

**TRAFFIC AND PARKING IMPACTS REPORT
FOR A DEVELOPMENT APPLICATION
FOR A PROPOSED BOARDING HOUSE
AT NO. 16 GLADYS AVENUE, FRENCHS FOREST, NSW 2086**

Property address	16 Gladys Avenye, Frenchs Forest, NSW 2086
Client	Williamson Building Corporation
Prepared by	O. Sannikov, MEngSc (Traffic Engineering), MIEAust, PEng, FAITPM
Date	12/12/2018
Job No.	18129
Report No.	18129 Rep 01

Item	Report
Site location	<ul style="list-style-type: none"> Refer to Figure 1.
Existing land use	<ul style="list-style-type: none"> Single storey residential dwelling
Proposed development	<ul style="list-style-type: none"> Boarding house <ul style="list-style-type: none"> 82 units total <ul style="list-style-type: none"> Includes 1 house manager unit, 77 residential units and 5 adaptable units Basement parking <ul style="list-style-type: none"> A total of 21 car parking spaces including <ul style="list-style-type: none"> 1 small car space and 1 space for people with disabilities 17 motorcycle parking spaces 17 bicycle parking spaces

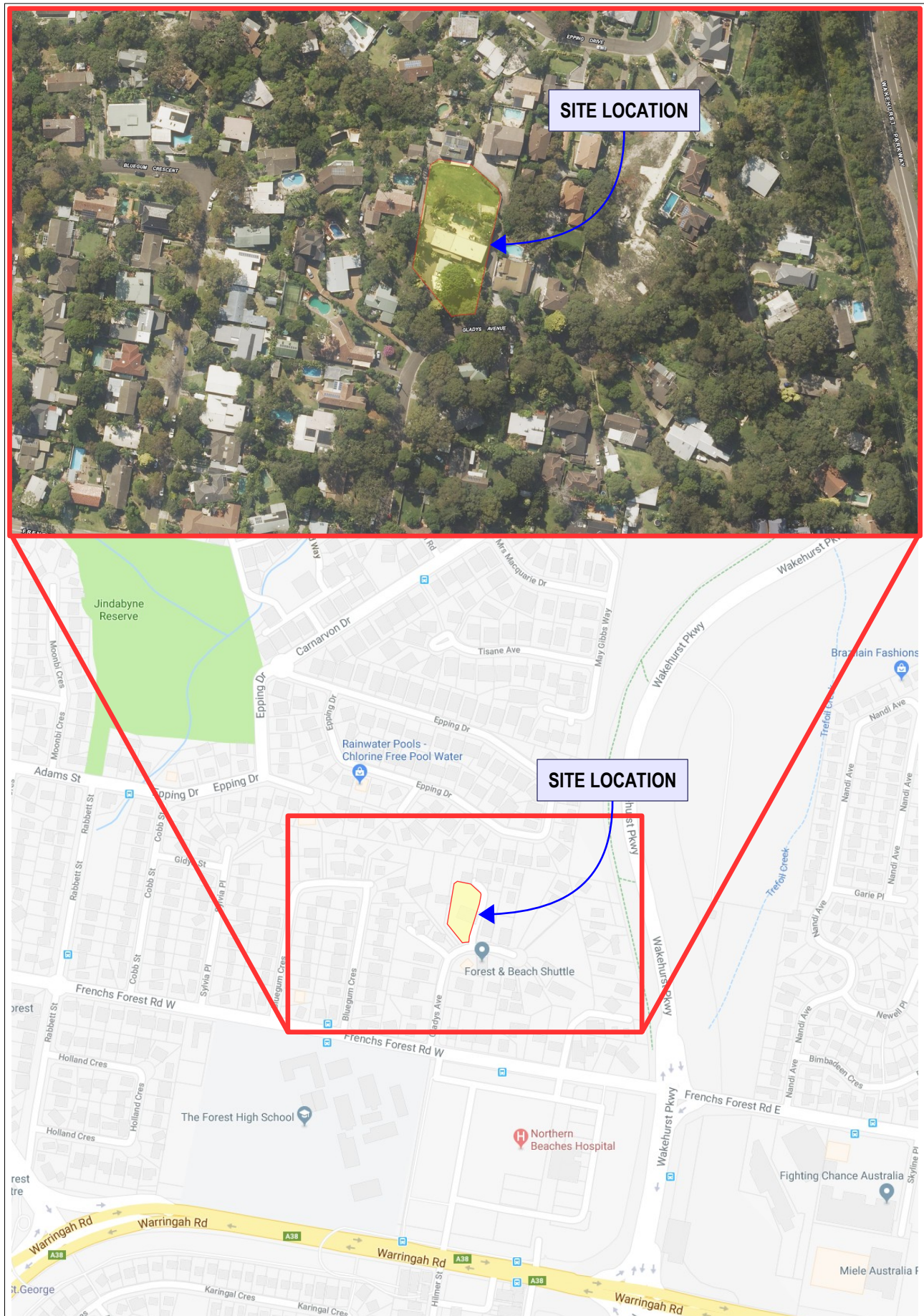


Figure 1. Site location.

Item	Report
Street characteristics	Existing traffic and parking situation <ul style="list-style-type: none"> Refer to Figure 2. The key roads around the proposed development are described below. <ul style="list-style-type: none"> Gladys Avenue <ul style="list-style-type: none"> Local road 2 travel lanes and 2 parking lanes (with “No Parking” restrictions on the eastern side 8:00 a.m. to 4:00 p.m. Monday to Friday and 8:00 a.m. to 1:00 p.m. on Saturday) Frenchs Forest Road West <ul style="list-style-type: none"> Local collector road 4 travel lanes and no parking lanes Warringah Road <ul style="list-style-type: none"> State Road (MR328) 6 traffic lanes Separated by a median strip Wakehurst Parkway <ul style="list-style-type: none"> State Road (MR397) 2-3 travel lanes Other streets in the surrounding area are local/local collector roads. Street conditions are typical for a residential/commercial area, with low to moderate traffic volumes. <ul style="list-style-type: none"> General speed limit is 70 km/h on main roads and 50 km/h on local streets around the site.
Bus	Public Transport <ul style="list-style-type: none"> The closest bus stop located on Frenchs Forest Road W (approximately 250 m from site location). <ul style="list-style-type: none"> Within the standard walking distance of 400 metres. Bus Route 136 <ul style="list-style-type: none"> PrePay-Only –Manly to Chatswood <ul style="list-style-type: none"> 15 services operate during the morning peak 6 services operate during the afternoon peak PrePay-Only –Chatswood to Manly <ul style="list-style-type: none"> 9 services operate during the morning peak 12 services operate during the afternoon peak Bus Route 280 <ul style="list-style-type: none"> Chatswood to Warringah Mall <ul style="list-style-type: none"> 12 services operate during the morning peak 6 services operate during the afternoon peak Warringah Mall to Chatswood <ul style="list-style-type: none"> 4 services operate during the morning peak 10 services operate during the afternoon peak The morning peak was considered to be between 6:30 a.m. and 9:30 a.m. and the afternoon peak was considered to be between 3:30 p.m. and 6:30 p.m.

