

WEAVERS CONSULTING GROUP PTY LTD

ABN 49 154 330 015 - 11 ROMNEY CLOSE COFFS HARBOUR NSW 2450

CONSULTING TRAFFIC, & CIVIL ENGINEERING

☎ 0432 016 490 ✉ chris.weavers@iinet.net.au



TRAFFIC IMPACT ASSESSMENT PROPOSED SPECIALISED RETAIL PREMISES 2-14 BREESE PARADE, FORSTER

Weavers Consulting Group Pty Ltd

chris.weavers@iinet.net.au

0432 016 490

REPORT PREPARED FOR:	JCP CONSTRUCTION ABN: 54 009 063 076
REPORT AUTHOR:	CHRIS WEAVERS MIE AUST, CP ENG, LEAD ROAD SAFETY AUDITOR: RSA_02_0953
MOBILE:	0432 016 490
EMAIL:	Chris.weavers@iinet.net.au
WEAVERS CONSULTING GROUP PTY LTD	ABN: 49 154 330 015 11 ROMNEY CLOSE COFFS HARBOUR, NSW 2450

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1 Introduction

Weavers Consulting Group Pty Ltd (WCG) has been engaged by JCP CONSTRUCTION to carry out a Traffic Impact Assessment (TIA) for a proposed SPECIALISED RETAIL PREMISES at 2-14 Breese Parade, Forster.

The site was previously occupied by the municipal offices of Great Lakes Shire Council. The council is now part of Mid-Coast Council located at South Taree.

The proposed development will comprise:

- Four independent retail units for the sale of “bulky goods”
- Outdoor car parking
- Rear access to independent loading areas, manoeuvring and turning area.

2 Scope of Report

This report addresses all relevant traffic and parking aspects of the proposed development.

The report will address:

- Site access and parking for passenger vehicles
- Site access and manoeuvring
- Overall traffic generation
- Access to Breese Parade.

3 Report Exclusions

No relevant matters have been purposely excluded from this report.

4 Methodology

This report and the underlying data collection and assessment have been prepared in accordance with:

- Austroads Guide to Traffic Management Part 12 – Traffic Impacts of Developments
- Complementary TfNSW supplements
- RTA Guide to Traffic Generating Development
- RMS TDT2013/04a Guide to Traffic Generating Developments Updated Traffic Surveys
- Relevant Austroads Design Guides
- Relevant Australian Standards, especially AS 2890 and AS 1742
- AM and PM peak hour traffic volumes in Breese Parade.

5 Existing Site Location and Description

5.1 Site Location

The site is described as, Lot 2 DP 1133390, 4-12 Breese Parade, Forster with a total area of 2.33 ha. It is proposed to excise the western portion of the lot which contains the previous

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chris.weavers@iinet.net.au

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Great Lakes Shire Council administration offices and part of the carpark which is shared with MidCoast Library and other users on the eastern side.

The entrance to the site is situated on the southern side of Breese Parade approximately 380 m east of the roundabout at the intersection of Breese Parade with The Lakes Way and 3.2 km south of the centre of Forster. The figure below identifies the site in the local context.

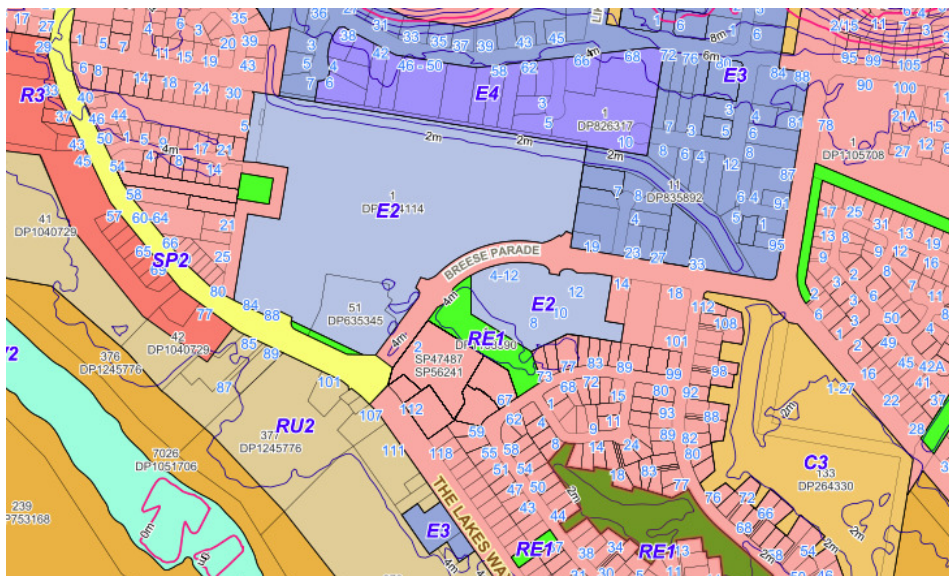
Figure 1 – Existing site location in the local context. (Sixmaps image 2023)



5.2 Site Description

The proposed excision of the development lot will create an area covering the existing Council administration building and the bulk of the associated parking area. The new lot will have an area of approximately 10,634 m².

Figure 2 – Zoning of site and surrounding area.



The site and surrounding area is generally flat with a slight rise to the rear and western side. Council mapping indicates that the northern part of the site is subject to flooding together with a large surrounding area generally.

Figure 3 – Extract from development site plan showing proposed site layout (NTS).



The existing public carparking area is currently utilised by visitors a mix of commercial office premises on the eastern side of the carpark. This includes:

- Forster Arts and Crafts centre
- Midcoast Assist
- Forster Tuncurry Community Centre
- Disability Services

Alternative access to these premises is also available from a lane further east. The Midcoast Library at the southern end of the carpark has been closed.

Figure 4 - 4-12 Breese Parade 2 m contour mapping (MidCoast Council image 12/10/2023)

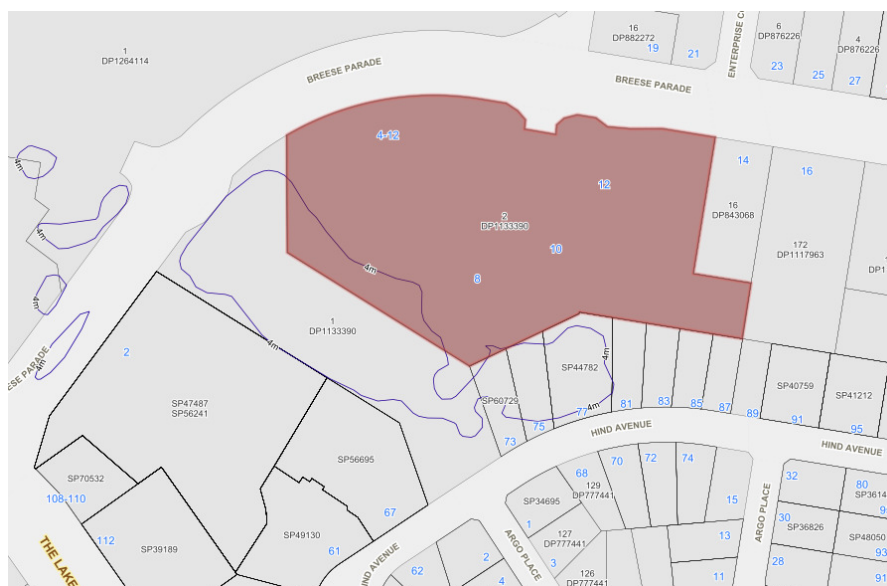
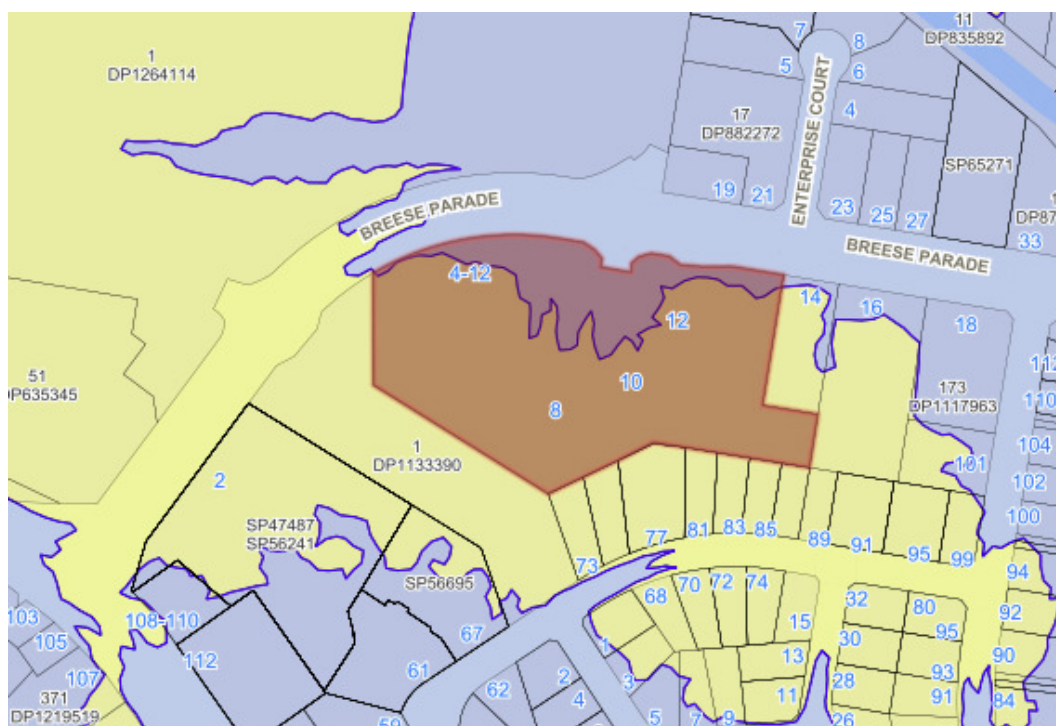


