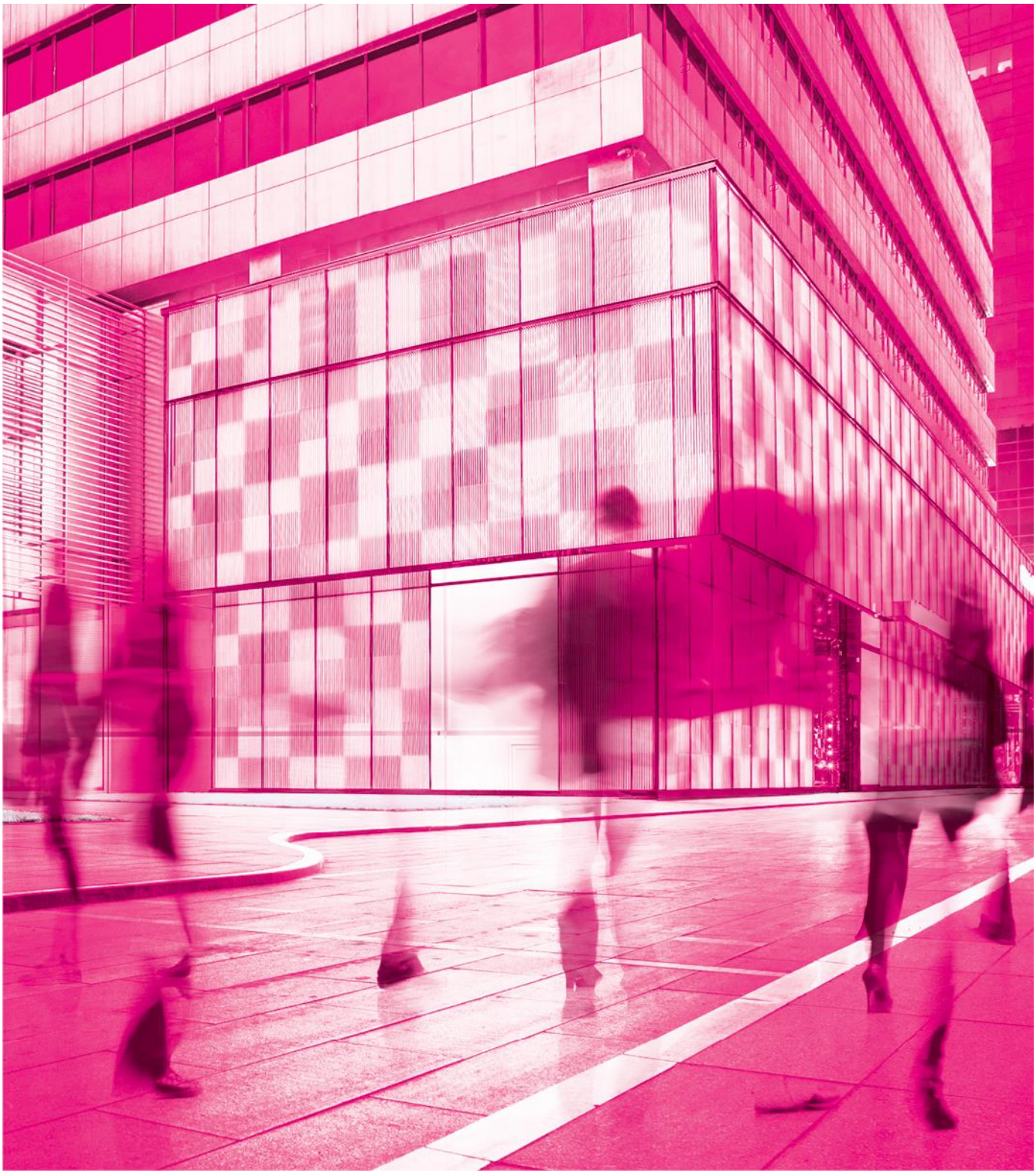

Traffic Impact Assessment;

Jordan Springs Tavern

For FDC

6th August 2020

parking;
traffic;
civil design;
wayfinding;

ptc.

ptc.

Document Control

Jordan Springs Tavern , Traffic Impact Assessment

Issue	Date	Issue Details	Author	Reviewed	For the attention of
1	09/07/2020	Draft	JM	SW	Peter Stait
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3	06/08/20	Updated Final	SW	SW	Peter Stait

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Contents

1. Introduction

1.1 Project summary

ptc. has been engaged by FDC to prepare a Traffic and Parking Assessment to accompany a Development Application to City of Penrith Council for the development of a tavern on Lakeside Parade, Jordan Springs.

