

FABCOT PTY LTD

TRAFFIC REPORT FOR  
PROPOSED DAN MURPHY'S  
LIQUOR STORE, GLADESVILLE

DRAFT

JUNE 2009

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TABLE OF CONTENTS

1. INTRODUCTION .....	1
2. EXISTING CONDITIONS.....	2
3. IMPLICATIONS OF PROPOSED DEVELOPMENT .....	7

DRAFT

## I. INTRODUCTION

I.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Fabcot Pty Ltd to prepare a report examining the traffic implications of a proposed Dan Murphy's liquor store at Gladesville. The site has frontage to Victoria Road and Osgathorpe Road, and is shown in Figure I.

I.2 The site is occupied by a building which is used for commercial purposes (Freedom Furniture), with vehicular access from Osgathorpe Road. It is proposed to demolish the existing building on the site and construct a new Dan Murphy's store of some 1,595m<sup>2</sup>, with vehicular access from Osgathorpe Road.

I.3 This report assesses the traffic implications of the proposed development through the following chapters:

- Chapter 2 - describing the existing conditions; and
- Chapter 3 - assessing the traffic implications of the proposed development.

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## 2. EXISTING CONDITIONS

### Site Location and Road Network

- 2.1 The site is located on the south-western corner of the intersection of Victoria Road and Osgathorpe Road at Gladesville. The site has frontage to both of these roads and is shown in Figure 1. The site has vehicular access from Osgathorpe Road at its western end. It is occupied by a building which is used for commercial purposes (Freedom Furniture).
- 2.2 Surrounding land uses include retail and commercial development along Victoria Road and in adjacent streets close to Victoria Road. There is residential development further west on Osgathorpe Road.
- 2.3 In the vicinity of the site, Victoria Road provides a six lane divided carriageway with three traffic lanes in each direction and a central concrete median. Clearways operate during peak periods. There is a westbound bus lane which operates during afternoon peak periods. There are bus stops on both sides of the road adjacent to the site.
- 2.4 Osgathorpe Road runs west from Victoria Road at an unsignalised, priority controlled t-intersection, with Victoria Road having priority. Turns at the intersection are restricted to left in and left out due to the median in Victoria Road. Osgathorpe Road provides access to the subject site, other commercial development and residential development further to the west.
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- 2.5 Gerard Lane is west of and parallel to Victoria Road. It terminates south of the site. Gerard Lane provides for two-way traffic and provides access to the rear of properties fronting Victoria Road. Ryde Council has exhibited a draft development control plan which identifies the future extension of Gerard Lane to Osgathorpe Road along the site and the adjacent site to the south.

### Traffic Flows

- 2.6 Traffic generated by the proposed development will have its greatest effects during weekday afternoon and Saturday lunchtime peak periods when it combines with other retail, commercial and commuter traffic. In order to gauge traffic conditions, counts were undertaken during a Friday afternoon peak period and a Saturday lunchtime period at the intersection of Victoria Road and Osgathorpe Road.
- 2.7 The results of the surveys are shown in Figures 2 and 3 and summarised in Table 2.1. Victoria Road carried traffic flows of some 2,800 to 3,500 vehicles per hour two-way during the weekday afternoon and Saturday lunchtime peak periods. Flows on Osgathorpe Road, during the same peak periods, were less than 100 vehicles per hour two-way.

<b>Road</b>	<b>Location</b>	<b>Friday afternoon</b>	<b>Saturday lunchtime</b>
Victoria Road	North of Osgathorpe Road	2,775	3,460
	South of Osgathorpe Road	2,785	3,475
Osgathorpe Road	West of Victoria Road	60	35

- 2.8 During the survey periods the site generated some 20 vehicles per hour two-way on both the Friday and Saturday.

### Intersection Operations

- 2.9 The capacity of the road network is largely determined by the capacity of its intersections to cater for peak period traffic flows. The intersection of Victoria Road with Osgathorpe Road has been analysed using the SIDRA computer program.

