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Ms Kate McCauley
Toga Development & Construction
Toga Group of Companies
Level 5, 45 Jones Street
ULTIMO NSW 2007

23 March 2010

Dear Kate,

Re: Hall Street Project Part 3A Application – Traffic and Parking Assessment

Introduction

In September 2008 a development application for the mixed use development at Hall Street, Bondi was lodged with Waverley Council. Subsequently the development proposal was modified and became subject to a Part 3A assessment process. This report examines the traffic and parking implications of the Part 3A application. In doing so, it makes use of the traffic analysis for the September 2008 application along with supplementary information provided in response to submission on that application. For ease of reference, the previous traffic report is included in the **Appendix A**. It should be noted that this report includes plans from the original scheme. The current scheme is depicted on Bates Smart, architects, plans A2.201/3, A2.202/3, A2.203/3, A2.204/3.

Table 1 below compares the previous and proposed development mix.

Table 1 – Comparison of Previous and Proposed Development Mix

Use	Development Mix		Changes
	Previous	Proposed	
Residential	31 units	45 units	+13 units
Hotel	135 rooms	113 rooms	-22 rooms
Restaurant	804 m^2 gross leasable area	547 m^2 gross leasable area	-257 m^2 GLA
Shops	2,324 m^2 net leasable area	2,303 m^2 net leasable area	-21 m^2 NLA
Gym	652 m^2 gross floor area	91 m^2 gross floor area	-561 m^2 GFA

As shown in Table 1, overall the proposed development is somewhat smaller than the previous one for which a traffic assessment was conducted.

Traffic Generation

The traffic generation of the proposed development was estimated using the same traffic generation rates adopted in the previous traffic report.

The comparison of the additional traffic generation of the previous and proposed development mix for the weekday and weekend peak period is shown in Table 2. Traffic generation calculations are included in **Appendix B**.

Table 2 – Comparison of Additional Traffic Generation during Peak Hours

Period	Pre Development Traffic Generation (a)	Previous Development Mix		Proposed Development Mix	
		Future Traffic Generation (b)	Additional Traffic Generation (b-a)	Future Traffic Generation (c)	Additional Traffic Generation (c-a)
Thursday AM Peak Hour	54	100	46	87	33
Thursday PM Peak Hour	111	230	119	204	93
Saturday AM Peak Hour	70	192	122	190	120

The results from Table 2 indicate that the additional traffic generation from the modified development mix is lower than the previous development mix. Hence, the future conditions of the surrounding road network would operate better than the previously assessed conditions.

The previous analysis indicated that the additional traffic due to the proposal would not have a significant impact on the operation of intersections near the site during the morning and evening peak hours and also during the Saturday morning peak hour. Intersections would continue to operate satisfactorily at levels of service C or better.

Therefore the previous conclusions would still apply for the reduced development mix.

Parking Provision

Consistent with the previous traffic report, the parking provision for the reduced development is adopted from the Waverley Council's DCP 2006 – Part I1 – Land Use and Transport.

The estimated parking requirement of the reduced development is shown in Table 3 below.

Table 3 –Parking Requirement of Proposed Development

Use	Number (or GLA)	Minimum Parking		Maximum Parking	
		Rate	Minimum Number Allowed	Rate	Maximum Number Allowed
Residential (45 units)	15x1-bed	0.3	4.5	0.6	9
	16x 2-bed	0.4	6.4	0.8	12.8
	14x3-bed	0.8	11.2	1.2	16.8
	visitor				4.4
Hotel	113	1 per 4 rooms	28.3	1 per 4 rooms	28.3
Hotel cafe	80 m^2	1 per 50 m^2	1.6	1 per 50 m^2	1.6
Restaurant	547 m^2	1 per 50 m^2	10.9	1 per 50 m^2	10.9
Shops	2,303 m^2	1 per 30 m^2	76.8	1 per 30 m^2	76.8
Pool	4 lanes	4 per lane	16	4 per lane	16
TOTAL			**155.7**		**176.6**

Based on surveys elsewhere, a pool with a high amount of access by private car would generate about 6 parking spaces per lane during the cross over period between swim classes.

In Bondi, Council applies a discount on the unconstrained parking demand for different facilities in order to take account of the high degree of travel by walking, cycling and public transport to discourage private car use.

For example for office uses, the RTA's unconstrained parking demand would be 2.5 spaces per 100m^2 of Gross Floor Area (GFA). However, Council only allows a maximum of 1.67 spaces per 100m^2 GFA. This represents a discount of one third below the unconstrained demand.

Applying a discount of one third, a pool with swim class would require 4 parking spaces per lane. The proposed pool would be able to provide 4 swim lanes and would thus require 16 parking spaces.

In total the development on the site excluding the pool would require 160.6 parking spaces. Adding parking for the pool brings the required parking up to 177 spaces (rounding).

In addition to this, it is proposed to provide a further 3 spaces in anticipation that at some time in the future that up to 18 seats may be provided as outside dining on the Hall Street footpath adjacent to one or more of the restaurants. Such seating does not constitute part of this application and would be subject to a separate license and consent from Waverley Council. However, in view of the very strong representations that have been made about shortages of on-street parking in the area, it is considered prudent to make provision for such a prospective parking need now as otherwise it would be very difficult to provide in the future.

Finally because of the proposed operation of the loading area it would be desirable to provide separate parking for couriers and delivery vans. Four dedicated spaces are proposed for these on the upper basement level.

Thus a total of 184 parking spaces are proposed. This is to be provided as follows:

- Basement Level 1: 50 car parking
- Basement Level 2: 65 car parking spaces for the retail/commercial component of the development
- Basement Level 3: 69 car parking spaces for residential, hotel and retail/commercial business owners.

In addition to this about 10 motorcycle parking spaces are proposed to be provided in spare areas in the car park.

As the development proposes 184 parking spaces and 10 motorcycle parking spaces which is compatible with the Waverley DCP provisions or principles, it is considered that the parking supply is satisfactory.

Assessment of the Car Park Layout

Australian Standard for Parking Facilities, Part 1: Off-Street Carparking (AS 2890.1-2004) classifies car parks according to the user classes. The proposed development consists of a mix of user classes, residential, hotel, gymnasium clients and retail customers. The car park has therefore been designed to suit short-term city and town centre parking (User Class 3). A car park for user class 3 requires 2.6m wide parking bay and a minimum aisle width of 5.8m.

Generally the parking spaces are 2.6m wide and the accessible parking spaces are 2.4m wide with a 2.4m shared area beside them. The aisle width in the car park varies from 5.8m to 7.0m. Therefore the car park layouts comply with AS 2890.1.

Boom gate security controls are located at the bottom of the entry ramp to Level 1 of the car park. It is proposed that the boom gates be operated by ticket issuers/readers or card readers located on concrete islands adjacent to the entry and exit lane. The boom gates will secure the car park and control long-stay customer parking.

Ramps connecting basement 1 to basement 2 and basement 2 to basement 3 are also 6m wide. These comply with AS2890.1 in terms of their dimensions and gradients.

The plans of the car park have been reviewed for their compliance with AS2890.1 and were found to be generally satisfactory. Height clearance of 2.2m will be provided for circulation aisles to and above parking spaces. 2.5m head room will be provided above accessible parking spaces as required by the Standard.

Overall the layout of the car park is considered to comply satisfactorily with requirements of the Australian Standard. A final check will be required before a Construction Certificate is issued as minor changes are likely to be necessitated during the detailed design process.

Assessment of the Loading Bays

A loading area suitable for a large waste or similar sized truck and a van is provided on the ground floor with access off O'Brien Street. A turntable is provided to allow vehicles to enter and exit in a forward direction.

Responses to Previous Concerns

Following the lodgement of the development application in September 2008, Waverley Traffic Committee requested additional information and clarification.

Waverley Traffic Committee's letter and our responses to those concerns are also included in **Appendix C**.

Conclusions

Compared to the previous proposal, the proposed development mix has been reduced. Hence the proposal would generate less traffic compared to the previous development mix. Our previous finding that the local road system would be able to accommodate the generated traffic satisfactorily thus still applies.

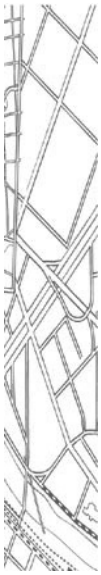
The proposed supply of 184 car parking spaces is consistent with Waverley Council DCP 2006 and is considered to be satisfactory. The loading area provided would be appropriate for the use of the development. The layout of the car park has been designed in accordance with the Australian Standard for Off-Street Car Parking.

In conclusion, the traffic and parking aspects of the development are considered to be satisfactory.

Yours Sincerely

Bruce Masson
Director Transport Planning

Appendix A - Previous Traffic Report



Traffic Report

Hall Street Development

29 May 2008

Prepared for

Toga Group of Companies

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TRAFFIC AND TRANSPORT CONSULTANTS

Author: Kamoru Adetunmbi
Reviewer: Bruce Masson

Contents

1. Introduction

This report has been prepared on behalf of Toga Group of Companies to present the findings of a study of traffic and parking implications of a proposed redevelopment of the Hakoah Club site in Hall Street, Bondi Beach.

The proposal involves demolition of the existing club building and buildings on 3 adjoining sites and construction of a mixed use development comprising multi-unit residential, hotel accommodation, retail and gymnasium, restaurant, and three levels of basement carparking.

A previous development application for redevelopment of the club to provide a mixed-use development comprising a hotel and 52 residential apartments was approved in 2004. A traffic study[1] that supported the development application did not carry out development impacts on intersection operations as the estimated traffic generation of existing club was greater than the previous proposal for hotel and residential development.

Proposed vehicular access arrangements are essentially the same as for the previously approved redevelopment scheme. This report examines the carparking layout, proposed vehicular access and the implications of the proposed development on traffic operations at the intersections in the vicinity of the development.

The remainder of this report is set out as follows:

- **Chapter 2** describes the site location and existing transport conditions.
- **Chapter 3** examines the carparking and loading requirements of the proposed development and the suitability of the layout.
- **Chapter 4** examines the traffic implications for the surrounding road system
- **Chapter 5** provides a summary and presents the conclusions of the investigation.

[1] Traffic and Parking Report for Redevelopment of Hakoah Club, Bondi – Gary Shiels & Associates(2004)

2. Existing Transport Conditions

An appreciation of the existing traffic conditions can be gained by examining the road network, traffic volumes and the operation of intersections. These aspects are discussed below.

2.1 Site Location

The subject site is bordered by O'Brien Street to the north, Hall Street to the south and other mixed use commercial/residential development to the west and east. The site location is shown in **Figure 1**. It includes the existing Hakoah Club and three properties immediately west of the club building.

2.2 Road System

The roads surrounding the subject site are described briefly below.

O'Brien Street runs east west between Roscoe Street and Old South Head Road. It intersects with Hall Street to form a Y-intersection just west of the site. It has one traffic lane and one parking lane in each direction. Parking on both sides of the road is restricted to 2 hours ticket parking, 8:00am-10:00pm with exception for residents who have permits. Entry to O'Brien Street is only available via its intersection with Hall Street as Roscoe Street is closed at its southern/eastern end. The street carriageway is 11.8m wide between kerbs and it has wide footpaths on both sides providing pedestrian access from the site to Campbell Parade, via Roscoe Street.

Hall Street is a collector road running approximately north-south from Campbell Parade at Bondi Beach to Wellington Street. The road is closed at O'Brien Street forming a Y-intersection that provides principal access (entry and exit) into the site. The northern section has one-way control from Glenayr Avenue to Wellington Street. The street carriageway is about 12.5m wide and parking is allowed on either side of the street. Car parking is restricted to 1 hour ticket parking from 8:00am – 6:00pm, and 4 hours from 6:00pm-10:00pm. Its intersection with Campbell Parade is signalised with pedestrian crossing provided at all legs.

Roscoe Street is a local road that runs parallel to Hall Street. Its south-eastern end is closed at Gould Street and at Campbell Parade, providing wide platforms for pedestrians walking to and from Campbell Parade. A pedestrian traffic signal exists in Campbell Parade providing direct access from Roscoe Street to the Bondi Beach. It has one-way north-west bound traffic control from O'Brien Street to Glenayr Avenue thus restricting access from Glenayr Avenue to exit only. The street has angle parking on its west side and parallel parking on its eastern side. Like other streets in the vicinity of the area, parking is restricted to 2 hours metered parking with exception for permit holders.

Glenayr Avenue is a collector road that runs north south between O'Brien Street and Blair Street. Its intersection with O'Brien Street is controlled by a 'Stop' sign giving priority to traffic in O'Brien Street. Bus Stops for Route 389 exist on either side of the street near its intersection with O'Brien Street. The remaining parking on either side of the street is restricted to ticket parking.

Campbell Parade is the main north-south spine road through the Bondi Beach area and is also the main public transport corridor through the area. Campbell Parade is a dual lane carriageway separated in places by a concrete median island. Many of the Intersections along this road are either controlled by traffic signals or roundabouts.

2.3 Existing Development on the site

The existing development on the site includes the Hakoah Club and 3 adjoining buildings (71-79 Hall Street) to the west of the club. The club has its entry foyer at Hall Street and vehicular access to basement carparking at O'Brien Street. It also has a loading area with separate access from O'Brien Street.