The location of the site is shown in Figure 1

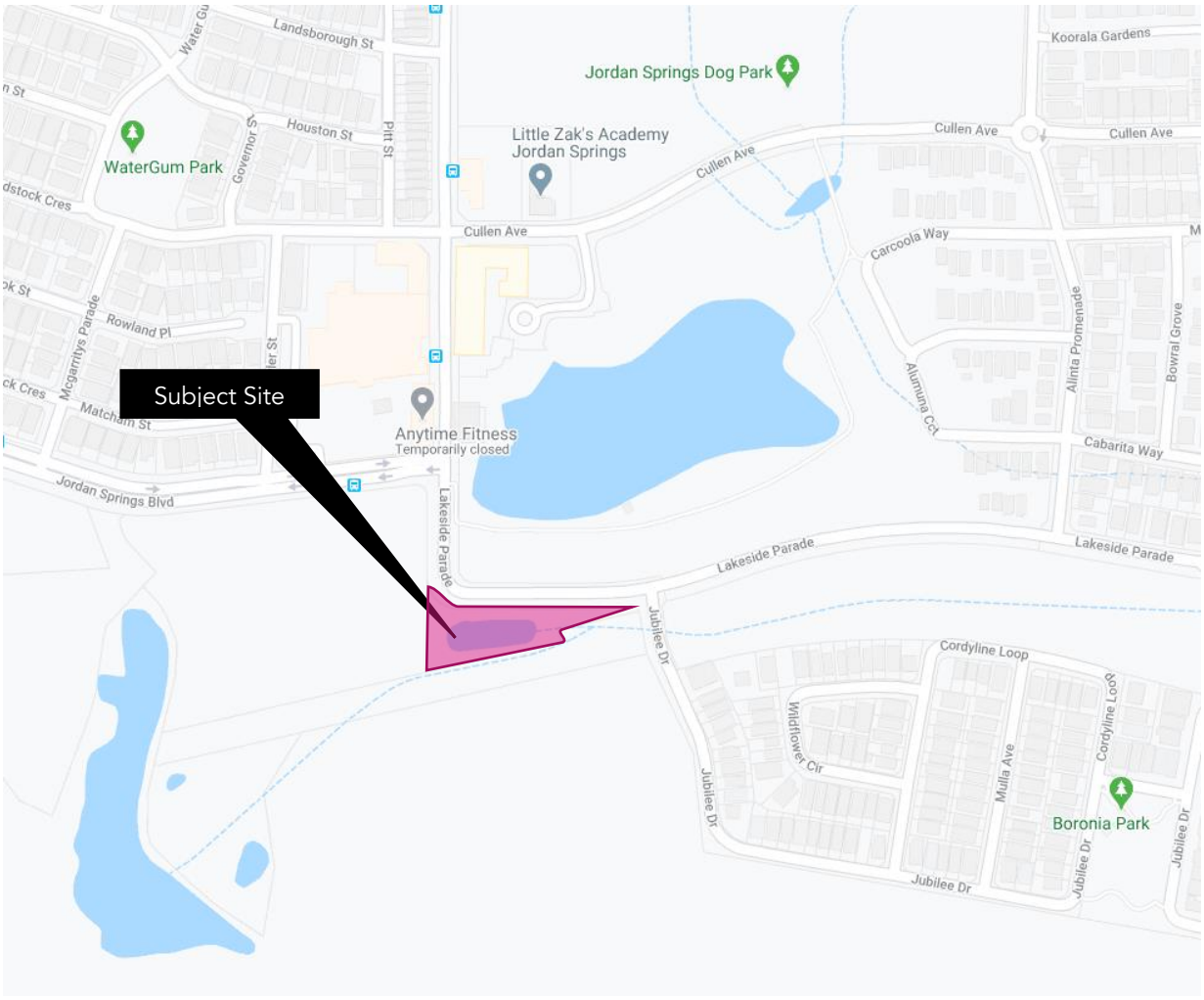

Figure 1 - Site location (Source: Nearmap)

1.2 Purpose of this report

This report presents the following considerations in relation to the Traffic and Parking assessment of the proposal:

Section 2	A description of the project;
Section 3	A description of the road network serving the development property, and existing traffic volumes through key local intersections;
Section 4	Determination of the traffic activity associated with the development proposal, and the adequacy of the surrounding road network;
Section 5	Assessment of the proposed parking provision in the context of the relevant planning control requirements; and
Section 6	Assessment of the proposed car park, vehicular access and internal circulation arrangements in relation to compliance with the relevant standards, and Council policies.

2. Background Information

2.1 Development site

The proposal relates to the following site:

- Lot No. 3989, DP 1190132

The subject site is currently vacant and therefore does not generate any traffic.

The site location is shown in Figure 2 and Figure 3.

Figure 2 – Aerial view of subject site & surrounds (Source: Nearmap)

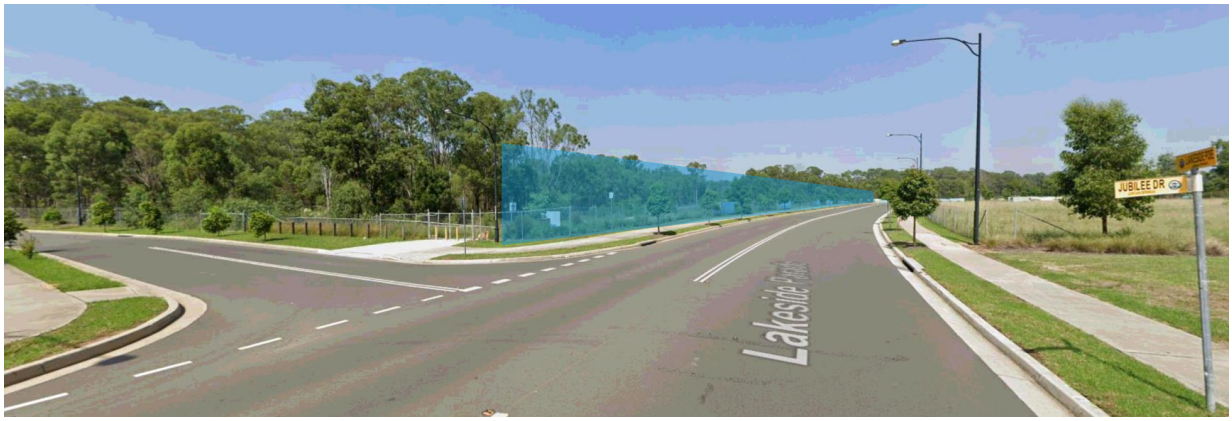

Figure 3 – Development site, looking west from Jubilee Drive

2.2 Development Proposal

The development proposal involves the construction of a tavern comprising the following component mix:

Table 1 - Yield Schedule

Component	GFA (m^2)
Main Bar and Dining	291
Gaming Room	153

The proposal involves the provision of an at-grade car park which accommodates 48 car parking spaces.

The proposed layout of the development is shown in Figure 4.

Figure 4 - Proposed Layout

The development also includes a loading bay suitable for an 8.8m Medium Rigid vehicle and bicycle parking for staff and visitors.