- 2.10 SIDRA provide a number of measures of intersection operation. The most useful measure provided is average delay per vehicle expressed in seconds per vehicle. Based on average delay per vehicle, SIDRA estimates the following levels of service (LOS):

- For traffic signals, the average delay per vehicle in seconds is calculated as delay/(all vehicles), for roundabouts the average delay per vehicle in seconds is selected for the movement with the highest average delay per vehicle, equivalent to the following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Good with minimal delays and spare capacity
29 to 42	=	"C"	Satisfactory with spare capacity
43 to 56	=	"D"	Satisfactory but operating near capacity
57 to 70	=	"E"	At capacity and incidents will cause excessive delays. Roundabouts require other control mode.
>70	=	"F"	Unsatisfactory and requires additional capacity

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- For give way and stop signs, the average delay per vehicle in seconds is selected from the movement with the highest average delay per vehicle, equivalent to following LOS:

0 to 14	=	"A"	Good
15 to 28	=	"B"	Acceptable delays and spare capacity
29 to 42	=	"C"	Satisfactory but accident study required
43 to 56	=	"D"	Near capacity and accident study required
57 to 70	=	"E"	At capacity and requires other control mode
>70	=	"F"	Unsatisfactory and requires other control mode

2.11 It should be noted that for roundabouts, give way and stop signs, in some circumstances, simply examining the highest individual average delay can be misleading. The size of the movement with the highest average delay per vehicle should also be taken into account. Thus, for example, an intersection where all movements are operating at a level of service A, except one which is at level of service E, may not necessarily define the intersection level of service as E if that movement is very small. That is, longer delays to a small number of vehicles may not justify upgrading an intersection unless a safety issue was also involved.

2.12 The SIDRA analysis found that the unsignalised intersection of Victoria Road with Osgathorpe Road is operating with average delays of less than 20 seconds per vehicle during the weekday afternoon and Saturday lunchtime peak periods. This represents level of service B, a reasonable level of service.

Public Transport

- 2.13 Local bus services are provided by Sydney Buses. As previously discussed, there are bus stops on Victoria Road adjacent to the site. Numerous services operate along Victoria Road to and from the city.

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### 3. IMPLICATIONS OF PROPOSED DEVELOPMENT

3.1 It is proposed to demolish the existing building on the site and construct a Dan Murphy's store of some 1,595m<sup>2</sup>. Vehicular access is proposed to be provided from Osgathorpe Road at the western end of the site. On-site parking is proposed for 42 vehicles. This chapter assesses the implications of the proposed development through the following sections:

- ❑ public transport;
- ❑ parking provision;
- ❑ access and internal layout;
- ❑ servicing;
- ❑ traffic generation and effects; and
- ❑ summary.

#### Public Transport

3.2 As previously discussed, the site is close to local bus services which operate along Victoria Road. These services offer alternatives to travel by modes other than car, particularly for employees.

3.3 The proposed development would provide employment opportunities and retail facilities close to public transport services. The proposal would therefore create demand for these services.

3.4 The proposed development is therefore consistent with government policy and planning principles of:

- (a) improving accessibility to employment and services by walking, cycling, and public transport;
- (b) improving the choice of transport and reducing dependence solely on cars for travel purposes;
- (c) moderating growth in the demand for travel and the distances travelled, especially by car; and
- (d) supporting the efficient and viable operation of public transport services.

#### Parking Provision

- 3.5 The Draft Ryde Development Control Plan 2008: Gladesville Town Centre and Victoria Road Corridor indicates a maximum parking provision of one space per 50m<sup>2</sup> for commercial and retail development. This rate is low for retail development.
- 3.6 By comparison, surveys of Dan Murphy's have found peak parking demands of between one space per 28m<sup>2</sup> to 36m<sup>2</sup>. These rates are considered to be more appropriate than the Council's code rates as they are based on surveys of other Dan Murphy's stores. This is consistent with the approach in the RTA's "Guide to Traffic Generating Developments", which recommends undertaking surveys of other similar developments.

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- 3.7 The proposed parking provision is 42 spaces, which is equivalent to 1 space per 38m<sup>2</sup>. This number is similar to the lower end of the range of the surveyed peak demand rate and is therefore considered appropriate.