The three adjoining buildings have mixed uses with shops or restaurants at the ground floor and residential flat units at the top levels as shown in the table below:

Address	No of residential apartments	Retail Area (sqm)
71-73 Hall Street	16 x 1-bedroom units	60 sqm
75 Hall Street	13 x 1-bedroom units	60 sqm
77-79 Hall Street	13 x 1-bedroom units	60 sqm
Total	**42 x 1-bedroom units**	**180 sqm**

2.4 Existing Parking Provision

The basement carpark in Hakoah Club currently provides parking for 108 vehicles. The club operates a security and "valet" parking system with all vehicles forced to make U-turn and be checked by security staff before the vehicle is driven to the basement carpark.

A loading area is provided via a separate driveway about 15 metres east of the driveway to the basement carpark. The area between the two driveways is signposted as "No Parking". The remaining on-street parking is restricted to 2 hour metered parking with exemption for residents. As outlined in **Section 2.2**, on-street parking is available in other streets in the vicinity of the development, providing significant number of on-street parking spaces for visitors. However, due to closeness to the beach area, parking is in demand in the area.

The remaining three properties to the west of Hakoah Club also have driveways from O'Brien Street to carparking garages at the rear of the properties.

2.5 Existing Public Transport Facilities

The Waverley Development Control Plan for Parking DCP No.14 – Bicycle and Car Park identifies Campbell Parade as a major bus corridor.

The major northbound bus stop for the Bondi Beach area with a capacity for 2-3 buses at any one time is located on the western side of Campbell Parade. On the eastern side of Campbell Parade, a southbound multi bus stop facility is provided with a capacity for some 4-5 buses at any one time. These bus stops are located at a distance of around 250m from the site. In addition, a bus stop for Route No 381 exists on either side of Glenayr Avenue, around 100m from the proposed development. All major bus stops on both sides of Campbell Parade have both shelter and timetable facilities present.

The following bus routes operate in the vicinity of the subject site:

Route No.	Origin	Destination
380	Dover Heights	Circular Quay
380	Watson Bay	Circular Quay
381	North Bondi	Bondi Junction Rail Station
382	Dover Heights	Bondi Junction Rail Station
L82	Watson Bay	Circular Quay
X84	North Bondi	Bondi Junction Rail Station

From the above table it can be seen that there is a wide variety of bus routes available which provide direct links into and out of the city along with the Bondi Junction Rail Station. The availability of these facilities would encourage residents, tenants and visitors to use public transport.

2.6 Existing Pedestrian Facilities

As stated previously, pedestrian traffic signals are provided at the signalised intersection of Campbell Parade with Hall Street. Also pedestrian traffic signals exist at the Roscoe Street Mall across Campbell Parade providing safe access to and from Bondi Beach. Footpaths exist on both sides of Hall Street, and O'Brien Street with outdoor seating areas for restaurants and cafes.

2.7 Existing Bicycle Facilities

The topography of the Bondi area makes bike travel somewhat difficult however it was observed that tourists and visitors do use bicycles for recreational travel. Formal bicycle linemarking, with contrasting pavement, have been provided in O'Brien Street, north of Glenayr Avenue affording a bicycle route to Old South Head Road.

2.8 Existing Traffic Volumes

To examine traffic conditions on weekday evening and weekend morning peak periods, traffic counts were conducted on Thursday 28th February 2008 and Saturday 1st March 2008 at the following intersections:

- O'Brien Street/Hall Street
- O'Brien Street/Glenayr Avenue
- O'Brien Street/Barracluff Avenue
- Glenayr Avenue/Curlewis Street
- Hall Street/Campbell Parade

Surveys on Thursday were conducted between 7:00am and 9:00am in the morning peak and 4:00pm to 6:00pm in the evening peak on Thursday. On Saturday, surveys were conducted between 10:00am and 12:00pm.

The AM and PM peak hour volumes are shown in **Appendix B.** respectively of this report. The traffic volumes are summarised in **Table 2-1**.

The traffic volumes are slightly higher in the morning peak than evening peak hour at some locations due to the concentration of commuting traffic in the morning. In the evening traffic is more dispersed as commuters tend to return home at different times. The Saturday traffic flows were somewhat lower than the weekday traffic flows.

Traffic Flows in O'Brien Street north of Glenayr Avenue exceed 1,000 vehicles per hour in the weekday morning peak periods. This suggests that in fact these roads operate in the sub-arterial road range and are important cross district traffic routes with functions greater than that of just local access.

Table 2-1 – Existing Peak Hour Traffic Flows (veh/hr)

Road	Location	Weekday AM Peak (8.00am to 9.00am)	Weekday PM Peak (5.00pm to 6.00pm)	Saturday Morning Peak
O'Brien Street	East of Hall Street	164	192	252
O'Brien Street	West of Hall Street	593	627	238
O'Brien Street	West of Glenayr Avenue	1082	865	969
Hall Street	South of O'Brien Street	519	551	624
Hall Street	North of Campbell Parade	434	380	573
Glenayr Avenue	North of O'Brien Street	930	749	812
Glenayr Avenue	South-west of Curlewis Street	956	735	830
Glenayr Avenue	North-east of Curlewis Street	904	647	704
Curlewis Street	North-west of Glenayr Avenue	441	445	626
Curlewis Street	South-east of Glenayr Avenue	419	427	594
O'Brien Street	East of Barracluff Avenue	1087	879	1023
O'Brien Street	West of Barracluff Avenue	1103	954	1116
Barracluff Avenue	South of O'Brien Street	332	319	377
Hakoah Club Access	South of O'Brien Street	19	44	22

Note: All figures are total volumes for both directions unless indicated otherwise.

2.9 Existing Intersection Operation

The intersections in the vicinity of the site mentioned in **Section 2.8** were analysed using the SIDRA intersection analysis programme. SIDRA determines the average delay that vehicles encounter and the level of service. SIDRA provides analysis of the operating conditions which can be compared to the performance criteria set out in **Table 2-2**.

The results of the analysis are presented in **Table 2-3.** The results indicate that the intersections operate at satisfactory levels of service with spare capacity during the weekdays and weekend peak hours.

Table 2-2 – Level of Service Criteria

Level of Service	Average Delay per Vehicle (sec/veh)	Traffic Signals and Roundabouts	Give Way and Stop Signs
A	less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory, but accident study required
D	43 to 56	Operating near capacity	Near capacity and 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
F	over 70	Extra capacity required	Extreme delay, traffic signal or other major treatment required

Adapted from Guide to Traffic Generating Developments, RTA October 2002

Table 2-3 – Existing Operation of Intersections

		Weekday AM Peak		Weekday PM Peak		Saturday Morning Peak	
Intersection	**Controls**	**Average Delay**	**Level of Service**	**Average Delay**	**Level of Service**	**Average Delay**	**Level of Service**
Campbell Parade and Hall Street	Signals	21.6	B	20.1	B	28.6	C
Hall Street and O'Brien Street	Priority	14.0	A	14.0	A	15.0	B
O'Brien St and Glenayr Ave	Priority	22.6	B	16.3	B	19.8	B
O'Brien Street and Barracluff Ave	Roundabout	14.9	B	12.9	A	14.1	A
O'Brien St and Curlewis Street	Signals	19.7	B	19.9	B	24.0	B

Note: Roundabout and priority intersection performance relates to the most disadvantaged approach whereas signalised intersection performance relates to the intersection as a whole.

3. The Proposed Development

3.1 The Proposed Development

The components of the subject proposal are as follows:

- 31 residential units
- Hotel with 135 guest rooms
- Shops with 2, 324 sqm Net Leasable area
- Restaurant with 804sqm Gross Floor Area
- Gymnasium – 652 sqm Gross Floor Area
- 3 levels of basement carparking
- A loading area suitable for a large rigid truck plus a van

The proposed retail mix is intended, to a large extent, to serve the local community and therefore a significant amount of walk-in trade is expected. This expectation is consistent with the planning approach of Waverley Council which seeks to limit the amount of parking provided in new developments in the area.

The restaurant and gymnasium are also intended primarily to serve local needs although in the case of the restaurants they will add to the overall appeal of Bondi as a leisure area for the Eastern Suburbs.

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4. Traffic Generation and Impacts

4.1 Traffic Generation

The traffic report for the previously approved development for the site prepared by Gary Shiels and Associates assessed the existing traffic generation of the site to be 166 vehicle trips per peak hour. These rates would apply during an evening period and would be lower during a morning peak period or on a Saturday in the middle of the day.

We note that persons using the club tend to park both within the club and on nearby streets.

Table 4-1 indicates surveyed traffic entering and exiting the site's carpark and provides an estimate of the total traffic generation at the times of the surveys. It will be seen that at the peak time on the Thursday evening, the estimated total traffic generation was only about half of the evening peak hour period assumed in the previous traffic report. This may reflect changes in Club operation since the previous stud was conducted.

Table 4-1: Existing Traffic Generation of Hakoah Club

Period	Entering	Leaving	Total Traffic in driveway	Estimated Traffic Generation(1)
Thursday AM Peak Hour	15	4	19	38
Thursday PM Peak Hour	25	19	44	88
Saturday AM Peak Hour	12	10	22	44

(1) Includes vehicles parked on surrounding streets.

The existing traffic generation of the three adjoining buildings at 71 – 79 Hall Street with 42 1-bedroom units and 180sqm of retail area is estimated as follows:

- 42 x 1-bedroom units at 0.29 vehicle trips per unit = 12
- 180sqm of retail area at say 6 vehicle trips per 100sqm on weekdays = 11 vehicle trips.
- For the weekday morning peak hour, assuming around 35 percent of the evening peak hour retail trips, gives a total of 4 vehicle trips
- On Saturday, assuming a rate of say 8 vehicle trips per 100sqm and gives 14 vehicle trips for retail components.
- Weekday evening peak hour total trips = 23 vehicle trips per hour
- Weekday morning peak hour total trips = 16 vehicle trips per hour
- Saturday morning peak hour total trips = 26 vehicle trips per hour

Therefore total traffic generation of existing development, including the three adjoining buildings will be as shown in Table 4-2.

Table 4-2: Existing Traffic Generation

Period	Estimated Traffic Generation of Hakoah Club	Existing Traffic Generation of Other 3 buildings	Total
Thursday AM Peak Hour	38	16	54
Thursday PM Peak Hour	88	23	111
Saturday AM Peak Hour	44	26	70

4.2 Current Proposal Traffic Generation

4.2.1 Weekday Evening Peak Hour

Traffic generation estimates for the proposed development were prepared having regard to the RTA guidelines and the amount of parking that is proposed to be provided on the site in accordance with Waverley Council requirement.

Estimates of the traffic generation during the three analysis periods are provided in Table 4-3 to Table 4-6.

Not all of the additional traffic associated with new development would be new to the area as some would be intercepted from passing traffic that would be in the area anyway. The RTA suggests 25% as the proportion that might be so influenced for new retail development with less than 10,000m^2 Gross Leasable Floor Area. This factor can be applied to the traffic generation of the shops and restaurant aspects of the development as shown above.

Table 4-3: Traffic Generation during Weekday evening peak hour

Use	Parking spaces/GFA/No of Units	Rate	Traffic Generation	Discounted Traffic Generation (linked trips)
Residential (31 units)	31 units	RTA rate of 0.29 per unit	9 veh/hr	9
Hotel	33.75 parking spaces required	Assume 1 vehicle/parking space/hour	34 veh/hr	34
Restaurant	16.04 spaces	1 vehicle/space	16 veh/hr	16
Shops	77.5 spaces	(78 vehicles) @ 2 vehicles/space/hr	156 veh/hr	117.5
Gym	29.34	29 spaces with turnover of 1 hr (2 veh/hr/space)	58 veh/hr	58
TOTAL			**273 veh/hr**	**235 veh/hr**

4.2.2 Traffic Generation on Weekday morning

Based on surveys of other shopping centres it is estimated that the retail morning peak hour traffic generation would be about 35% of the evening peak hour traffic generation. Therefore the traffic generation of the retail component of the proposed development during the morning peak hour will be 35 percent of the evening peak hours estimated in **Table 4-3** above.

Also surveys of other gymnasiums indicated that the attendance at a gymnasium during the weekday morning peak hour is around 25% of the evening peak. This is because although gymnasiums tend to be well used in the early mornings, activity tends to taper off as people leave to go to work.

Table 4-4: Traffic Generation during weekday morning peak hour

Use	Parking spaces/GFA/No of Units	Rate	Traffic Generation	Discounted Traffic Generation (linked trips)
Residential (31 units)	31 units	RTA rate of 0.29 per unit	9 veh/hr	9
Hotel	33.75 parking spaces required	Assume 1 vehicle/parking space/hour	34 veh/hr	34
Restaurant	16.04 spaces	0.35 x 1 vehicle/space	6 veh/hr	6
Shops	77.5 spaces	(0.35 x 78 vehicles) @ 2 vehicles/space/hr	55 veh/hr	41
Gym	29.34	0.25 x 29 spaces with turnover of 1 hr (2 veh/hr/space)	15 veh/hr	15
TOTAL			**133 veh/hr**	**104 veh/hr**

4.2.3 Traffic Generation on Saturday morning peak hour

Traffic generation of the proposed development on a weekend morning is estimated as shown in Table 4-5.