Figure 5 – 4-12 Breese Parade area of flood impact (MidCoast Council image 12/10/2023)



6 Existing Road and Traffic Conditions

6.1 Existing Road Details

Stockland Forster Shopping Centre occupies the land directly opposite on the northern side of Breese Parade. The shopping centre contains two major grocery shops, Coles and Woolworths, K-Mart, Bunnings and numerous specialty shops. Breese Parade and The Lakes Way provide the bulk of access connections to the shopping centre.

At this location Breese Parade is mostly constructed as a 4 lane, 2-way divided carriageway with roundabouts at strategic intersections within a road corridor approximately 33 m wide. The existing site carpark connects directly to a roundabout in Breese Parade and Breese Parade is constructed with single lanes in each direction along the length of the site frontage and a pedestrian zebra crossing is located near the western end of the site frontage.

Figure 6 – Single lanes for traffic in Breese Parade fronting the site.



Figure 7 – View west along Breese Parade with the site access on the left side of the roundabout.



Figure 8 – View west along Breese Parade approaching the pedestrian crossing with the existing administration building on the left side.



6.2 Existing Traffic

AM and PM peak hour traffic volumes in Breese Parade have been obtained from a peak hour traffic count undertaken on Thursday and Friday 10 and 11/8/23. The AM count was undertaken between 7.30 and 9.00 am and the peak hour occurred between 8.00 and 9.00 am. The PM count was undertaken between 3.30 and 5.00 pm and the peak hour occurred between 4.00 and 5.00 pm. Traffic volumes in Breese Parade west of the roundabout are shown in the table below.

Table 1 – 2023 AM and PM peak hour traffic volumes plus % heavy vehicles in Breese Parade.

DIRECTION	AM	PM
EASTBOUND	229	360
WESTBOUND	298	359
2 WAY TOTAL (HR)	527 (3.4%)	719 (1.0%)

Figure 9 – Traffic count roundabout movement annotations.

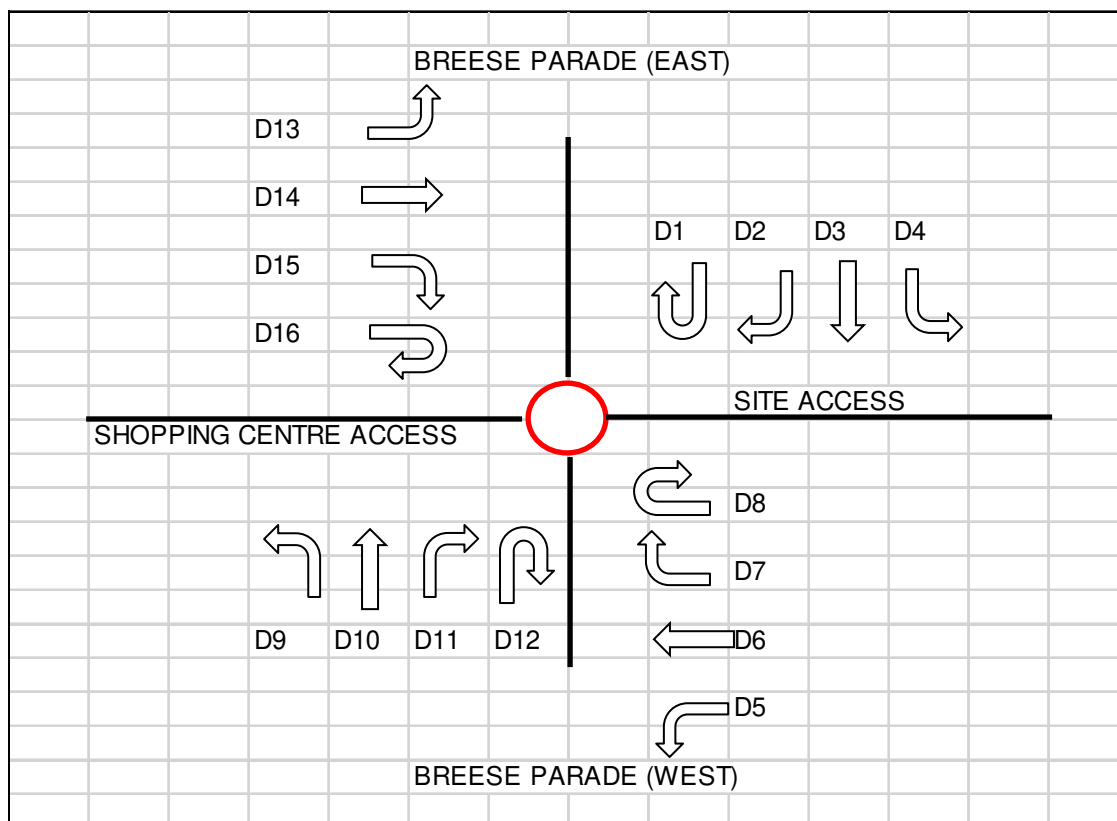


Table 2 – Roundabout AM movement count details.

MORNING	D1 		D2 		D3 		D4 		D5 		D6 		D7 		D8 	
TIME	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+
7.30 TO 7.45	3		9		36				1							
7.45 TO 8.00	14		19		59		2									
8.00 TO 8.15	14		11	1	43	3										
8.15 TO 8.30	14		15	1	47	1	2									
8.30 TO 8.45	5		28	1	50		1									
8.45 TO 9.00	11	2	25		54	2	4		1				2			
9.00 TO 9.15																
9.15 TO 9.30																

D9 		D10 		D11 		D12 		D13 		D14 		D15 		D16 	
CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+
4		28	2	2			1	3				1	1		
7		30	4	1		1		5				6	1		1
9	3	40	2	2				7				4	1		
9		58		7				5				3	1		1
19		59	4	3		1		17				9			
15		63		3		1						7	1		

Table 3 – AM hourly count dissection.

TOTAL 1/4 HR	TOTAL HRLY WSTBND	TOTAL 1/4 HR	TOTAL HOURLY ESTBND	TOTAL 2 WAY
37		40		
43		67		
56		51		
74	210	52	210	420
86	259	60	230	489
82	298	66	229	527

Table 4 - Roundabout PM movement count details.

EVENING	D1 		D2 		D3 		D4 		D5 		D6 		D7 		D8 	
TIME	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+
3.30 TO 3.45	7		24		63	1	1		1				2			
3.45 TO 4.00	10		24		51		3		2				1			
4.00 TO 4.15	8		26		67		3		7				2			
4.15 TO 4.30	15		26		72		2		2		2		2			
4.30 TO 4.45	4		15		73	2	2		3		3		2			
4.45 TO 5.00	11		13		65		1						2			
5.00 TO 5.15																
5.15 TO 5.30																
5.30 TO 5.45																
5.45 TO 6.00																

D9 		D10 		D11 		D12 		D13 		D14 		D15 		D16 	
CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+	CL 1	CL3+
20		77	1			2		22				20			
8		56		4			1	42				6			
11		61	2	5				32		1		15			
13		90	2			1		35				14			
10		69	1			1		29				26			
9		84						33				12			

Table 5 - PM hourly count dissection.

TOTAL 1/4 HR	TOTAL HRLY WSTBND	TOTAL 1/4 HR	TOTAL HOURLY ESTBND	TOTAL 2 WAY
100		87		
69		60		
79		89		
106	354	89	325	679
81	335	105	343	678
93	359	77	360	719

For the AM and PM peak hour lane traffic volumes in Breese Parade an indication of the current Level of Service category can be provided by reference to the RTA Guide to Traffic Generating Developments and Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis.

