undertaken in 2015, with the results documented in the Yarrabilba Master Plan Micro-Simulation Modelling – Revised Land Use and Road Network Report, published by Cardno. A Traffic Assessment Report for Precinct 3D was also published by SLR on 27 February 2018. The reports considered the expected traffic generated by the subject site and surrounding developments to inform the design of the surrounding road network.

Figure 2.3 shows the indicative road network for the Yarrabilba Masterplan.

Figure 2.3: YARRABILBA INDICATIVE ROAD NETWORK



Key attributes of the surrounding road network in the vicinity of the subject site are summarised in Table 2.1.

Table 2.1: ROAD NETWORK ATTRIBUTES

ATTRIBUTE	YARRABILBA DRIVE	MILL STREET
Road Hierarchy	Arterial	Industrial Access
Jurisdiction	Council	Council
Speed Limit (km/h)	60	50
Predominant Land Uses	Commercial / Residential	Commercial / Industrial
Cross-section	Divided, with two lanes of traffic in each direction	Undivided, with one lane of traffic in each direction
On-Street Parking	Yes	Yes
Footpaths	Both sides	Both sides
Bicycle Lanes	Yes	No
Bus Route	Yes	No

Yarrabilba Drive meets Mill Street and Fauna Way at a signalised intersection adjacent to the south-east corner of the subject site.

2.6 Active and Public Transport

2.6.1 Pedestrians and Cyclists

Pedestrian footpaths are provided on both sides of Yarrabilba Drive and Mill Street in the vicinity of the site. There are pedestrian crossings on all four approaches at the Yarrabilba Drive / Mill Street / Fauna Way signalised intersection adjacent to the south-east corner of the subject site.

According to the Active Transport Network Map for Precinct 3, Yarrabilba Drive is classified as a principal cycle route. On-street cycle lanes are provided on both sides of Yarrabilba Drive in the vicinity of the site. No dedicated cyclist facilities are provided on Mill Street.

2.6.2 Public Transport

There are two bus stops located on Yarrabilba Drive in the vicinity of the site, as indicated in Figure 2.2. The stops are served by TransLink Route 587, which provides access to Loganlea and operates approximately once an hour in both directions between 5:00am and 7:00pm on weekdays and once every two hours in both directions between 9:00am and 3:00pm on weekends. Accordingly, the site is served by public transport.

3.3 Parking

3.3.1 Requirement

The parking requirement for the site has been determined based on the car parking provision rates outlined in EDQ's Plan of Development (POD). A parking provision of 47 spaces is required based on EDQ's rates, as shown in Table 3.1.

Table 3.1: PARKING REQUIREMENT

LAND USE	SCALE	PARKING RATE	REQUIRED
Food and Drink Outlet 1	269m ² GFA	1 space per 10m ² ≤ 200m ² GFA + 1 space per 20m ² > 200m ² GFA	24
Food and Drink Outlet 2	247m ² GFA	1 space per 10m ² ≤ 200m ² GFA + 1 space per 20m ² > 200m ² GFA	23
Total			47

3.3.2 Provision

The proposal accommodates a total of 50 on-site parking bays to support the development, including three waiting bays and two Persons with Disability (PWD) bays. Therefore, the proposed parking provision is consistent with EDQ's minimum parking requirement.

3.3.3 Persons with Disability Spaces

The National Construction Code (NCC) specifies that parking spaces for persons with a disability be provided at a rate of one space per 50, or part thereof, for Class 6 buildings (ie the proposed development) constructed in accordance with Australian Standards Parking Facilities Part 6: Off-Street Parking for People with Disabilities (AS2890.6). The proposed layout provides two PWD parking spaces adjacent to the entrance of each food and drink outlet and complies with NCC requirements for PWD parking provision.

3.3.4 Design

The proposed on-site parking facilities have been designed consistent with the requirements of AS2890.1 and AS2890.6, in terms of minimum parking space and aisle dimensions, and are typified by:

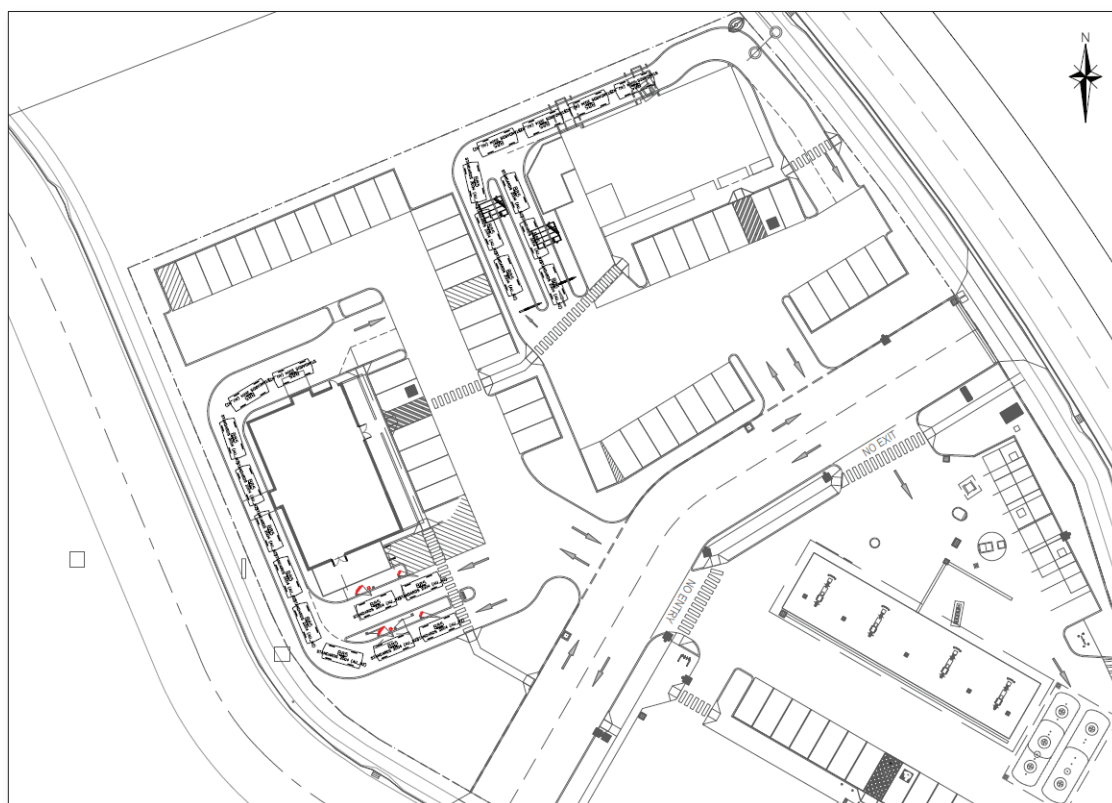
- parking spaces dimensioned a minimum 2.6m wide by 5.4m long
- PWD parking spaces dimensioned 2.4m wide by 5.4m long, with an adjacent 2.4m wide shared area
- turnaround bays dimensioned 2.6m wide by 5.4m long
- end of aisle extensions dimensioned 1.0m wide
- parking aisles dimensioned a minimum 6.3m wide

3.4 Queuing

Council's Planning Scheme identifies a minimum queuing length of three vehicles (ie 18m) for a car park with 81 spaces (ie total number of on-site spaces including the existing approved development). The proposed access arrangement provides approximately 16m of clear queuing space between the property boundary and the first internal conflict point from the Yarrabilba Drive access and approximately 28m of clear queuing space from the Mill Street access. Therefore, the proposed site layout provides sufficient on-site queuing.

Council's Planning Scheme requires that drive-through facilities provide queuing space for ten vehicles. As shown in Figure 3.2, the proposed food and drink outlet drive-through facilities provide adequate queuing provision for at least ten vehicles and are consistent with Council's requirements.

Figure 3.2: QUEUING PLAN



3.5 Servicing

3.5.1 Requirement

A 13.0m long by 4.1m wide and a 10.0m long by 4.3m wide on-site loading bay is provided adjacent to food and drink outlets 1 and 2 respectively. Council's Planning Scheme requires on-site servicing by a HRV for food and drink outlets with a GFA greater than 200m².

A swept path drawing showing a HRV accessing each loading bay is shown in Figures 3.3 and 3.4 and attached in Appendix B. Although the HRV would overhang the loading bay adjacent to food and drink outlet 2, swept path analyses have been undertaken demonstrating that a HRV is able to temporarily stand in the servicing bay, while allowing a passenger vehicle to pass by, as shown in

Figure 3.5. Furthermore, it is expected that servicing would be undertaken outside of the development's peak operating hours, reducing the potential for conflicts with other vehicles accessing the site. Nevertheless, in our experience food and drink outlets are predominantly serviced by an 8.8m long Medium Rigid Vehicle (MRV), which would stand wholly in the proposed loading bay. Accordingly, the proposed servicing arrangements are considered sufficient for the proposed use.