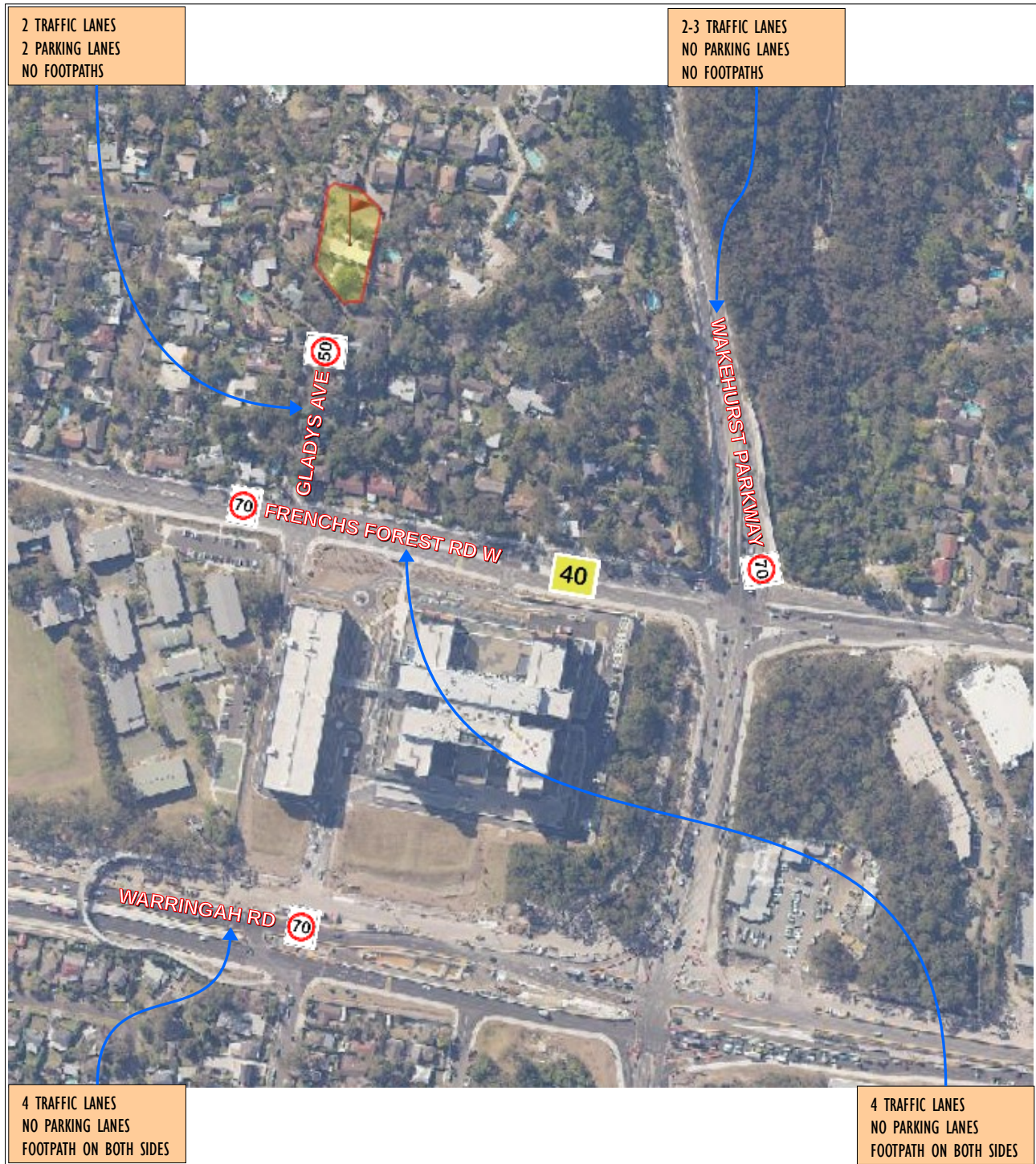


Figure 2. Street characteristics.