Table 6 – LOS from RTA GTTGD.

Table 4.4 Urban road peak hour flows per direction		
Level of Service	One Lane (veh/hr)	Two Lanes (veh/hr)
A	200	900
B	380	1400
C	600	1800
D	900	2200
E	1400	2800

From the traffic count carried out for this study the current LOS for peak hour traffic in Breese Parade would be LOS B for both AM and PM operation in the single lane divided road length fronting the site.

Table 7 – Existing AM and PM LOS in Breese Parade.

	AM TRAFFIC	LOS	PM TRAFFIC	LOS
EASTBOUND	229	B	360	B
WESTBOUND	298	B	359	B

From observation of traffic flow at the roundabout it was clear that the bulk of traffic was not delayed. The average delay for all vehicles is expected to be less than 10 seconds which equates to a LOS of A.

Figure 10 - Level of Service Criteria for roundabouts (Austroads GTTM Part 3).**Table 7.3: LOS criteria for roundabouts**

LOS	Average control delay d (s/veh)
A	$d \leq 10$
B	$10 < d \leq 20$
C	$20 < d \leq 35$
D	$35 < d \leq 50$
E	$50 < d \leq 70$
F	$70 < d$

Source: SIDRA Intersection User Guide (Akçelik & Associates 2011).

6.3 Speed Environment

The Lakes Way has a 60 km/h speed limit from a point north of Koolaroo Drive and southward past the intersection with Breese Parade.

As there are no visible speed restriction signs in Breese Parade near The Lakes Way or in a reasonable distance from The Lakes Way it must be assumed that Breese Parade is subject to the default urban speed limit of 50 km/h.

6.4 Breese Parade Roundabout

The development site has direct connection to an existing roundabout in Breese Parade which also provides access to the Stockland Forster shopping centre as shown below.

Figure 11 – Breese Parade roundabout configuration.

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chris.weavers@iinet.net.au

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The roundabout has the following characteristics:

- Inner diameter of approximately 18 m
- Southern connection to development site carpark
- 2 lane eastern approach with right lane a trap lane for right turning traffic
- Single lane exit to west
- Single lane western approach with added left turn lane 40 m long
- Single lane entry and exit from the shopping centre with splitter island
- Single lane exit for eastbound traffic.

6.4.1 Roundabout Sight Distance

The minimum Approach Sight Distance (ASD) should be provided in each approach for a driver to see the Give Way linemarking when approaching the roundabout. For alerted urban conditions ASD is 48 m for a design speed of 50 km/h. This applies to Breese Parade and is satisfactory.

Lower approach speeds are applicable for the northern and southern approaches. All approach sight distances appear to be satisfactory.

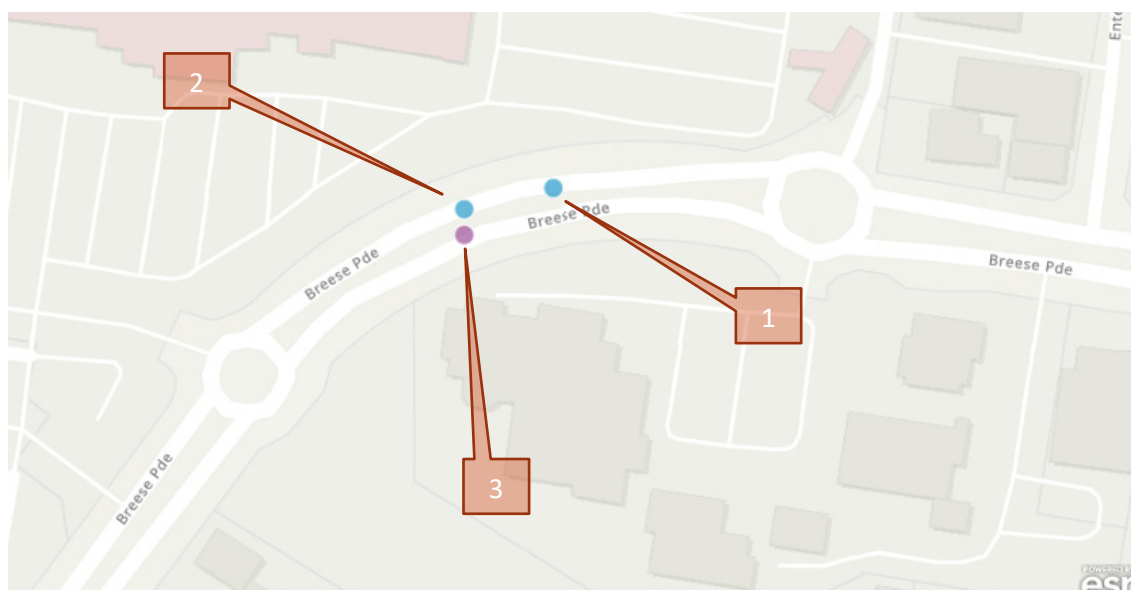
4 to 5 seconds of Gap Sight Distance should also be available between approaching and circulating vehicles on the roundabout. This also appears to be satisfactory.

6.5 Crash History

Crash data obtained from Transport for NSW for the 5 year period 2017 to 2021 identified 3 crashes in Breese Parade adjacent to the site. There were no recorded crashes at the roundabout. There was a total of 3 injuries from the 3 crashes.

Pertinent details for each of the crashes is presented below:

1. ID 1179088. RUM 81 “off left/right bend=>object”, 2018 – one moderate injury
2. ID 1216207, RUM 48 “from footpath”, 2019 – one moderate injury
3. ID 1238897, RUM 48 “from footpath” 2020 – one minor/other injury.



The crash frequency is very low and crash characteristics are disparate so no conclusions can be drawn.

7 Public and Active Transport

7.1 Bus Services

Forster Buslines operates a comprehensive range of town bus services across Forster and Tuncurry. A primary destination is the Stockland shopping centre which is opposite the development site. Routes 303, 304 and 305 connect to the shopping centre via stops in Breese Parade. Eastbound buses stop at the bus stop only 20 m before the pedestrian crossing and westbound buses stop at the bus stop located immediately before the roundabout at the site access.

Figure 12 – Map of regular Forster town bus services.



7.2 Active Transport - Walking and Cycling

Both sides of Breese Parade have wide footpaths suitable for walking and cycling. Great Lakes Council published the map below which indicates recommended cycling routes for access between public amenities, shops and points of interest.



8 Proposed Development

It is proposed that the development will comprise:

- Two or three specialised retail outlets with a total floor area of approximately 3963 m²
- Outdoor car parking for 81 vehicles including one disabled vehicle
- Separate access for deliveries and waste removal via a driveway to the rear along the western side boundary.

Figure 13 -Architectural presentation of the proposed development from Breese Parade.



9 Relevant Pre-lodgement Matters

No issues have been identified.

10 Development Constraints

10.1 SEPP (Transport and Infrastructure) 2021

The Lakes Way is a classified State Road north of the intersection with Breese Parade and is classified as a Regional Road south of Breese Parade.

NSW. State Environmental Planning Policy (Transport and Infrastructure) 2021 has a range of requirements for a proposed development which has access to a road generally, or to a classified road. Schedule 3 of the SEPP describes traffic generating developments on classified and other roads which require referral to TfNSW.

For classified roads the SEPP is triggered in regard to traffic generation when the development has access to the classified road or if it is within 90 m of the classified road via a connecting road when the proposed development:

- Contains 50 or more parking spaces
- Commercial premises with a GFA of 2,500 m²
- Shops with 500 m² of gross floor area
- Traffic generation of 50 or more vehicles per hour.

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chris.weavers@iinet.net.au

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As the closest site access is approximately 290 m from the classified road, none of the criterion above is triggered by this development proposal so referral to TfNSW is not required under the SEPP.

10.2 Development Control Plan

The current Great Lakes DCP 2013 has specific requirements for development in the Great Lakes region. Part 10 details requirements for car parking, access and alternative transport.

10.2.1 Car Parking

Section 10.3.1 Car Parking Rates specifies off street parking requirements for “bulky goods” type developments. Details are included in the copy of the table shown below.

Table 8 – Applicable off street parking requirements from the DCP.