Figure 3.3: HRV SERVICING – FOOD AND DRINK OUTLET 1

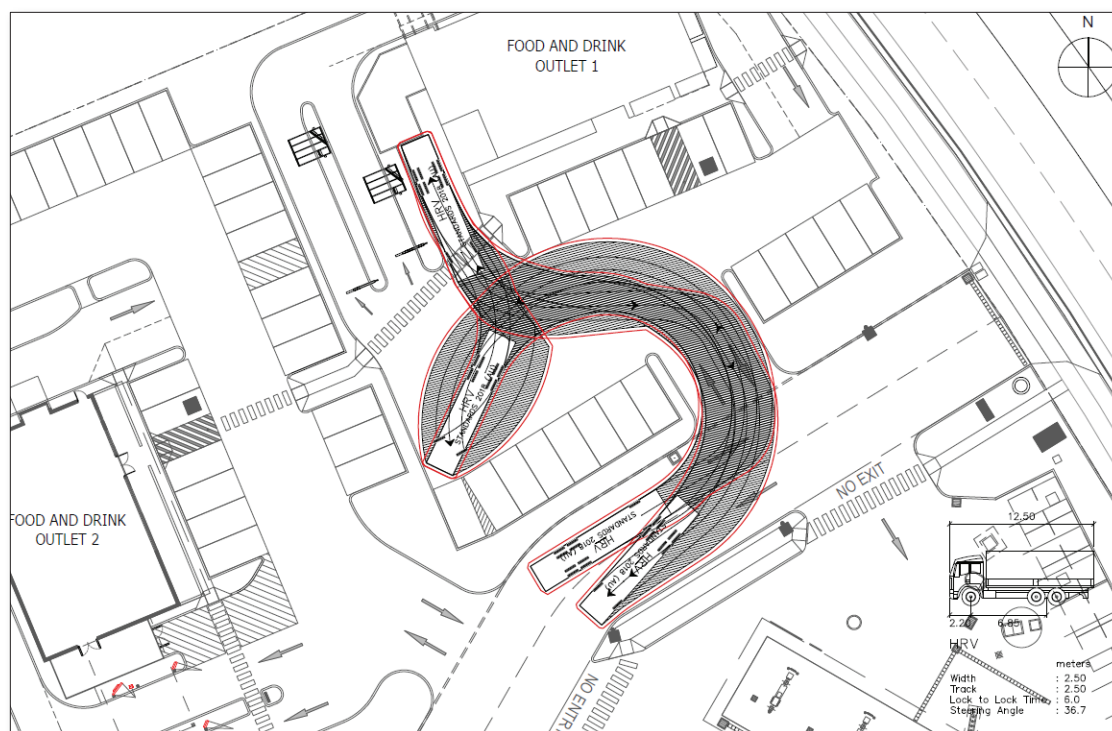


Figure 3.4: HRV SERVICING – FOOD AND DRINK OUTLET 2

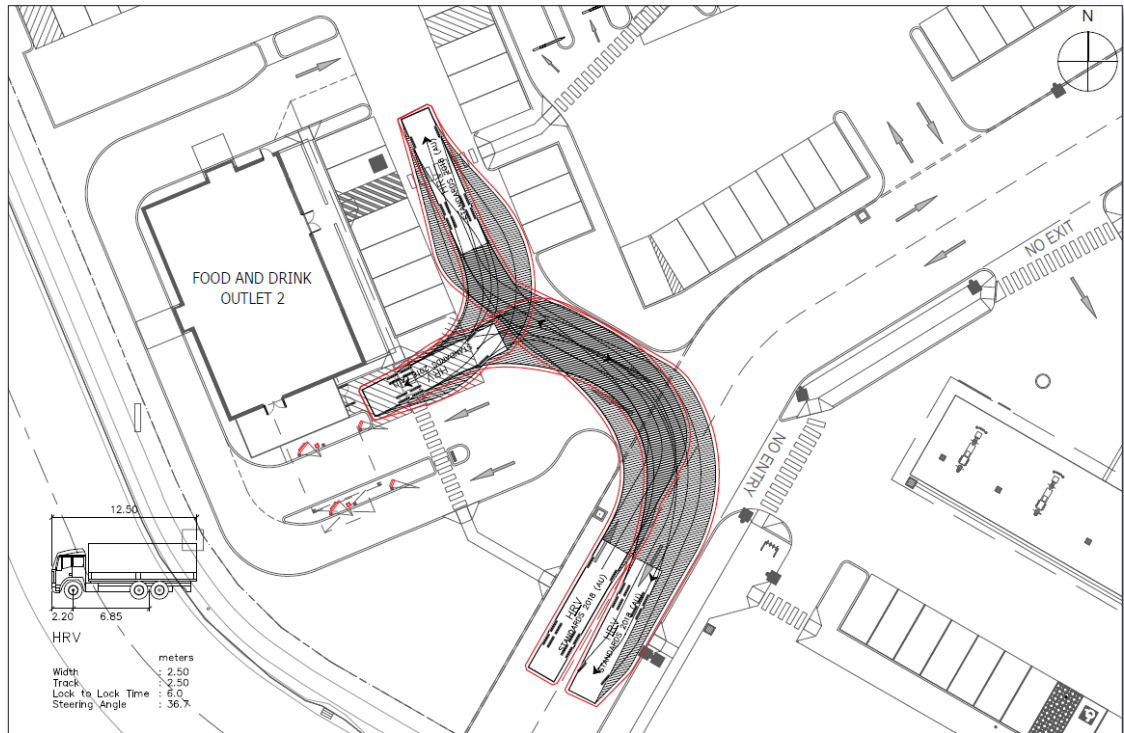
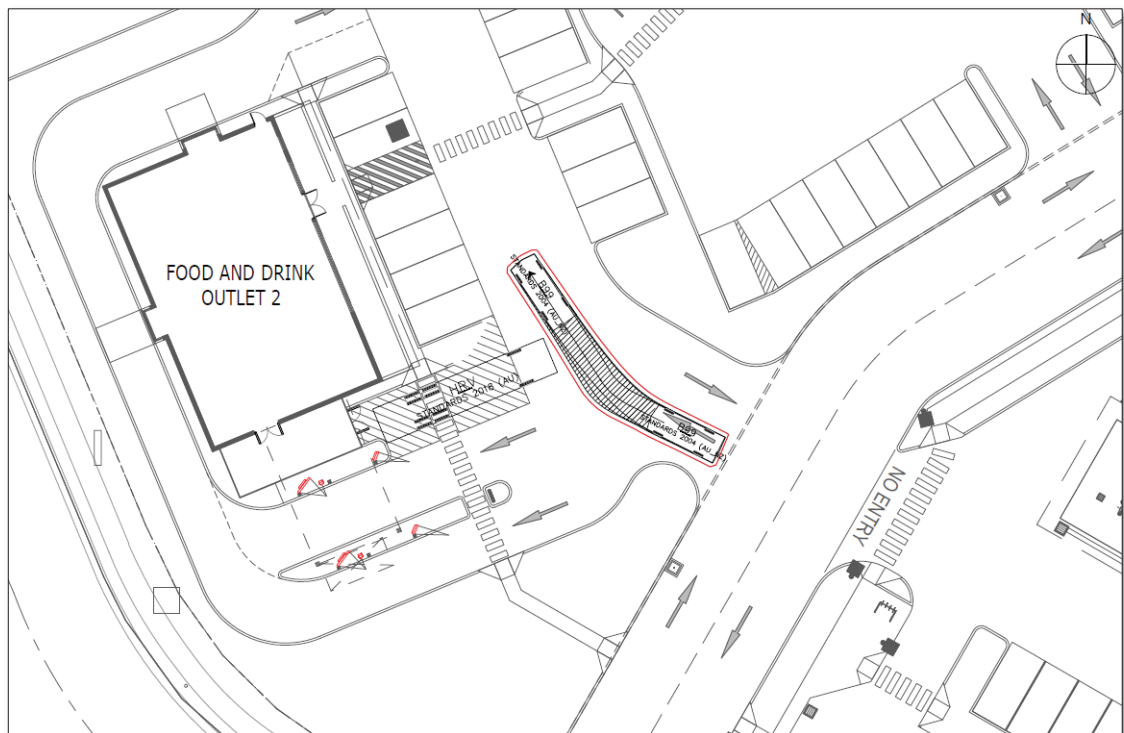


Figure 3.5: PASSENGER VEHICLE MANOEUVRING



3.6 Active and Public Transport

3.6.1 Pedestrians

Pedestrian access to the site is proposed via dedicated pedestrian entrances from Yarrabilba Drive and Mill Street. Internal footpaths and crossings are proposed providing pedestrians convenient and safe accessibility to the food and drink outlets.

3.6.2 Cyclists

EDQ's POD requires bicycle parking be provided at a rate of one space per five car parking spaces. Therefore, a total of 10 bicycle parking spaces are required to support the proposed development. It is recommended that 10 bicycle parking spaces be provided in the form of rails / racks adjacent to the food and drink outlet entrances.

3.6.3 Public Transport

The proposed development is not expected to have a negative impact on the surrounding public transport services and facilities and is expected to increase the viability of the future public transport services and facilities in Precinct 3D.

4.0 TRAFFIC OPERATIONS

4.1 Traffic Generation

The peak hour traffic generation for the proposed development has been estimated based on trip generation rates published by the NSW Road and Transport Authority (RTA) for food and drink outlets, as summarised in Table 4.1. The predicted traffic generation attributable to the proposed development is estimated to be 200 vehicles per hour (100 in and 100 out) for the morning and evening peaks.