3. Existing Transport Facilities

3.1 Road hierarchy

The NSW administrative road hierarchy comprises the following road classifications, which align with the generic road hierarchy as follows:

State Roads - Freeways and Primary Arterials (RMS Managed)

Regional Roads - Secondary or sub arterials (Council Managed, partly funded by the State)

Local Roads - Collector and local access roads (Council Managed)

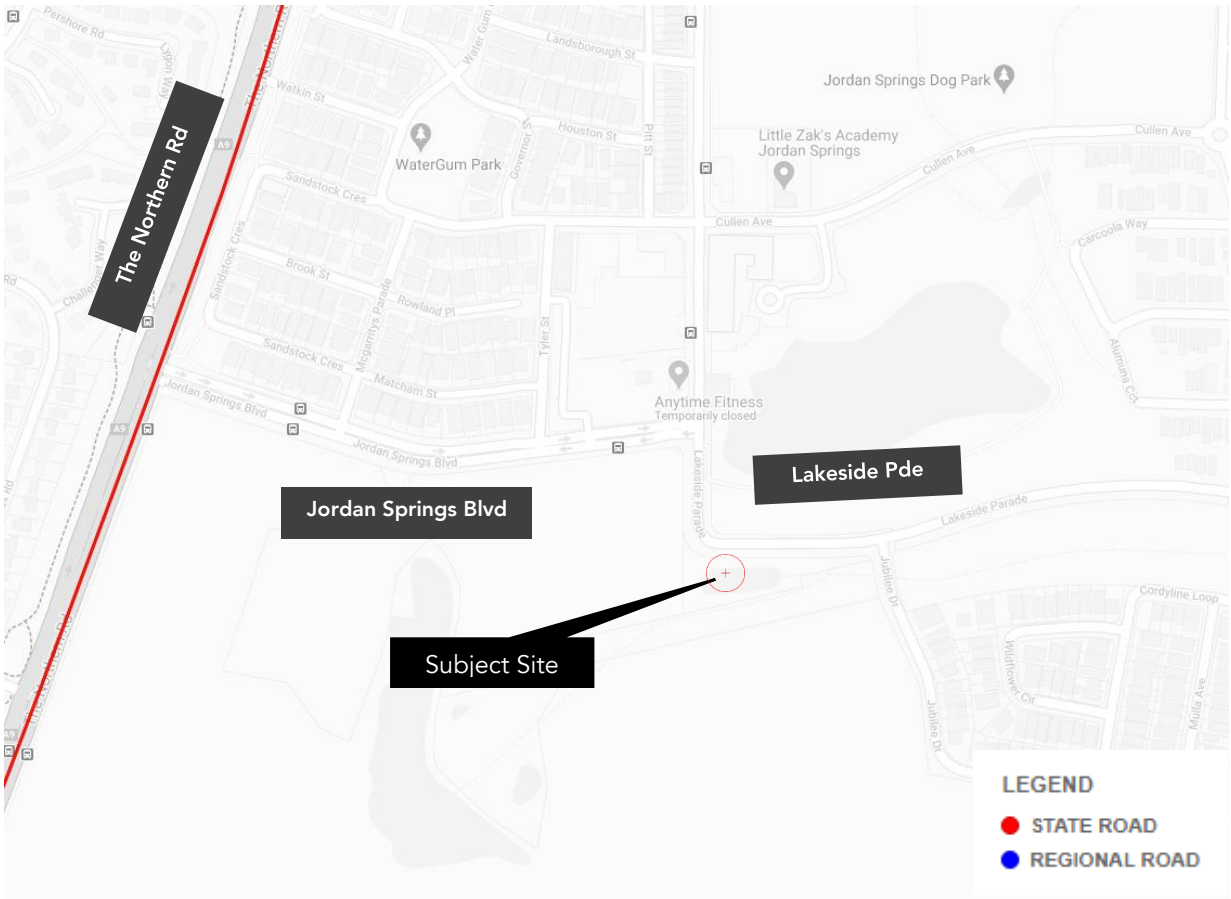

Figure 5 – Road hierarchy (Source: RMS State and Regional Roads)

The subject site is located on Lakeside Parade in Jordan Springs. The site is primarily serviced by The Northern Road, a State road located West of the site. The Highway provides a North-South link through the City of Penrith Local Government Area (LGA).

Table 2 – Existing road network – Lakeside Parade

Lakeside Parade	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 10m
Speed Limit	50 km/h
School Zone	No
Parking Controls	Unrestricted
Forms Site Frontage	Yes

Figure 6 – Lakeside Parade, westbound (Source: Google Maps)

Table 3 – Existing road network, Jubilee Drive

Jubilee Drive	
Road Classification	Local Road
Alignment	East-West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	Approximately 8m
Speed Limit	50 km/h
School Zone	No
Parking Controls	Unrestricted
Forms Site Frontage	No

Figure 7 – Jubilee Drive, northbound (Source: Google maps)

Table 4 – Existing road network – Jordan Springs Boulavard

Jordan Springs Boulevard	
Road Classification	Local Road
Alignment	East - West
Number of Lanes	2 lanes in each direction
Carriageway Type	Divided
Carriageway Width	Approximately 18m
Speed Limit	50 km/h
School Zone	No
Parking Controls	No Stopping
Forms Site Frontage	No

Figure 8 – Jordan Springs Boulavard, westbound (Source: Google maps)

Table 5 – Existing road network – The Northern Road

The Northern Road	
Road Classification	State Road
Alignment	North – South
Number of Lanes	2 lanes in each direction
Carriageway Type	Divided
Carriageway Width	Approximately 18m
Speed Limit	70 km/h
School Zone	No
Parking Controls	No Stopping
Forms Site Frontage	No

Figure 9 – The Northern Road, northbound (Source: Google Maps)

3.2 Public transport

The local area is serviced by buses running along Jordan Springs Boulevard and Lakeside Parade. There is also a community bus which provides a free transportation service from Jordan Springs to Werrington Train Station. Figure 10 shows the locations of public transport services in respect to the subject site.

