



RoadNet

Traffic Impact Assessment
To Retain the Existing Northern Carpark Access
As part of the Redevelopment of the Southgate
Shopping Centre, Tamworth

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Document Control Sheet

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1. INTRODUCTION

RoadNet Pty Ltd have been engaged to undertake a traffic impact assessment of the existing vehicular entry and exit access to the Southgate Shopping Centre carpark, Tamworth, which also services the Southgate Inn Hotel located north of the carpark.

2. PROJECT DESCRIPTION

2.1 Development Details

The existing Southgate Shopping Centre is presently being redeveloped as part of an upgrade for the site with a Coles retail outlet and adjoining speciality shops. As part of the redevelopment the carpark has been reconfigured with a main access point located adjacent to the Kathleen and Willis Streets intersection where a roundabout is proposed for the intersection.

RoadNet has previously completed a Traffic Impact Assessment for the redevelopment of the Southgate Shopping Centre in 2011.

As part of the development consent for the site, Tamworth Regional Council requested that the existing access point located north of Willis Street to be closed / removed.

Coles Group Property Development and the Southgate Inn Hotel are now requesting the existing access point remain open as closing this access will result in heavy delivery vehicles mixing with cars and shopping centre pedestrians accessing the shopping centre which will increase the safety risks.

Coles Group Property Development submitted a modification to the original development consent to have the existing access remain open.

Tamworth Regional Council replied to the submission and advised that they did not support the access remaining open based on the following of Council's letter.

An engineering requirement for the development is that "all existing access and egress to Kathleen Street shall be consolidated to a single entry / exit point opposite the Willis Street intersection." This requirement was conditioned because four access / egress points onto Kathleen Street within 100 metres of each other in a high pedestrian area from a traffic management and road safety point of view is not recommended in accordance with Austroads Guide to Road Design Part 4: Intersections and Crossing General, and hence the desire to consolidate the accesses to one at an existing intersection, namely Willis Street.

The intent of the condition for a roundabout to be constructed to improve traffic management and enhance road safety will be jeopardised if the temporary access for the Post Office relocation is made permanent. Approval for the temporary vehicle access to become permanent may also give impetus for the developer to further question the need for the intersection design and roundabout construction for Kathleen Street opposite the Willis Street intersection.

The approved access / egress conditions for users of the carpark are satisfactory. There are no reasons why the approved conditions will not work.

This report will show the above considerations used by Tamworth Regional Council in the assessment of closing the access was not complete and thus does not adequately address reasons why the access should remain open.

3. EXISTING TRAFFIC CONDITIONS

3.1 Southgate Inn Access

The existing operation of the Southgate Inn Hotel consists of the hotel, TAB, motel and an adjoining drive through bottle shop with its entry through the Southgate Shopping Centre carpark via the existing access in question and exiting to Kent Street.

The hotel receives all its deliveries (beer, spirits, food, etc) by heavy vehicles via this same access with them exiting through the carpark and to Kathleen Street via the access.

The carpark is the front and main entrance to the Southgate Inn Hotel, the Motel, TAB and the Drive Through Bottle shop.

This is due to the original conditions and approvals by what was the then Tamworth City Council and the Liquor Administration Board in the late 1960's. A Development Consent approval (725 / 2000, Approval 19 December 2001) had the following requirement as part of this development consent.

Clause 4.4

"Vehicles shall be unloaded standing adjacent to the designated loading areas on – site to ensure that the proposed development does not give rise to street loading or unloading operations with consequent accident potential and reduction in road efficiency. Under no circumstances are vehicles to be loaded or unloaded at the kerb side, or across the public footpath."

A Development Consent approval (0047 / 2006, Approval 9 January 2006) had the following requirement relating to access as part of this development consent.

Clause 20

"All vehicular movement to and from the site shall be in a forward direction to ensure that the proposed development does not give rise to vehicle reversing movements on or off the Public Road with consequent traffic accident potential in road safety."

3.2 Caltex Service Station Access

The existing Caltex service station has two accesses (entry & exit) located on its Kent Street frontage and a single entry / exit located on its Kathleen Street frontage. The access on Kathleen Street serves as a dual purpose access for customers exiting the service station to the east and customers entering and exiting the adjoining car wash.