Table 4-5: Traffic Generation during weekend morning peak hour

Use	Parking spaces/GFA/No of Units	Rate	Traffic Generation	Discounted Traffic Generation (linked trips)
Residential (31 units)	31 units	RTA rate of 0.29 per unit	9 veh/hr	9
Hotel	33.75	Assume 0.5 vehicle /parking space/hour	17veh/hr	17
Restaurant	16	1 vehicle/space	16 veh/hr	16
Shops	78	(78 vehicles) @ 2 vehicles/space/hr	156 veh/hr	117
Gym	29	29 spaces with turnover of 1 hr (2 veh/hr/space) – assume 60% occupancy at 11:00am	35 veh/hr	35
TOTAL			**233 veh/hr**	**194 veh/hr**

4.2.4 Additional Traffic Generation

The traffic generation of the existing club has been subtracted from the estimated traffic generation of the proposed development to obtain the additional traffic generation during the weekdays and weekends. The estimated additional traffic generation is provided in Table 4-6.

Table 4-6: Additional Traffic Generation during Peak Hours

Period	Existing Traffic Generation (a)	Future Traffic Generation (b)	Additional Traffic Generation (b-a)
Thursday AM Peak Hour	54	104	50
Thursday PM Peak Hour	111	235	124
Saturday AM Peak Hour	70	194	124

4.3 Future Traffic Volumes on Surrounding Roads

The additional traffic generated from the proposed development has been added to the existing traffic flows on the surrounding road system. The expected future traffic volumes on surrounding roads in the AM and PM peak hours are summarised below in Table 4-7.

As external traffic can only access O'Brien Street from the intersection of Hall Street, traffic movement into the driveway will be right turn in and left-turn out. The additional traffic generated into the development is therefore distributed based on the existing proportion of turning movements at the relevant intersections in the vicinity of the site. The future turning movements obtained are shown in Appendix B.

The estimated future traffic volumes indicate that change in traffic volumes on the road network after the development would remain moderate after the development. On weekdays peak hours the percent change in traffic volumes range from 0 percent to around 11 percent, except on O'Brien Street west and east of Hall Street. However traffic volumes in O'Brien Street at these locations still remain within the range specified in RTA's guidelines for its classification. Therefore the potential traffic impact of the development would not be significant.

Table 4-7 – Existing and Future Morning and Evening Peak Hour Traffic Flows

Road	Location	Weekday AM Peak (8.00am to 9.00am)			Weekday PM Peak (5.15pm to 6.15pm)		
		Existing	**Future**	**Percent Change**	**Existing**	**Future**	**Percent Change**
O'Brien Street	East of Hall Street	164	244	49	192	339	77
O'Brien Street	West of Hall Street	546	654	20	627	728	16
O'Brien Street	West of Glenayr Avenue	1082	619	3	590	691	6
Hall Street	South of O'Brien Street	506	538	6	551	597	8
Hall Street	North of Campbell Parade	434	453	4	380	421	11
Glenayr Avenue	North of O'Brien Street	930	951	2	749	790	5
Glenayr Avenue	South-west of Curlewis Street	956	977	2	735	776	6
Glenayr Avenue	North-east of Curlewis Street	904	920	2	647	675	4
Curlewis Street	North-west of Glenayr Avenue	441	444	1	445	453	2
Curlewis Street	South-east of Glenayr Avenue	419	421	0	427	432	1
O'Brien Street	East of Barracluff Avenue	1028	1127	10	879	939	7
O'Brien Street	West of Barracluff Avenue	1103	1137	3	954	1005	5
Barracluff Avenue	South of O'Brien Street	332	338	2	319	328	3

Note: All figures are total volumes for both directions unless indicated otherwise.

Table 4-8 – Existing and Future Saturday Morning Peak Hour Traffic Flows (veh/hr)

Road	Location	Saturday AM Peak (11:00am-12:00pm)		
		Existing	Future	Percent Change
O'Brien Street	East of Hall Street	252	316	25
O'Brien Street	West of Hall Street	692	796	25
O'Brien Street	West of Glenayr Avenue	969	1036	7
Hall Street	South of O'Brien Street	624	670	7
Hall Street	North of Campbell Parade	573	582	2
Glenayr Avenue	North of O'Brien Street	760	797	5
Glenayr Avenue	South-west of Curlewis Street	830	867	4
Glenayr Avenue	North-east of Curlewis Street	704	728	3
Curlewis Street	North-west of Glenayr Avenue	626	634	1
Curlewis Street	South-east of Glenayr Avenue	594	599	1
O'Brien Street	East of Barracluff Avenue	1023	1061	4
O'Brien Street	West of Barracluff Avenue	1116	1144	3
Barracluff Avenue	South of O'Brien Street	377	387	3

Note: All figures are total volumes for both directions.

4.4 Future Intersection Operation

The intersections surrounding the site were again analysed using SIDRA to determine the future impact of the additional traffic from the proposed development would have on their operations. The SIDRA results are presented in Table 4-9 and Table 4-10.

The results indicate that the additional traffic due to the proposal would not have a significant impact on the operation of intersections near the site during the morning and evening peak hours and also during the Saturday morning peak hour. Intersections would continue to operate satisfactorily at levels of service C or better.

Table 4-9: Exiting and Future Weekday Peak Intersection Operation

Intersection	Control	Existing Morning Peak		Future Morning Peak		Existing Evening Peak		Future Evening Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Campbell Pde and Hall St	Signals	21.6	B	22.2	B	20.1	B	21.1	B
Hall St and O'Brien St	Priority	14.0	A	14.4	A	14.0	A	14.7	B
O'Brien St and Glenayr Ave	Priority	22.6	B	25.2	B	16.3	B	17.8	B
O'Brien St and Barracluff Ave	Roundabout	14.9	B	15.1	B	12.9	A	13.1	A
O'Brien St and Curlewis St	Signals	19.7	B	19.6	B	19.9	B	20.9	B

Table 4-10 – Existing and Future Intersection Operating Characteristics on Saturday

		Existing Morning Peak		Future Morning Peak	
Intersection	**Control**	**Delay**	**LOS**	**Delay**	**LOS**
Campbell Pde and Hall St	Signals	28.6	C	33.1	C
Hall St and O'Brien St	Priority	15.0	B	15.9	B
O'Brien St and Glenayr Ave	Priority	19.8	B	21.7	B
O'Brien St and Barracluff Ave	Roundabout	14.1	A	14.4	A
O'Brien St and Curlewis St	Signals	24.0	B	24.1	B

Note: Roundabout and priority intersection performance relates to the most disadvantaged approach whereas signalised intersection performance relates to the intersection as a whole.

5. Parking, Access and Internal Layout

5.1 Parking Requirement

Waverley Council's DCP 2006 – Part I1 – Land Use and Transport specifies parking requirement for various land uses in Waverley Council area. For residential parking provision, the site falls under Council's parking zone A. Parking Zone A is area with high accessibility to public transport and services, and high density. Hence lowest rate of parking applies to this area. The estimated parking requirement of the proposed development is shown in Table 5-1 below.

Table 5-1: Parking Requirement of Proposed Development

Use	Number (or GFA)	Minimum Parking		Maximum Parking	
		Rate	Minimum Number Allowed	Rate	Maximum Number Allowed
	1x4-bed	0.8	0.8	1.2	1.2
Residential	5x 3-bed	0.8	4.0	1.2	6.0
(31 units)	24x2-bed	0.4	9.2	0.8	19.2
	1x1-bed	0.3	0.3	0.6	0.6
Hotel	135	1 per 4 rooms	33.75	1 per 4 rooms	33.75
Restaurant	804sqm	1 per 50sqm	16.04	1 per 50sqm	16.04
Shops	2,324sqm	1 per 60 sqm	38.73	1 per 30 sqm	77.46
Gym	652 sqm	4.5 per 100sqm	29.34	4.5 per 100sqm	29.34
TOTAL			**132.16**		**183.59**

Note Gymnasium requirement is based on RTA guidelines

The development proposes a total of 180 car parking spaces and 8 motorcycle parking spaces as follows:

- Basement Level 1: 49 carparking and 8 motorcycle parking spaces for retail and commercial component of the development
- Basement Level 2: 61 carparking spaces for the retail/commercial component of the development
- Basement Level 3: 70 carparking spaces for residential, hotel and retail/commercial business owners.

It should be noted that Waverley Council DCP 2006 – Part I1 – Land Use and Transport does not require visitor parking for the first 14 units of residential apartments. Thereafter

1 visitor parking space is required for every 7 additional units. The required number of visitor parking spaces is reducible by 1 space for every 6m of on-street parking space located in front of the subject site. For this development, 3 visitor parking spaces are required. The proposed development would have around 120m of kerbspace on its combined frontages in O'Brien Street and Hall Street along which parking could take place. This would yield around 20 on-street parking spaces. Therefore no visitor parking is required for this development.

As the development proposes 180 parking spaces and 8 motorcycle parking spaces which falls in the range specified in the Waverly DCP, it is considered that the parking supply is satisfactory.

5.2 Bicycle Parking

Waverley Council DCP 2006 specifies minimum bicycle parking requirement for residential and commercial developments. The estimated bicycle parking requirement for the proposed development is shown in Table 5-2. Bicycle stores with a total area of 248m^2 have been provided in basement levels 1 and 2. This area will provide a space for at least 100 bicycles.

As 55 bicycle parking spaces are required for the development, the bicycle parking provision satisfies the requirement of Councils DCP 2006.

Table 5-2: Bicycle Parking Requirement

Use	Number (or GFA)	Minimum Requirement	
		Rate	Number Required
Residential	31 units	1 per dwelling	31
Residential visitors	31 units	0.25 per dwelling	7.75
Hotel, restaurant, Gym and shops	160 parking spaces required	1 per 10 carparking spaces	16
TOTAL			**55**

5.3 Carpark Layout

Australian Standard for Parking Facilities, Part 1: Off-Street Carparking (AS 2890.1-2004) classifies carparks according to the user classes. The proposed development consists of a mix of user classes, residential, hotel, gymnasium clients and retail customers. The carpark has therefore been designed to suit short-term city and town centre parking (User Class 3). A car park for user class 3 requires 2.6m wide parking bay and a minimum aisle width of 5.8m.

The parking spaces are 2.6m wide and the disabled parking spaces are 3.2m wide. The aisle widths in the carparks vary from 5.8m to 7.0m. Therefore the carpark layouts comply with AS 2890.1.

The development proposes a 6m wide driveway separated by a median in the first 8m from the boundary. As mentioned in Section4.3, vehicles would come into the carpark from the intersection of Hall Street/O'Brien Street and turn right into the carpark due to closure of O'Brien Street at the eastern end. Thus entry and exit would therefore be mainly right-turn and left-turn respectively. This two-lane driveway would therefore provide satisfactory access to the development.

Boomgate security controls are located at the bottom of the entry ramp to Level 1 of the carpark. It is proposed that the boomgates be operated by ticket issuers/readers or card readers located on concrete islands adjacent to the entry and exit lane. The boomgates will secure the carpark and control long-stay customer parking.

Ramps connecting basement 1 to basement 2 and basement 2 to basement 3 are also 6m wide. The proposed driveway and ramps have been reviewed for compliance with The Australian Standard. The review found that the driveways and ramps comply with AS2890.1 in terms of their dimensions and gradients.

The plans of the car park have been reviewed for their compliance with AS2890.1 and were found to be satisfactory. For areas of travel to disabled spaces height clearance of 2300mm will be provided. Height clearance of 2200mm will be provided for circulation aisles to and above other parking spaces.

5.4 Service Vehicle Access

A loading area suitable for a large rigid truck and a van is provided on the ground floor with access off O'Brien Street. A turntable is provided to allow vehicles to enter and exit in a forward direction.

6. Summary and Conclusions

6.1 Summary

This report addresses the traffic and parking implications of a proposed redevelopment of the Hakoah Club site at Hall Street, Bondi Beach.

The Proposed Development

The components of the proposed development include:

- 31 residential units
- Hotel with 135 guest rooms
- Shops with 2, 324 sqm Net Leasable area
- Restaurant with 804sqm Gross Floor Area
- Gymnasium – 652 sqm Gross Floor Area
- 3 levels of basement carparking for 186 cars
- A loading area suitable for a large rigid truck plus a van

Parking Provision and Layout

- The proposed supply of 180 car parking spaces complies with Waverley Council DCP 2006 and is considered to be satisfactory.
- The loading area provided would be appropriate for the use of the development
- The layout of the carpark has been designed in accordance with the Australian Standard for Off-Street Car Parking.

Traffic Generation

- The additional traffic generation of the proposed development during the peak hours will be as follows:
    - Weekday evening – 124 vehicles per hour (in and out)
    - Weekday Morning – 50 vehicles per hour (in and out)
    - Saturday morning – 124 vehicles per hour (in and out)

Traffic Impact

- Analysis indicates that the surrounding road system would be able to satisfactorily accommodate the additional traffic generation.

6.2 Conclusions

The traffic and parking aspects of the development are considered to be satisfactory.