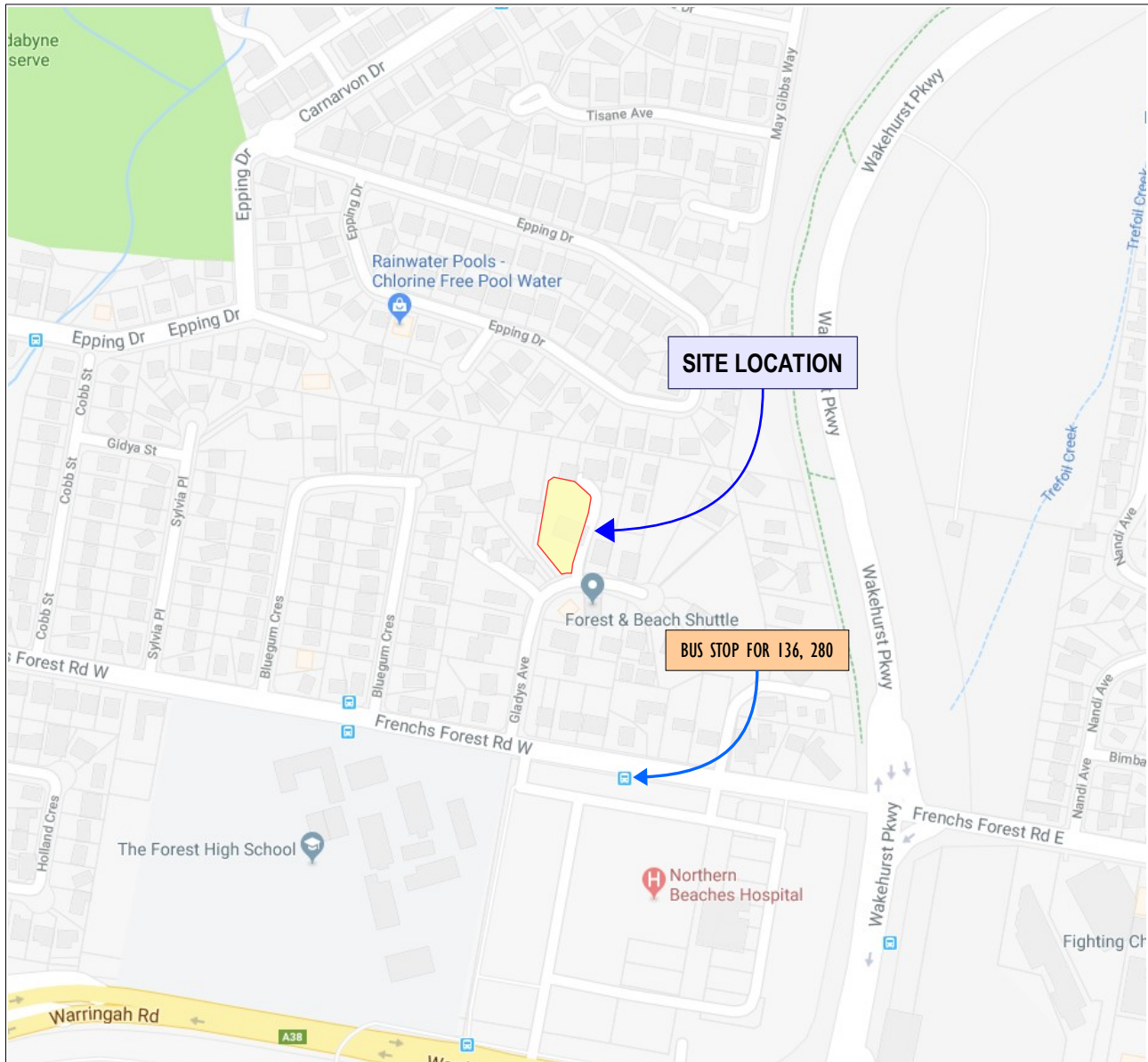


Figure 3. Public transport.

Item	Report
Planning control document 1	<ul style="list-style-type: none"> Northern Beaches Council – Warringah <ul style="list-style-type: none"> Warringah Council Development Control Plan 2011 <ul style="list-style-type: none"> Part C Siting Factors
Requirement	Compliance
C2 Traffic, Access and Safety	
1. Applicants shall demonstrate that the location of vehicular and pedestrian access meets the objectives. To minimise:	Complies The proposed access driveway is off the existing Right of Way (RoW) and is not sufficiently close to the nearest public road so as to result in negative impacts on street parking, queuing, number of crossings and public transport facilities.
<ul style="list-style-type: none"> a) the loss of “on street” kerbside parking. b) traffic hazards; c) vehicles queuing on public roads d) the number of vehicle crossings in a street; e) traffic, pedestrian and cyclist conflict; f) interference with public transport facilities; and 	The number of conflict points on the public roads will remain the same as at present.
2. Vehicle access is to be obtained from minor streets and lanes where available and practical.	Complies
3. There will be no direct vehicle access to properties in the B7 zone from Mona Vale Road or Forest Way.	Not applicable as this property is located in the R2 Low Density Residential zone.
4. Vehicle crossing approvals on public roads are to be in accordance with Council's Vehicle Crossing Policy (Special Crossings) LAP-PL413 and Vehicle Access to Roadside Development LAP-PL 315.	Complies (to be finalised at the CC stage)
5. Vehicle crossing construction and design is to be in accordance with Council's Minor works specification.	Complies (to be finalised at the CC stage)
6. Facilities for the loading and unloading of service, delivery and emergency vehicles are to be:	
<ul style="list-style-type: none"> a) appropriate to the size and nature of the development; screened from public view; 	A boarding house is not expected to generate regular demand for loading facilities. All furniture will be delivered prior to the building occupation. No loading facilities are proposed.
<ul style="list-style-type: none"> b) and designed so that vehicles may enter and leave in a forward direction. 	Not applicable for servicing vehicles; emergency vehicles will be able to enter and leave in a forward direction.
C3 Parking Facilities	
1. The following design principles shall be met:	
<ul style="list-style-type: none"> Garage doors and carports are to be integrated into the house design and to not dominate the façade. Parking is to be located within buildings or on site.; 	Not applicable
<ul style="list-style-type: none"> Laneways are to be used to provide rear access to carparking areas where possible; 	Not applicable

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	<table> <tr> <th>Requirement</th><th>Compliance</th></tr> <tr> <td> <ul style="list-style-type: none"> ○ Carparking is to be provided partly or fully underground for apartment buildings and other large scale developments; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Parking is to be located so that views of the street from front windows are not obscured; and </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Where garages and carports face the street, ensure that the garage or carport opening does not exceed 6 metres or 50% of the building width, whichever is the lesser. </td><td>Not applicable</td></tr> <tr> <td>2. Off street parking is to be provided within the property demonstrating that the following matters have been taken into account:</td><td></td></tr> <tr> <td> <ul style="list-style-type: none"> ○ the land use; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ the hours of operation; </td><td>Not applicable</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ the availability of public transport; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ the availability of alternative car parking; and </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ the need for parking facilities for courier vehicles, delivery / service vehicles and bicycles. </td><td>Complies</td></tr> <tr> <td>3. Carparking, other than for individual dwellings, shall:</td><td></td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Avoid the use of mechanical car stacking spaces; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Not be readily apparent from public spaces; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Provide safe and convenient pedestrian and traffic movement; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Include adequate provision for manoeuvring and convenient access to individual spaces; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Enable vehicles to enter and leave the site in a forward direction; </td><td>Complies Refer to the Appendix for vehicle manoeuvring diagrams.</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Incorporate unobstructed access to visitor parking spaces; </td><td>Not applicable – DCP does not require any visitor parking spaces for boarding houses.</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Be landscaped to shade parked vehicles, screen them from public view, assist in micro-climate management and create attractive and pleasant places; </td><td>Complies</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Provide on site detention of stormwater, where appropriate; and </td><td>Not applicable</td></tr> <tr> <td> <ul style="list-style-type: none"> ○ Minimum car parking dimensions are to be in accordance with AS/ NZS 2890.1. </td><td>Car parking dimensions comply with AS/NZS 2890 series.</td></tr> </table>	Requirement	Compliance	<ul style="list-style-type: none"> ○ Carparking is to be provided partly or fully underground for apartment buildings and other large scale developments; 	Complies	<ul style="list-style-type: none"> ○ Parking is to be located so that views of the street from front windows are not obscured; and 	Complies	<ul style="list-style-type: none"> ○ Where garages and carports face the street, ensure that the garage or carport opening does not exceed 6 metres or 50% of the building width, whichever is the lesser. 	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The access ramp is proposed to be one lane wide. AS/NZS 2890.1 states that as a guide, 30 vehicle trips or more would usually require a

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4. Carparking is to be provided in accordance with Appendix 1 which details the rate of car parking for various land uses.