3.3 Existing Access

The existing access (temporary in the case of Tamworth Regional Council) is located approximately 50m from the Kathleen and Kent Streets intersection on the northern side of Kathleen Street. The access presently services the

- Southgate Inn Hotel (customer patronage and deliveries)
- Southgate Inn Drive Through Bottle Shop
- Alternate exit point for the Car Wash attached to the Caltex Service Station.
- Temporary access to the temporary location of the Post Office outlet.

Of the above operations currently requiring access via the existing access location, the Post Office is the only one that will not be required to use this access beyond completion of the redevelopment of the Southgate Shopping Centre as it will be relocated to the centre where access to the Post Office will be via the main access at Willis Street.

4. PROPOSED SOUTHGATE CARPARK

The redevelopment of the Southgate Shopping Centre will require a reconfiguration of the existing carpark layout and the location of the entry / exit points. Where the existing operation uses 4 entry / exit points the future carpark will only have 2 entry / exit points servicing the approved development.

It is proposed to cover a portion of the proposed parking bays with "shade sails" to improve the amenity of the carpark for its customers. In addition, it is proposed that trees will be planted in certain areas of the carpark.

5. IMPACTS ON EXISTING BUSINESS OPERATIONS

The existing access has generally been in existence for 40 years with no recorded accident history for this location.

Closure of this access will likely have impacts on the various operations of the Southgate Inn and on the operation of the Southgate Shopping Centre.

5.1 Southgate Inn & Bottle Shop

5.1.1 Impacts on Delivery Vehicles

The Southgate Inn Hotel and Bottle Shop operation receive deliveries by courier vans, small and large rigid trucks and the occasional semi trailer. The Hotel Manager has advised the following delivery times for a normal week.

Soft Drink (Coke)	Wednesday 10.00am to 11.00am
Beer	Tuesday, Wednesday, Thursday & Friday 10.00am to 11.00am
Smiths Chips	Monday 10.00am to 12.00pm
Kitchen	2 separate deliveries daily at different times of the day
Spirits, etc	Tuesday and Friday 9.00am to 10.00am
Drurys Wholesalers	Thursday 9.00am to 10.00am

The above delivery times are considered to be outside the peak AM and PM traffic times with respect to the school zone times. (Refer to section 3.1 of this report outlining various Council Development Consent conditions relating to delivery vehicle access to the site)

The vehicles presently enter and exit the site via the existing access. However, if the existing access is closed these delivery vehicles will be required to travel through the DA Approved (DA 0046 / 2012) carpark. For some of these vehicles, this may be acceptable (courier vans and small trucks) but for other vehicles (large trucks and semi trailer) this will be unacceptable as they will not be able to manoeuvre around the tight bends that come with carpark layouts that are designed for small vehicle access.

Also, the larger vehicles driving through possible vacant parking bays cannot be a consideration due to the proposed installation of the "shade sails" over certain parking bays that will have a height restriction suited to small vehicles.

From a road safety point of view it is not ideal or safe to be mixing these large vehicles with the customer traffic for the shopping centre with delivery vehicles driving through the carpark after completing deliveries to the hotel and bottle shop. These large vehicles will have extreme difficulty negotiating the Willis Street roundabout without creating traffic flow issues, such as, blocking traffic at the entry point to the carpark

It should be noted that the proposed shopping centre is providing separation of delivery vehicles and customer traffic by providing a separate loading dock to the main customer carpark with no requirement for heavy vehicles to access the shopping centre carpark to delivery product to the shopping centre.

5.1.2 Impacts on Southgate Inn Patrons & Drive Through Bottle Shop

Southgate Inn patrons require convenient access to the bottle shop and hotel. Redirecting these patrons through the Shopping Centre carpark via the Willis St entry compromises such convenience.

If the existing access is closed, this will increase traffic volumes through the carpark and have increased safety impacts on pedestrian traffic using the carpark to access the shopping centre.

The existing access provides more direct access to the hotel and road network. There is no requirement for non shopping centre patrons to travel through the carpark.

5.2 Southgate Shopping Centre

Should Council still elect to go ahead with the closure of the existing access, this will create increased traffic volumes through and around the carpark with increased road safety issues for pedestrians using the carpark to access the shopping centre.

Closure of the existing access will also result in increased queuing at the Willis Street access possibly cutting off access for customers wanting to use the south eastern part of the carpark. If this queuing does occur it will also impact on Southgate Shopping Centre customers not being able to reverse out of their occupied parking spaces if they are in a location of the carpark where queuing is occurring.

