

69-73 GEORGE STREET, MARULAN

PROPOSED CHILDCARE CENTRE
WITHING THE MARULAN VILLAGE CENTRE

**TRAFFIC & PARKING
IMPACT ASSESSMENT**

NOVEMBER 2023

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TRAFFIC & PARKING IMPACT ASSESSMENT
69-73 GEORGE STREET, MARULAN
PROPOSED CHILDCARE CENTRE
DATE: 01 NOVEMBER 2023

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1 INTRODUCTION

This report has been prepared by Hemanote Consultants to assess the traffic and parking implications of the proposed childcare centre to be located within the existing Marulan Village Centre at **69-73 George Street, Marulan**, accommodating up to 76 children places between the ages of 0 to 5 years old.

This report is to be read in conjunction with the architectural plans prepared by Creative Drafting Services (reduced copy of the plans is attached in Appendix 'A' of this report) and submitted to Goulburn Mulwaree Council as part of a Development Application.

This report is set as follows:

- *Section 2:* Description of the existing site location and its use;
- *Section 3:* Description of existing traffic conditions near the subject site;
- *Section 4:* Description of the proposal, vehicular access, on-site parking provision, layout and circulation;
- *Section 5:* Assessment of impacts on parking;
- *Section 6:* Assessment of impacts on traffic in the vicinity of the subject site; and
- *Section 7:* Outlines conclusions.

2 EXISTING SITE DESCRIPTION

➤ *Site Location*

The subject site is located on the eastern side of George Street at properties No. 69-73 (legally known as Lot 1 of DP1268661), within the suburb of Marulan. The site has a frontage of approximately 80.5 metres to George Street from the west. Refer to Figure 1 for a site locality map.