Type	Car spaces
Bed & Breakfast Accommodation	1 off-road space per guest bedroom
Commercial Office / Business Premises	1 space per 40sqm GLFA*
Bulky Goods (Retail and Industrial)	1 space per 50sqm GLFA*
Retail/Shops	1 space per 24sqm GLFA*
Car/Caravan/Boat/Truck sales	1 space each 200sqm GLFA* 1 space each 24sqm of spare parts sales
Restaurant	1 space per 15 seats in an area identified in Council's S94 parking contributions plan 1 space per 3 seats elsewhere
Theatre/Church/Place of assembly	1 space per 10 seats or 1 space per 10sqm of seating area

Table Notes

GLFA is the gross leasable floor area as defined in the Roads and Maritime Services publication *Guide to Traffic Generating Developments* (2002).

Car parking requirement calculations shall be rounded up to the nearest whole number.

If the development type is not listed in the above table, reference may be made to the Roads and Maritime Services publication *Guide to Traffic Generating Developments* (2002) for the appropriate rate.

GLFA is defined in the GTTGD in the following terms.

“The term gross leasable floor area means the sum of the areas at each floor of a building. In this instance, the area of each floor is taken to be the area within the internal faces of the walls, excluding stairs, amenities, lifts, corridors and other public areas, but including all stock storage areas. As a guide, about 75% of the gross floor area is deemed gross leasable floor area. However, this percentage can vary substantially between developments.”

The gross leasable floor area is nominated on the site plan as 4153 m². One parking space per 50 m² results in a total of 83.06 which rounds up to 84 spaces.

It is proposed to provide 84 car parking spaces.

10.2.2 Car Parking Design

Section 10.3.2. Car Parking Design Controls nominates the following design controls as applicable to residential apartment buildings, mixed use development and business premises.

Table 9 – Car Parking Design Controls

	DCP REQUIREMENT	RESPONSE
1.	Car parking must be located behind the building setback and be screened from view using well designed structures and vegetation to minimise impacts on the streetscape.	The development plans indicate a building setback of approximately 4.5 m to Breese Parade. No new carparking is proposed within the setback.
2.	Car parking for residents may be located within a basement.	NA
3.	Car parking areas should be designed to conveniently, efficiently and appropriately serve residents and visitors of the site by: Ensuring that car parking areas are located close to entrances and access ways. Car parking areas are secure and accessible.	Car parking spaces are located in proximity to building entrances.
4.	Clearly identify areas for visitor parking and parking for disabled persons.	Disabled spaces will be compliant with the requirements of AS 2890.6.
5.	Driveways and car parking areas must be hard surfaced, designed and graded to manage stormwater.	Details to be provided with the Construction Certificate.
6.	Stacked car parking (one space immediately behind the other) is only permitted if both spaces are used by the same dwelling.	Not applicable.
7.	Car parking to be designed with a maximum 3 point turn for a vehicle to enter the and exit the property in a forward direction (for the 85% vehicle).	Complies.
8.	The minimum head height clearance for a parking space for disabled persons is 2.5m.	No height limitation for the disabled parking space.
9.	Where parking is provided within basement level/s, the scale and siting of the basement carpark must not impact upon the ability of the development to satisfy minimum landscaping and deep soil zone requirements.	Not applicable.
10.	Where parking is provided in a basement, ventilation structures for the basement parking and air conditioning units must be orientated away from windows of habitable rooms and private open space areas. Ventilation grills and structures must be integrated into the design of the façade of the building to minimise their visual impact and be above the 100 year ARI flood level.	Not applicable.

10.2.3 Vehicle Access and Driveways

Section 10.3.3. Vehicle Access and Driveways states that “the design and location of vehicular access to developments should therefore minimise both conflicts between pedestrians and

vehicles on footpaths, particularly along pedestrian priority places, and visual intrusion and disruption of streetscape continuity. It is important that vehicle access is integrated with site planning from the earliest stages of development design.”

Operationally, it is expected that the access at the roundabout, which will provide direct access to the parking supply, will continue to provide satisfactory access to and from the premises.

The plan indicates the width of the existing access to be a minimum of 9.8 m. Having regard to the requirements of Section 3 of *AS/NZS 2890.1 Parking Facilities Part 1: Off-street car parking* it is considered that this is compliant with Tables 3.1 and 3.2.

Table 10 – Vehicle Access and Driveway Controls

	DCP REQUIREMENT	RESPONSE
1.	Vehicular entry points shall not comprise more than 25% of any street frontage.	Existing and proposed complies.
2.	Vehicle access should be provided from rear lane or secondary street frontages where these are available.	Not available.
3.	Only one vehicular access point is provided to a development except for special circumstances or where the site has frontage to two streets and a secondary access point is considered to be acceptable.	The site has a long frontage. The existing site access will be maintained without alteration for customer parking. A separate driveway for delivery vehicles is proposed.
4.	Vehicular access ramps parallel to the street frontage will not be permitted.	Not applicable.
5.	Vehicular entry points are to be integrated into the building design.	Not applicable.
6.	Doors to vehicular access points are to be roller shutters or tilting doors positioned behind the street alignment with a 6.0m setback provided.	Not applicable.
7.	Vehicular entries are to have high quality finishes to walls and ceilings as well as a high standard of detailing. No service ducts or pipes are to be visible from the street.	Complies.
8.	Paving colour, texture and material should be sympathetic with the character of the precinct and reflect a pleasant visual appearance.	Existing - Complies. New access to be detailed with the Construction Certificate.
9.	Driveways should be located to take into account any services within the road reserve, such as power poles, drainage inlet pits and existing street trees. Sight distances are required as prescribed by AS 2890.1.	Existing - Complies. No issues identified with the proposed service access.
10.	Long straight driveways should be avoided because these adversely dominate the streetscape and landscape. Curved driveways are more desirable. Landscaping between the buildings and the driveways is encouraged to soften the appearance of the hard surface.	A driveway along the western side of the site is required for service vehicle. This will not dominate the streetscape.
11.	All driveways must be located a minimum of 6m from the perpendicular to the kerblines of any intersection of any two roads.	Complies.

12.	The design of driveway and crossovers must be in accordance with council's standard vehicle entrance designs and widths must be in accordance with Australian Standard 2890.1.	Complies. The design of the new driveway will be dictated by the swept paths of service vehicles.
13.	All vehicles within a multidwelling development must provide vehicular manoeuvring areas to all parking spaces so vehicles do not need to make more than a three point turn to enter and exit the site in a forward direction. Direct reversing onto the street will only be considered where the garage fronts a secondary road, carrying reduced traffic volume and all other requirements of the policy are met.	Not applicable.
14.	Driveway grades, vehicular ramp width/grades and passing bays must be in accordance with Australian Standard 2890.1. Crossover and driveway widths must comply with the following: a) Developments which generate truck movements need to be designed to facilitate the movement, loading and unloading of those vehicles. Loading docks should be located to provide easy access and should not be located within the building line. Applicants must be able to demonstrate that trucks can be satisfactorily manoeuvred within the site. b) Ramps to be designed for the 99% vehicle splays/truncated corners used at corners. Convex mirrors are to be used to improve visibility where required. c) Isle widths are to be a minimum of 6.6m (Note: 5.8m isle width will be allowable under special circumstances). d) The minimum head height clearance for ramps and isles is 2.2m (2.3m where access is required to a disabled parking space).	a) Complies. See separate details. b) Not applicable. c) Aisle widths in the existing carpark range from 6.5 to 8.3 m. The proposed carpark extension indicates aisle widths between 6.5 and 7.5 m. d) Not applicable.

The site plan for Unit 4 shows a large rectangular building footprint with a central corridor and multiple rooms. The building is surrounded by parking areas. Key features include:

- Unit 4:** 1,003 m² (highlighted in a blue box).
- Parking:**
 - Bicycle Parking (10) and Bicycle Parking (9) are located near the building.
 - Permeable Paving is indicated in several areas.
 - Car Entry/Exit is shown at the top right.
 - Car Parking Reserved for Library is indicated on the right side.
 - Existing Car Parking is shown at the bottom.
- Boundaries and Setbacks:**
 - 4.5 m Building Setback is shown at the top.
 - Proposed Subdivision Line is indicated by a blue line.
 - Boundary is indicated by a red line.
 - 5.405 and 55.365 are numerical values along the right boundary.
- Other Features:**
 - Enclosed Area with Permeable Paving is shown at the bottom left.
 - Easement (4) is indicated near the bottom right.
 - Access Road (RSD) is shown on the left side.
 - Various other labels like "AWNING OVER", "ENTRY", "EXIT", "DA200", and "EASEMENT (4)" are present.

Parking demand will be assessed in accordance with the Great Lakes DCP 2013 and the RTA GTTGD.

As detailed in 10.2 above, the DCP specifies minimum parking rates based on GLFA. For the nominal rate of GLFA being 75% of gross floor area the required parking is 60 spaces.