Table 4.1: PEAK HOUR TRIP GENERATION

LAND USE	SCALE	RATE	TRIPS (VPH)	IN:OUT SPLIT	IN:OUT (VEH/HR)
Food and Drink Outlet	516m ² GFA	100 trips per tenancy	200	50 : 50	100 : 100

4.2 Traffic Impact

Traffic reporting and modelling undertaken by Cardno and SLR in 2015 and 2018 considered the expected traffic generated by Village 3D, including the subject site. As such, the impact of the development site on the external network has been included in the planning of Precinct 3. EDQ's approved POD specifies a maximum of one service station, 1,000m² GFA of food and drink outlet use and 350m² GFA of shop use be provided on the subject site. The existing approved development and proposed development comprises one service station and 826m² GFA of food and drink outlet use. Accordingly, the proposed development is consistent with EDQ's POD and is not expected to significantly impact surrounding traffic operations and thus additional traffic analysis is not considered necessary.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

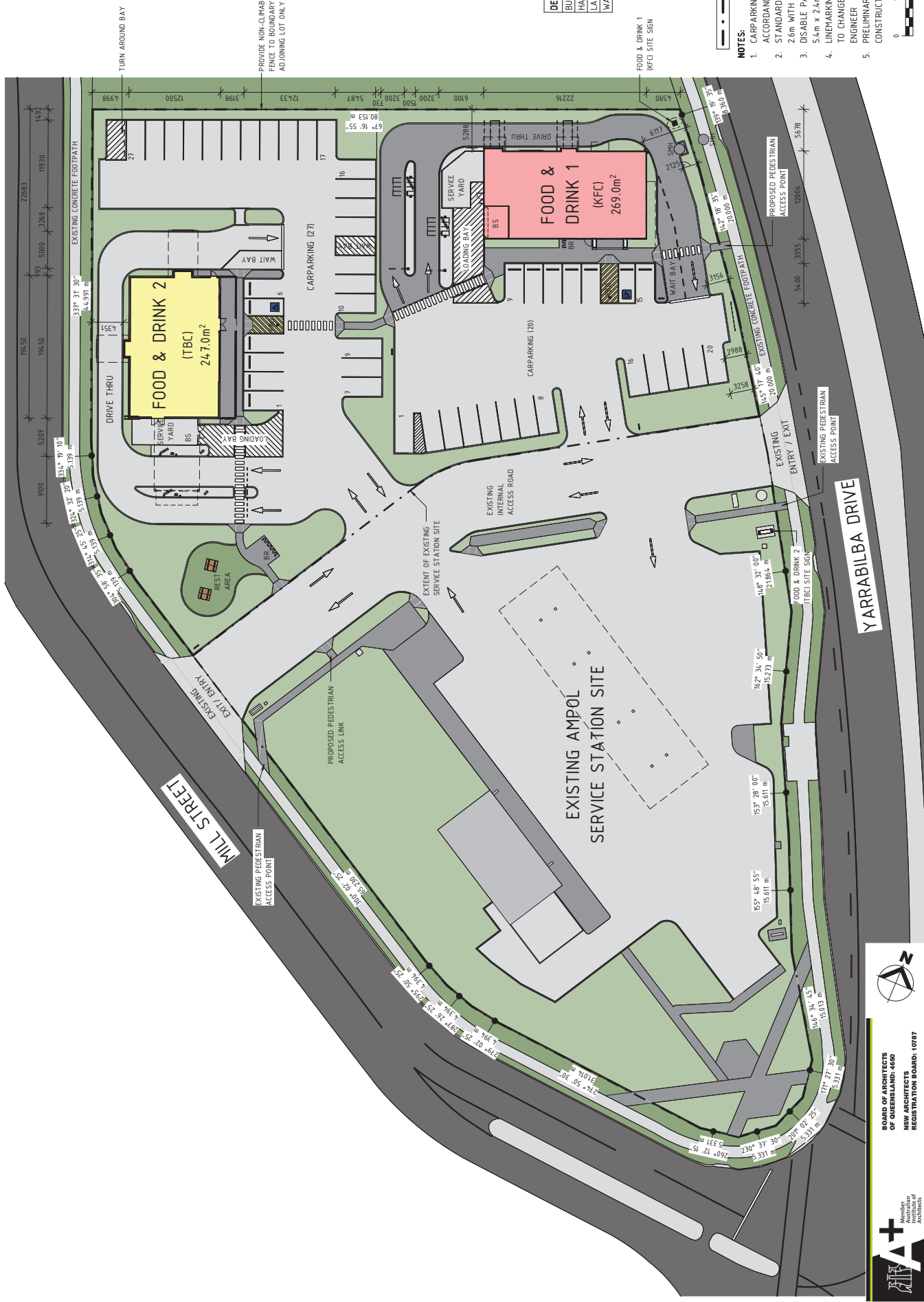
The proposed food and drink outlet development at 1-19 Mill Street, Yarrabilba has been evaluated in terms of its access, parking and servicing arrangements, pedestrian / cyclist facilities, likely peak hour traffic generation and impact on the surrounding road network. The main points to note are:

- the development application seeks approval for two food and drink outlets with a drive through
- access to each tenancy is proposed via separate 8.0m wide all-movements crossovers to the existing 1-19 Mill Street internal access road
- sufficient on-site queuing is provided at each access and in each drive through facility in accordance with Council's Planning Scheme
- a total of 50 parking spaces are proposed on-site, including three waiting bays and two PWD bays which is consistent with EDQ's requirements
- the proposed development can accommodate on-site servicing by an HRV
- dedicated pedestrian entrances and internal footpaths and crossings provide convenient and safe pedestrian access
- the proposed development is expected to generate 200 vehicle trips during the weekday morning and evening peak hours
- the impact of the development site has been considered as part of the previous traffic modelling undertaken for Village 3D and a further traffic impact assessment is not considered necessary

5.2 Recommendations

Based on our review, it is recommended that a minimum of 10 bicycle parking spaces be provided in the form of rails / racks adjacent to the food and drink outlet entrances.