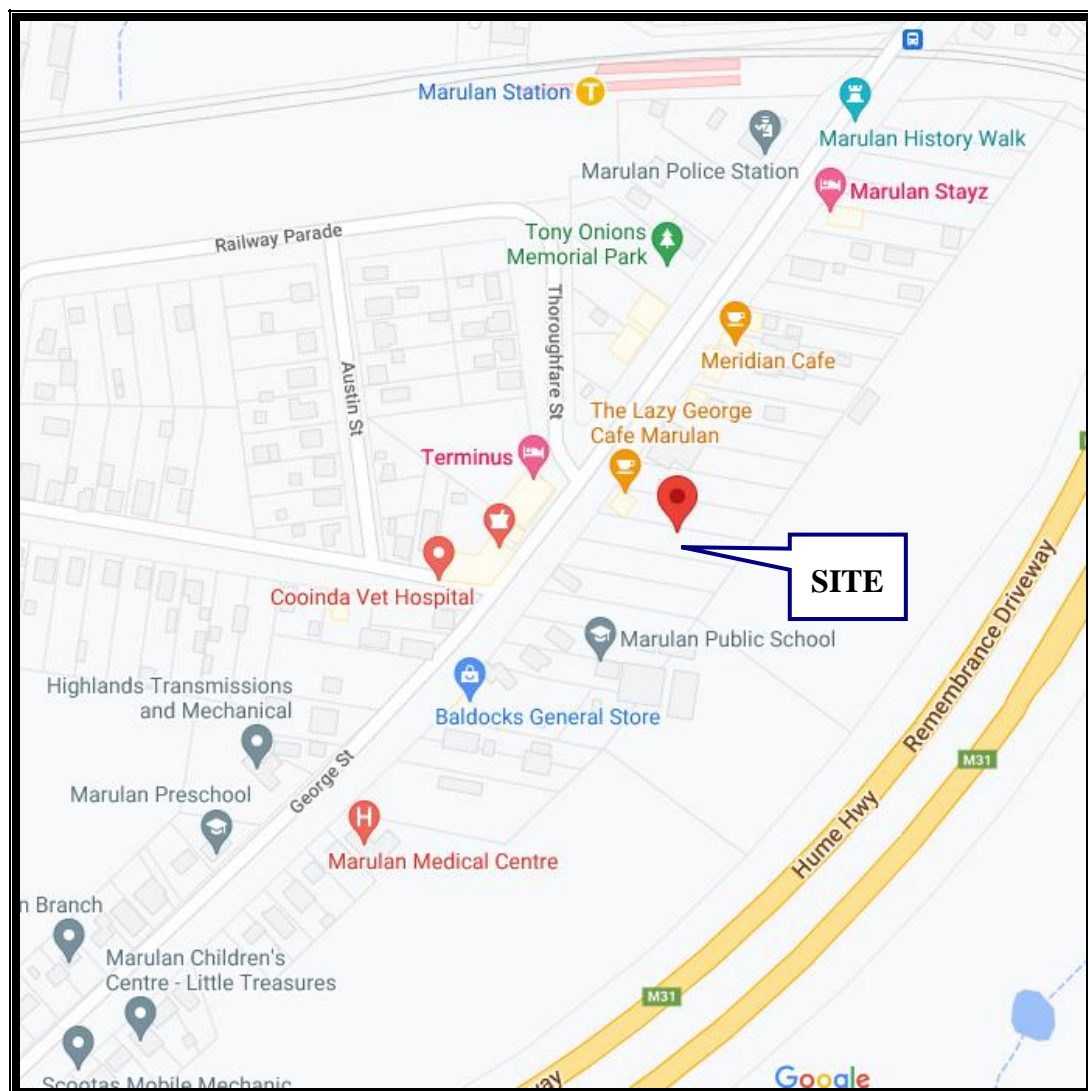


Figure 1: Site Locality Map

➤ **Existing Site & Surrounding Land Use**

The subject site is currently occupied by an existing shopping centre, known as Marulan Village Centre, with 64 existing car parking spaces. It is located in a mixed residential and commercial area, characterised by residential dwellings, as well as retail and commercial sites. The site is also located approximately 1 km from Marulan Railway Station.



Photo 1: Existing site frontage to George Street

3 EXISTING TRAFFIC CONDITIONS

3.1 Road Network and Classification

George Street is a local road that runs in a north-east to south-west direction between its loop end to the north-east and its extension off the Hume Highway / Remembrance Driveway (state road) to the south-west. It intersects with a number of local roads in close proximity to the subject site, including Thoroughfare Street and Goulburn Street.

3.2 Road Description and Traffic Control

George Street has a two-way undivided carriageway with a width between kerbs and some edges of bitumen of an approximate range between 16 to 19 metres. This carriageway generally provides one travel lane per direction, plus kerbside parking on both sides of the road.

At present, parking on the eastern side of George Street near the subject site is unrestricted to the left side of the driveway heading north, with parallel and 45° front to kerb parking available. Further, parking is restricted to signposted 'No Stopping' between the right of the driveway and the existing pedestrian walkway, with additional restrictions in place when heading south. These include signposted 'Bus zone between 8:30am and 9:30am and between 2:30pm and 3:30pm on school days', signposted 'No stopping' near the driveway of the existing school nearby and signposted 'No Parking between 8:30am and 9:30am and between 2:30pm and 4:00pm on Mon-Fri'. An on-street marked and signposted accessible space is available, as well as additional unrestricted parking.

Parking on the western side of George Street is generally unrestricted, however, with signposted '15-minute parking between 8:30am and 6:30pm' restrictions near existing retail sites, and signposted 'No Parking' near existing driveways. Parking directly opposite the site is not permitted.

The legal speed limit on George Street is signposted at 50km/h, with the exception of the signposted “School Zone” of 40km/h on school days. George Street intersects with Thoroughfare Street and Goulburn Street, which are both controlled by ‘T-priority’ traffic measures and associated ‘Give-Way’ signage, given to traffic travelling along George Street.