Appendix 1 Car Parking Requirements

Residential	
Use	Requirement
Backpackers' accommodation, Boarding house, Group home	Comparisons must be drawn with developments for a similar purpose.

A research was carried out by Council previously into approved parking provision for boarding houses in the Northern Beaches LGA. This research was updated by Williamson Building Corporation to include a number of boarding houses not in the original the Council's list. The results are presented in **Table 1** (full document with the reference map is included in the **Appendix**).

Table 1. Car parking provision for similar approved developments

Address	Units	Cars	CAR RATIO
556 Warringah Road Forestville	25	8	0.320
112-114 Sydney Rd Fairlight 2094	23	11	0.478
52-56 Darley Rd Manly 2095	35	4	0.114
52-56 Darley Rd Manly 2095 (BEFORE RECENT DA)	22	4	0.182
120 Pittwater Rd, MANLY,NSW 2095	11	0	0.000
Lot 2506 Bundaleer St, BELROSE,NSW 2085	32	9	0.281
781 (Lot 6) Warringah Rd (DP20024), FORESTVILLE,NSW 2087	30	7	0.233
257 (Lot 1770) Harbord Rd (DP752038), DEE WHY,NSW 2099	30	13	0.433
434 (Lot 14) Pittwater Rd (DP20494), NORTH MANLY,NSW 2100	13	4	0.308
135 (Lot 5) Griffith St (DP9335), BALGOWLAH,NSW 2093	16	2	0.125
18 (Lot 22) Grover Av (DP1818), CROMER,NSW 2099	8	2	0.250
428 (Lot 1) Pittwater Rd (DP1041534), NORTH MANLY,NSW 2100	10	3	0.300
556 Warringah Rd (Lot Y DP4090090), FORESTVILLE,NSW 2087	25	8	0.320
789 Pittwater Road DEE WHY NSW 2099	15	3	0.200
48 Lewis Street DEE WHY NSW 2099	7	2	0.286
997 Pittwater Road COLLAROY NSW 2097	8	0	0.000
68-70 Pittwater Road MANLY EAST NSW 2095	16	0	0.000
35 Pine Street MANLY NSW 2095	21	4	0.190
5-7 Smith Street MANLY NSW 2095	22	0	0.000
22 Stuart Street MANLY NSW 2095	8	0	0.000
85 Addison Road MANLY NSW 2095	8	0	0.000
174 Old Pittwater Road Brookvale	27	6	0.222
Averages	18.7273	4.0909	0.193
AVERAGE CAR PARKING RATIO ACROSS 23 LOCATIONS			0.193

Item	Report	
	Requirement	Compliance
	Car parking required: As shown in Table 1 , the average car parking space required per unit is 0.183. There are a total of 82 units: <ul style="list-style-type: none"> $0.193 \times 82 = 15.8$, say 16 spaces 	Car parking proposed: 21 car parking spaces are provided. Complies and exceeds by 5 spaces In addition, 17 motorcycle spaces have been provided. Given the likely younger age and high mobility levels of the boarding house residents, many are likely to use motorcycles and scooters instead of cars. The proposed motorcycle provision in this case may be regarded as achieving the same purpose as car parking provision.
	5. Adequate provision for staff, customer and courier parking, and parking and turning of vehicles with trailers must be provided if appropriate to the land use.	Not applicable
	6. For bulky goods premises adequate on-site parking spaces for service/delivery vehicles at a convenient location, separated from customer parking must be provided.	Not applicable
	7. Where appropriate, car parking which meets the needs of people with physical disabilities must be provided in accordance with the relevant Australian Standard.	Complies with AS/NZS 2890.6
C3(A) Bicycle Parking and End of Trip Facilities		
	1. Bicycle parking facilities must be provided for new buildings and for alterations or additions to existing buildings. In the case of alterations or additions to existing buildings bicycle parking facilities are required for the additional floor area only.	Complies
	2. Bicycle parking shall be designed and constructed in accordance with Australian Standard AS 2890.3 - Bicycle Parking Facilities.	Complies with AS 2890.3. Safe access to the car parking area is provided via a pedestrian walkway next to the vehicular ramp.
	3. Bicycle parking facilities shall be designed to be an integral part of the development and where visible from public places or streets, will complement the visual quality of the public domain.	Complies
	4. Bicycle parking shall be provided in accordance with the generation rates in the following table and is determined by adding Column 1 and Column 2 requirements and rounding up.	Complies

