

traffic & parking assessment;

**1A Little Alfred Street, North
Sydney**

For Ethos Urban
16 October 2017

**parking;
traffic;
civil design;
communication;
ptc.**

Document Control

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1. Executive Summary

ptc. has been engaged by Ethos Urban to provide a Traffic and Parking Assessment to accompany the Development Application to North Sydney Council for construction of 19 serviced apartments at 1A Little Alfred Street, North Sydney.

With reference to the most recent RMS survey data, a review of the potential traffic generation of the site revealed that the development will lead to a net traffic generation of 19 trips during the peak hour (approximately one vehicle every three minutes). This represents a modest increase in traffic activity and as such, the proposed development is not anticipated to generate any negative impacts to the local road network.

In the context of parking, the development provides a total of seven spaces, satisfying the maximum requirements of the DCP for residential, staff and visitor parking. Furthermore, five bicycle spaces in the form of Class 2 storage for residents and five public bicycle spaces for visitors have also been provided.

A review of the facility was undertaken with reference to AS2890.1:2004 and AS2890.3:2015, and found the proposal to be in compliance with and meeting the intent of the relevant standards.

In light of the above, the proposed development has been endorsed in the context of parking and traffic.

2. Introduction

2.1 Project Summary

ptc. has been engaged by Ethos Urban (on behalf of the Applicant) to prepare a Traffic and Parking Assessment to accompany a Development Application to North Sydney Council for the construction of serviced apartment accommodation with an associated café/restaurant located at 1A Little Alfred Street, North Sydney (See Figure 1).