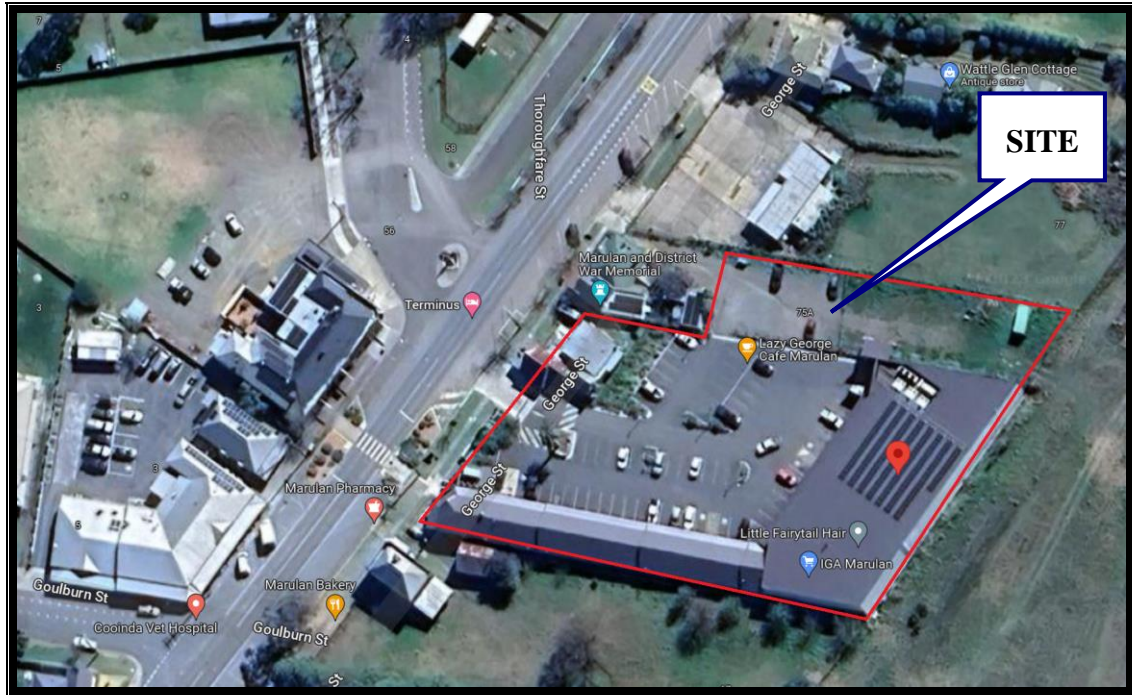


Figure 2: Aerial photograph of the subject site and surrounding road network



Photo 2: George Street at the subject site – facing north-east



Photo 3: George Street at the subject site – facing south-west

3.3 Current Traffic Flows

A traffic volume count was undertaken by Hemanote Consultants at the intersection of Thoroughfare Street / George Street / subject site driveway on Wednesday 25 October 2023, during morning period (7.00am to 10.00am) and afternoon period (3.00pm to 6.00pm), considering the childcare centre proposed hours of operation and traffic peak periods.

The traffic flows in the morning & afternoon peak hours are shown in Table 1 below.

Traffic movement	Morning Peak Hour (Vehicles Per Hour)	Evening Peak Hour (Vehicles Per Hour)
	8.00am – 9.00am	3.30pm – 4.30pm
George Street (North of Thoroughfare Street / Site driveway)		
Northbound	93	119
Southbound	67	34
George Street (South of Thoroughfare Street / Site driveway)		
Northbound	106	120
Southbound	63	35
Site Driveway (East of George Street)		
Eastbound (IN)	25	41
Westbound (OUT)	11	48
Thoroughfare Street (West of George Street)		
Eastbound	6	1
Westbound	9	8

Table 1: Current traffic flows in the vicinity of the subject site (on a typical weekday)

The results of the traffic volume counts undertaken determined that the traffic morning peak period on Goulburn Street / George Street / site driveway were between 8.00am to 9.00am and the afternoon peak period was between 3.30pm to 4.30pm on a typical weekday.

The existing traffic flows on George Street, Thoroughfare Street and at the subject site driveway are appropriate for local roads in a mixed residential and commercial area, where traffic is free flowing without major queuing or delays near the subject site in peak hours, with spare capacity.

It is determined that the existing mid-block level of service on George Street, Thoroughfare Street and at the subject site driveway are at level 'A' in accordance with Table 4.4 of the Roads & Maritime Services' "Guide to Traffic Generating Developments - 2002" (shown below).

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

Table 4.4: Urban road peak hour flows per direction RMS Guide)

➤ **Current Intersection Performance**

Average Vehicle Delay (AVD) and Level of Service (LOS) – The AVD and LOS provide a measure of the operational performance of an intersection, as indicated in Table 4.2 of the Roads & Maritime Services "Guide to Traffic Generating Developments - 2002" (shown below).

It has been observed that the current operational performance of the intersection of Thoroughfare Street / George Street / site driveway is in good operation at level of service 'A', with an average delay of less than 14 seconds per vehicle.

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabout	Give Way & Stop Signs
A	< 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays & spare capacity	Acceptable delays & spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity & accident study required
E	57 to 70	At capacity; at signals, incidents will cause excessive delays Roundabouts require other control mode	At capacity, requires other control mode

Table 4.2: Level of Service Criteria for intersections (RMS Guide)

3.4 Existing Transportation Services

The subject site has good access to public transport services in the form of trains and buses. The site is located approximately 1 km from Marulan Railway Station.

Frequent bus services operate along George Street and Medway Road in close proximity to the subject site (i.e. bus routes SH100 and 855).