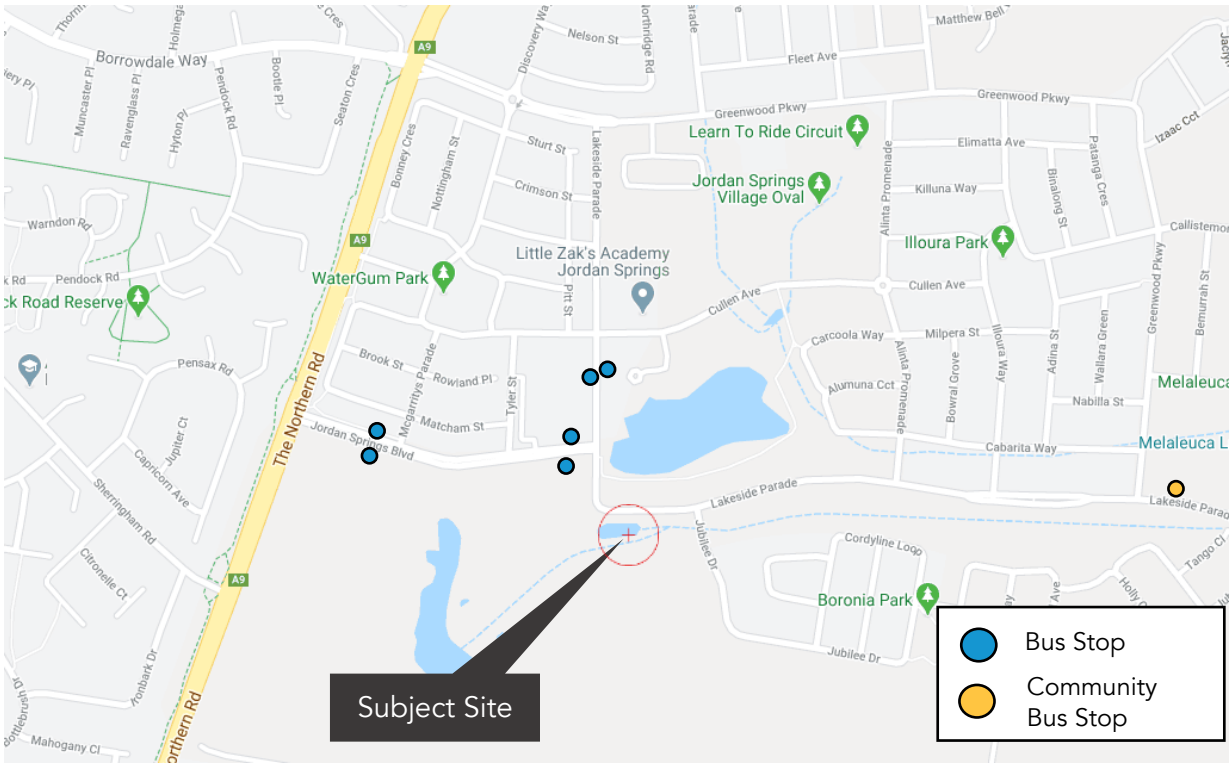

Figure 10 – Local public transport services (Source: Nearmap)

3.2.1 Bus Services

The closest bus is approximately 150m away from the site, along Jordan Springs Boulevard. There is also a community shuttle bus stop located 800m (10 minute walk) west along Lakeside Parade. The community bus also provides a link to the nearest train station, Werrington Train Station. Table 6 summaries the routes which are services by the described bus stops.

Table 6 – Bus service summary

Route	Coverage	Frequency (approx.)
783	**Penrith to Jordan Springs**	**Weekdays:** **AM/PM Peak – Every 30 min** **Off Peak – Every hour** **Saturday:** **Services every hour** **Sunday and Public Holidays:** **Services every hour**
5081	**Jordan Springs Blvd before McGarritys Pd to Henry Fulton PS (School Bus)**	**1 AM service**
5569	**Llandilo PS to Cranebrook Village Shopping Centre**	**1 PM service**
Community Bus	**Jordan Springs to Werrington Train Station**	**Weekdays:** **Service every 35 minutes**

3.3 Active transport

3.3.1 Walking

The sites locality has been assessed for its active transport potential with regard to the NSW Guidelines to Walking & Cycling (2004), which suggests that 400m-800m is a comfortable walking distance. The 400m and 800m catchments shown in Figure 11, encapsulate the new residential community North and West of the site.

Figure 11 - 400m and 800m walking catchments (Source: Nearmap)

3.3.2 Cycling

Figure 12 shows the extent of cycle infrastructure within the surrounding area of the subject site. The site is poorly serviced apart for those travelling from the west. However, the surrounding road network provides roads of widths between 8 to 18 metres wide, which provides adequate space for cyclists to utilise the road network for cycle access.