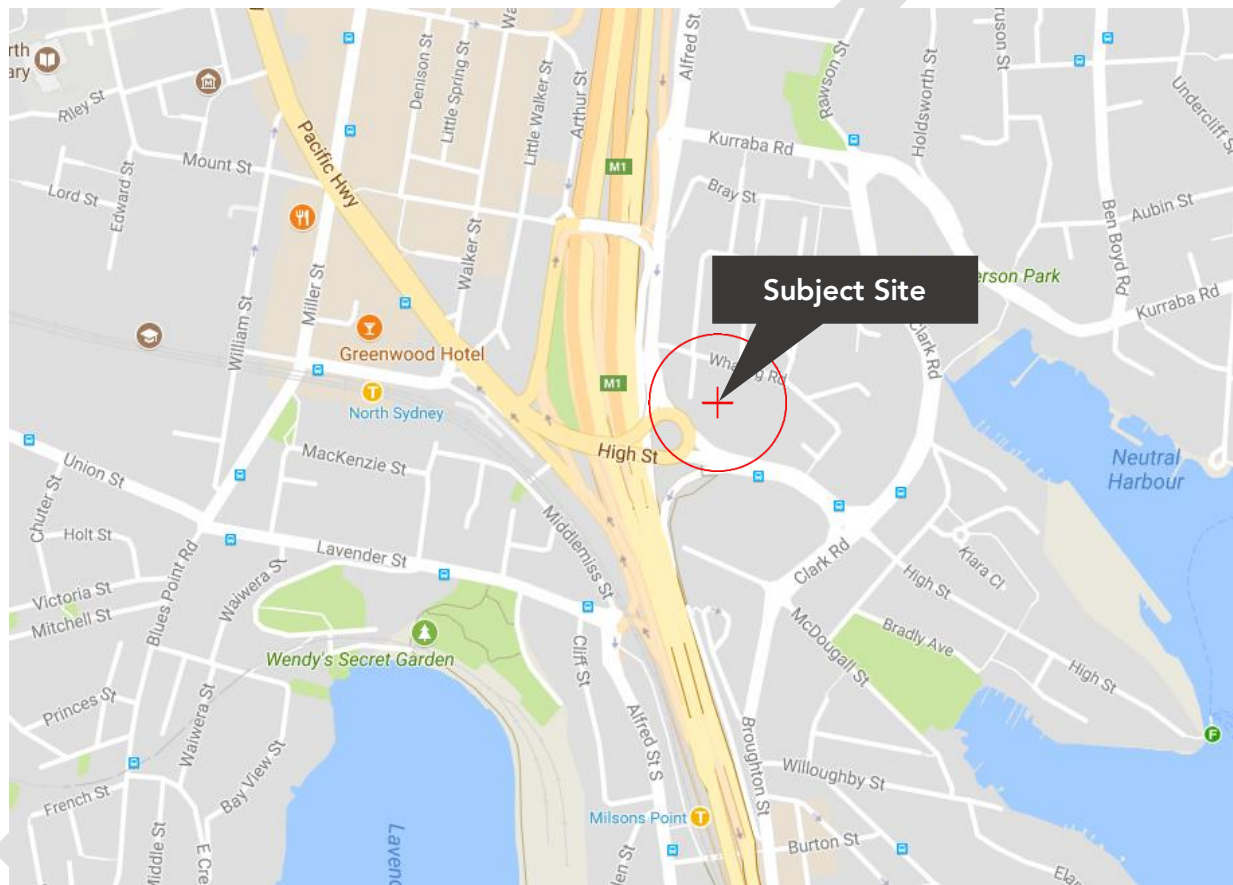


Figure 1 - Site Location

2.2 Purpose of this Report

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

Section 2	A description of the project;
Section 3	Establishment of the site context and development proposal;
Section 4	A description of the road network serving the development property, and existing traffic volumes through key local intersections;
Section 5	Determination of the traffic activity associated with the development proposal, and the adequacy of the surrounding road network;
Section 6	Assessment of the proposed parking provision in the context of the relevant planning control requirements; and
Section 7	Assessment of the proposed car park, vehicular access and internal circulation arrangements in relation to compliance with the relevant standards, and Council policies.

3. Proposal

3.1 Site Context

The site of the proposal lies within a private recreation zone (RE2), situated to the east of the North Sydney Commercial Core (B3). Key features surrounding the site include:

- To the east also lies North Sydney Train Station, located within a 650m walking distance;
- Also to the east lies the Sydney Church of England Grammar School within an 800m walking distance;
- To the north-east lies Anderson Park, a public recreational area (RE1) within a six minute walk (400m);
- To the west lies Neutral Harbour, which is serviced by ferry services at Neutral Bay Wharf;
- The greater residential precinct of North Sydney, comprising typically commercial businesses, and low to high density residential zones.

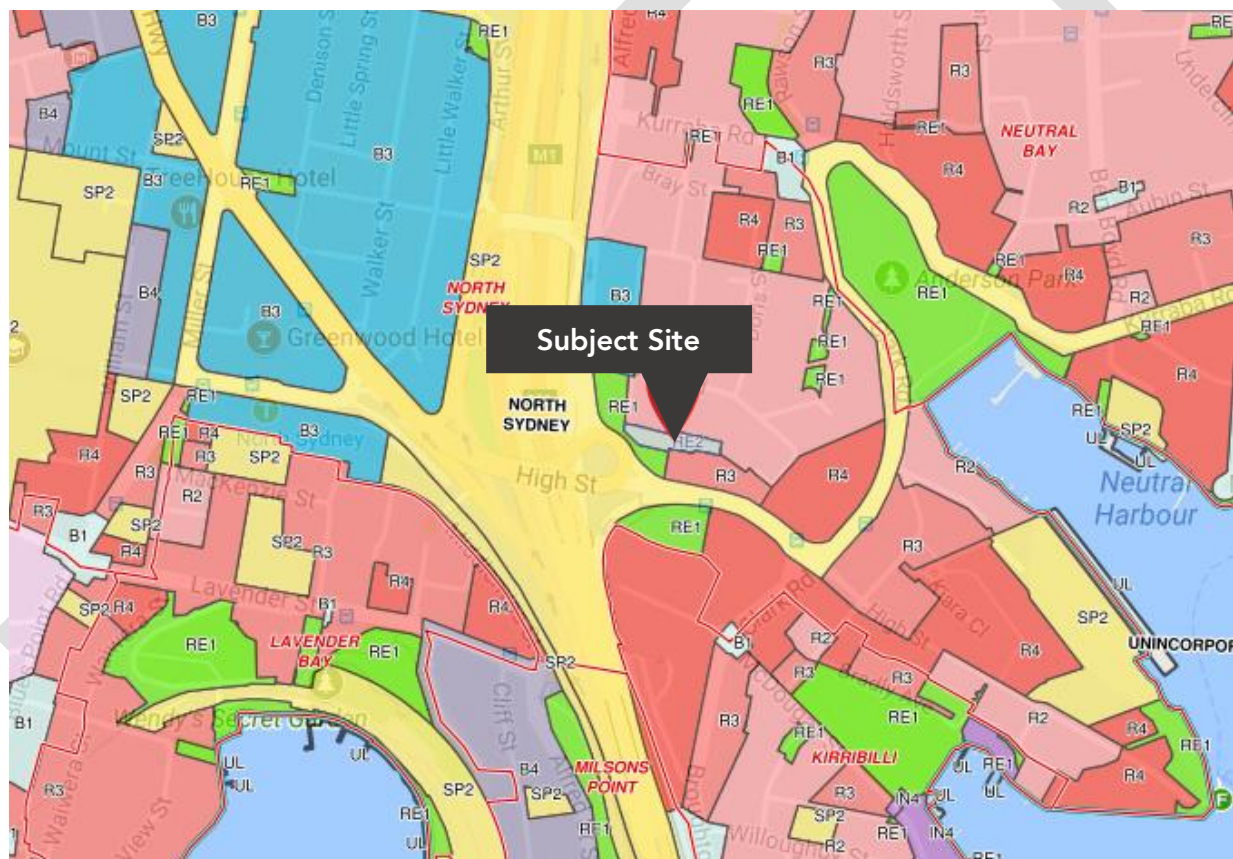


Figure 2 - Local Land Use Map (Source: NSW Planning Viewer)