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	<table><tr><th>Requirement</th><th colspan="2">Compliance</th></tr><tr><td colspan="3">MINIMUM BICYCLE PARKING REQUIREMENTS</td></tr><tr><td>Land Use</td><td>Column 1 High–Medium Security Level*</td><td>Column 2 High–Low Security Level**</td></tr><tr><td>Boarding House</td><td>1 per 10 beds</td><td>Visitors: 1 per 20 beds</td></tr></table>	Requirement	Compliance		MINIMUM BICYCLE PARKING REQUIREMENTS			Land Use	Column 1 High–Medium Security Level*	Column 2 High–Low Security Level**	Boarding House	1 per 10 beds	Visitors: 1 per 20 beds
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Boarding House	1 per 10 beds	Visitors: 1 per 20 beds											
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	Traffic impacts
Traffic generation	<ul style="list-style-type: none"> • Base traffic generation rates <ul style="list-style-type: none"> ◦ From RMS (2002) Guide to Traffic Generating Developments <ul style="list-style-type: none"> ▪ Updated statistics from TDT 2013 / 04a • Existing traffic generation <ul style="list-style-type: none"> ◦ Traffic counts were conducted by TEF Consulting at the existing ROW crossing in Gladys Avenue on Monday 11th of December 2017 (afternoon) and Tuesday 12th of December 2017 (morning). <ul style="list-style-type: none"> ▪ Video survey analysis indicates 2 vehicles in the morning peak and 3 vehicles in the afternoon peak hour using the existing driveway. • Traffic generated by proposed development <ul style="list-style-type: none"> ◦ 82 units (high density residential – Sydney average) <ul style="list-style-type: none"> ▪ Morning peak hour vehicle trips = 0.19 per unit <ul style="list-style-type: none"> • $82 \times 0.19 = 15.6$, say 16 trips (in + out) <ul style="list-style-type: none"> ◦ $15.6 \times 26\% = 4.1$, say 4 trips in ◦ $15.6 \times 74\% = 11.5$, say 12 trips out ▪ Afternoon peak hour vehicle trips = 0.15 per unit <ul style="list-style-type: none"> • $82 \times 0.15 = 12.3$, say 12 trips (in + out) <ul style="list-style-type: none"> ◦ $12.3 \times 66\% = 8.1$, say 8 trips in ◦ $12.3 \times 34\% = 4.2$, say 4 trips out • It is noted that boarding houses generate a number of motorcycle trips, which is included in the total number of peak hour vehicle trips. <ul style="list-style-type: none"> ◦ The proportion of car trips to motorcycle trips is assumed to be the same as the ratio between car parking spaces and motorcycle spaces. <ul style="list-style-type: none"> ▪ There are 22 car spaces and 17 motorcycle spaces proposed <ul style="list-style-type: none"> • 77/23 ratio ▪ Morning peak hour vehicle trips <ul style="list-style-type: none"> • 3 car trips and 1 motorcycle trip in • 9 car trips and 3 motorcycle trips out ▪ Afternoon peak hour vehicle trips <ul style="list-style-type: none"> • 6 car trips and 2 motorcycle trips in • 3 car trips and 1 motorcycle trip out • Additional traffic generated by proposed development <ul style="list-style-type: none"> ◦ There will be an additional 16 and 12 trips in the morning and afternoon peak hours respectively as a result of the traffic generated by the proposed development. ◦ Gladys Avenue carried 20 to 40 vehicular movements per hour in the afternoon and morning peak periods respectively during the surveys (of which about 50% belonged to workers from the Northern Beaches Hospital (NBH) construction site). This amount of traffic (and particularly after the NBH construction ends) is very low and is well below the environmental capacity of 200-300 veh/hr for residential streets. This situation will remain the same after the proposed development. ◦ The intersection of Gladys Avenue and Frenchs Forest Road West currently operates at a Level of Service A, with minimal delays and queuing which does not exceed one car in Gladys Avenue. As noted above, the current situation includes a substantial amount of construction traffic in both streets (please refer to the Appendix for the results of traffic counts). After the NBH completion the situation with additional traffic from the subject proposed development will be the same or better than at present.
Traffic impacts	
Conclusion	<ul style="list-style-type: none"> • Additional traffic generation is very minor and will have no negative impact on the existing road network.

Conclusions

- Proposed parking provision
 - Complies with and exceeds Council's Development Control Plan requirements.
- Traffic impacts
 - The additional traffic from the proposed development will be minimal and will have no negative impacts on street network operation.
- Design of access, car parking and servicing facilities
 - Complies with the relevant Standards
- The proposed development is supportable on traffic and parking grounds.



Oleg I. Sannikov

Director

MEngSc (Traffic Engineering)

MIEAust, PEng

FAITPM

References:

Northern Beaches Council Warringah Development Control Plan 2011
Guide to Traffic Generating Developments RMS (2002)
AS/NZS 2890.1:2004: Parking Facilities – Off-street car parking
AS 2890.2-2002: Parking Facilities – Off-street commercial vehicle facilities
AS 2890.3:2015: Parking Facilities – Bicycle parking
AS/NZS 2890.6:2009: Parking Facilities – Off-street parking for people with disabilities

Appendix

Research results of car parking provision for boarding houses

Car park design checks and vehicle turning diagrams

Results of traffic counts

Bus routes

COMPARISON OF CAR PARKING REQUIREMENTS

(DEVELOPMENTS FOR A SIMILAR PURPOSE) AS PER WARRINGAH DCP 2011 - APPENDIX 1 CAR PARKING REQUIREMENTS (EXTRACT BELOW)

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257 (Lot 1770) Harbord Rd (DP752038), DEE WHY,NSW 2099	30	13	0.433
434 (Lot 14) Pittwater Rd (DP20494), NORTH MANLY,NSW 2100	13	4	0.308
135 (Lot 5) Griffith St (DP9335), BALGOWLAH,NSW 2093	16	2	0.125
18 (Lot 22) Grover Av (DP1818), CROMER,NSW 2099	8	2	0.250
428 (Lot 1) Pittwater Rd (DP1041534), NORTH MANLY,NSW 2100	10	3	0.300
556 Warringah Rd (Lot Y DP4090090), FORESTVILLE,NSW 2087	25	8	0.320
789 Pittwater Road DEE WHY NSW 2099	15	3	0.200
48 Lewis Street DEE WHY NSW 2099	7	2	0.286
997 Pittwater Road COLLAROY NSW 2097	8	0	0.000
68-70 Pittwater Road MANLY EAST NSW 2095	16	0	0.000
35 Pine Street MANLY NSW 2095	21	4	0.190
5-7 Smith Street MANLY NSW 2095	22	0	0.000
22 Stuart Street MANLY NSW 2095	8	0	0.000
85 Addison Road MANLY NSW 2095	8	0	0.000
174 Old Pittwater Road Brookvale	27	6	0.222
Averages	18.7273	4.0909	0.193
AVERAGE CAR PARKING RATIO ACROSS 23 LOCATIONS			0.193