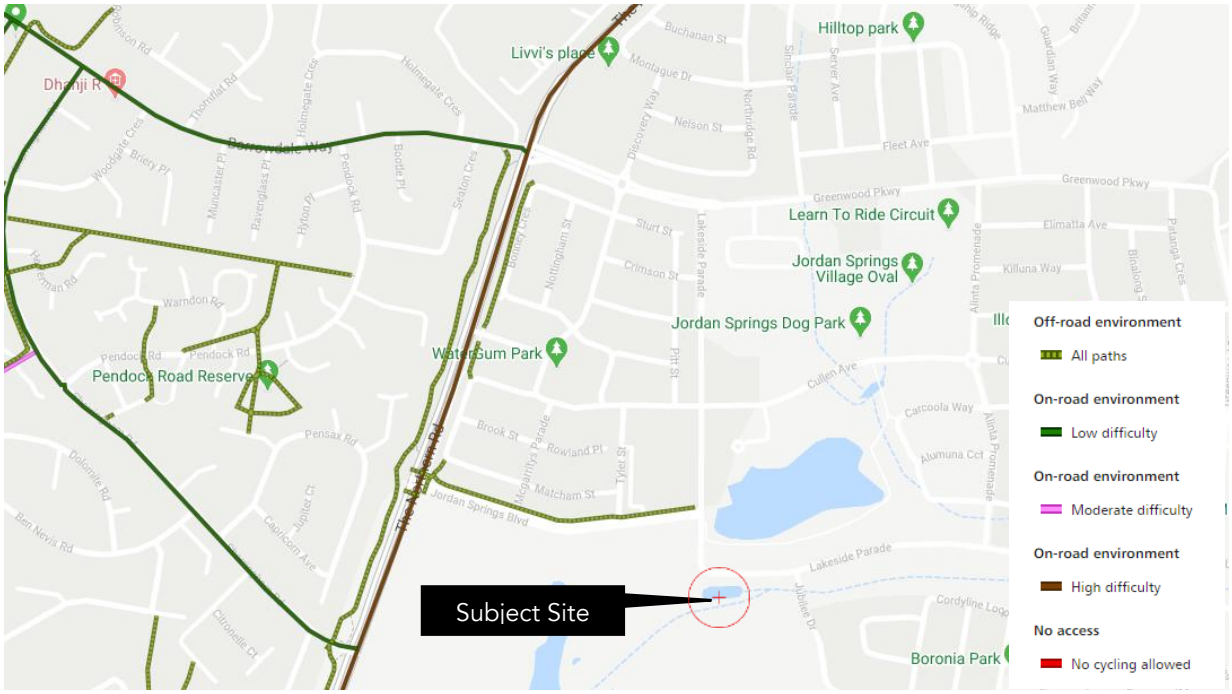

Figure 12 – Cycleways (Source: RMS Cycleways Finder)

4. Parking Provision

4.1 Planning Policy

The proposed development is subject to the parking provision rates stipulated in the following planning documents:

- Building Code of Australia 2006 (BCA)
- Penrith Development Control Plan 2014 (DCP)
- Planning Guidelines for Walking and Cycling 2004
- RMS Guide to traffic Generating Developments 2002 (RMS Guide)

4.2 Proposed Parking Provision

4.2.1 Car Parking Provision – DCP Requirement

The proposed development is categorised as a pub/registered club as per the DCP. The DCP stipulates that such development is to provide a car parking space per 4m^2 of bar floor space and 6m^2 of lounge and dining area (inclusive of staff parking).

The car parking provision requirement stipulated in the DCP is summarised in Table 7.

Table 7 - Car Parking Provision

Component	GFA (m^2)	Parking Rate	Parking Provision Requirement (min)
Main Bar, Dining and Gaming Room	444	1 space / 4m^2	111
		Total	111

The DCP stipulates that the proposed development is to provide **111 parking spaces**. However, taking into consideration the locality of the proposed development and the changes in driver behaviour since the introduction of random breath testing, the parking provision requirement stipulated in the DCP will likely result in a significantly higher requirement than the practical demand.

The following statement is extracted from the RMS Guide for club developments:

"*Behaviour changes since 1978, such as the introduction of random breath testing, also make such generalisations more difficult.*"

"A traffic generation assessment of new clubs should be based on recent surveys of similar clubs."

4.2.2 Car Parking Provision – Adjusted DCP Requirement

It is understood that the DCP parking requirement of 1 space per 4m^2 GFA is based on the requirements of the RMS Guide to Generating Traffic and, as stated in Section 4.2.1 "*Behaviour changes since 1978, such as the introduction of random breath testing, also make such generalisations more difficult.".*

Based on this, it is reasonable to assume that the parking rate within the DCP is based on single person occupancy and since the introduction of random breath testing and the changes in driver behaviour, car occupancy has increased.

Typically, car occupancy is assessed at 2.5 persons per vehicle and on this basis, the parking rate would decrease from 1 space per 4m^2 to 1 space per 10m^2 GFA.

This revised rate would provide a parking requirement of **45 spaces.**

4.2.3 Car Parking Provision – Similar Developments

To further assess the parking demand, parking demand studies have been undertaken at similar sites located in areas which are comparable to the subject site in order to provide an accurate representation of the anticipated parking demand. The studies were undertaken in the following sites:

Lone Pine Tavern, Rooty Hill (2,725m^2 GFA);

Lalor Park Hotel, Lalor Park (1,620m^2 GFA); and

Jamison Hotel, Jamison (1400m^2 GFA).

The car park occupancy studies were undertaken as a mixture of on-site surveys and desktop studies. The results of the studies for the relevant sites are summarised in Table 8, Table 9 and Table 10.