SITE LOCATION

HALL STREET, BONDI

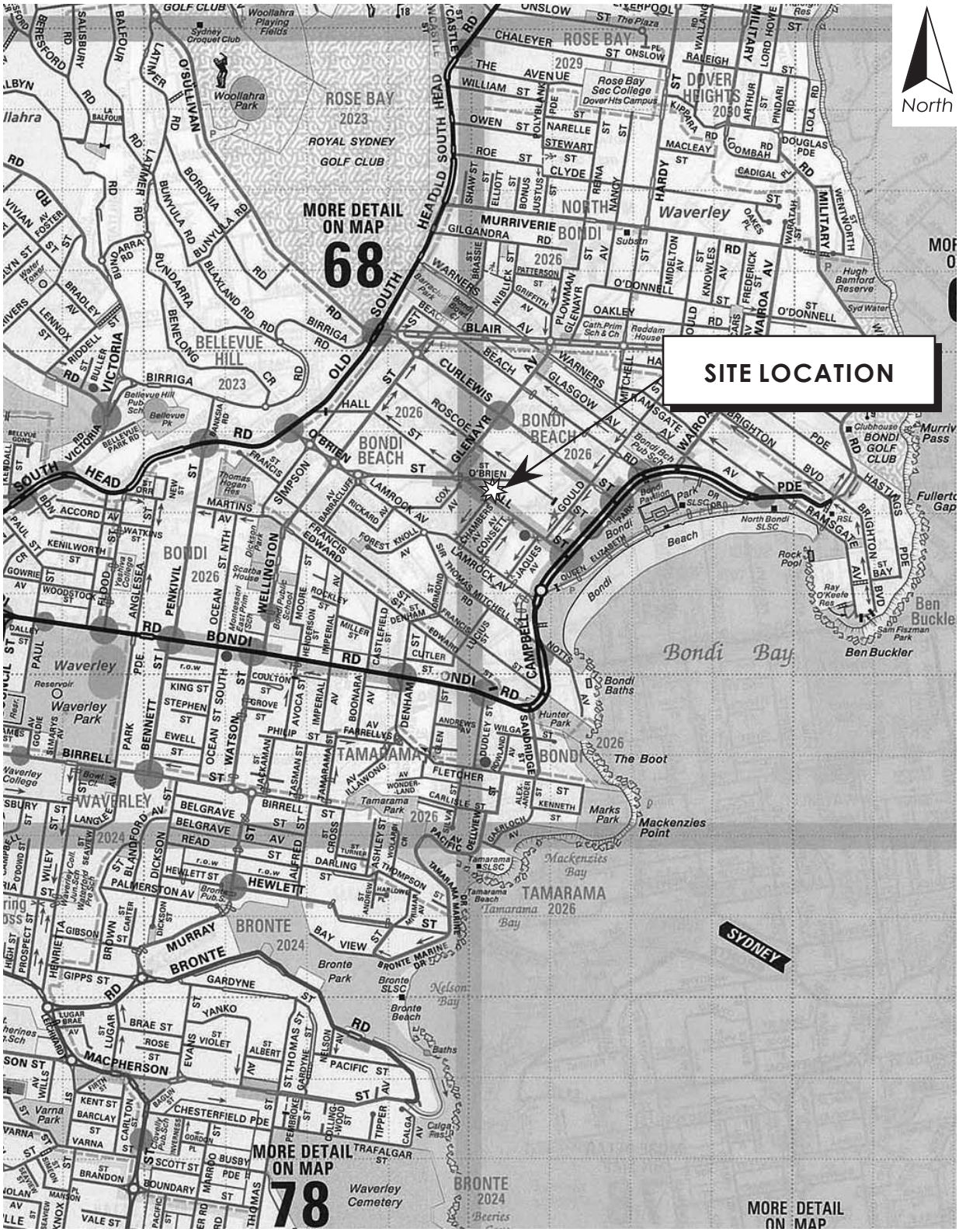

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Figure 1

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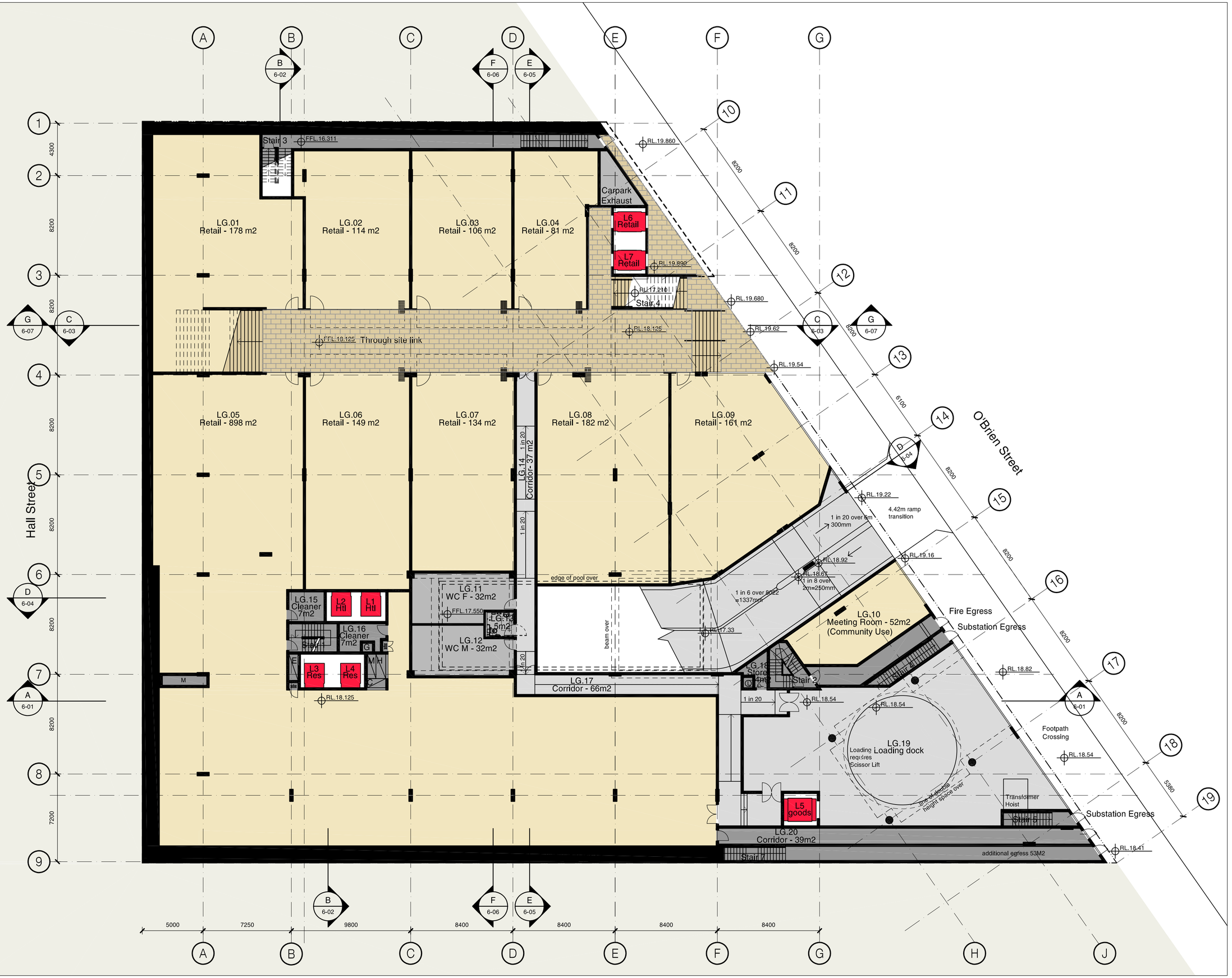
Date: 20 March 2008

Appendix A - Plans of Proposed Development

NOTE - Retail Arrangement may be subject to future subdivision under separate application



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1	01/04/08	FOR REVIEW	bh	pav
Rev.	Date	Description	Initial	Checked

Hall Street Development Bondi

Lower Ground
O'Brien Street Entry

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Drawn	KP/BH
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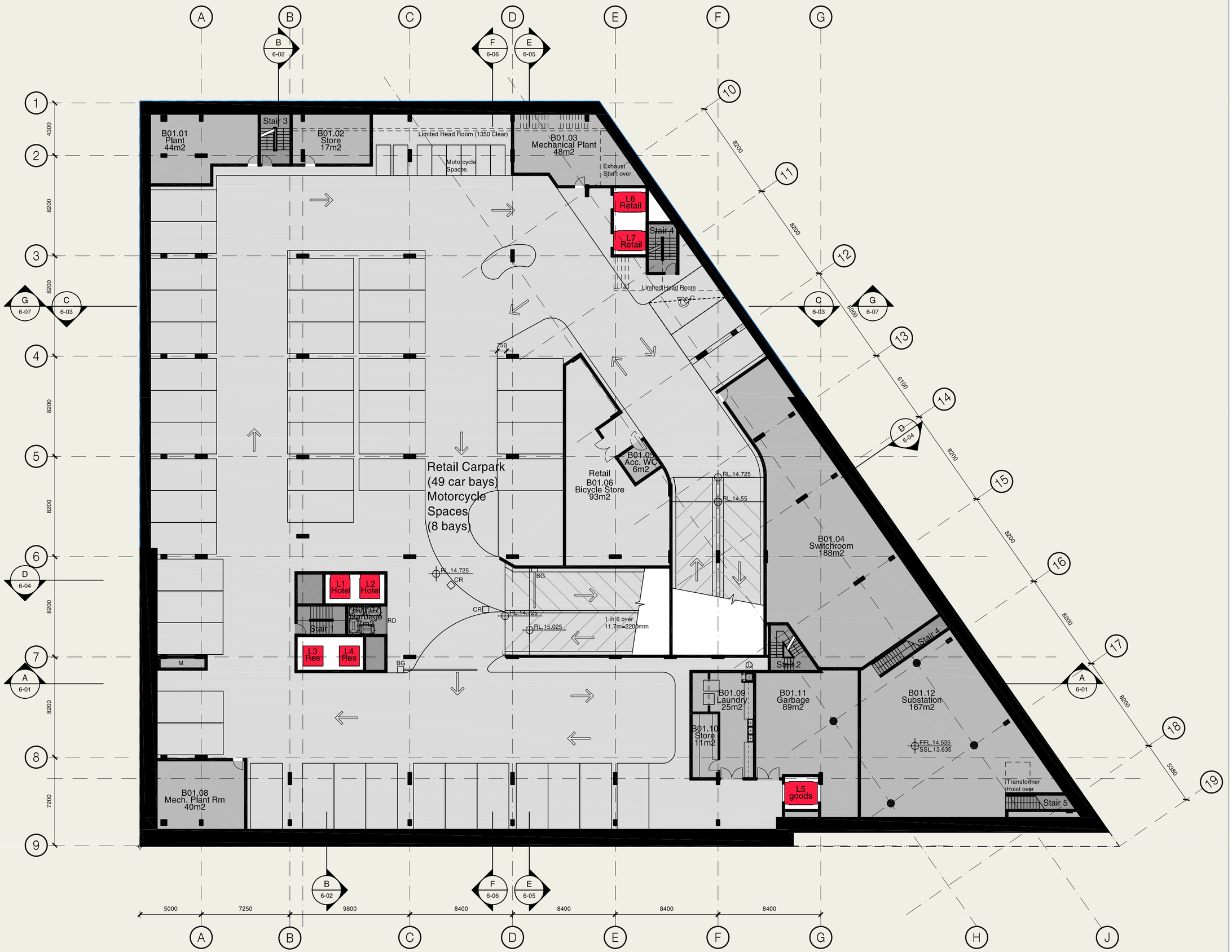

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and/or the fabrication of any components.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.

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4	30/04/08	PRE DA ISSUE	ac	pav
3	11/04/08	PRE DA ISSUE - FOR REVIEW	kp/bh	pav
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1	01/04/08	FOR REVIEW	bh	pav

Hall Street Development
Bondi

Level 001 Basement

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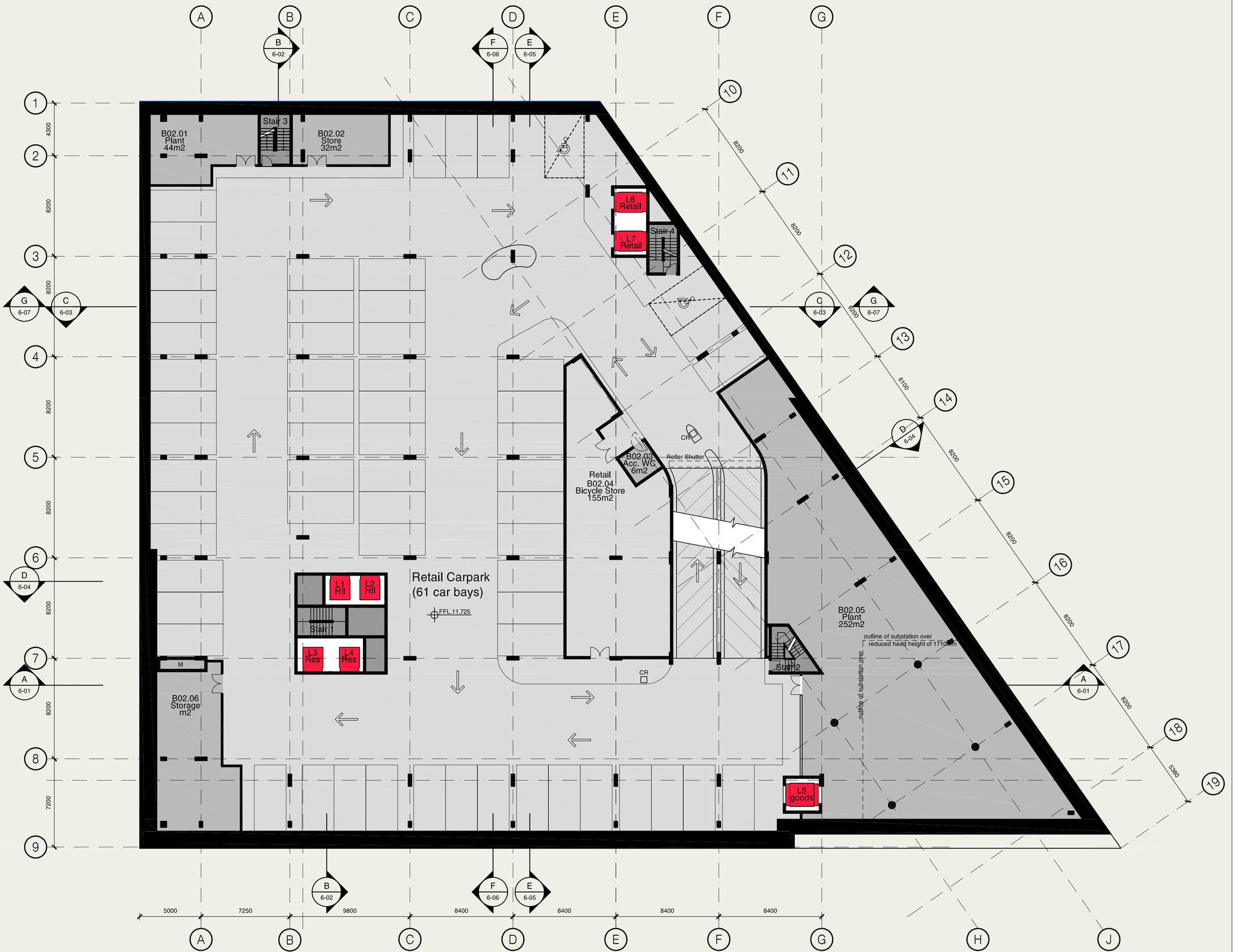

Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and/or the fabrication of any components.