#### Access and Internal Layout

- 3.8 Vehicular access to the development is proposed to be provided from Osgathorpe Road. The proposed driveway will be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 – 2002 to accommodate the swept paths of cars and service vehicles.
- 3.9 Parking will be provided in basement levels under the store and accessed from the driveway from Osgathorpe Road. The proposed access arrangements and building design make provision for the future extension of Gerard Lane through the site, as identified in Council's draft DCP.
- 3.10 Within the parking levels, spaces will be a minimum of 5.4 metres long and 2.6 metres wide, with 6.6 metre wide circulation aisles and columns set back 750 mm from the front of spaces. Spaces with adjacent obstructions will be 0.3 metres wider. Disabled spaces will be 3.2 metres wide. Height clearance will be 2.2 metres generally, with 2.5 metres above disabled spaces and 2.3 metres between disabled spaces and the car park entry/exit. These dimensions are considered appropriate, being in accordance with AS 2890.1:2004.
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### Servicing

- 3.11 The number of deliveries to the store will be low at some 10 to 12 per day, with the majority of those being by vans and small trucks. The largest truck to service the site will be a 12.5 metre large rigid truck. Deliveries will be staggered throughout the day. Deliveries are typically organised to occur outside of busy trading times.
- 3.12 A number of options for servicing the site have been considered and discussed with Council staff. The option that was considered to provide the best overall outcome (in terms of traffic, noise and urban design) was to have service vehicle access directly from Osgathorpe Road. Trucks would reverse into the dock from Osgathorpe Street and depart the site in a forward direction. This would allow separation of the service area from the car park access, reduce noise effects on residential development to south, allow retention of a greater part of the existing façade of the building and not require the provision of a roof over the future extension of Gerard Lane (required to provide appropriate noise mitigation). Deliveries to the site by large trucks would be managed through a delivery management plan.
- 3.13 The delivery management plan would include the following elements:
- ❑ traffic controllers stopping southbound traffic on Osgathorpe Street and pedestrians while the truck reverses into the loading dock (which would take less than a minute);
  - ❑ times of deliveries (as noted above will be staggered throughout the day and are typically organised to occur outside of busy trading times); and
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- the maximum size of truck to service the site (as noted above the largest truck to service the site will be a 12.5 metre large rigid truck)
- 3.14 Similar management plans are in place at a number of other Dan Murphy's stores.
- 3.15 The driveway loading dock will be provided to accommodate the swept paths of vehicles in accordance with the Australian Standard for Parking Facilities (Part 2: Off-street commercial vehicle facilities), AS 2890.2 – 2002. Service vehicle swept paths are shown in Figure 4.
- 3.16 It is considered that the service arrangements are satisfactory because:
- the number of deliveries to the site by a large truck would be low (two to three per day);
  - traffic flows on Osgathorpe Street are low (35 to 60 vehicles per hour two way) and thus there would be minimal disruption to traffic flow in Osgathorpe Street; and
  - traffic and pedestrian flows on Osgathorpe Street would be managed with traffic controllers when a truck is reversing into the site.
- 3.17 Furthermore AS2890.2-2002 notes that manoeuvring within the road is acceptable subject to:
- it not occurring on a major road;
  - the vehicle being able to stand within the site; and
  - the number of service vehicle movements being small.
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### Traffic Generation and Effects

- 3.18 Traffic generated by the proposed development will have its greatest effects during weekday afternoon and Saturday lunchtime peak periods when it combines with commuter and retail traffic. The RTA suggests that for new developments, estimates of traffic generation should be based on surveys of similar developments.
- 3.19 Surveys of Dan Murphy's found a peak traffic generation of some 20 vehicles per hour per 100m<sup>2</sup> during weekday afternoon and Saturday lunchtime peak periods. Based on this, the proposed liquor store would generate some 320 vehicles per hour two-way. We have adopted this generation for assessment.
- 3.20 As previously discussed in Chapter 2, the site generated some 20 vehicles per hour two-way during peak hours. Therefore the increase in traffic generation would be some 300 vehicles per hour two-way.
- 3.21 The RTA's Guide to Traffic Generating Development suggests that up to 25 per cent of visits are likely to be passing trade, i.e. customers who would have driven past the store regardless of their visit to the store. 25 per cent of the additional development traffic has been assumed to be passing trade.
- 3.22 Existing traffic flows plus the additional traffic from the proposed development are shown in Figures 2 and 3. A summary is provided in Table 3.1. Traffic increases on Osgathorpe Road, in the short section between Victoria Road and the site access, would be some 240 vehicles per hour two-way during peak hours.
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Increases on Victoria Road would be lower at some 85 vehicles per hour two-way.