3.2 Development Site

The proposal relates to the following site:

- 1A Little Alfred Street, North Sydney (Lot No 1051/DP812614) (1,826m²)



Figure 3 - Aerial View of Subject Site & Surrounds (Source: Nearmap)

The property has a site area of 1,826m² with access to the site provided off Little Alfred Street. Currently, the property is occupied by the Kirribilli Tennis Centre accommodating three tennis courts which are available for hire.

3.3 Development Proposal

The development proposal involves the construction of serviced apartment accommodation, comprising 19 units with the unit mix as outlined in Table 1.

Table 1 - Unit Mix

No. of Dwellings	
Studio	7
1 Bedroom Unit	7
2 Bedroom Unit	5
TOTAL	19

Parking is to be provided within a ground-level car park accommodating a total of seven parking spaces which are accessible via Little Alfred Street.

Details of the proposal are presented on the architectural drawings provided by Carter Williamson Architects.

4. Existing Transport Facilities

4.1 Road Hierarchy

The subject site is located in the suburb of North Sydney, and is primarily serviced by the State roads such as the Warringah Freeway as well as Regional roads including Clark Road and Kurraba Road. The site is also serviced by local roads managed by Council.



Figure 4 - Road Hierarchy (RMS Road Hierarchy Review)

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

- | | |
|----------------|--|
| State Roads | - Freeways and Primary Arterials (RMS Managed) |
| Regional Roads | - Secondary or sub arterials (Council Managed, Part funded by the State) |
| Local Roads | - Collector and local access roads (Council Managed) |

Little Alfred Street

Road Classification	Local Road
Alignment	North - South
Number of Lanes	1 lane with parking lane
Carriageway Type	Undivided
Carriageway Width	5.5m
Speed Limit	50 km/h
School Zone	No
Parking Controls	1P 8:30am-6pm (Mon-Fri)
Forms Site Frontage	Yes



Figure 5 – Little Alfred Street - Southbound

Whaling Road

Road Classification	Local Road
Alignment	East - West
Number of Lanes	1 lane in each direction
Carriageway Type	Undivided
Carriageway Width	12m
Speed Limit	50 km/h
School Zone	No
Parking Controls	1/2P 8:30am-6pm (Mon-Fri); 2P meter 8:30am-6pm (Mon-Fri)
Forms Site Frontage	No



Figure 6 – Whaling Road - Eastbound

Warringah Freeway

Road Classification	State Road
Alignment	North – South
Number of Lanes	5 lanes in each direction (varies)
Carriageway Type	Divided
Carriageway Width	43.5m (varies)
Speed Limit	70 km/h (variable)
School Zone	No
Parking Controls	No Stopping
Forms Site Frontage	No



Figure 7 – Warringah Freeway - Southbound

Alfred Street

Road Classification	Local Road
Alignment	North - South
Number of Lanes	2 lanes southbound with auxiliary turn lane
Carriageway Type	Undivided
Carriageway Width	9.5m (varies)
Speed Limit	50 km/h
School Zone	No
Parking Controls	1P meter
Forms Site Frontage	No



Figure 8 – Alfred Street – One-way southbound

4.2 Public Transport

The locality was assessed in the context of available forms of public transport that may be utilised by prospective residents and visitors. When defining accessibility, the NSW Guidelines to Walking & Cycling (2004) suggest that 400m-800m is a comfortable walking distance.

4.2.1 Bus Services

A review of the bus services operating within the immediate vicinity of the site has been undertaken. The closest bus stop is located within a five minute walk (350m) on High Street. The 263 bus route was identified to be operating in the area with the bus stop locations shown in Figure 9 and a summary of the services are shown in Table 2.