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3	11/04/08	PRE DA ISSUE - FOR REVIEW	kp/bh	pav
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Hall Street Development
Bondi

Level 002 Basement

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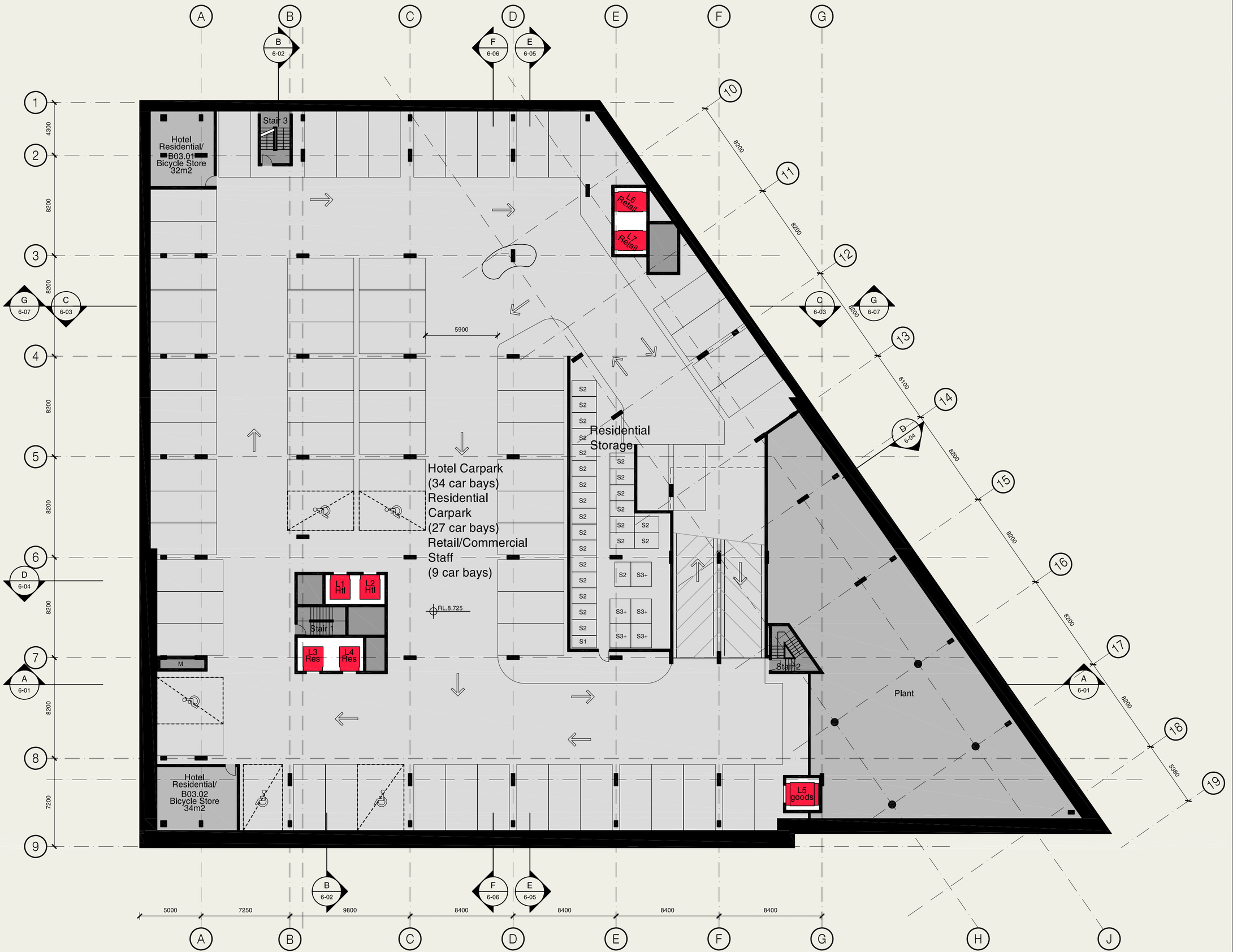

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Hall Street Development Bondi

Level 003 Basement

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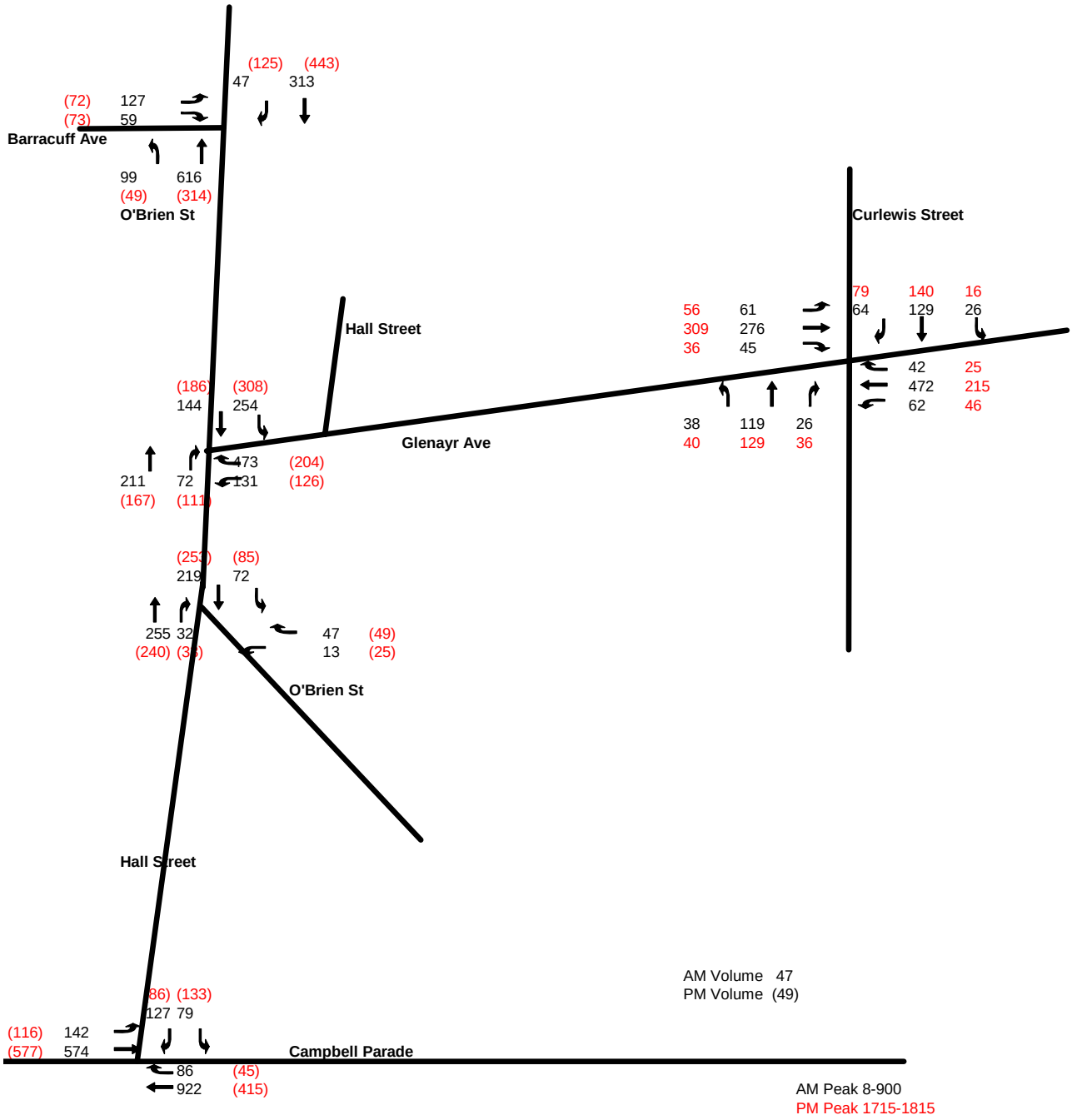
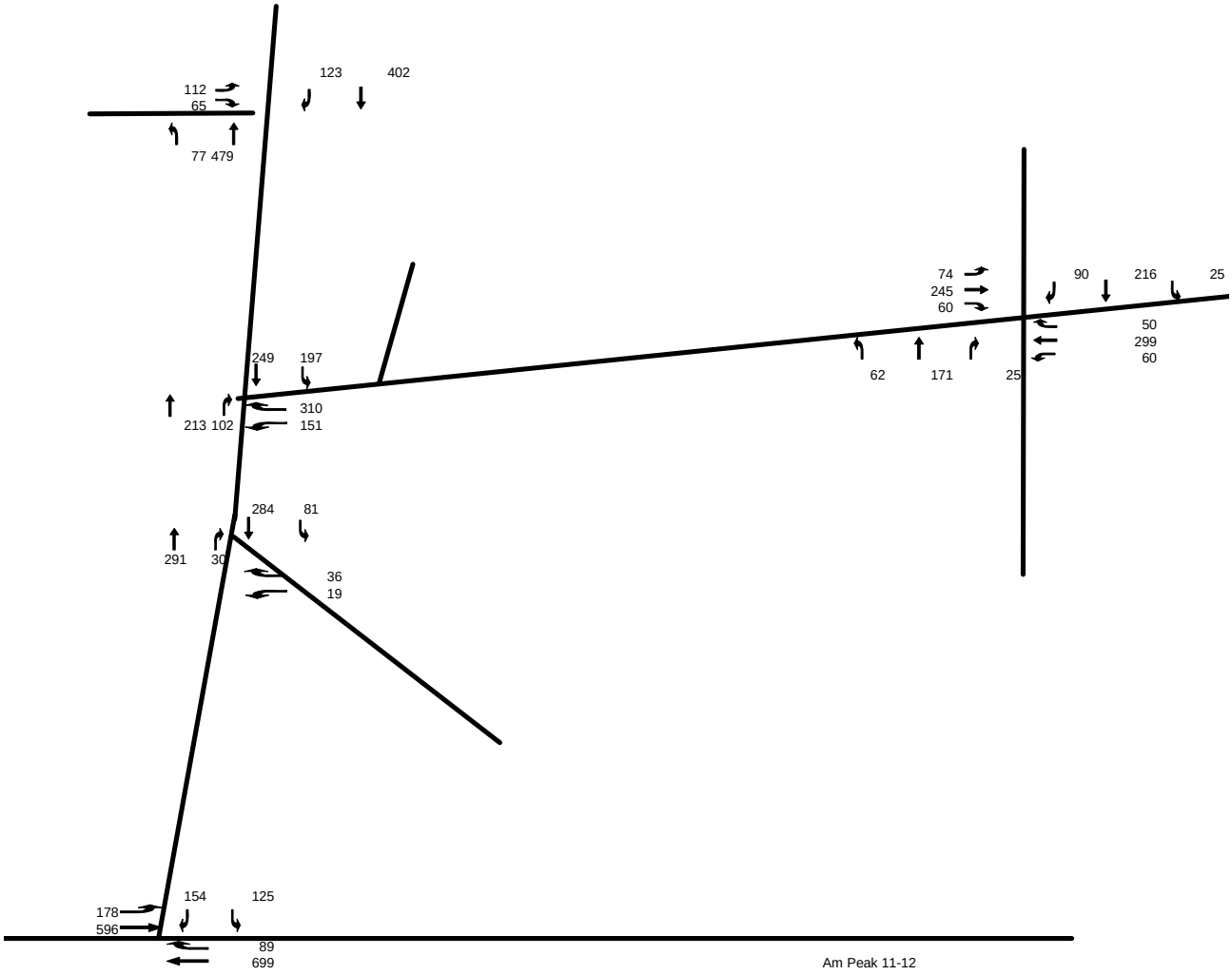
Appendix B - Existing and Future Traffic Volumes