6. ADDRESSING COUNCIL'S CONSENT CONDITIONS

This section of the report will address Tamworth Regional Council's development consent conditions regarding the closure / removal of the temporary / existing northern access.

6.1 Austroads Road Design Requirements

It is accepted that the new Austroads Guide to Road Design has a requirement for the placement of driveway accesses from intersections. What is not accepted is the way Council is interpreting the use. In this case assuming the Austroads reference is for commercial premises sites. The guide does not reference commercial or residential as the site use.

As previously stated this access has been in this location with no known recorded accident history. Therefore existing use rights should prevail in this case as the existing hotel and drive through bottle shop have been setup and operating based on the use of this existing access. *(Refer to section 3.1 of this report outlining various Council Development Consent conditions relating to delivery vehicle access to the site)*

These existing use rights originate from the original lease date 1 July 1971 and subsequently superseded by the Carparking License Agreement dated 19 June 2001.

6.2 High Pedestrian Zone

It is reasonable to expect high pedestrian usage in the area with Tamworth High School located opposite the shopping centre site.

In order to ascertain what the pedestrian movements are in Kathleen Street RoadNet conducted a morning and afternoon pedestrian count based on the school times for the high school on a Thursday and Friday in March 2012. The count was completed at the location of the existing access. The following is provided as a summary of the count data obtained.

Thursday 15th March

8:00am – 9:30am : 129 people (10 people non-students)

2:30pm – 4:00pm : 132 people (5 non students)

Friday 16th March

8:00am – 9:30am : 147 people (11 people non-students)

2:30pm – 4:00pm : 17 people (4 non students)

The following observations were made during the pedestrian count and need to be taken into account in completing this assessment.

- With the shopping centre now closed it was observed that the pedestrian traffic was mainly by school students walking to the service station and congregating in the carpark and then returning to the high school. This will more than likely cease as the service station attendant advised they are not normally this busy. The increased business had only happened as a result of the closure of the shopping centre.
- A percentage of the pedestrian traffic can be attributed to the location of the temporary Post Office. Again there will be a drop in pedestrian traffic relating to the Post Office once it is relocated to the redeveloped shopping centre.

- The Thursday afternoon count was skewed with a group of approximately 60 to 70 students returning to the high school from possibly the nearby swimming pool or sports ground.

During the completion of the count a discussion with the service station attendant was conducted to ascertain what impact the temporary closure of the shopping centre had on their business. The attendant advised they were not normally this busy and the increased business had only happened as a result of the temporary closure of the shopping centre

Therefore, when the shopping centre reopens it can be assumed there will be a marked drop in pedestrian traffic past the existing access with competitive pricing and location of the shopping centre to the high school will be key factors in the drop in pedestrian traffic at this location thus reducing any road or pedestrian safety impacts that maybe currently occurring.

7. ASSESSMENT OF THE EXISTING ACCESS

7.1 Traffic Volumes

Traffic volumes on Kathleen Street, Willis Street and Anne Street were counted by Tamworth Regional Council in July 2010. Volumes for 2011 have been calculated by applying the 1.0% traffic growth per annum and are shown in the table below.

Peak hour volumes, in urban areas, usually fall between 8 and 12% of daily flow. A value of 10% is usually adopted as a 'rule of thumb'. Kent Street is shown in the table below.

Street	Vehicles Per Day
Kathleen Street (between Kent St and Willis St)	4,450
Kathleen Street (between Willis St and Anne St)	4,584
Anne Street	740
Willis Street	840
Kent Street	8,710

Table 2 – 2011 Daily Traffic Volumes

RoadNet also previously modelled the intersections in the vicinity of the shopping centre with the Level of Service (LOS) and delay times being in acceptable ranges to allow free flow of the traffic through the intersections presently and into the future.

Street	Movement	2007		2017	
		Delay	LOS	Delay	LOS
Kathleen St at Anne St	Left Out	10.2	B	10.7	B
	Right Out	10.5	B	11.0	B
	Left In	7.2	A	7.2	A
	Right In	9.6	A	10.1	B
Kathleen St at Willis St	Left Out	8.5	A	8.9	A
	Right Out	8.8	A	9.2	A
	Left In	6.4	A	6.4	A
	Right In	7.7	A	7.9	A
Kathleen St at Kent St	Left Out	10.4	B	6.4	A
	Right Out	10.7	B	9.1	A
	Left In	6.4	A	11.4	B
	Right In	8.8	A	11.8	B

7.2 Traffic Generation & Distribution of Traffic

In determining the traffic distribution for the hotel and bottle shop operation it should be noted the peak traffic periods for the hotel and bottle shop do not coincide with the peak periods for the nearby school zone for Tamworth High School.