APPENDIX A DEVELOPMENT SITE LAYOUT



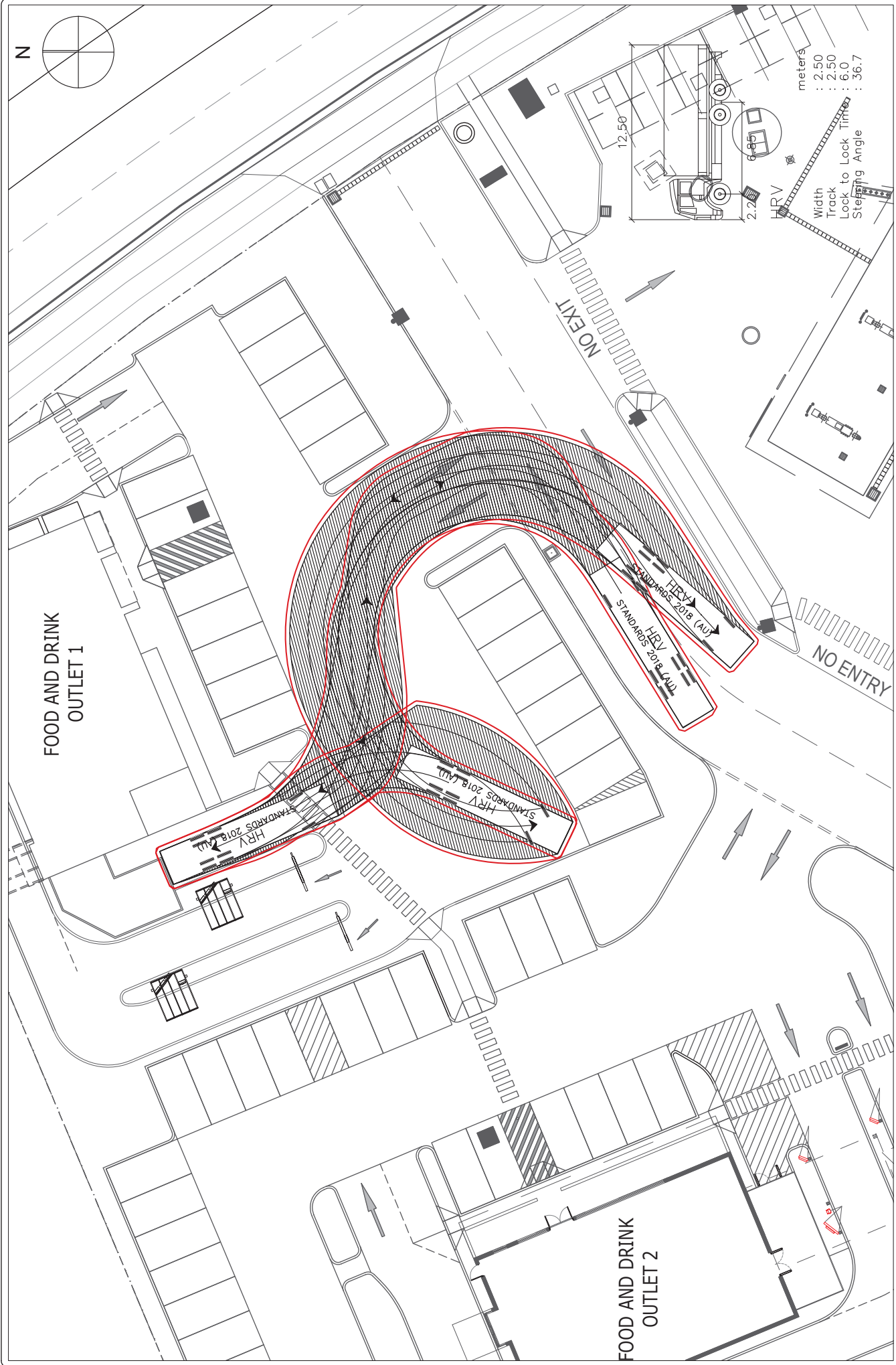
DEVELOPMENT AREA SITE COVERAGE		
BUILDINGS	516m ²	10.9%
HARDSTAND	3,069m ²	64.8%
LANDSCAPING	963m ²	20.3%
WALKWAYS	189m ²	4.0%
TOTAL	4,737m²	100%