EXISTING WEEKDAY TRAFFIC VOLUMES



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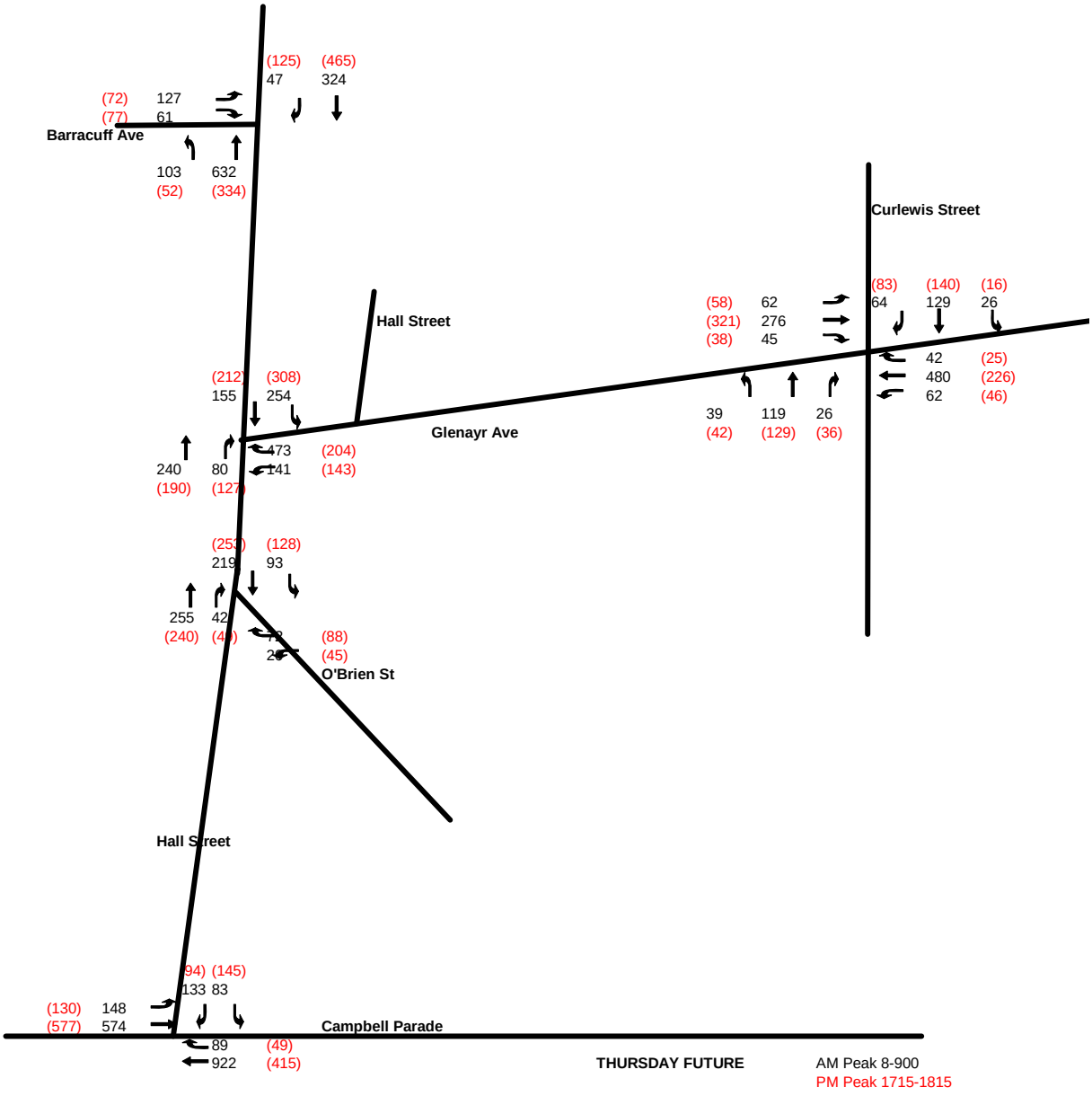
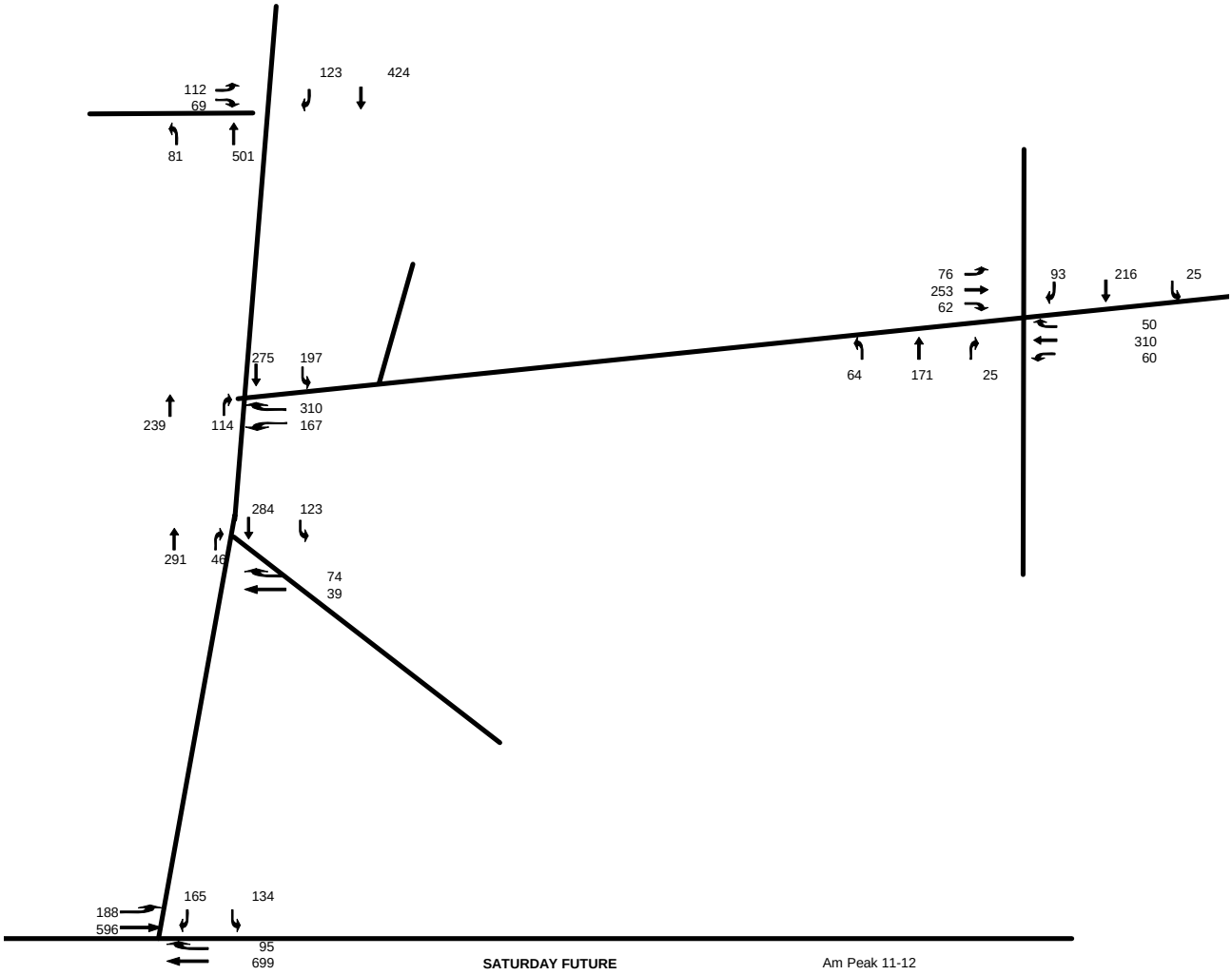


FUTURE WEEKDAY TRAFFIC VOLUMES



FUTURE WEEKEND TRAFFIC VOLUMES

Appendix B - Traffic Generation Calculations

Consistent with the previous traffic report, the traffic generation estimates for the proposed development were prepared having regard to the RTA guidelines and the amount of parking that is proposed to be provided on the site in accordance with Waverley Council requirement.

Estimates of the traffic generation during the three analysis periods are provided in tables below.

Not all of the additional traffic associated with new development would be new to the area as some would be intercepted from passing traffic that would be in the area anyway. The RTA suggests 25% as the proportion that might be so influenced for new retail development with less than 10,000m² Gross Leasable Floor Area. This factor can be applied to the traffic generation of the shops and restaurant aspects of the development as shown above.

Weekday Evening

Use	Parking spaces/GFA/No of Units	Rate (per hour)	Traffic Generation (veh/hr)	Discounted Traffic Generation (linked trips vhe/hr)
Residential	45 units	RTA rate of 0.29 per unit	13.1	13.1
Hotel	28.3 parking spaces required	Assume 1 vehicle/ space	28.3	28.3
Restaurant	15.5 spaces	1 vehicle/space	15.5	15.5
Shops	76.8 spaces	2 vehicles/space	153.5	115.2
Pool	16 spaces	2 vehicles/space	32	32
TOTAL			**242.4**	**204**

Weekday Morning

Use	Parking spaces/GFA/No of Units	Rate (per hour)	Traffic Generation (veh/hr)	Discounted Traffic Generation (linked trips vhe/hr)
Residential	45 units	RTA rate of 0.29 per unit	13.1	13.1
Hotel	28.3 parking spaces required	Assume 1 vehicle/ space	28.3	28.3
Restaurant	15.5 spaces	0.35 x 1 vehicle/space	5.4	5.4
Shops	76.8 spaces	0.35 x 2 vehicles/space	53.7	40.3
TOTAL			**100.5**	**87**

NOTE: Based on surveys of other shopping centres it is estimated that the retail morning peak hour traffic generation would be about 35% of the evening peak hour traffic generation.

Saturday Morning

Use	Parking spaces/GFA/No of Units	Rate (per hour)	Traffic Generation (veh/hr)	Discounted Traffic Generation (linked trips vhe/hr)
Residential	45 units	RTA rate of 0.29 per unit	13.1	13.1
Hotel	28.3 parking spaces required	Assume 0.5 vehicle/ space	14.1	14.1
Restaurant	15.5 spaces	1 vehicle/space	15.5	15.5
Shops	76.8 spaces	2 vehicles/space	153.5	115.2
Pool	16 spaces	2 vehicles/space	32	32
TOTAL			**228.2**	**189.9**

The traffic generation of the existing club has been subtracted from the estimated traffic generation of the proposed development to obtain the additional traffic generation during the weekdays and weekends. The estimated additional traffic generation is provided in table below.

Additional Traffic Generation during Peak Hours

Period	Existing Traffic Generation (a)	Future Traffic Generation (b)	Additional Traffic Generation (b-a)
Thursday AM Peak Hour	54	87	33
Thursday PM Peak Hour	111	204	93
Saturday AM Peak Hour	70	190	120

Appendix C - Responses to Previous Concerns

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TRAFFIC AND TRANSPORT CONSULTANTS

Mr Scott Gregg
Toga Group
Level 5, 45 Jones Street
ULTIMO NSW 2007

4 December 2008

Dear Scott,

Re: 61-79 Hall Street, Bondi Beach – Council's Queries

As requested we have reviewed the comments from the Waverley Council concerning the Hall Street development. Our responses are as follows:

1. *Effects of development on the intersection of Roscoe Street/ Glenayr Avenue*

Our response: It was assumed in the traffic analysis that all traffic would turn left out of the site to provide a worst case scenario at the intersection of O'Brien Street and Hall Street.

Our survey of traffic movement into and out of the existing carpark indicated that no exiting vehicle turned right in the morning peak hours, 7:00am-9:00am. In the evening peak hours, between 4:30am-6:30pm, 9 vehicles turned right out of 67 vehicles, representing 13.4 percent.

Notwithstanding this, we have analysed the operation of the Roscoe Street/Glenayr Avenue intersection using the SIDRA intersection analysis program assuming that 13.4% of the car park traffic was to leave the site via this intersection.

The analysis determined that the average delay to Roscoe Street traffic turning into Glenayr Avenue would be about 10 seconds. Thus there would be no problems at this intersection.

2. *Traffic Generation of Restaurant and Retail Components*

Waverley Council has a restrictive parking policy that limits the amount of parking that is allowed to be provided on site. The policy has been adopted as a tool to reduce private car usage and hence the traffic generation. RTA traffic generation rates are based on the unconstrained provision of car parking. Hence they should not be applied in areas in which parking is constrained without qualification.

SYDNEY SUITE 20/809 PACIFIC HIGHWAY CHATSWOOD NSW 2067 AUSTRALIA TEL 02 9410 4100 FAX 02 9410 4199

In the case of restaurants the RTA Guidelines suggest that for unconstrained parking situations the following generation rates apply:

- Parking – 15 spaces per 100m2 of floor space
- Traffic – 5 vehicle trips per hour per 100m2

In contrast, Waverley Council's DCP only allows 1 space per 50m2. Thus the RTA unconstrained parking rate is about 7.5 times the Waverley Council rate. On a pro- rata basis (i.e. assuming the same trip generation rate per parking space), the equivalent trip generation rate for parking provided at the maximum rate allowed by the Waverley DCP would be 0.67 veh/hr/100m2. For the 804m2 of restaurant proposed this equates to only about 5.5 vehicle trips per hour.