For the purposes of this assessment the afternoon school zone peak will be used because this period generates the highest pedestrian volumes for which vehicular traffic may impact upon. It is also noted the operating hours for the hotel and bottle shop normally commence at 10.00am.

Data provided by the Hotel Manager indicates patronage for the Drive-Through Bottle Shop is in the vicinity of 800 to 1000 cars per week entering with 1600 to 1800 cars per week attending the Southgate Inn. This equates to approximately 10 to 12 cars per hour for the bottle shop and 19 to 22 per hour for the Southgate Inn. (Refer to section 3.1 of this report outlining various Council Development Consent conditions relating to delivery vehicle access to the site)

The above traffic volumes are based on the current temporary operation during the redevelopment of the shopping centre. It is reasonable to expect that once the shopping centre redevelopment is completed these estimated traffic movements will be considerable enhanced.

7.3 Access Arrangement

In accordance with the requirements set out in the Australian Standard AS2890.1 – Off Street Carparking the following assessment has been completed for the arrangement of the existing access.

From Table 1.1 of the standard the user class adopted for this assessment is 3A – Short term, high turnover parking at shopping centres. From Table 3.1 of the standard it was assessed the required access facility category to be provided is a category 3 for a carpark with a number of spaces being between 101 and 300 with access to a local road.

Therefore, in accordance with Table 3.2 of the standard the entry and exit width of the access is to be 6.0m with a median separation of 1 to 3.0m.

The width of the existing access is currently 7.50m with no central median separation. As delivery vehicles use this access the existing configuration has been assessed to be adequate for the

operation. A central median at this location is not recommended as it would impact on the turning movements of the delivery vehicles servicing the hotel and bottle shop and therefore the existing access should remain in operation in its current form.

7.4 Pedestrians

Presently pedestrians use the existing footpath fronting the proposed redevelopment. This footpath also crosses the existing access.

Sight distance at the access is presently unimpeded for vehicles entering and exiting the carpark to spot a pedestrian crossing the access at the street frontage. For the redevelopment vehicles may have reduced sight distance at the street frontage if a large / high vehicle (Van or large 4WD) is parked in the adjacent parking space. To mitigate this it is proposed to provide a speed hump at the boundary of the street frontage so as to bring vehicles to an almost stop when exiting the carpark, thus minimising any road safety with pedestrian crossing the access.

For vehicles entering the carpark sight distance remains adequate (unchanged) and therefore there are no mitigation measures required for this movement.

8. CONCLUSIONS

Tamworth Regional Council's development consent conditions require the consolidation of accesses for the redeveloped shopping centre with the access in question to be closed / removed.

However based on the existing use rights for the Southgate Inn Hotel and adjoining drive through bottle shop it is recommended the existing access remain open beyond the redevelopment of the shopping centre for the following reasons:-

- To separate Southgate Inn delivery vehicles from the Southgate Shopping Centre carpark areas.
- To reduce the safety risk in the shopping centre carpark it is preferable that Southgate Inn, Motel and Bottleshop patrons do not travel through the carpark.
- To reduce congestion at the Willis Street roundabout.
- To provide practical access for large delivery vehicles servicing the Southgate Inn and Drive Through Bottle Shop
- To provide convenient access for the Southgate Inn and Drive Through Bottle Shop patrons
- To maintain the Southgate Inn and Drive-Through Bottle Shop existing use rights.

The existing level of pedestrian traffic in the vicinity of the existing access is mainly due to the temporary closure of the shopping centre with high school students going to the service station to buy supplies. The location of the temporary Post Office also adds to the pedestrian traffic.

As sight distance may be reduced in the reconfigured carpark layout it is proposed to install a speed hump boundary of the street frontage so as to bring vehicles to an almost stop when exiting the carpark, thus minimising any road safety with pedestrian crossing the access.

The completion of the redevelopment of the shopping centre including relocation of the Post Office to the shopping centre will result in a marked drop in pedestrian traffic in the vicinity of the existing access thus minimising any pedestrian safety conflicts with vehicles entering or exiting the carpark at this location. Accordingly, the subject existing access will likely experience low volumes of pedestrian traffic with a low safety risk factor if the existing access is to remain.