CATEGORY	AREA (m ²)	RATE	REQUIRED
GLFA	4153	1 per 50 m ²	83.06
ROUNDUP			84

11.2 Guide To Traffic Generating Development

The GTTGD noted a wide variation in parking demand amongst the “bulky goods” retail stores surveyed. Rates varied from 0.3 to 5.1 vehicles / 100 m² of GLFA. On this basis the parking demand would range from 12.5 spaces to 211 parking spaces.

From the GTTGD surveys of traffic generation noted in this report, the maximum parking demand for the average traffic generation indicates an average turnover of approximately 30 minutes.

11.3 Disabled Parking

The Great Lakes DCP does not specify a proportion of parking spaces required for disabled parking. It is common for one disabled parking space to be provided for each 50 parking spaces. Two disabled parking spaces are proposed. This is expected to be satisfactory.

Disabled parking spaces and the manoeuvring area are each required to be 2.4 m wide in accordance with *AS/NZS 2890.6:2009 Part 6: Off-street Parking for People with Disabilities*. It appears that one or two disabled parking spaces could easily be provided.

12 Parking and Access Design

The Great Lakes DCP does not indicate that car parking for business and commercial premises should be designed in accordance with *AS/NZS 2890.1 Parking Facilities Part 1: Off-street car parking*. Specific requirements of the DCP are detailed in Section 10.2 above. A comprehensive assessment of compliance with *AS/NZS 2890.1 Parking Facilities Part 1: Off-street car parking* is provided below.

12.1 Parking Modules

Table 1.1 of *AS/NZS 2890.1 Parking Facilities Part 1: Off-street car parking* details the classification of off street parking spaces according to the predominant use, as shown below.

Figure 15 – Car Parking Classification

TABLE 1.1
CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

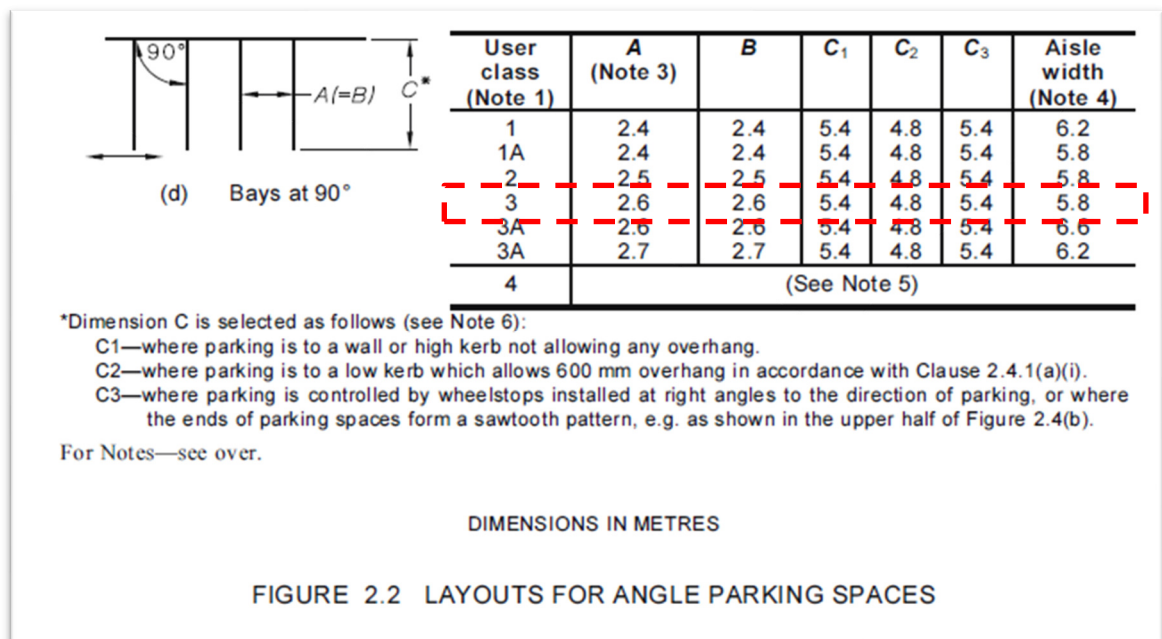
User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

The existing parking area has parking bays 2.5 m wide and 5.5 m long which equates to Class 2 for “long term city and town centre parking”. Aisles are 6.2 m wide which is significantly greater than the minimum 5.8 m.

It is expected that the proposed use would equate to “short term high turnover parking at shopping centres”, which is Class 3.

The dimensions for angle parking bays applicable to each User Class are detailed in Figure 2.2 of AS 2890.1 as shown below.

Figure 16 – Part copy of Figure 2.2 from AS 2890.1.



User Class 3 spaces are to be a minimum of 2.6 m wide and 5.4 m long, when accessed from an aisle not less than 5.8 m wide. The greater aisle width will permit easier turning into spaces especially for nose in parking. This will compensate for the minor variation in space width.

12.2 Site Access Configuration

In addition to the existing site access via the roundabout a new access for service vehicles is proposed adjacent to the western side boundary.

12.2.1 Existing Access from Roundabout

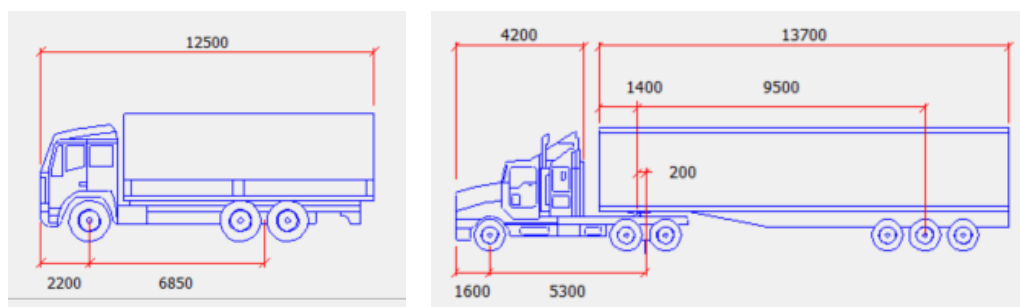
The existing access, which has a width of 9.7 m will continue to provide all public customer access to and from the carpark via the roundabout in Breese Parade.

12.2.2 Commercial Vehicle Access

There is an existing access adjacent to the western site boundary which provides access to a small parking and service area. It is proposed to utilise the existing access to provide a connection to a driveway along the western side boundary to a rear area for delivery and service vehicles to access the loading / unloading areas for each unit.

The footpath crossing will be sized to suit the swept path of a 19 m articulated vehicle and the driveway will have a minimum width of 6.5 m which will permit two trucks to pass. AutoTurn modelling presented below demonstrates that turning manoeuvres are satisfactory to access external standing bays to suit a 19 m Articulated Vehicle adjacent to Units 3 and 4 and a 12.5 m Heavy Rigid Vehicle adjacent to Units 1 and 2.

Figure 17 – Austroads 12.5 m Heavy Rigid Vehicle and 19 m Articulated Vehicle.



13 Vehicle Manoeuvring

13.1 Light Vehicle Manoeuvring

As there are no squeeze points and aisle widths exceed minimum dimensions of AS/NZS 2890.1 *Parking Facilities Part 1: Off-street car parking* it is not necessary to provide additional analysis for light vehicle access.

13.2 Commercial Vehicle Manoeuvring

13.2.1 19 m AV

AutoTurn modelling screenshots below confirm that vehicle access is satisfactory for the critical manoeuvres. Successive moves are presented for access to the Unit 4 loading area. Unit 3 will be similar.

Figure 18 – 19 m AV entering from Breese Parade.

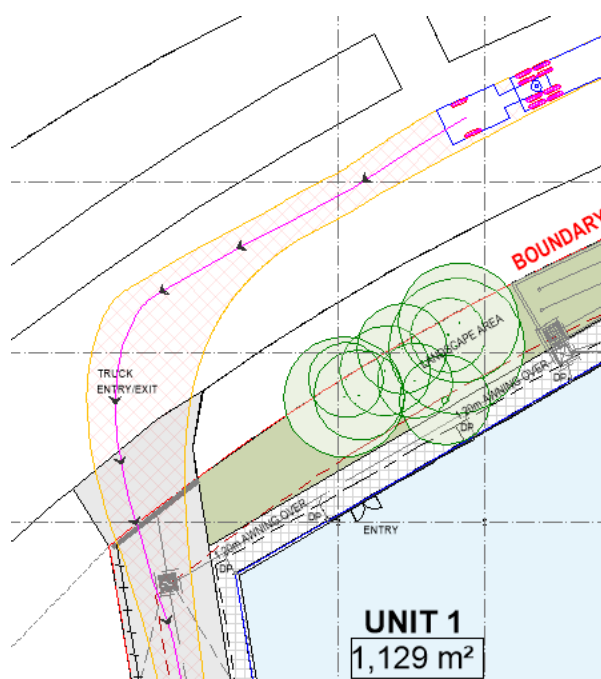


Figure 19 – 19 m AV entering the rear area, turning and moving forward toward the western boundary and ready to reverse.