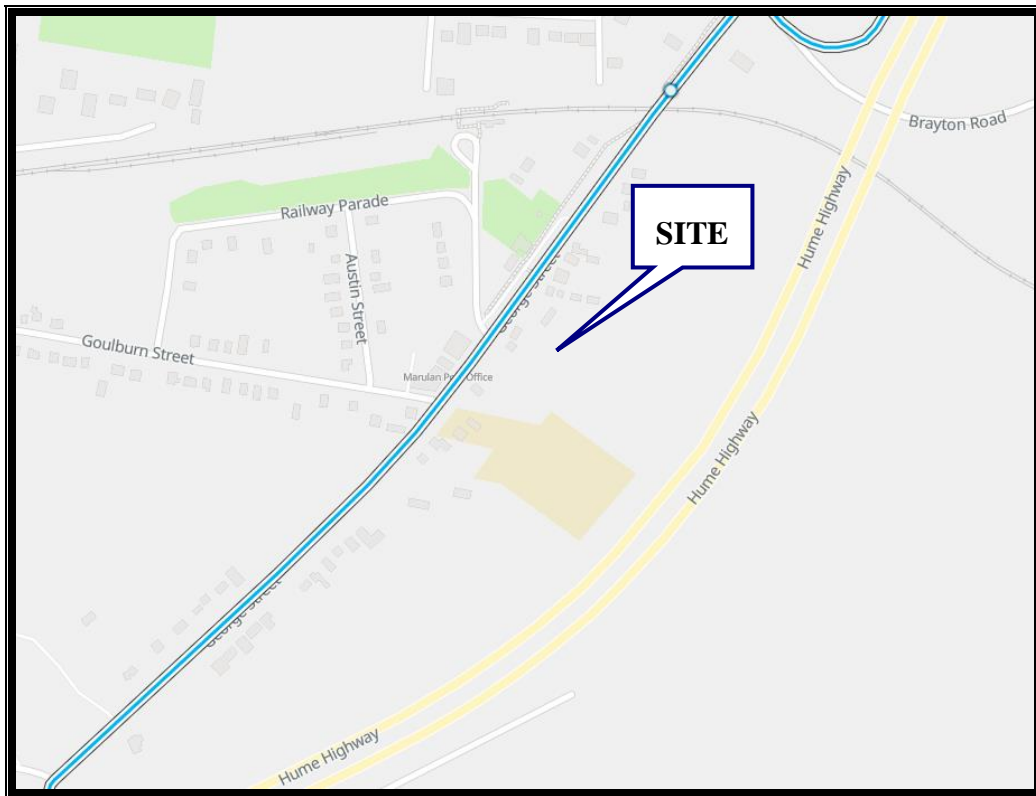


Figure 3: Bus services near the subject site (Bus no. SH100)

4 PROPOSED DEVELOPMENT

4.1 Description of the proposal

The proposed development application seeks approval for the construction of a childcare centre to be located within the existing local shopping centre (known as Marulan Village Centre) at **69-73 George Street, Marulan**, accommodating up to 76 children places, with at-grade parking facilities.

The proposed development will include the following:

- Childcare centre accommodating up to seventy-six (76) children:
 - 16 children places between the ages of 0 to 2 years old (4 staff members);
 - 20 children places between the ages of 2 to 3 years old (4 staff members);
 - 40 children places between the ages of 3 to 6 years old (4 staff members).
- A total of sixty-nine (69) on-site car parking spaces (including 64 existing car spaces to be slightly reconfigured and 5 proposed new car spaces).

There will be sixteen (16) car spaces allocated for the proposed childcare centre, with 7 car spaces for staff parking and 9 visitor car parking spaces for the drop-off and pick-up of children (including 1 accessible parking space & an adjacent shared area), at-grade level. A minimum of two (2) bicycle storage spaces are to be provided on-site.

It should be noted that the above-mentioned car parking allocation for the proposed childcare centre apply on weekdays only, with these car spaces being used by the other existing businesses on weekends, to minimise any impacts on parking for the existing shopping village.

- There will be a maximum of twelve (12) staff members on-site at any given time for the proposed childcare centre. The proposed hours of operation of the childcare centre will be from 7.00am to 6.00pm on weekdays only.

Refer to **Appendix 'A'** for the proposed development plans.

4.2 Vehicular & Pedestrian Access

The vehicular access to and from the on-site parking facilities will be via the existing access driveway crossing located in George Street, which is to be retained.

The existing access driveway provides two-way vehicular movements, where two vehicles can pass each other at the same time without causing delays or congestion to traffic on the street.

4.3 On-site Parking Provision

Goulburn Mulwarree Development Control Plan 2009, Chapter 3, Section 3.6.2, Table 3-2, requires on-site parking for childcare centres to be provided at a minimum rate of:

- 1 space per 2 employees, plus.
- Set down/drop off area.

Refer to Table 2 below for the required and proposed car parking provision for the subject development site:

Age Group	0-2 years	2-3 years	3-5 years	Total
Number of children	16	20	40	76
Staff to Children Ratio	1 to 4	1 to 5	1 to 10	-
Number of Staff	4	4	4	12
On-site parking required (6 spaces for staff + set down/drop off area)				6 + set down/drop off area
On-site parking proposed on weekdays only (7 spaces for staff & 9 spaces for parents/visitors)				16
Compliance with on-site car parking				Yes

Table 2: On-site parking requirement and provision

The proposed childcare centre for 76 children places would therefore require a minimum of 6 car spaces for staff plus a set down/drop off area.

The proposed development provides sixty-nine (69) on-site car parking spaces (including 64 existing spaces to be slightly reconfigured and 5 proposed spaces). There will be sixteen (16) car spaces allocated for the proposed childcare centre, with 7 car spaces for staff parking and 9 visitor car parking spaces for the drop-off and pick-up of children (including 1 accessible parking space & an adjacent shared area), at-grade level. A minimum of two (2) bicycle storage spaces are to be provided on-site. **It should be noted that the above-mentioned car parking allocation for the proposed childcare centre apply on weekdays only, with these car spaces being used by the other existing businesses on weekends, to minimise any impacts on parking for the existing shopping village.**

Therefore, the proposed on-site parking provision is adequate for the proposed development and in compliance with Council's parking requirements.