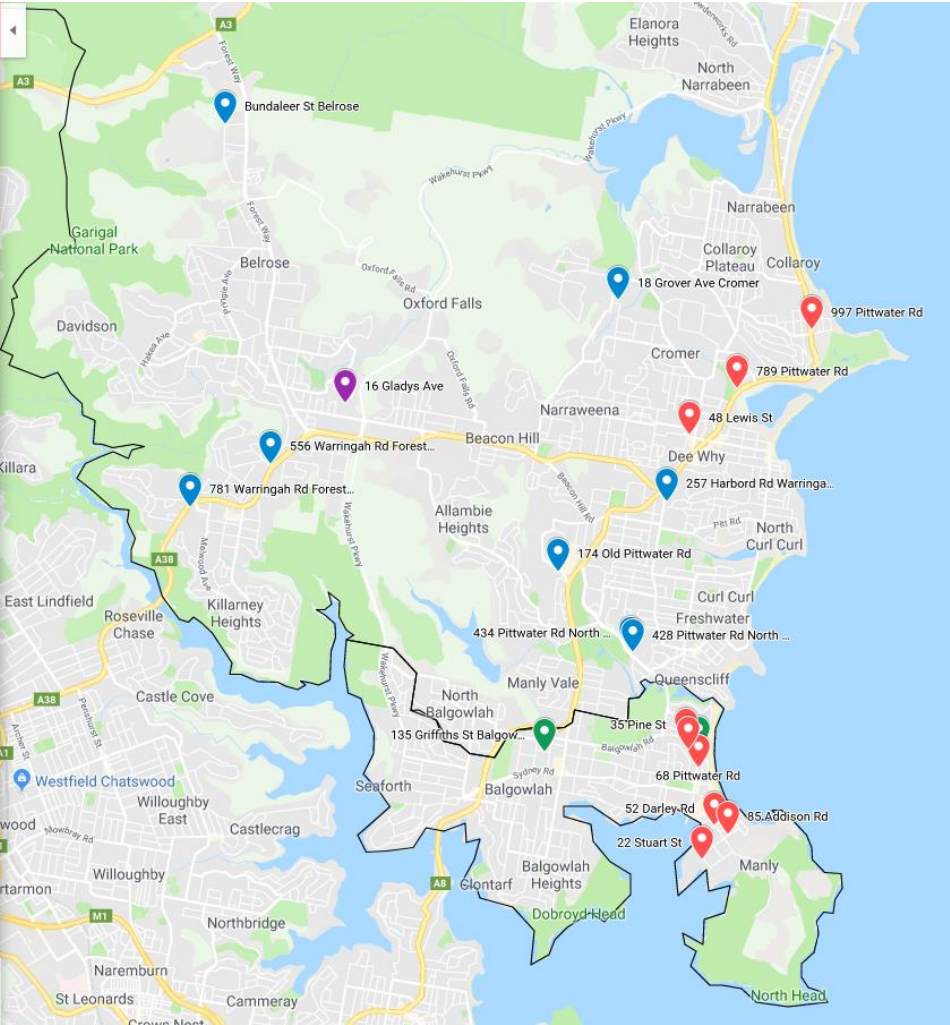
Appendix 1 Car Parking Requirements

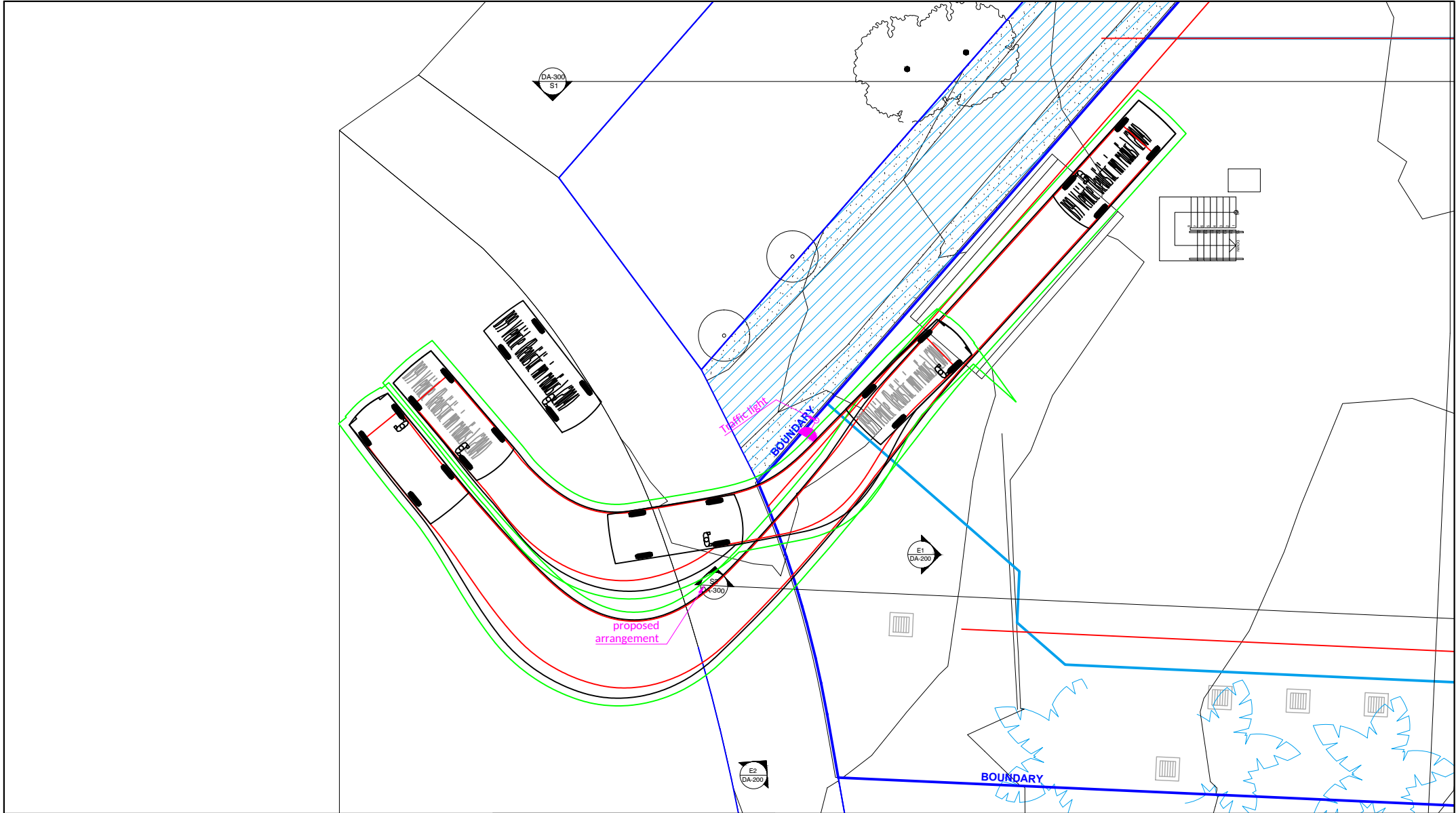
Residential Use	Requirement
Backpackers' accommodation, Boarding house, Group home	Comparisons must be drawn with developments for a similar purpose.
Bed and breakfast accommodation	Comparison must be drawn with developments for a similar purpose.
Caravan park	1 space per caravan site.
Dwelling house and dual occupancy	2 spaces per dwelling, except for land known as Belrose Corridor (see Part G4) which has a maximum of 2 car spaces.
Hotel or motel accommodation	1 space per unit, plus 1 space per 2 employees, plus if a restaurant is included, add the greater of: - 15 spaces per 100 m² GFA of restaurant or function room, or - 1 space per 3 seats
Multi-dwelling housing, Residential flat buildings, Serviced apartments (including holiday flats), Shop-top housing (residential component)	- 1 space per 1 bedroom dwelling - 1.2 spaces per 2 bedroom dwelling - 1.5 spaces per 3 bedroom dwelling - 1 visitor space per 5 units or part of dwellings