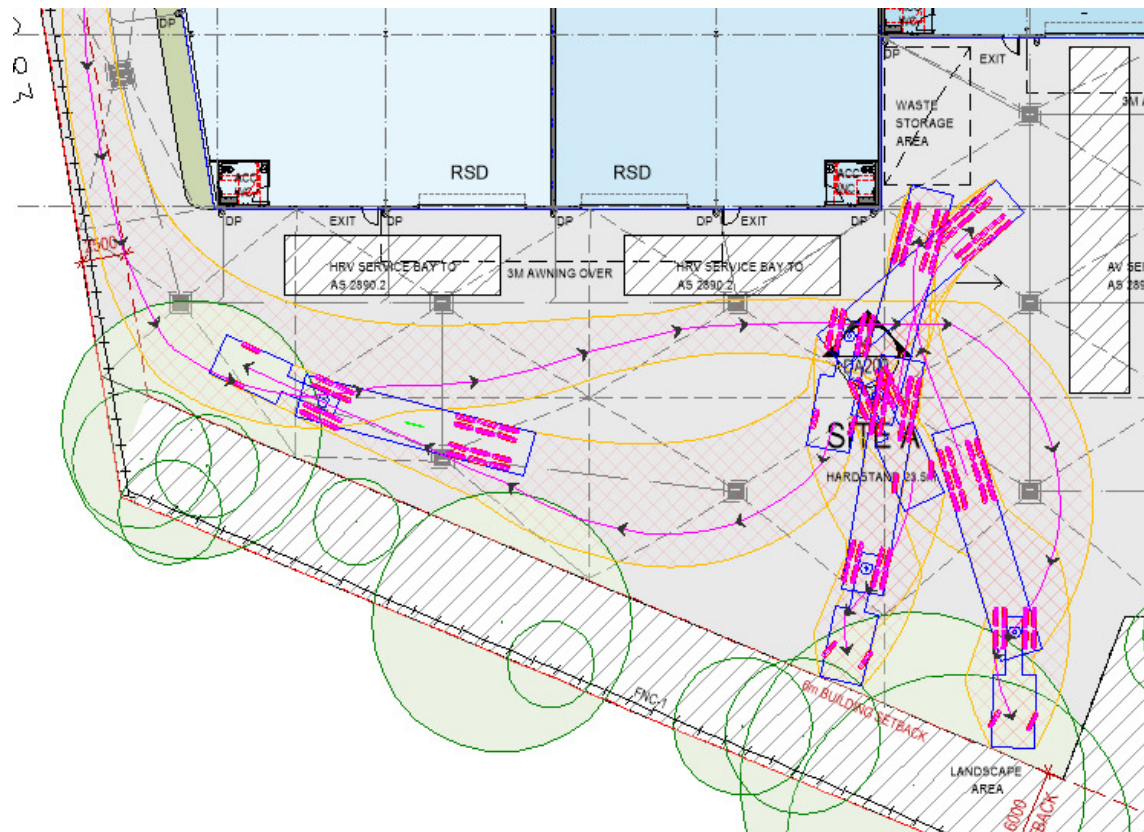


Figure 20 – 19 m AV reversing into the unloading area in a single sweep.

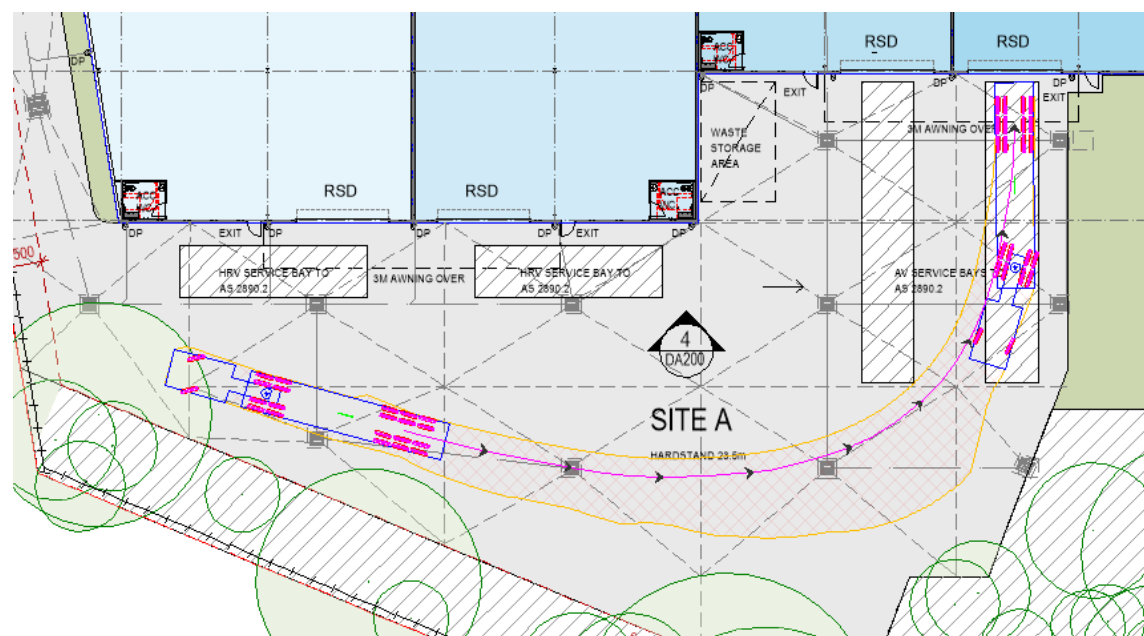


Figure 21 – 19 m AV exiting toward Breese Parade.

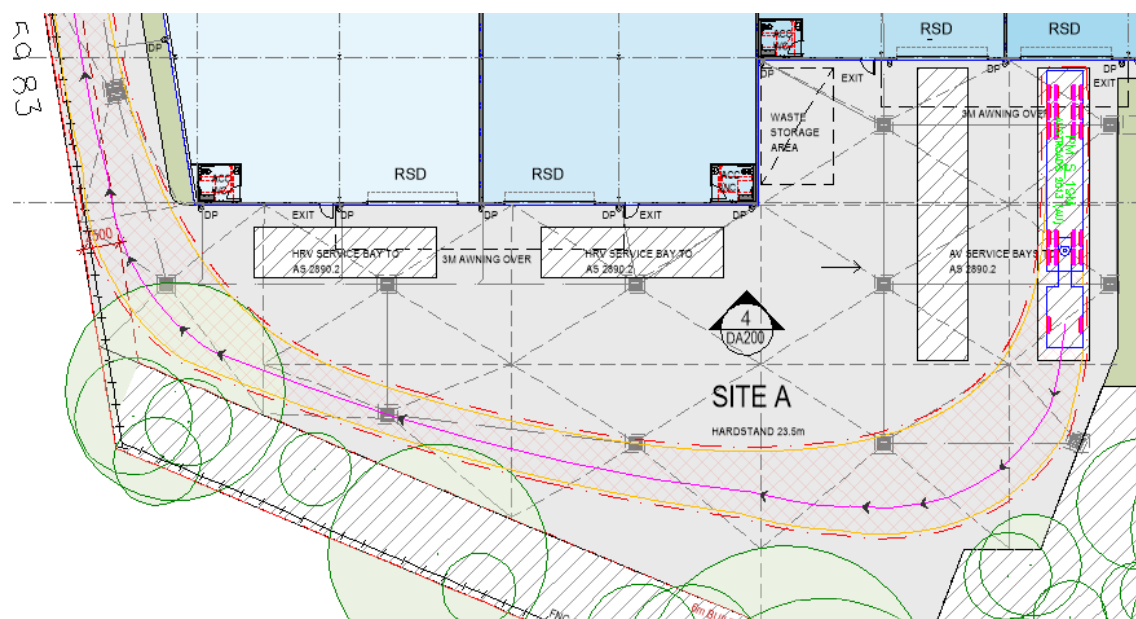
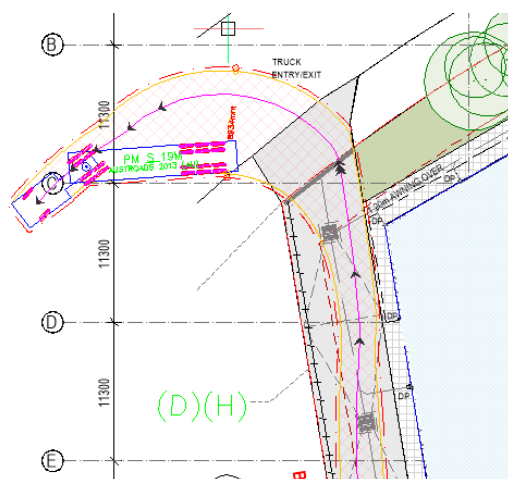


Figure 22 – 19 m AV turning left into Breese Parade.