4.4 On-site Parking Layout and Circulation

The layout of the existing on-site car parking area (having 64 existing car spaces) is to be slightly reconfigured for the childcare centre, with a proposed five (5) additional car parking spaces. The manoeuvring arrangements for this have been designed to enhance vehicular and pedestrian access, where vehicles enter and exit the site in a forward direction, through the provision of adequate internal aisle width and turning space.

AS2890.1:2004 Parking facilities Part 1: Off-street car parking requires a minimum parking space width of 2.4 meters (for User Class 1A staff parking) and 2.6 metres (for User Class 3 short-term visitor parking) and a minimum length of 5.4 meters. The proposed on-site car spaces have a width of 2.6 metres and a minimum length of 5.4 meters each, which is adequate.

The accessible car parking space for the childcare centre has a width of 2.4 metres, in addition to an adjacent 2.4 metres wide shared area, which is adequate in accordance with AS2890.6:2022.

Car parking spaces adjacent to walls or obstructions have been made wider than the minimum width, to accommodate full door opening in accordance with Clause 2.4.2(d) of AS2890.1:2004.

Clause 2.4.2 of AS2890.1:2004 requires a minimum aisle width of 5.8 metres for two-way aisles, adjacent to 90° angle parking. The proposed aisles have a minimum width of 6 metres, which is adequate for two-way traffic and manoeuvring into and out of parking spaces.

As the existing car parking area is to be slightly reconfigured, the vehicular manoeuvring within the site has been designed and checked using the MRV standard design vehicle turning paths from AS2890.1:2004 and Austroads, which can still be accommodated within the proposed reconfiguration. Refer to the vehicle swept paths diagrams attached in Appendix 'B' of this report.

Therefore, the car parking layout and vehicular circulation are adequate in accordance with AS2890.1:2004, AS2890.2:2018 and AS2890.6:2022, where vehicles are to enter and exit the site in a forward direction at all times.

5 ON-STREET PARKING PROVISION

5.1 Existing On-Street Parking Controls

The subject site is located in a mixed residential and commercial area, where parking on the eastern side of George Street near the subject site is unrestricted to the left side of the driveway heading north, with parallel and 45° front to kerb parking available. Further, parking is restricted to signposted 'No Stopping' between the right of the driveway and the existing pedestrian walkway, with additional restrictions in place when heading south. These include signposted 'Bus zone between 8:30am and 9:30am and between 2:30pm and 3:30pm on school days', signposted 'No stopping' near the driveway of the existing school nearby and signposted 'No Parking between 8:30am and 9:30am and between 2:30pm and 4:00pm on Mon-Fri'. An on-street marked and signposted accessible space is available, as well as additional unrestricted parking.

Parking on the western side of George Street is generally unrestricted, however, with signposted '15-minute parking between 8:30am and 6:30pm' restrictions near existing retail sites, and signposted 'No Parking' near existing driveways. Parking directly opposite the site is not permitted.

5.2 Parking Utilisation Survey of Existing On-Site Car Park

An on-site parking utilisation survey was undertaken on Wednesday 25 October 2023, during morning period (7.00am to 10.00am) and afternoon period (3.00pm to 6.00pm) at the existing local shopping village carpark (the subject site), shown in Figure 4 on the following page.