SITE SIGN	LEGEND
—	BR BIKE RACK
•	BS BIN STORE
—	FBO FLEXIBLE BOLLARD
—	SMH SEWER MAN HOLE (EXISTING)
—	BOUNDARY

- NOTES:**
1. CARPARKING & ROAD AISLES TO BE IN ACCORDANCE WITH AS2890.1 & AS2890.6
 2. STANDARD PARKING BAYS PROVIDED AT 5.4m x 2.6m WITH MIN. 6.5m AISLES
 3. DISABLE PARKING BAYS TO BE 5.4m x 2.4m WITH 5.6m x 2.4m SHARED BAY
 4. UNPARKING SHOWN INDICATIVE ONLY, SUBJECT TO CHANGE AT DETAIL DESIGN BY TRAFFIC ENGINEER
 5. PRELIMINARY ONLY - NOT FOR TENDER OR CONSTRUCTION

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APPENDIX B
SWEPT PATH ANALYSIS



CLIENT: TFA GROUP PTY LTD			
DATE:	SCALE:	DRAWN:	APPROVED:
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22-729-001	-	22-729	

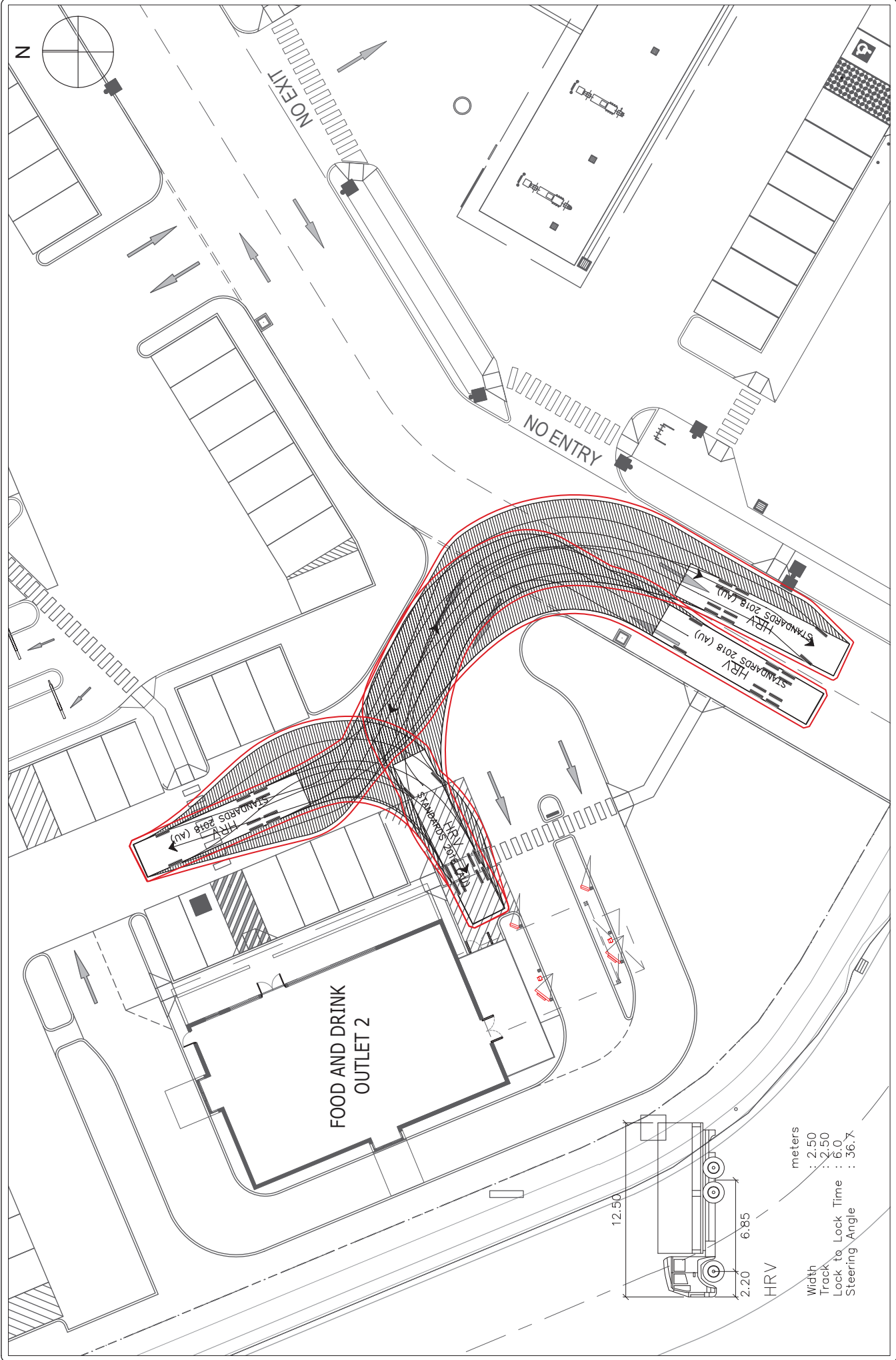
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1-19 MILL STREET, YARRABILBA	
DRAWING TITLE:	
HRV MANOEUVRING - FOOD AND DRINK OUTLET 1	