It is noted that further detailing of the footpath crossing will be required for the Construction Certificate.

13.2.2 12.5 m HRV

Figure 23 – HRV entry from Breese Parade.

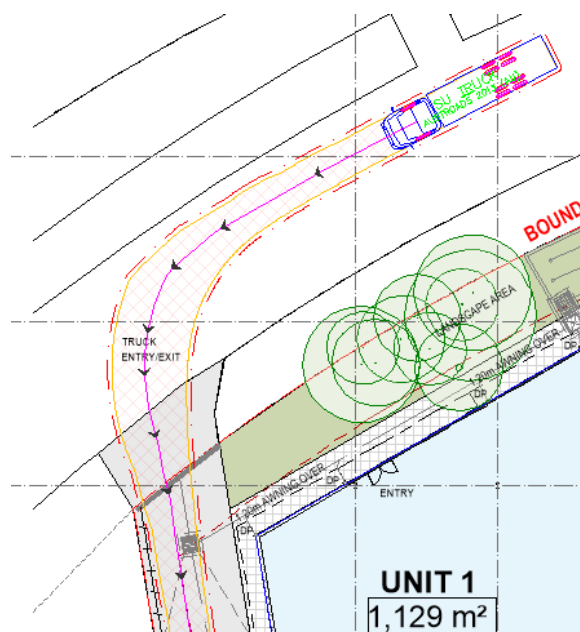


Figure 24 – HRV entering and reversing into the loading bay for Unit 2.

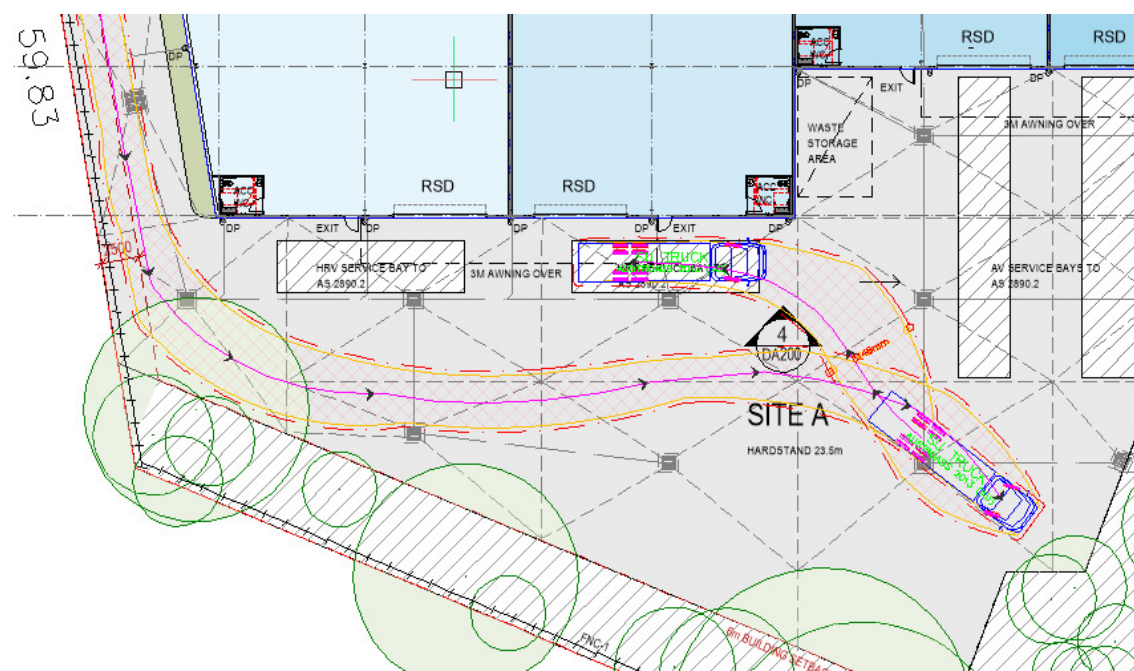


Figure 25 – HRV turning to exit.

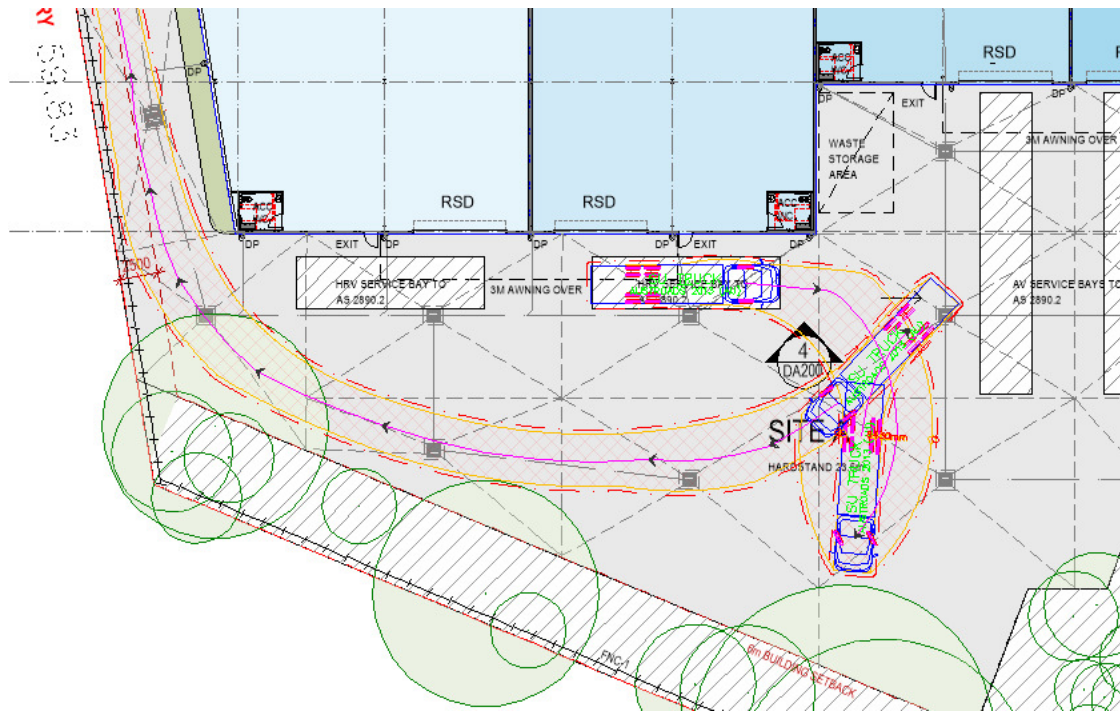


Figure 26 – HRV exit to Breese Parade.

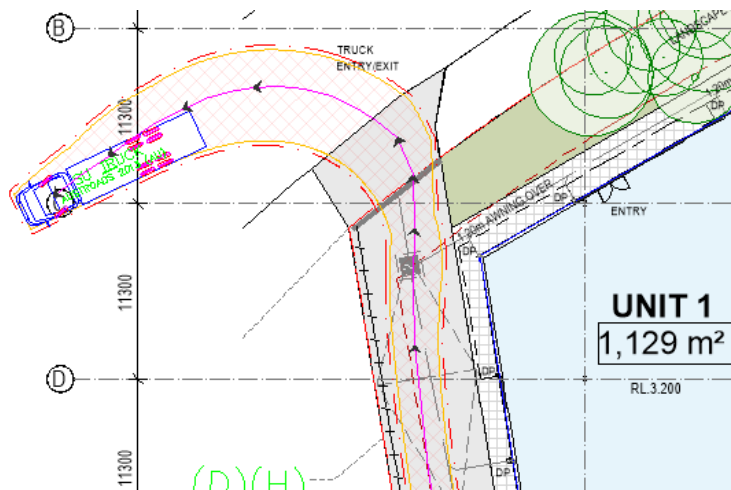


Figure 27 – HRV entering, turning and then reversing into the unloading bay adjacent to Unit 1.