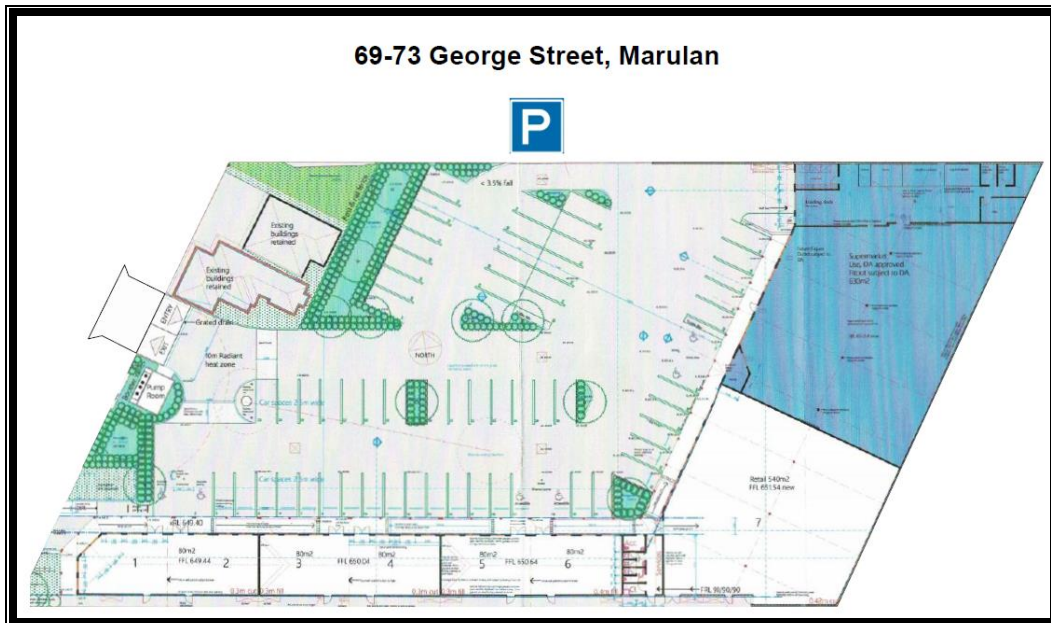



Figure 4: Existing on-site car parking layout

The existing on-site car parking layout has a total of sixty-four (64) car parking spaces, including 6 accessible spaces. The AM and PM on-site parking survey results, as shown in Figures 5 and 6, determined the following utilisation levels and parking availability.

P			
Time	Total Vehicles Parked	Number of Vacant Spaces	% of Capacity Used
7.00 am	4	60	6.25%
7.15 am	5	59	7.81%
7.30 am	6	58	9.38%
7.45 am	3	61	4.69%
8.00 am	3	61	4.69%
8.15 am	5	59	7.81%
8.30 am	7	57	10.94%
8.45 am	12	52	18.75%
9.00 am	13	51	20.31%
9.15 am	15	49	23.44%
9.30 am	14	50	21.88%
9.45 am	12	52	18.75%
10.00 am	13	51	20.31%

Figure 5: Summary of the results of the on-site parking utilisation – AM period



Time	Total Vehicles Parked	Number of Vacant Spaces	% of Capacity Used
3.00 pm	36	28	56.25%
3.15 pm	22	42	34.38%
3.30 pm	22	42	34.38%
3.45 pm	16	48	25.00%
4.00 pm	18	46	28.13%
4.15 pm	13	51	20.31%
4.30 pm	17	47	26.56%
4.45 pm	11	53	17.19%
5.00 pm	10	54	15.63%
5.15 pm	8	52	12.50%
5.30 pm	6	58	9.38%
5.45 pm	5	59	7.81%
6.00 pm	5	59	7.81%

Figure 6: Summary of the results of the on-site parking utilisation – **PM period**

The parking surveys undertaken determined that during the **morning period**, the existing on-site carpark had a low parking utilisation level, with the highest parking utilised around **9:15am** with a maximum of 15 car spaces being occupied out of the 64 (i.e. 23.44% occupied), **leaving 49 car spaces unoccupied**.

The parking surveys undertaken determined that during the **afternoon period**, the existing on-site car park had a low to medium parking utilisation level, with the highest parking utilised around **3.00pm** with a maximum of 36 car spaces being occupied out of the 64 (i.e. 56.25% occupied), **leaving 28 car spaces unoccupied**.

Therefore, it can be demonstrated from the results of the parking surveys undertaken that the proposed use of 11 existing on-site car parking spaces for the proposed childcare centre out of the existing 64 car parking spaces, will not impact existing businesses, as the existing on-site carpark is underutilised with a low to moderate parking occupation rates on weekdays.

It should also be noted that the above-mentioned car parking allocation for the proposed childcare centre apply on weekdays only, with these car spaces being used by the other existing businesses on weekends, to minimise any impacts on parking for the existing shopping village.

5.3 Impacts of Proposed Development on Parking

The parking demand resulting from the proposed childcare centre development can be accommodated within the existing and allocated on-site car and bicycle parking spaces for staff and visitors. The subject site has good access to existing public transport in the form of train and bus services.

It should be noted that the above-mentioned car parking allocation for the proposed childcare centre apply on weekdays only, with these car spaces being used by the other existing businesses on weekends, to minimise any impacts on parking for the existing shopping village.

Therefore, the proposed development will not have adverse impacts on parking in the surrounding area.

6 EXTERNAL TRAFFIC IMPACT

An indication of the potential traffic generation of the proposed development is provided by the *RMS Guide to Traffic Generating Development - 2002*.

The Guide specifies the following traffic generation rates for long-day care centres:

- 0.8 peak period vehicle trips per child between 7.00am and 9.00am; and
- 0.7 peak period vehicle trips per child between 4.00pm and 6.00pm.

Therefore, the proposed development with a total of 76 children places has a total estimated traffic generation as follows:

- **61** morning peak period vehicle trips (**31 In and 30 Out trips**); and
- **54** afternoon peak period vehicle trips (**27 In and 27 Out trips**).