Northern Beaches Locations

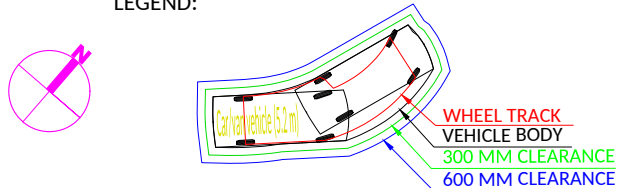
Location of Boarding houses in old Council LGA

- 120 Pittwater Rd Manly
- Bundaleer St Belrose
- 781 Warringah Rd Forestville
- 257 Harbord Rd Warringah
- 434 Pittwater Rd North Manly
- 135 Griffiths St Balgowlah
- 18 Grover Ave Cromer
- 428 Pittwater Rd North Manly
- 556 Warringah Rd Forestville
- 174 Old Pittwater Rd
- 48 Lewis St
- 997 Pittwater Rd
- 68 Pittwater Rd
- 35 Pine St
- 52 Darley Rd
- 5 Smith St
- 22 Stuart St
- 85 Addison Rd
- 789 Pittwater Rd
- 16 Gladys Ave





LEGEND:



Dwg No 18129/01 Rev. A 12/12/2018

Client:
Williamson Building Corp

16 Gladys Ave, Frenchs Forest NSW 2086

SCALE 1:200@A4

Proposed car park layout
Design checks as per AS/NZS 2890 series



Car (van/vehicle) (5.2 m)



Client:
Williamson Building Corp

Proposed car park layout
Design checks as per AS/NZS 2890 series

PO Box 215 Bondi NSW 2026 | ph:+61 (0)2 9332 2024 | fax: +61 (0)2 9332 2022 | mob: +61 (0)414 978 067 | email: o.s@tefconsult.com.au | www.tefconsult.com.au

JOB No. 17117

DATE 11/12/2017 - 12/12/2017
DAY Mon - Tues

LOCATION
WEATHER Fine

OBSERVER

LV - Light Vehicles
HV - Heavy Vehicles

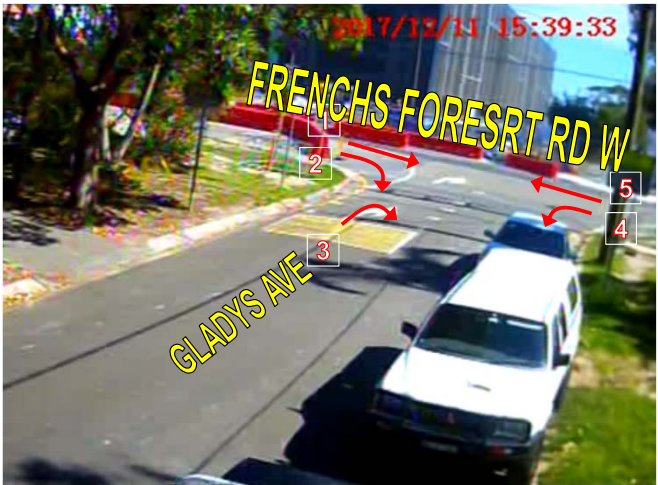
HV include trucks and buses

FROM	TO	1		2		3		4		5		TOTAL
		LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	
15:30	- 15:45	83	10	0	0	5	0	0	0	0	0	98
15:45	- 16:00	117	9	6	0	4	0	0	0	0	0	136
16:00	- 16:15	134	10	1	0	3	0	1	0	0	0	149
16:15	- 16:30	105	4	4	0	1	0	0	0	0	0	114
16:30	- 16:45	145	9	2	0	2	0	0	0	0	0	158
16:45	- 17:00	126	5	1	0	0	0	0	0	0	0	132
17:00	- 17:15	129	5	4	0	4	0	0	0	0	0	142
17:15	- 17:30	144	4	1	0	1	0	0	0	0	0	150
17:30	- 17:45	117	5	2	0	3	0	0	0	0	0	127
17:45	- 18:00	121	4	4	0	1	0	0	0	0	0	130
18:00	- 18:15	97	1	3	0	1	0	0	0	0	0	102
18:15	- 18:30	86	2	5	0	3	0	1	0	0	0	97
18:30	- 18:45	65	2	2	0	1	0	0	0	0	0	70
18:45	- 19:00	58	1	1	0	1	0	0	0	0	0	61
TOTAL		1527	71	36	0	30	0	2	0	0	0	1666