In the traffic analysis, we have allowed for 16 vehicle trips per hour which provides a leeway for additional drop-off vehicle trips that might be made. A similar situation applies to retail traffic generation in that the DCP restriction on parking provision would result in a traffic generation rate well below the RTA's unconstrained rate. The comparison in as follows:

RTA unconstrained parking demand rate: 6.1 spaces/100m2
RTA unconstrained traffic generation rate: 12.5 veh/hr/100m2
Waverley DCP max parking provision rate: 1 space/30m2 (3.3/100m2)
Equivalent Waverley DCP max traffic generation rate: 6.8 veh/hr/100m2

On this basis the traffic generation of the 2,324m2 retail component would be 158 vehicle trips per hour. The calculation in the traffic report of 156veh/hr is comparable. The small difference relates to rounding changes.

RTA Guidelines recognise that not all shopping trips are single purpose trips to and from the shops only. Many are linked trips made as part of a chain of trips on a single journey. This includes trips that would be intercepted from traffic that would be passing by any way. In addition new shops often intercept shopping trips that would otherwise have been made to another destination in the local area. RTA guidelines suggest that a discount of 25% be applied to account for such behaviour and this was done in the analysis.

3. Traffic Generation of a Possible Supermarket

The proposal has specifically not been designed to accommodate a supermarket. This is reflected in the size and shape of the retail tenancies and because normal provisions for shopper trolleys have not been made. If a supermarket was to be proposed in the future then this would need to be the subject of a separate development application which would then be considered on its merits.

Notwithstanding this, as explained above, the DCP restriction on the amount of parking that could be provided on the site would attenuate the traffic generation of the project.

4. Size of loading dock:

Waverley DCP Part 1 Clause 4 specifies loading space requirements for different land uses. Table indicates loading requirements calculated for the development calculated by applying the specified rates.

Table 1: Loading Dock Requirement

Use	Size	Waverley Council DCP	
		Rate	**Number of Spaces**
Retail	2,324 m²	1 per 400 m² up to 2,000m² plus 1 per 1000 m² thereafter	5.3
Restaurant	804 m²	1 per 400 m²	2
Residential	31 units	1 per 50 dwellings	1
Total			**8.3**

We note that the Clause 4 requirements are almost identical to those provided in the RTA's Guide to Traffic Generating Developments of 2002. This was an update of an RTA Guide which was first published in 1984. The RTA Guide provides a table setting requirements for delivery and service vehicle parking which was sourced from a 1980 Council of the City of Sydney Draft Parking Code. In relation to this the RTA Guide states the following:

"The number of service bays required for a development depends on the size and nature of the development. The Council of the City of Sydney has developed a code for the provision of service bays based on surveys undertaken in 1972. Table 5.1 gives relevant details from this code for general guidance. Because of the age of the data used in this code, major developments should ideally quantify their service vehicle requirements through new surveys of similar developments."

Given that the City of Sydney draft code and the RTA and apparently Waverley DCP rates date back to research conducted in 1972, their current applicability is highly questionable. Accordingly it is appropriate to determine service vehicle requirements using another method.

In this regard we previously prepared an analysis of likely daily service vehicle movements that would be generated by the proposed development. This was prepared to assist in the analysis of noise impacts and is provided in Appendix A to this response. This analysis indicates that the two truck loading bays proposed for the site would be sufficient provided car and van deliveries were directed to the basement car park. This is to be incorporated in a management plan for the carpark with an appropriate number of bays to be dedicated for loading during daylight hours. In this regard we note that the attached plan of the loading area (Appendix B) indicates a slightly modified arrangement which now accommodates one 10m long large rigid truck, one small rigid truck and one van. These will be able to have independent access.

In defference to the Waverley DCP it is proposed that initially 5 van and car size additional loading spaces be allocated in the basement car park next to the loading area lift. These will be allocated for loading in business hours and for general parking outside of these times.

The use of these spaces would be monitored and the number reduced if, as is expected, the need for all of them was not demonstrated.

5. *Details of parking security access for the gym/retail component*

The public parking would be charged for at rates comparable to those applying in other public parking areas in Bondi. Depending on arrangements with tenants, discounts would be provided to regular visitors such as to the gymnasium, or to persons spending more than a certain amount of money on a particular visit.

The public carpark is proposed to operate between the hours of 6:00am and midnight.

6. *Sensitivity analysis for the cumulative impacts of other developments on Hall St/Campbell Parade, Curlewis Street /Glenayr Avenue, Curlewis Street/ Wellington Street, Hall St/O'Brien Street and Hall Street/Glenayr Avenue.*

Our analysis has already taken into account the traffic effects of the subject proposal. We have estimated the traffic generation of the other developments cited by the Local Traffic Committee as follows:

- Swiss Grand Hotel
  - additional 75 vehicles per hour for the recently submitted scaled down proposal.
  - Source: MWT Traffic Report
- Bondi Beach Hotel Conversion
  - prior to redevelopment 28 vehicles per hour
  - post development 27 vehicles per hour
  - Therefore effectively no change
  - Source: MWT Traffic Report
- Ravesis Development at 10-14 Hall Street
  - 30 hotel suites plus replacement of existing ground floor retail etc, with new retail plus hotel foyer.
  - Expect traffic increase due to hotel rooms only as redevelopment will otherwise just replace existing facilities.
  - Indicative increased traffic generation is 12 vehicle trips per hour
  - Access is off Jaques Avenue so traffic will arrive via Hall Street and depart via Lamrock Avenue.

Appendix C provides diagrams which show potential traffic increases arising from the subject and other two developments on Hall Street, Curlewis Street, and Campbell Parade. For the purposes of this assessment and to examine a "high sensitivity" case for the nominated intersections, greater use of Curlewis Street by Swiss Grand Hotel traffic was assumed than in the traffic report for that development.

The resultant traffic volumes were analysed using the SIDRA intersection analysis program. Results are provided below in Table 2.

The analysis indicates that all intersections would work satisfactorily with all of the additional traffic added.

Analysis was not conducted for the intersection of Curlewis Street with Wellington Street because a traffic count was not available for that intersection. However, it is noted that there would be no increase in traffic in Wellington Street and traffic on Curlewis Street would increase by only about 26 vehicles per hour (5.8%) during the Thursday evening peak hour. During Saturday mid-day peak hour, traffic would also increase by 26 vehicles per hour (4.15%). These increases would be low and would be unlikely to have any significant impact on the operation of the intersection.

It is thus concluded that the cumulative effect of the additional traffic generated by the proposed development would not have any material adverse impact on the operation of the nominated intersections.

Table 2: Intersection operation on Thursday PM with other developments

		Future Thursday Evening Peak Hour		Future Saturday Mid-day Peak Hour	
Intersection	**Control**	**Delay**	**LOS**	**Delay**	**LOS**
Campbell Pde and Hall St	Signals	20.4	B	34.6	C
Hall St and O'Brien St	Priority	14.9	B	16.1	B
O'Brien St and Glenayr Ave	Priority	18.1	B	22.3	B
Glenayr Ave and Curlewis St	Signals	21.0	B	24.4	B

Note: LOS A = excellent, Los F = inadequate capacity, desirable minimum LOS is D

7. Number of accessible parking spaces

The DCP requirement is difficult to apply literally in this case because every dwelling would not be allocated a parking space and the code makes no mention of hotel requirements. On interpretation, we believe that the following reflects the DCP requirements.

<u>Residential</u>	
6 x 3 & 4-bedroom units	0.6 disabled spaces
24 x 2-bedroom units @ 0.8/unit (19.2 spaces)	1.9 disabled spaces
1 x 1 – bedroom units @ 0.3/unit (0.3 spaces)	0 disabled space
Total Residential	2.5 disabled spaces
<u>Hotel</u>	
33.25 parking spaces @ 1/10 spaces	3.4 disabled spaces
<u>Public carpark</u>	
131 parking spaces @ 1/10 spaces	13.1 disabled spaces
<u>Total</u>	19 disabled spaces

The allocation of 10 percent of public spaces as disabled spaces in the circumstances of highly constrained on-site parking provision may result in under-utilisation of the carpark with adverse effects on the surrounding area. In view of this, the Australian Standards requirement of 1 to 2 percent disabled parking is considered to represent a more realistic provision rate. At a 2 percent provision rate, 3 disabled spaces would be required in the public carpark.

The carpark design provides 3 accessible spaces in the public carpark as calculated above. A total of 5 accessible spaces are provided in the hotel/residential carpark. In line with the analysis above this should be increased to 6 spaces.

8. Pedestrian safety at the exit from Carpark

We suggest that adherence to Clause 6.4.3 of Waverley DCP 1 in relation to pedestrian safety at the point of vehicle access to the site be made a condition of consent.

9. Other Matters

The remainder of the Traffic Committee comments relate to the need for a construction traffic management plan. It is a standard requirement to condition an application such as this to prepare such a plan for approval prior to the commencement of construction. We suggest such treatment in this case.

We trust that these comments will assist in the processing of the application.

Yours Sincerely,

Bruce Masson
Director

Appendix A - Hall Street Development – Analysis of Volume of Service Vehicles

The analysis of potential number of service vehicles that would visit the retail section of the Hall Street development has been based on the surveys of usage of the three main loading areas at Chatswood Chase shopping centre between 6:00am and 6:00pm on a Monday and a Tuesday in 2007. The surveys involved recording of the arrival and departure time of each truck as well as its length. Trucks servicing the major shops such as David Jones, K-Mart and Coles were recorded separately as they have their own loading areas. The service vehicles for the major shops were not included in this analysis.

The number of service vehicles visiting each of the three loading areas is provided in Table 1.

Table 1: Survey of Service Vehicles at Chatswood Chase

Loading Area	Monday	Tuesday
Archer Street	86	135
Victoria Avenue	109	118
Malvern Avenue	14	8
Total	**209**	**261**

This indicated that 209 and 261 service vehicles made deliveries to the speciality shops on Monday and Tuesday respectively. Therefore the average number of service vehicles per day is 235.

The following mix of service vehicles was recorded during the survey:

- Cars and Vans - 40%
- Small Trucks and Vans- 35%
- Medium Trucks - 20%
- Large Trucks - 5%

During the surveys, the three loading areas served a combined of 18,750m^2 of non-major GLA retail space. With an average of 235 service vehicles per day, the average number of service vehicles per 100m^2 is 1.25/100m^2 GLA.

The total GLA of retail shops and restaurants in the Hall Street development is 3,716m^2. Using an average of 1.25/100m^2 GLA, the potential number of service vehicles that would visit the Hall Street retail section is 46 per day. The mix of service vehicles would be as shown in Table 2, based on the mix at the non-major section of Chatswood Chase. The mix of service vehicles indicated that 18 of the 46 service vehicles would be cars and vans and only 28 trucks per day would visit the Hall Street retail shops per day.

Table 2: Retail/ Restaurant Mix of Service Vehicles

Type of Vehicles	Proportion (%)	Number of Vehicles
Cars & Vans	40	18
Small Trucks	35	16
Medium Trucks	20	9
Large Trucks up to 10m long	5	3
Total	100	46

In addition it is expected that the hotel may have about 5 truck deliveries per day and the apartments, one per day. Thus on a typical day 18 cars and vans and 34 trucks of different sizes may visit the site.

The number of service vehicles likely during each period of the day are summarised in Table 3. The evening and night time deliveries would relate mainly to waste collection or after hours delivery to residents.

Table 3: Truck Movements During Daytime, Evening Time and Night Time

Time of Day	Number of Trucks			Vans and Cars
	Small	Medium	large	
Day time (7:00am-6:00pm)	19	9	3	18
Evening Time (6:00pm-10:00pm)	1	1	0	0
Night Time (10:00pm-7:00am)	0	0	1	0

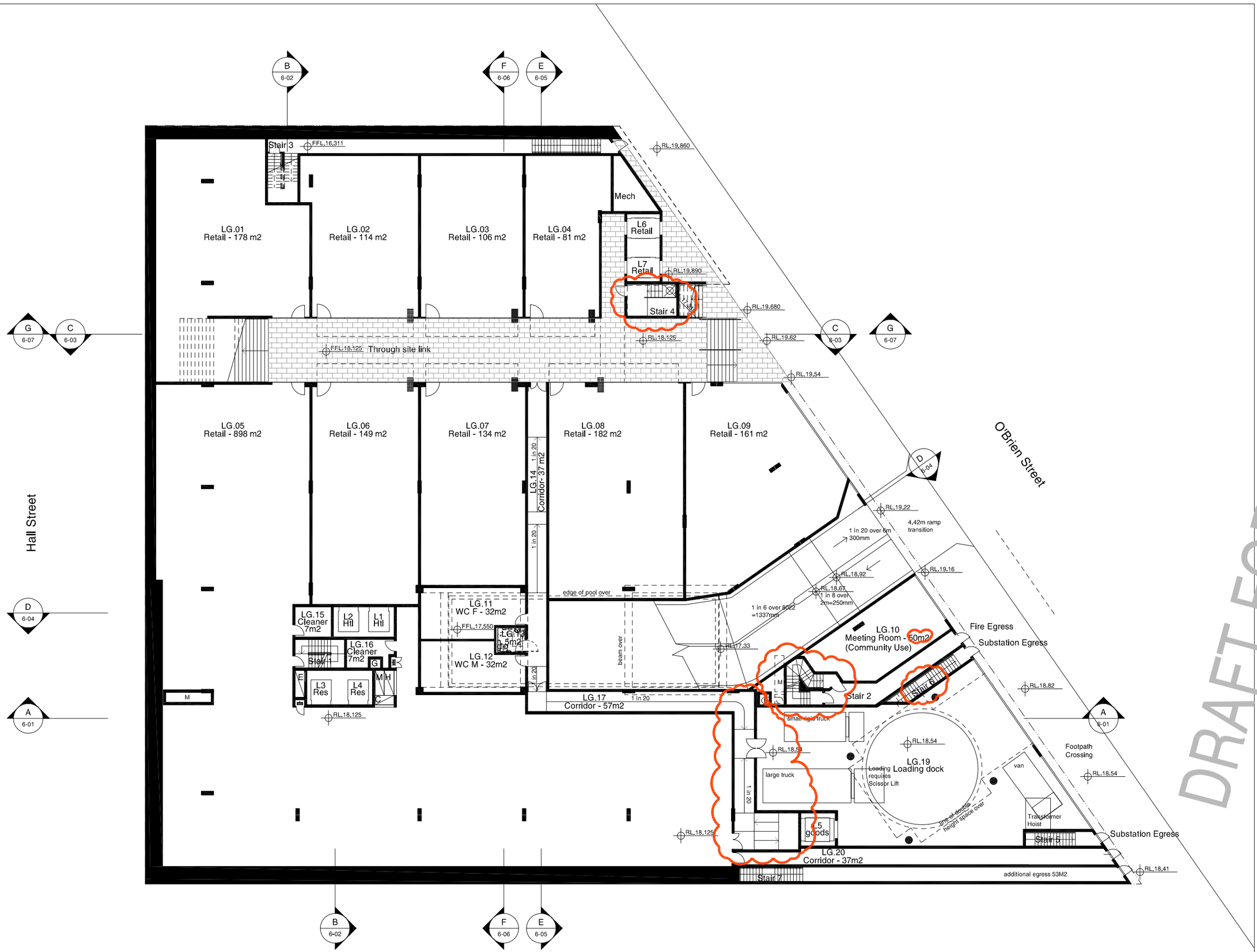
From Table 7 it will be seen that during an average day time hour there would be the following deliveries:

- 1.6 cars or vans
- 1.7 small trucks
- 0.8 medium trucks
- 0.3 large truck

As part of a management plan for the site it would be appropriate to allocate one space in the carpark for vans or car deliveries during the daytime period.

The average daytime truck deliveries would be 2.8 per hour. Allowing for some bunching during the day there may be 5 or 6 truck deliveries in any one hour. Allowing an average delivery time of 20 minutes per truck the requirement would be for two truck spaces at any one time and this is proposed.

Appendix B - Plan of Modified Loading Dock



Check all dimensions and site conditions prior to commencement of any work, the purchase or ordering of any materials, fittings, plant, services or equipment and the preparation of shop drawings and/or the fabrication of any components.

Do not scale drawings - refer to figured dimensions only. Any discrepancies shall immediately be referred to the architect for clarification.

NOTE - Retail Arrangement may be subject to future subdivision under separate application

External Walls
Type - Cavity Masonry
Insulation - R1.5
Colour - Light

Internal Walls
Type - Stud / Masonry

Party Walls
Type - Stud / Masonry

Windows
Glass Type - Single Glazed Clear (except where noted differently in basix specification below)
Glass Height - Full Height Glazing
Frame Type - Aluminium Framed
External Cover - 1100mm concrete slab overhang with 400mm downturn in etched glass

Roof
Type - Concrete
Colour - Light

Ceilings below R.L for Balconies
Plasterboard
Insulation - Polystyrene

Floors
Covering - Tile where pattern shown, carpet elsewhere
Type - suspended concrete
Insulation - as recommended Bassetts

BASIX specifications relating to residential apartments
1. all external walls of apartments to have R1.5 insulation
2. all ceilings below roofs or balconies of apartments to have R3 insulation
3. Units 401,501, 509,510,519,601 and 602 to have glazing to meet the following: U value no greater than: 4.32 and SHGC +/- 10% of: 0.47
4. Units 502 to 504 to have glazing to meet the following: U value no greater than: 3.58 and SHGC +/- 10%: 0.68
5. Basement to have Rainwater storage tank to supply at least 1100L/day to flush toilets to residential apartments.
6. Residential apartments to have Gas hot water system with supplemented from 60m2 of solar panels.
7. Basement to have central chilled water fan coil units with gas boiler for heating residential apartments. Unit efficiencies have a COP of greater than 4.5.
8. Lifts servicing apartments to be gearless traction with VVVF motors.
9. Common building services for residential apartments are to be controlled by a Building Management System (BMS). Active Power Factor Correction is to be utilised for the electrical supply to the building.

Rev.	Date	Description	Initial	Checked
1	04/12/2008	DA ISSUE	BH/DS	KP/PAV

DRAFT FOR CURRENT REVIEW

Hall Street Development Bondi

Lower Ground
O'Brien Street Entry

Status	DA
Scale	1/200 @ A2
Drawn	KP/BH
Project no.	s10788
Date	FRIDAY, NOVEMBER 28, 2008, 9:48:02AM
Plot file	N:\ACAD\WG\S10788_TOGA_HALL_STREET\PLOTS\DA\A R-DA-2-04.DWG

Drawing no.

AR DA 2 04

Discipline. Stage/ Package. Type. No. Revision.

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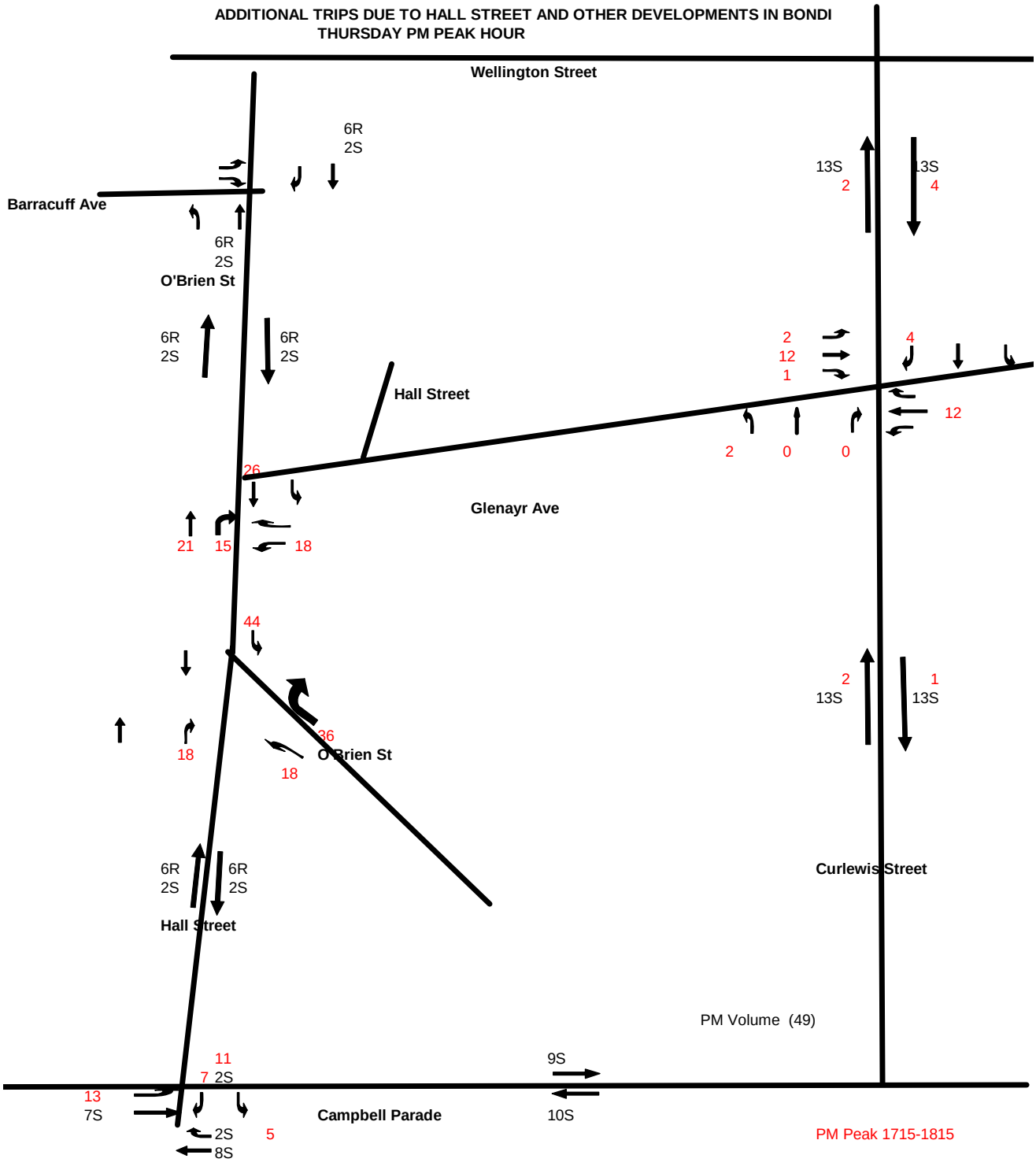
BATESSMART

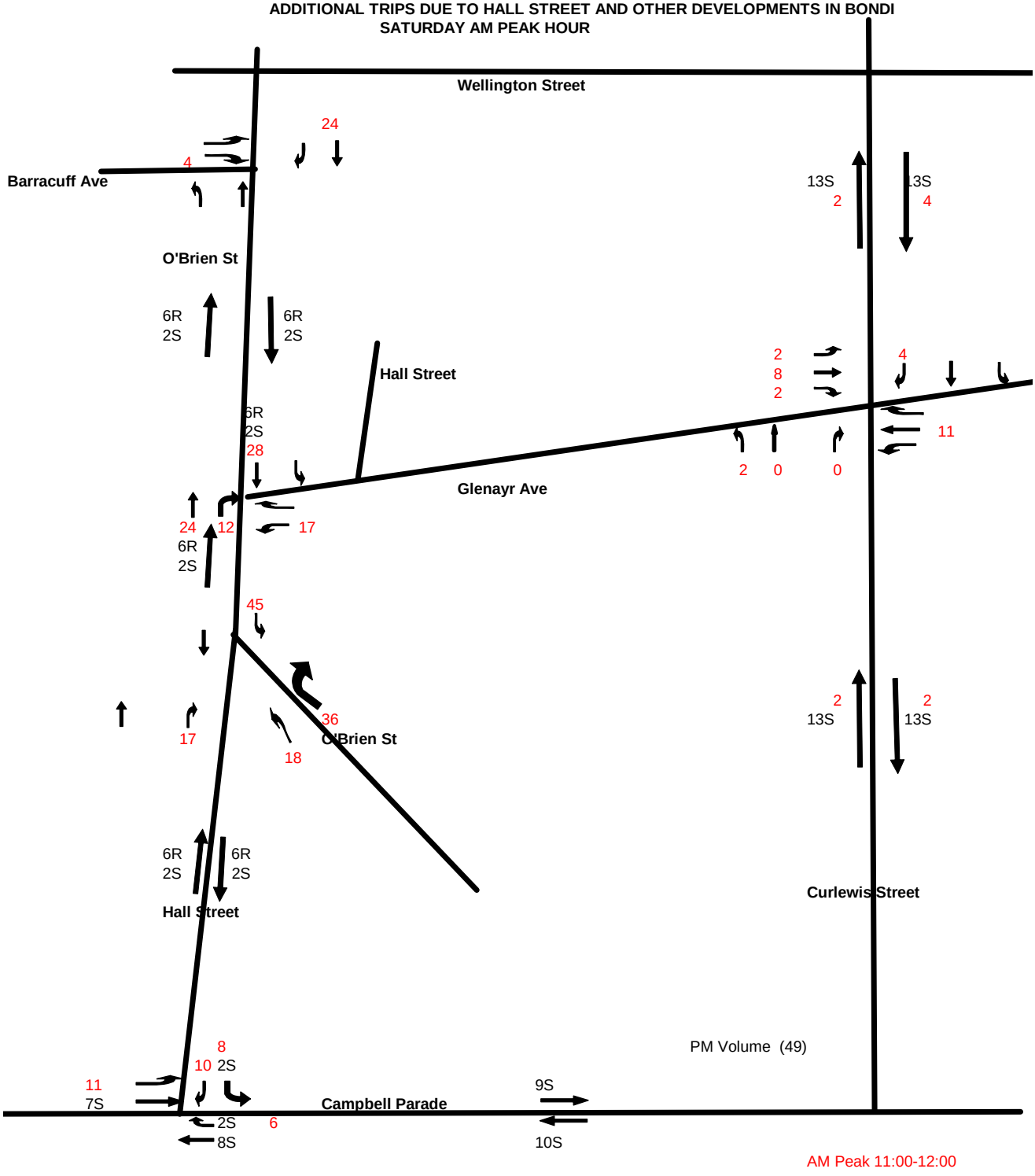
Appendix C - Potential Traffic Increases from Proposed Developments in Bondi Beach

ADDITIONAL TRIPS DUE TO HALL STREET AND OTHER DEVELOPMENTS IN BONDI
THURSDAY PM PEAK HOUR



S = Additional trips to and from Swiss Grand Hotel
R = Additional trips to and from Ravesis Development
11 = Adddtional trips to and from Hall Street development

ADDITIONAL TRIPS DUE TO HALL STREET AND OTHER DEVELOPMENTS IN BONDI
SATURDAY AM PEAK HOUR



S = Additional trips to and from Swiss Grand Hotel
R = Additional trips to and from Ravesis Development
11 = Adddtional trips to and from Hall Street development