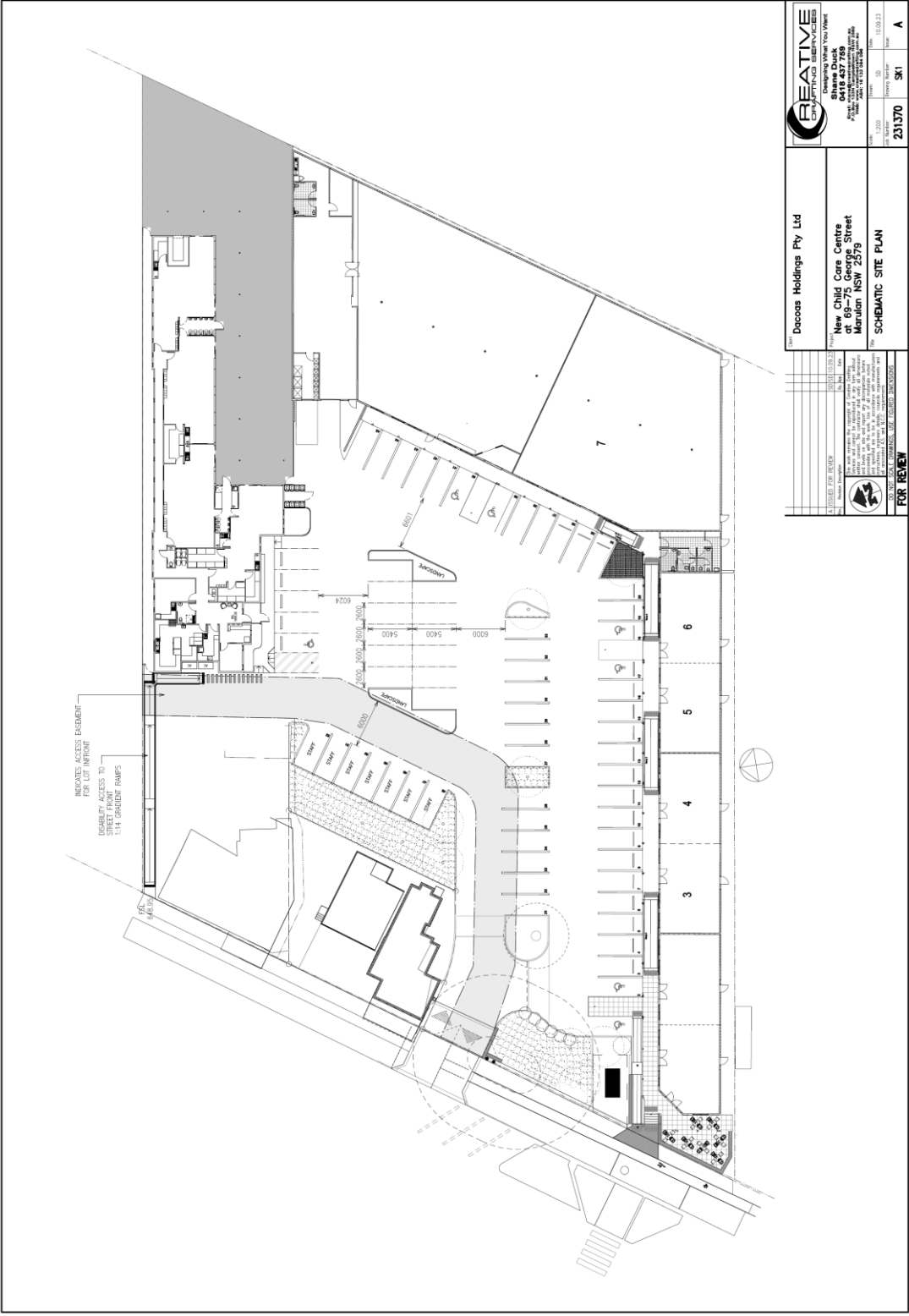
The estimated peak period traffic generation is of low impact on existing flows on George Street and the surrounding road network and can be readily accommodated without adverse impacts.