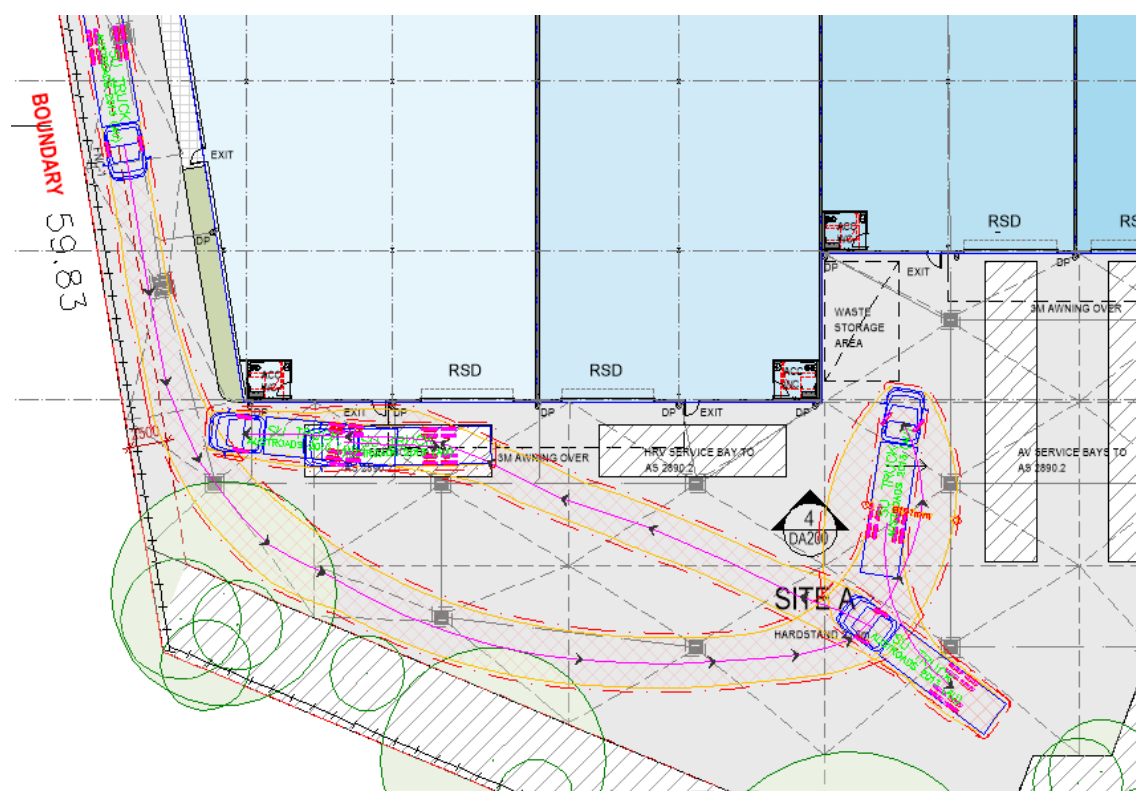
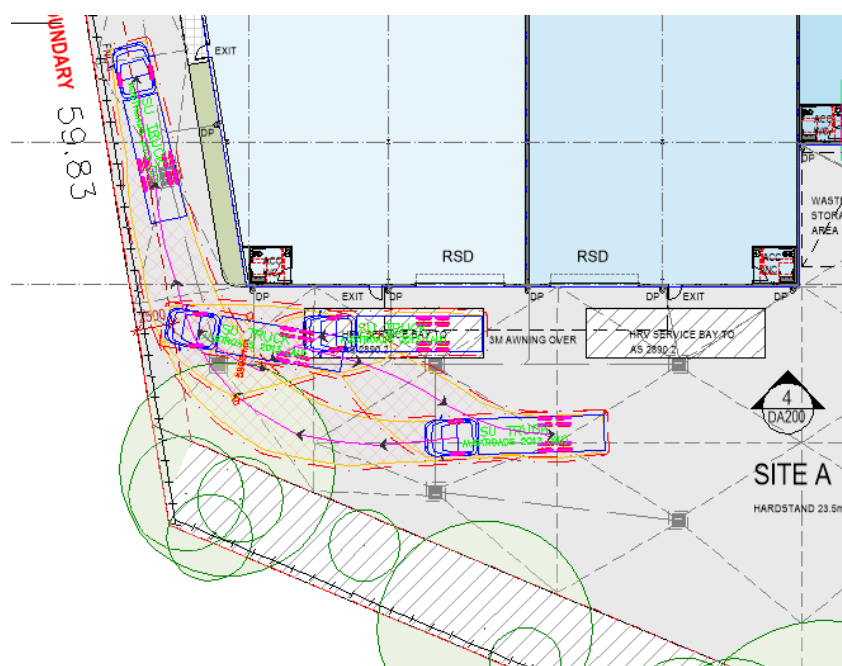


Figure 28 – HRV departing from Unit 1.



13.2.3 Refuse Removal Vehicles

As Refuse Removal Vehicles are typically smaller than the vehicles presented above there should be no issues with entering and exiting the site and manoeuvring in the service area at the rear.

14 Traffic Generation

Land use traffic generation is discussed in the GTTGD Section 3.6.8. From surveys of various “bulky goods retail stores” there was a wide variation in traffic generation from 0.1 to 6.4 vehicle per hour per 100 m² GLFA with the average being 2.5 trips per hour. Then:

Trip Generation = $(4153/100) * 2.5 = 104$ trips per hour. As customers are on average expected to be on site for less than 1 hour the maximum number of entry and exit movements would be 52 each way per hour.

15 Trip Assignment

Due to the small number of vehicle movements in and out of the existing roundabout access it is not possible to make a reliable assumption in regard to future trip assignment.

It is expected that a reasonable assumption would be to assign 50% each way in and out along Breese Parade.

16 Previous Site Use as Council Administration Office

The existing Great Lakes Council administration office on the site is to be demolished. An allowance must be made for the traffic generation from the previous site usage.

The existing office building has a GFA of approximately 3020 m². Due to the nature of local government business, there is a high proportion of the total floor area devoted to meeting rooms and storage etc which results in the calculated NFA being 1680 m².

From the Greater Taree DCP 2010 the parking requirement of “Office Premises/Public Buildings” 1 space per 35 m² NFA and 1 space per 500 m² for courier/service vehicles. This results in $48 + 3 = 51$ spaces.

The existing carparking allocated to the Council office building is 59 spaces. A separate area has been allocated to the previous library building. It is also known that the building was occupied by 137 staff.

If it is assumed that the carpark has 95% occupancy by 9 AM and also empties in the hour to 5 PM then there would be 56 trips in and 56 trips out in each hour.

17 Post Development Traffic Conditions

It has been determined that the previous site usage resulted in 56 trips into the site in the AM peak hour and 56 trips out during the afternoon peak hour.

As the proposed development will replace the previous GLSC office building the proposed development must be considered against the surveyed traffic volume with an allowance made for the previously occupied offices.

Assuming both inward and outward trips are split 50% east and west along Breese Parade the tables below indicate peak hour traffic volumes in Breese Parade west of the roundabout. The results indicate that there is less than 1% reduction in traffic after development of the site.

Table 12 – 2023 AM and PM peak hour traffic volumes plus GLSC trips.

DIRECTION	AM	PM
EASTBOUND	229 + 28=257	360+28=388
WESTBOUND	298+28=326	359+28=387
2 WAY TOTAL (HR)	583	775

Table 13 – 2023 AM and PM peak hour traffic volumes proposed development trips.

DIRECTION	AM	PM
EASTBOUND	229 + 26=257	360+26=388
WESTBOUND	298+26=326	359+26=387
2 WAY TOTAL (HR)	579	771

Given that there is virtually no change in peak hour traffic volumes in Breese Parade due to the operation of the developed site there is no requirement to provide further analysis of impacts on the roundabout or the operation of the site access.

Delivery and service vehicle volumes have not been estimated as they are low volumes and will not have a significant impact on peak hour performance of the roundabout or the total volume in Breese Parade.

18 Conclusions

This Traffic Impact Assessment has determined traffic volumes in Breese Parade at the roundabout servicing the site and the shopping centre opposite by completing an AM and PM peak hour traffic count. For the length of Breese Parade with single lanes eastbound and westbound west of the roundabout, the existing lane volumes fit into the Level of Service B range.

Based on the floor area of the existing building and the proposed development it has been found that a very small decrease in traffic volume in Breese Parade will result and that the roundabout will continue to operate with a high Level of Service.

By observation it was noted that the existing roundabout has low Degree of Saturation, minimal delays and a high capacity for additional traffic loading.

From Midcoast Council's car parking requirements it is found that there is a demand for 84 parking spaces based on the DCP formula. There are 84 spaces provided in the area of the existing carpark including 2 disabled parking spaces.

Each of the DCP requirements in regard to vehicular access and parking has been addressed separately. There are no significant issues or non-conformances.