Lone Pine Tavern, Rooty Hill

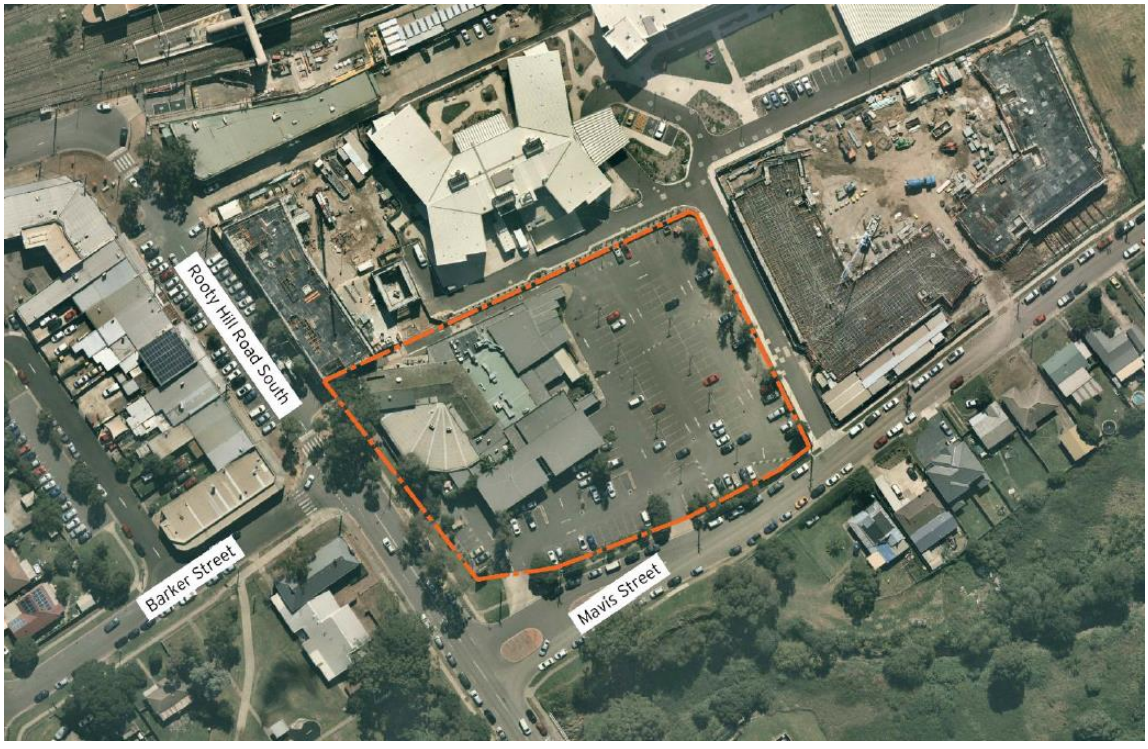

Figure 13 – Lone Pine Tavern

Table 8 - Lone Pine Tavern - Car Park Occupancy Survey

Date	Time	Car Park Occupancy
14/06/2019	11:00am – 12:00pm	67
	12:00pm – 1:00pm	83
	1:00pm – 2:00pm	89
	2:00pm – 3:00pm	71
15/06/2019	11:00am – 12:00pm	32
	12:00pm – 1:00pm	46
	1:00pm – 2:00pm	58
	2:00pm – 3:00pm	40
21/06/2019	11:00am – 12:00pm	49
	12:00pm – 1:00pm	67
	1:00pm – 2:00pm	77
	2:00pm – 3:00pm	64
22/06/2019	11:00am – 12:00pm	26
	12:00pm – 1:00pm	41
	1:00pm – 2:00pm	51
	2:00pm – 3:00pm	52

The Lone Pine Tavern currently provides an at-grade carpark which has the capacity to accommodate up to 164 vehicles. The survey results indicate the maximum occupancy of the car parking being 89 vehicles. Therefore, taking the maximum occupancy and the GFA of the tavern into consideration, the tavern typically generates a parking demand of 1 car space per 31m^2 GFA.

Lalor Park Hotel, Lalor Park

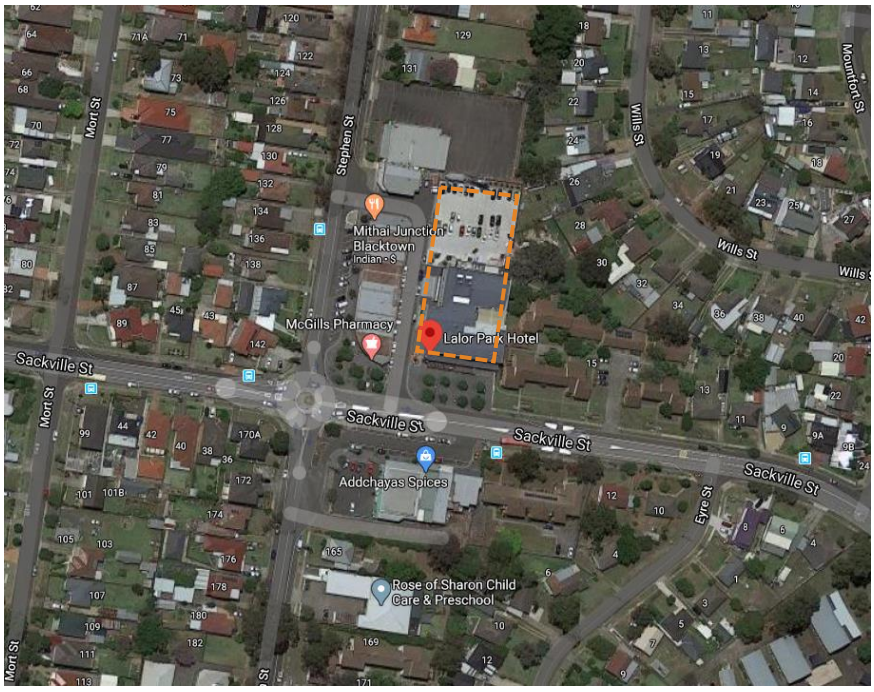

Figure 14 – Lalor Park Hotel

Table 9 - Lalor Park Hotel - Car Park Occupancy Survey

Date	Occupancy	Date	Occupancy	Date	Occupancy
18/01/2018	11	30/10/2018	24	12/09/2019	36
28/05/2018	23	29/12/2018	5	27/10/2019	10
30/07/2018	15	07/04/2019	21	22/01/2020	25
09/09/2018	4	21/07/2019	16		

The Lalor Park Hotel provides a car park which has a capacity of 37 car parking spaces. The desktop analysis indicates that the maximum occupancy of the subject car park is 36 spaces. Therefore, the assessment indicates that the hotel generates a parking demand of 1 car space per 45m^2 GFA.