7 CONCLUSION

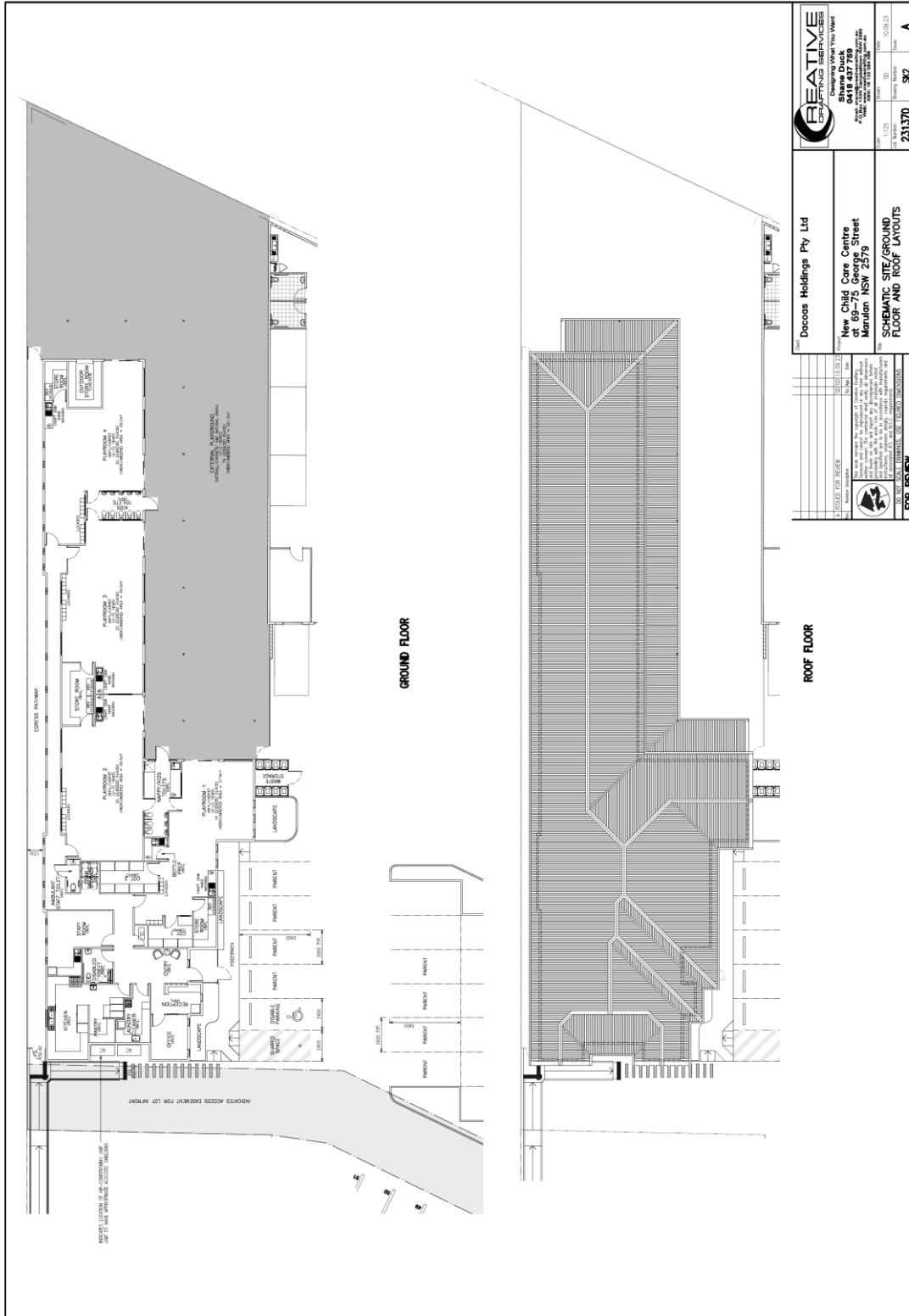
It can be concluded from the traffic and parking impact assessment that the proposed childcare centre to be located within the existing shopping village at **69-73 George Street, Marulan**, will not have adverse impacts on existing traffic or parking conditions and is worthy of Council's support in its current form.

- The current traffic flows on George Street, Thoroughfare Street and at the subject site driveway are appropriate for local roads in a mixed residential and commercial area, where traffic is free flowing without major queuing or delays in peak hours, with spare capacity.
- The estimated traffic generation is of low impact on existing flows on George Street and the surrounding road network. The traffic generated by the proposed childcare centre development can be readily accommodated within the existing road network.
- The potential increase in the number of vehicle movements in and about George Street and adjacent streets will not have adverse impacts on the amenity of the area.
- The parking demand resulting from the proposed childcare centre can be easily accommodated within the existing and allocated adequate and compliant off-street car and bicycle parking for both staff and visitors/parents, which is in compliance Council's parking requirements.
- The on-site vehicular access, car parking layout and vehicular circulation is adequate for the proposed development and in accordance with AS2890.1:2004, AS2890.2:2018 and AS2890.6:2022, where vehicles are to enter and exit the site in a forward direction at all times.
- The subject site has good access to existing public transport services.
- The proposed development will not have adverse impact on parking in the surrounding area.

Appendix A – Proposed Development Plans



<p>CREATIVE DRAFTING SERVICES</p> <p>11/10/2023 11/08/23</p>	<p>Project: New Child Care Centre 69-73 George Street Marulan NSW 2579</p>	<p>Client: Dacoco Holdings Pty Ltd</p>	<p>Project No: 231370</p>	<p>Sheet No: SK1</p>	<p>Scale: A</p>
	<p>FOR REVIEW</p>				



Creative Planning Services Designing What You Want Sharee Duck 1/11/2023 11/2023	
Project Name 231370	Date 10/09/23
Project Number SK2	Issue A

Decorex Holdings Pty Ltd
 New Child Care Centre
 at 69-75 George Street
 Marulan NSW 2579
 SCHEMATIC SITE/GROUND
 FLOOR AND ROOF LAYOUTS

FOR REVIEW

Appendix B – Vehicle Swept Paths