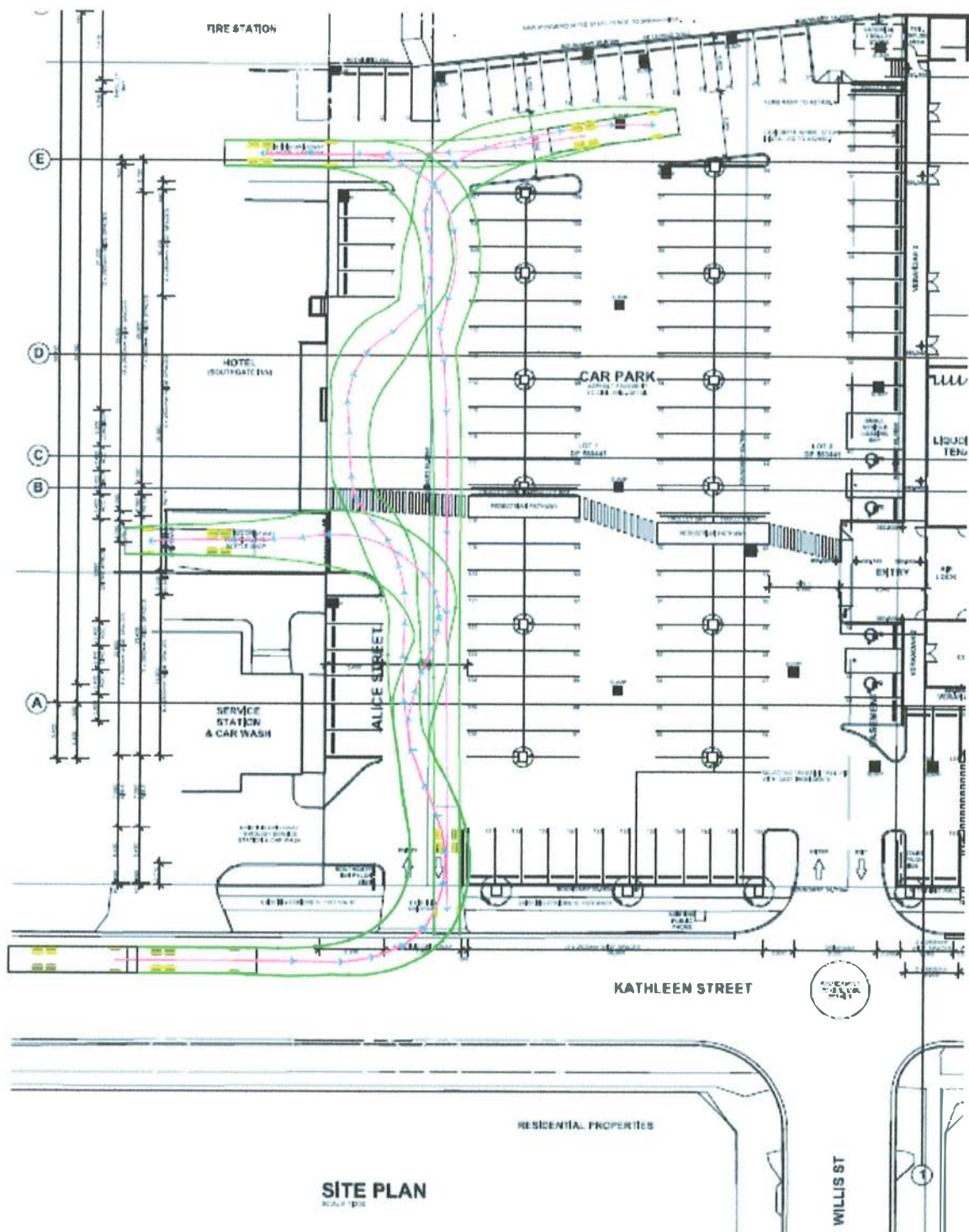
9. RECOMMENDATIONS

The existing access to remain open for the following reasons:

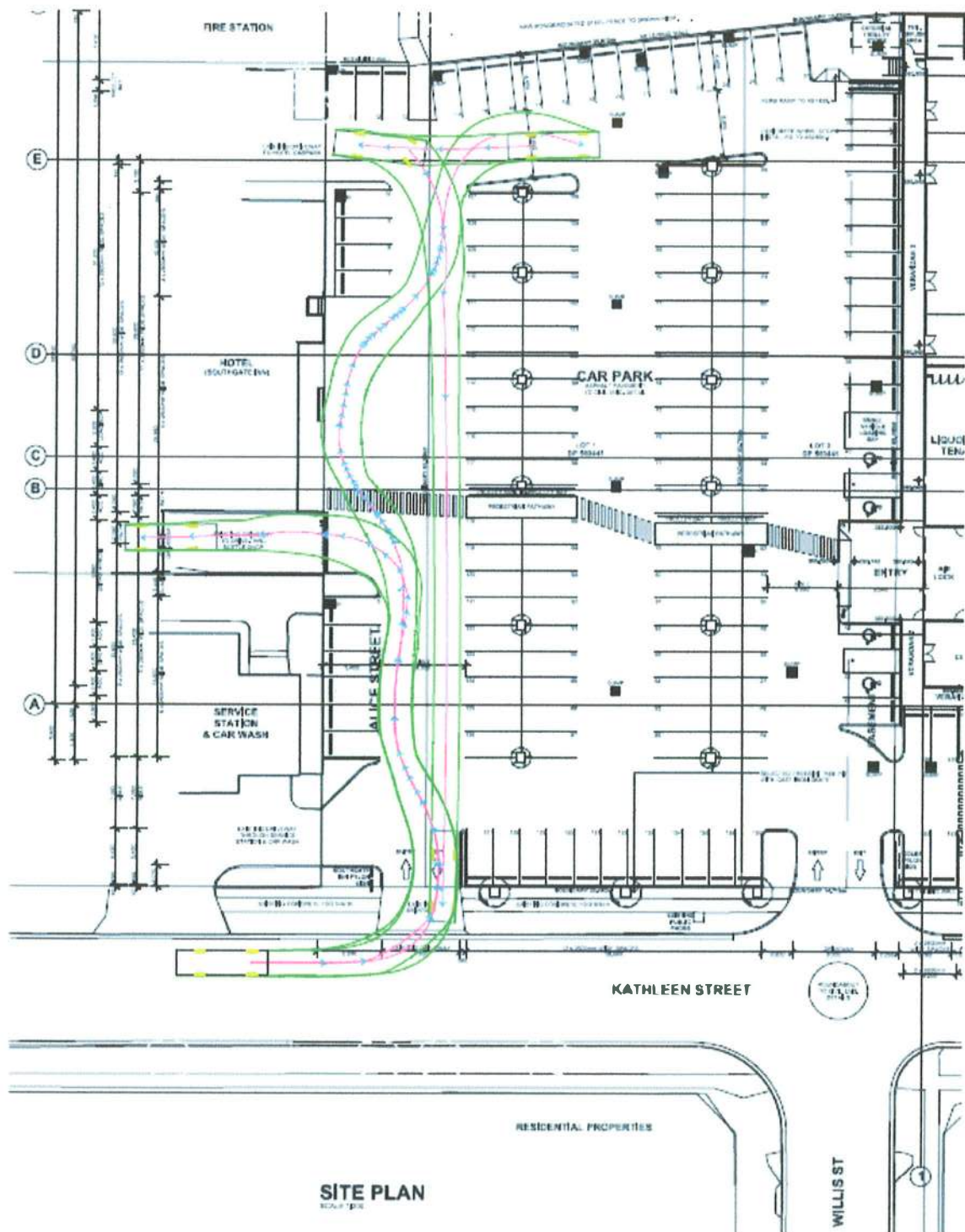
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- To reduce congestion at the Willis Street roundabout.
- To provide practical access for large delivery vehicles servicing the Southgate Inn and Drive Through Bottle Shop
- To provide convenient access for the Southgate Inn and Drive Through Bottle Shop patrons
- To maintain the Southgate Inn and Drive-Through Bottle Shop existing use rights.
- To limit vehicular and pedestrian safety risks by keeping the existing access operational beyond the completion of the shopping centre redevelopment.

To minimise any road safety issue for pedestrians crossing at the access a speed hump is be installed at the boundary of the street frontage so as to bring vehicles to an almost stop when exiting the carpark, thus minimising any road safety with pedestrian crossing the access.

APPENDIX A
SWEPT TURN PATH ASSESSMENT



Large Rigid Truck Swept Turnpath



Small Rigid Truck Swept Turnpath