Jamison Hotel, Jamison Park

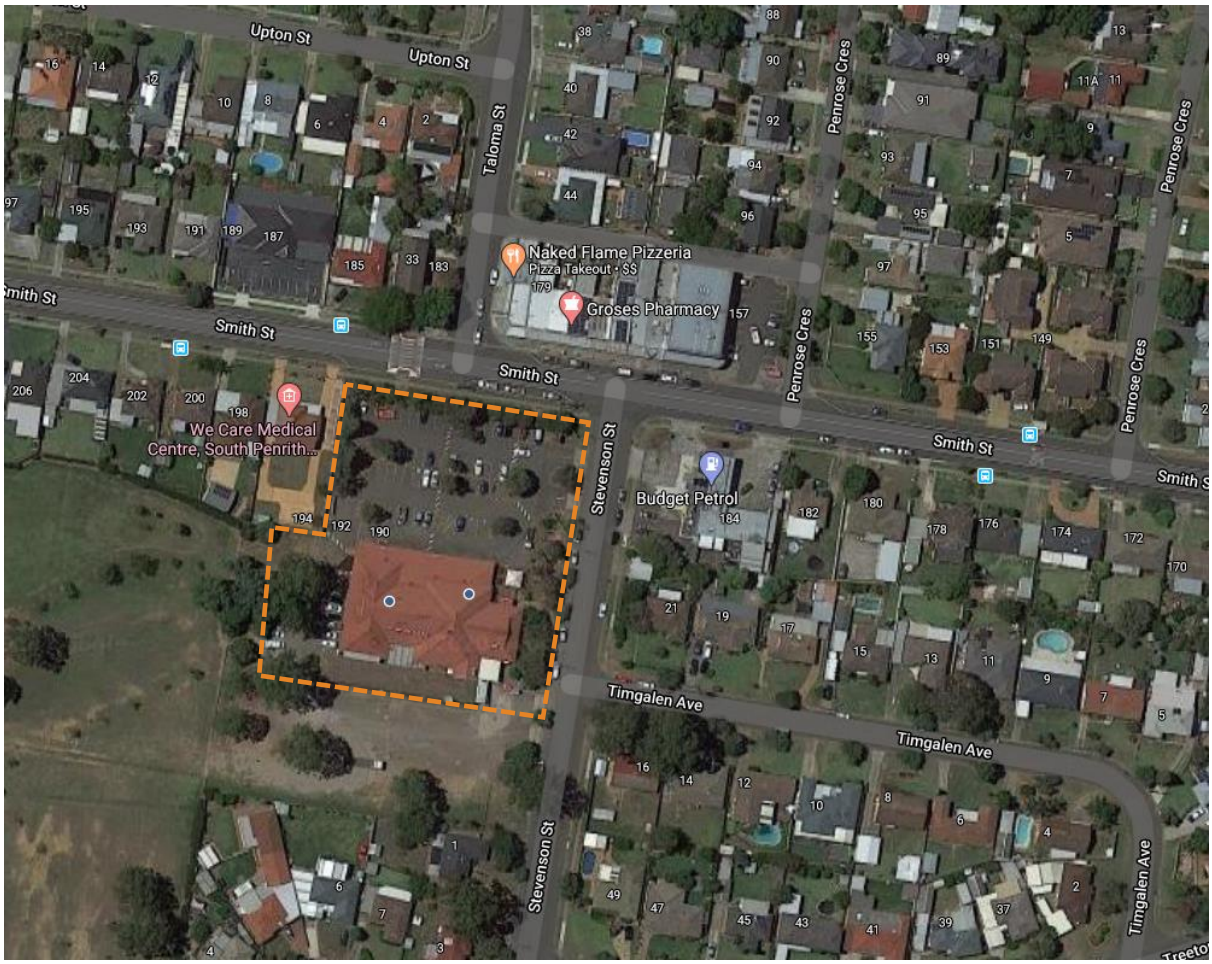

Figure 15 – Jamison Hotel

Table 10 - Jamison Hotel - Car Park Occupancy Survey

Date	Occupancy	Date	Occupancy	Date	Occupancy
21/01/2018	44	29/12/2018	19	29/10/2019	34
08/04/2018	33	26/03/2019	26	28/02/2020	18
30/08/2018	36	10/07/2019	23		
30/10/2018	24	04/10/2019	26		

The Jamison Hotel currently provides a car park which has a capacity of approximately 100 spaces. The analysis indicates that the maximum occupancy of the subject car park is 44 spaces. Therefore, the assessment indicates that the hotel generates a parking demand of 1 car space per 32m^2 GFA.

The car park occupancy surveys and desktop studies indicate the following parking occupancy and parking space requirement per m^2 GFA:

Lone Pine Tavern 1 space per 31m^2 GFA

Lalor Park Hotel 1 space per 45m^2 GFA

Jamison Hotel 1 space per 32m^2 GFA

The use of the parking rates summarised above and the GFA of the proposed development indicates that the practical parking requirement for the proposed development will likely range between **10 and 15 car parking spaces.**

4.2.4 Car Parking Provision Summary

Based on the DCP and the adjusted DCP parking requirements and the assessment of similar developments, the prosed development parking demand is between 10 and 111 parking spaces.

The development proposes 48 parking spaces and taking into consideration the similar developments and the residential location of the Tavern and its proximity to a large number of dwellings within walking distance (as outlined in Section 3.3.1), the provision of **48 parking spaces** is deemed suitable for the development.

4.2.5 Accessible Car Parking Provision

The DCP stipulates that accessible car parking provision is to be provided as per the rates stipulated in the BCA. The BCA states that a dining room or bar area that is not an assembly building is to provide 1 space per 100 carparking spaces or part thereof. The requirements and proposed parking provisions are summarised in Table 11.

Table 11 - Accessible Car Parking Provision

Component	Proposed Car Parking Provision	Parking Rate	Parking Provision Requirement (min)	Proposed Parking Provision
Pub/registered club	48	1 space / 100 car parking spaces or part thereof	1	1

4.2.6 Bicycle Parking Provision

The DCP states that the bicycle parking provision requirement is to be calculated in accordance with the parking provision rates stipulated in the Planning Guidelines for Walking and Cycling. The requirement and proposed parking provisions are summarised in Table 12.

Table 12 - Bicycle Parking Provision

Component	Staff/Seating	Bicycle Parking Rate	Bicycle Parking Provision Requirement (min)	Proposed Bicycle Parking Provision
Pub/registered club	13 (ave)	3-5% of staff journey to work trips	1	1
Pub/registered club	300 (ave)	3-5% of seating capacity	9 to 15	11
Total			10 to 16	12

4.2.7 Service Vehicle Parking Provision

The developers require a Medium Rigid Vehicle (MRV) to service the development and therefore, the proposal involves a provision of a loading area which can accommodate up to an MRV.

5. Development Traffic Assessment

5.1 Traffic Generation

Typically, the traffic associated with a development can be derived through reference to the RMS Guide to Traffic Generating developments, which represents traffic generation rates for various land uses.

The development proposes a 444 m^2 of dining, bar and gaming area, which will generate traffic.