REV.	AMENDMENTS	DRN	DATE



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DRAWING NO. 22-729-002	REV -	JOB NO.	22-729

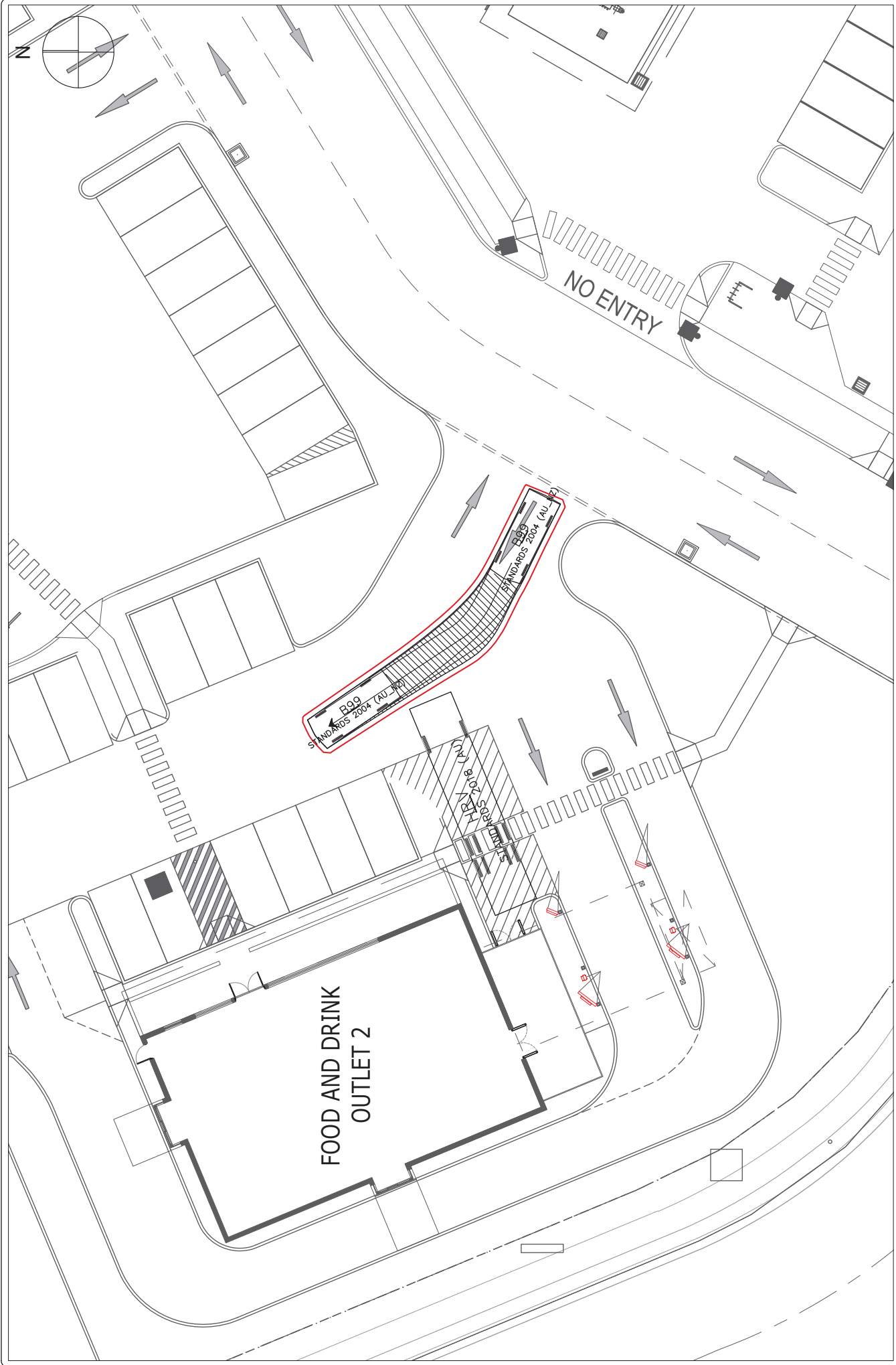
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DRAWING TITLE: HRV MANOEUVRING - FOOD AND DRINK OUTLET 2	

REV.	AMENDMENTS	DRN	DATE



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DRAWING TITLE: B99 MANOEUVRING	

REV.	AMENDMENTS	DRN	DATE



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