**Table 3.1: Existing two-way peak hour traffic flows plus development traffic**

Road	Location	Friday afternoon		Saturday lunchtime	
		Existing	Plus development	Existing	Plus development
Victoria Road	North of Osgathorpe Road	2,775	+85	3,460	+85
	South of Osgathorpe Road	2,785	+85	3,475	+85
Osgathorpe Road	West of Victoria Road	60	+240	35	+240

3.23 The intersection of Victoria Road with Osgathorpe Road has been re-analysed with SIDRA for the additional development traffic flows shown in Figures 2 and 3. The analysis found that the intersection would operate with average delays of less than 25 seconds per vehicle during the weekday afternoon and Saturday lunchtime peak periods. This represents level of service B, a reasonable level of service.

3.24 Therefore, the road network will be able to cater for the additional traffic from the proposed development.

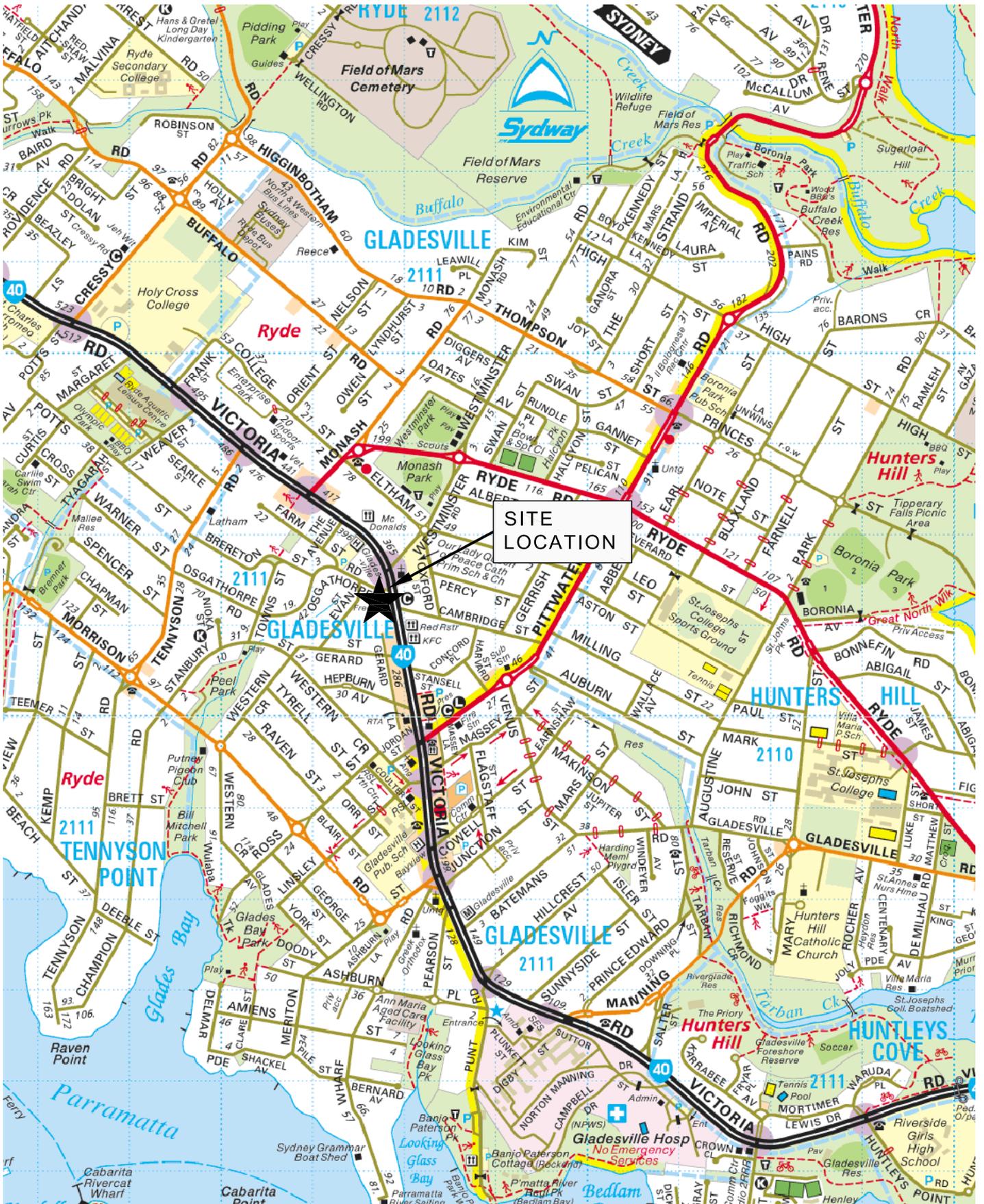
### Summary

3.25 In summary, the main points relating to the transport implications of the proposed development are as follows:

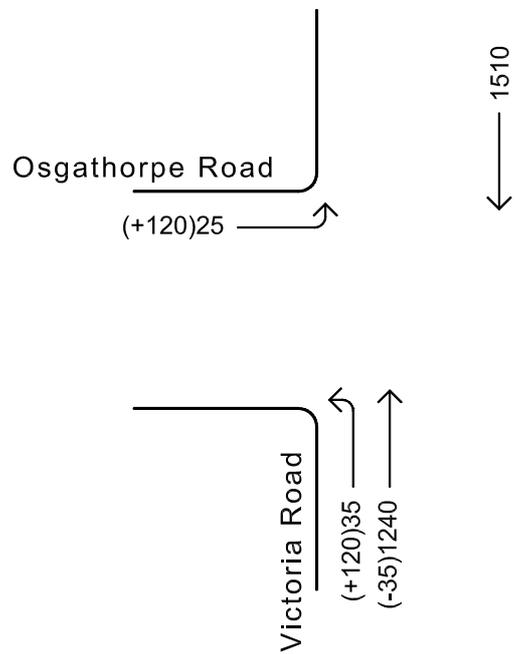
- i) the proposed development would create demand for existing public transport services in the area;
- ii) the proposed parking provision is considered appropriate;

- iii) access and internal layout will be provided in accordance with AS 2890.1:2004
- iv) servicing of the site will be in accordance with the proposed delivery management plan and AS2890.2-2002; and
- v) the road network will be able to cater for the additional traffic from the proposed development.

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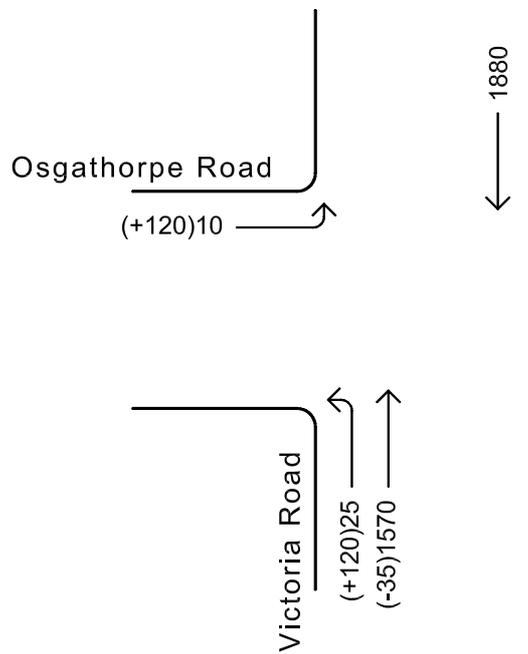
# Location Plan



**LEGEND**

- 100 - Existing Peak Hour Traffic Flows
- (+10) - Additional Development Traffic