As referenced in Section 4.2.1, the RMS traffic generation rates for Clubs is based on surveys conducted in 1978 and behaviour changes since 1978, such as the introduction of random breath testing, make such generalisations more difficult.

The RMS traffic generation for clubs is 10 vehicles / hr / 100m^2 of licenced floor area and therefore this would generate 44 trips in the evening peak hour.

The proposed car park accommodates 48 spaces and this places a cap on the peak hour traffic generation of the development, therefore as a worst-case scenario, the development could generate up to 48 trips in a peak hour period, which for a tavern would likely be the Friday PM peak.

Due to the Covid-19 restrictions currently in place, it has not been possible to undertake traffic surveys of the existing intersections, as vehicle volumes through the intersection would not be representative of the typical traffic volumes.

Therefore, reference has been made to the Traffic Impact Assessment prepared by WSP dated November 2017 as part of the 'Jordan Springs East - Internal Road and Intersection Assessment with Rezoning'.

As outlined in Table 8.9 of the report, the 2021 peak traffic flow through the intersection of Jordan Springs Boulevard and Lakeside Parade is 1,361 veh/hr, with an average delay of 20.6 seconds and a Level of Service of B.

It has been determined that the development traffic generation of 48 vehicles in the peak hour would minimal effect on this intersections operation and therefore the development had been determined as being acceptable in the terms of the development traffic assessment.

6. Access and Car Park Assessment

The following section presents an assessment of the proposed development with reference to the requirements of AS2890.1:2004 (Off-street car parking), AS2890.2:2018 (Off-street commercial vehicle facilities), AS2890.3:2015 (Bicycle Parking) and AS2890.6:2009 (Off-street parking for people with disabilities). This section is the be read in conjunction with the architectural plans provided by Team 2 Architects (see Attachment 1) and the car park assessment undertaken by ptc. (see Attachment 2)

6.1 Vehicular Access and Circulation

Vehicle access to the carpark is provided as a 7-metre-wide two-way driveway off Lakeside Parade. The access category for the development is category 2, as taken from Table 3.1 in AS2890.1:2004 for a carpark with 25 to 100 spaces.

As a Category 2 car park the minimum access driveway width is 6.0m to 9.0m combined. Therefore, the access driveway is compliant with the AS2890. A swept path analysis has been undertaken which indicates that accessing the proposed driveway is fit for purpose.

6.2 Sight Distance

Section 3.2 of AS2890.1.2004 provides the requirements for sight distance prescribed on the basis of the posted speed limit or 85th percentile vehicle speeds along the frontage road.

Lakeside Parade has a posted speed limit of 50km/h, which requires a desired visibility distance of 69 meters and a minimum distance of 45. The proposed driveway is located on a straight section of the road where sufficient sight distance is provided.

The proposed car park allows for all vehicles to enter and exit in a forward direction, therefore minimising potential conflict points and maintaining the overall safety of the road network.

6.3 Service vehicles

A loading bay proposed for the facility is located in the south west corner of the car park. It will be used to accommodate a Medium Rigid Vehicle (MRV) vehicle.

A swept path for an 8.8-meter-long MRV is shown in Attachment 2, which demonstrates that the area provided is sufficient for the vehicle to access and egress the loading dock.

6.4 Carpark Arrangement

6.4.1 Typical requirements

The car park access and parking arrangements have been assessed against the requirements of AS2890.1:2004, with reference to Class 2 (Medium-term parking) facilities. The development is to provide the following dimension (90° angle parking):

- Car Spaces: 2.5m x 5.4m;
- Aisle Width: 5.8m (minimum).

The proposed car park will provide parking spaces which meet the requirements within the AS2890.1.

6.4.2 Accessible Parking

All accessible parking spaces have been individually assessed against the requirements of AS2890.6. Accessible parking spaces are to be designed based on the following dimensions:

- Accessible Space: 2.4m x 5.4m
- Adjacent Shared Bay: 2.4m x 5.4m (with a bollard)

All shared bays and accessible spaces shall be installed in accordance with AS2890.6, including the installation of bollards and relevant pavement marking. The carpark will be open hence having the minimum height clearance of 2.5m is to be maintained above all accessible and shared bays.

6.4.3 Bicycle Parking

Approved bicycle parking devices (BPD's) shall be installed as per the following requirements of AS2890.3:2015:

- Horizontal Parking: 1800mm x 500mm
- Access Aisle: 1500mm

The proposed development shall provide 16 bicycle spaces which adheres to the above requirements and the exact location of the BPD's will be determined during the CC stage of the project.

7. Conclusion

ptc. has been engaged by FDC to prepare a Traffic Impact Assessment (TIA) to accompany a Development Application (DA) to be submitted to Penrith City Council, for the development of a Neighbourhood Tavern on Lakeside Parade, Jordon Springs.

The sites locality provides great accessibility through a range of transport modes. It is directly serviced by the The Northern Road, Jordan Springs Boulevard and Lakeside Parade, providing access for private vehicles and the bus network. There are four main bus stops which service the site along Lakeside Parade within walking distance. The 800m walking catchment also encapsulates a large residential area north of the development while there are many off-road cycle paths available for people travelling from most directions.

The development proposes 48 parking spaces for on-site to allow visitors and staff to easily access the facility. A detailed parking analysis was undertaken to assess the validity of the carpark according to the Penrith Council DCP, similar developments and AS2890 series.

According to the DCP carpark requirements, 111 parking spots will be required due to rates based on bar, dining and gaming floor space, however assessment of similar developments and taking into consideration the locality of the Tavern, the proposed 48 spaces have been deemed to meet the parking demands of the proposed development.

The AS2890 series and a swept path analysis were used to assess site access, parking and service areas. The analysis resulted in all the requirement being compliant.

The development traffic has been assessed and it has been determined that the development will have no detrimental effect on the operation of the surrounding road network.

Ultimately, the proposed development is unlikely to result in any impacts to existing local parking and traffic conditions, and that the car park design satisfies the relevant Australian Standards

Attachment 1 - Architectural Layout

Attachment 2 - Parking Layout Assessment