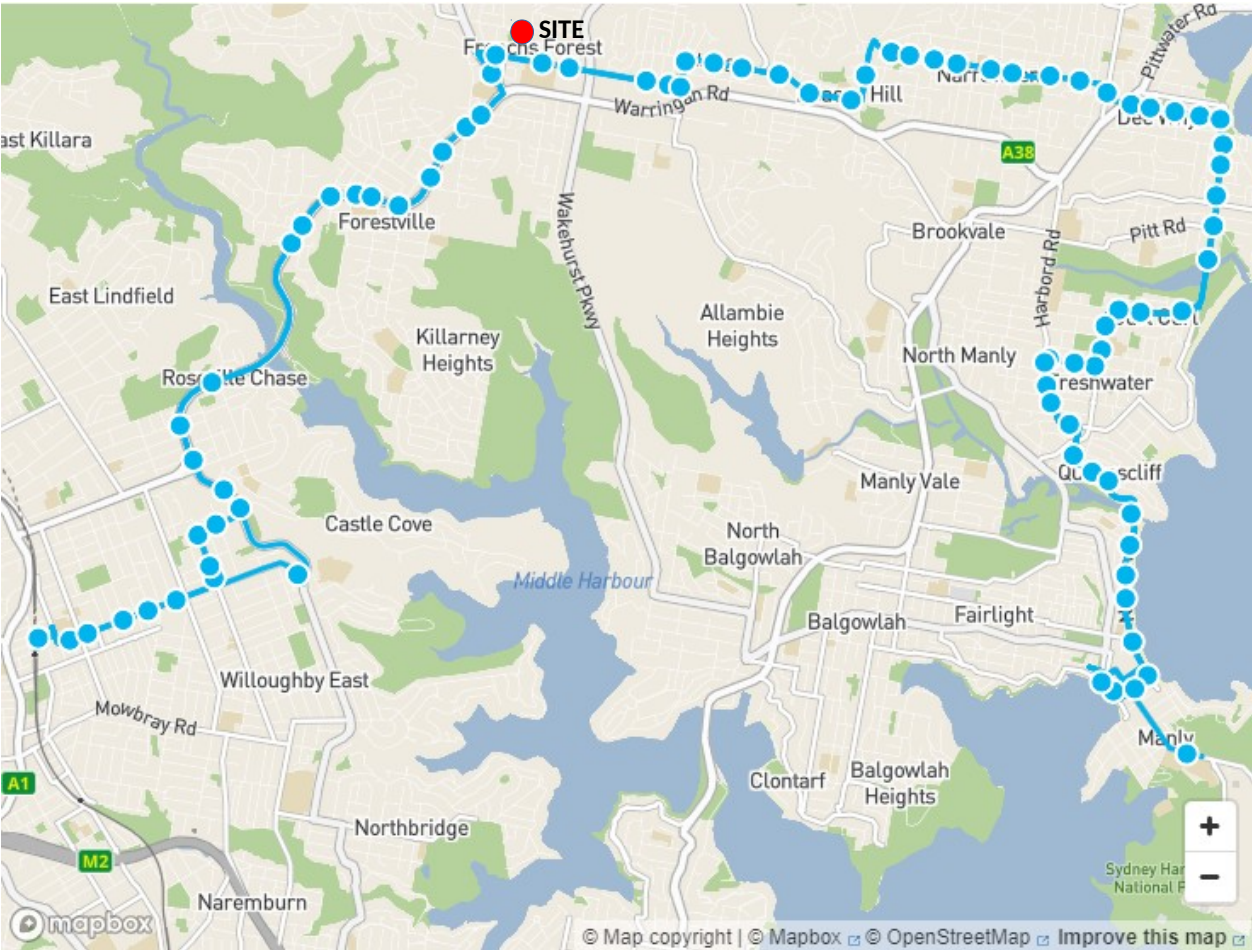
FROM	TO	1		2		3		4		5		TOTAL
		LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	
6:00	- 6:15	18	1	2	0	1	0	0	0	0	0	22
6:15	- 6:30	95	4	2	0	1	0	0	0	0	0	102
6:30	- 6:45	119	3	9	0	6	0	0	0	0	0	137
6:45	- 7:00	120	8	3	0	2	0	0	0	0	0	133
7:00	- 7:15	107	8	3	0	6	0	0	0	0	0	124
7:15	- 7:30	110	10	1	0	5	0	0	0	0	0	126
7:30	- 7:45	104	8	3	0	3	0	0	0	0	0	118
7:45	- 8:00	107	9	1	0	3	0	0	0	0	0	120
8:00	- 8:15	127	10	2	0	7	0	0	0	0	0	146
8:15	- 8:30	103	2	2	0	2	0	0	0	0	0	109
8:30	- 8:45	94	10	5	0	5	0	0	0	0	0	114
8:45	- 9:00	84	9	2	0	4	0	0	0	0	0	99
9:00	- 9:15	81	4	2	0	3	0	0	0	0	0	90
9:15	- 9:30	62	8	1	0	2	0	0	0	0	0	73
TOTAL		1331	94	38	0	50	0	0	0	0	0	1513

HOURLY COUNTS		1		2		3		4		5		Total
		LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	
15:30	- 16:30	439	33	11	0	13	0	1	0	0	0	497
15:45	- 16:45	501	32	13	0	10	0	1	0	0	0	557
16:00	- 17:00	510	28	8	0	6	0	1	0	0	0	553
16:15	- 17:15	505	23	11	0	7	0	0	0	0	0	546
16:30	- 17:30	544	23	8	0	7	0	0	0	0	0	582
16:45	- 17:45	516	19	8	0	8	0	0	0	0	0	551
17:00	- 18:00	511	18	11	0	9	0	0	0	0	0	549
17:15	- 18:15	479	14	10	0	6	0	0	0	0	0	509
17:30	- 18:30	421	12	14	0	8	0	1	0	0	0	456
17:45	- 18:45	369	9	14	0	6	0	1	0	0	0	399
18:00	- 19:00	306	6	11	0	6	0	1	0	0	0	330

6:00	- 7:00	352	16	16	0	10	0	0	0	0	0	394
6:15	- 7:15	441	23	17	0	15	0	0	0	0	0	496
6:30	- 7:30	456	29	16	0	19	0	0	0	0	0	520
6:45	- 7:45	441	34	10	0	16	0	0	0	0	0	501
7:00	- 8:00	428	35	8	0	17	0	0	0	0	0	488
7:15	- 8:15	448	37	7	0	18	0	0	0	0	0	510
7:30	- 8:30	441	29	8	0	15	0	0	0	0	0	493
7:45	- 8:45	596	44	14	0	24	0	0	0	0	0	678
8:00	- 9:00	551	43	14	0	23	0	0	0	0	0	631
8:15	- 9:15	424	33	12	0	16	0	0	0	0	0	485
8:30	- 9:30	551	43	14	0	23	0	0	0	0	0	631



Bus Route 136



Bus Route 280