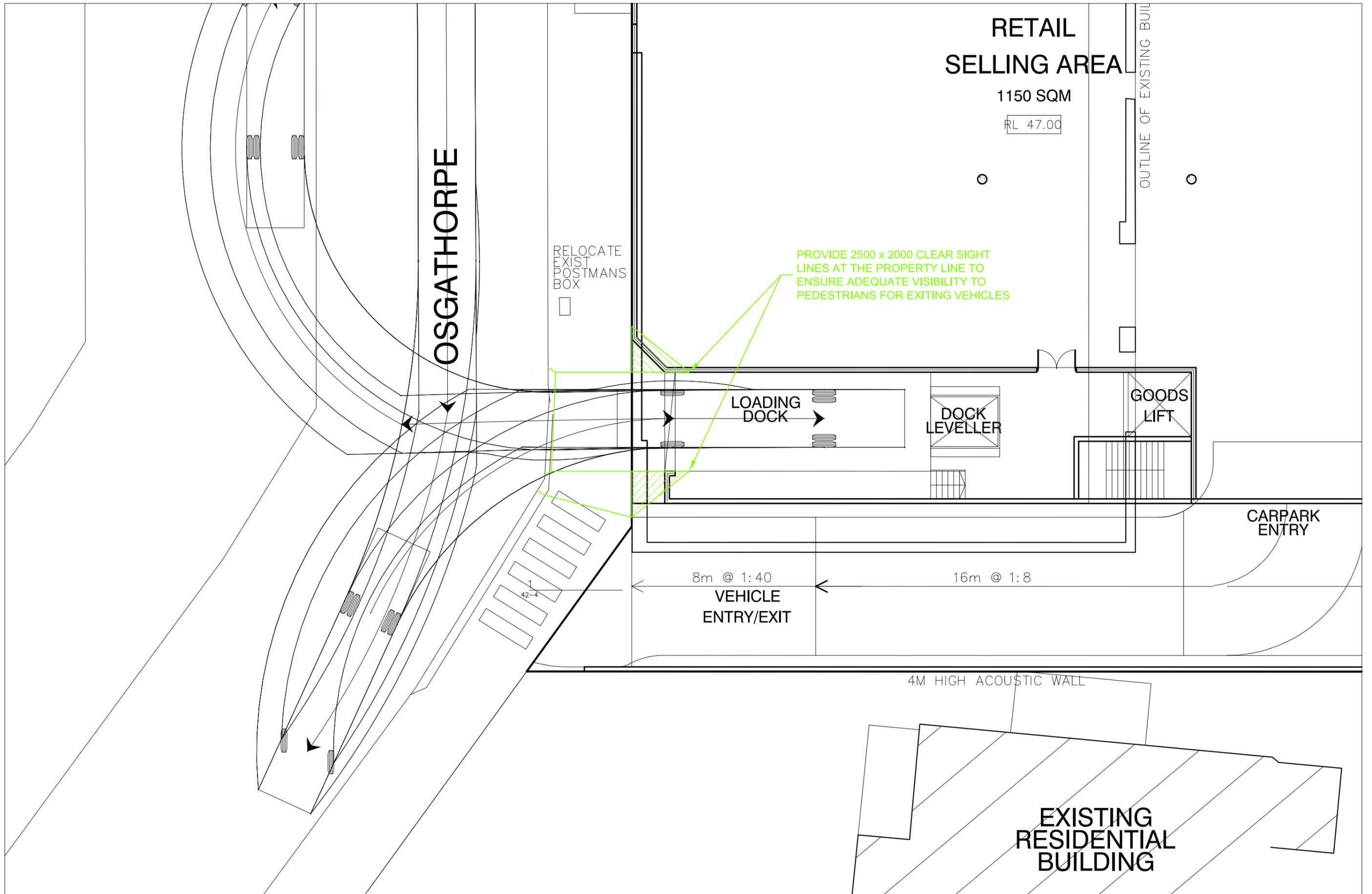
**Existing Friday afternoon peak hour traffic flows plus development traffic**



**LEGEND**

- 100 - Existing Peak Hour Traffic Flows
- (+10) - Additional Development Traffic

**Existing Saturday midday peak hour traffic flows plus development traffic**



**NOTE:**  
SKETCH PLAN ONLY. PROPERTY BOUNDARIES, UTILITIES, KERBLINES & DIMENSIONS ARE SUBJECT TO SURVEY AND FINAL DESIGN. TRAFFIC MEASURES PROPOSED IN THIS PLAN ARE CONCEPT ONLY AND ARE SUBJECT TO FINAL DESIGN BY CIVIL ENGINEERS.

12.5m RIGID VEHICLE  
LOADING DOCK LAYOUT