Table 2 – Bus Service Summary

Route No.	Frequency (approximate)	Coverage	Stop Location
263	Every 45 minutes (with additional services during peak periods) between 6:04am and 7:25pm.	Crows Nest to City Bridge Street (via Cremorne)	350 metres – 5 minute walk

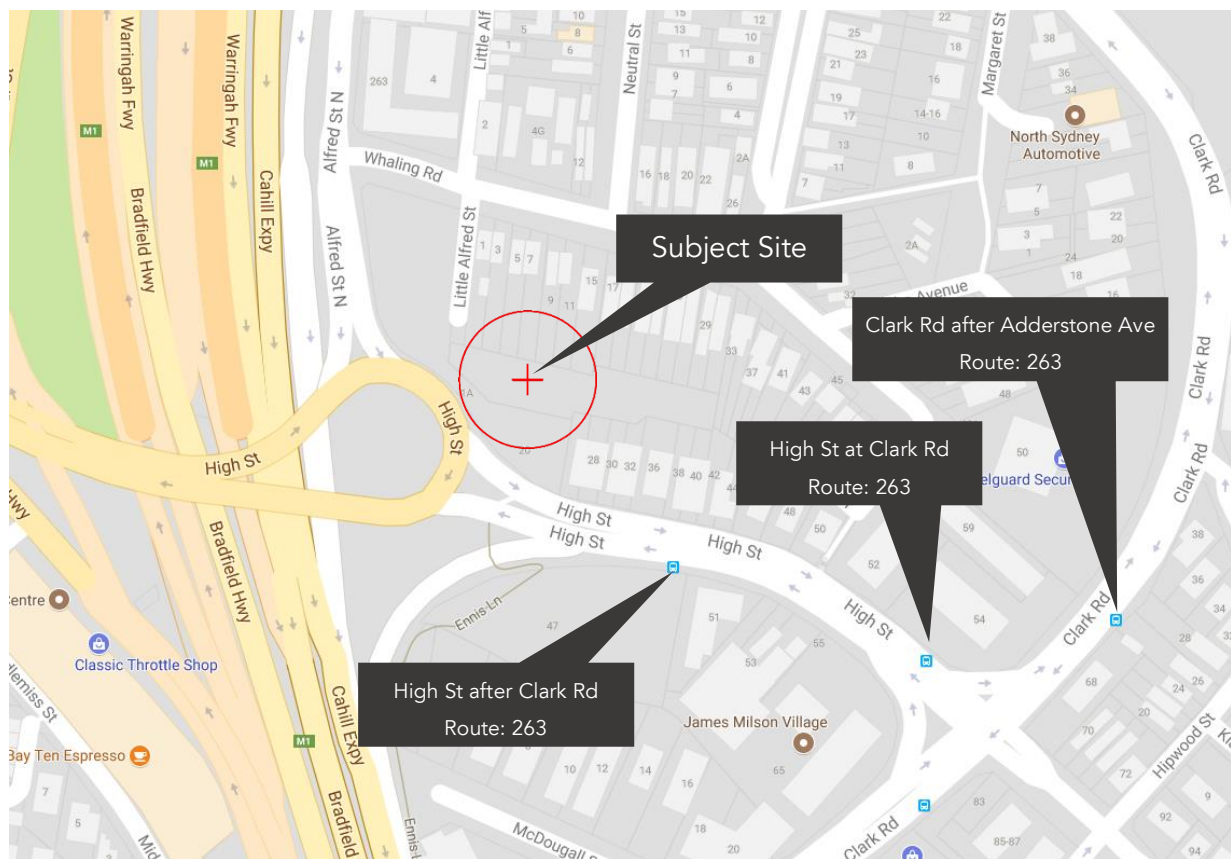


Figure 9 - Local Bus Stops

4.2.2 Train Services

The subject site is located within a ten minute walk (650m) from North Sydney Station providing access to the wider Sydney Trains network. The station is located on the T1 North Shore, Northern and Western Line and the T6 Carlingford Line.

Trains are very frequent and accessible with T1 trains operating every 3-9min throughout the day, and T2 trains operating every 30-45min during peak hours and 60 mins off-peak.

In addition, Town Hall Station is a nine minute train ride from North Sydney Station which provides additional access to the T1 North Shore, Northern & Western Line, T2 Airport, Inner West and South Line, T3 Bankstown Line and the T4 Eastern Suburbs & Illawarra Line, providing even greater coverage of the Sydney Trains network.

4.2.3 Sydney Metro

The Sydney Metro Northwest is expected to commence operation in the first half of 2019, providing high frequency train services every four minutes to commuters travelling between Rouse Hill and Chatswood. The Sydney Metro Northwest forms Stage 1 of the Sydney Metro project, with the commissioning of Stage 2 – Sydney Metro City and Southwest (Chatswood to Bankstown) expected in late 2024.

A map of the Sydney Metro route is illustrated in Figure 10. The closest Sydney Metro station from the subject site will be Victoria Cross station (see Figure 11), located within a 15 minute walk beneath Miller Street between McClaren and Berry Streets. Train services will operate every four minutes, with indicative travel times of nine minutes to Central Station and five minutes to the Sydney Metro Martin Place Station.

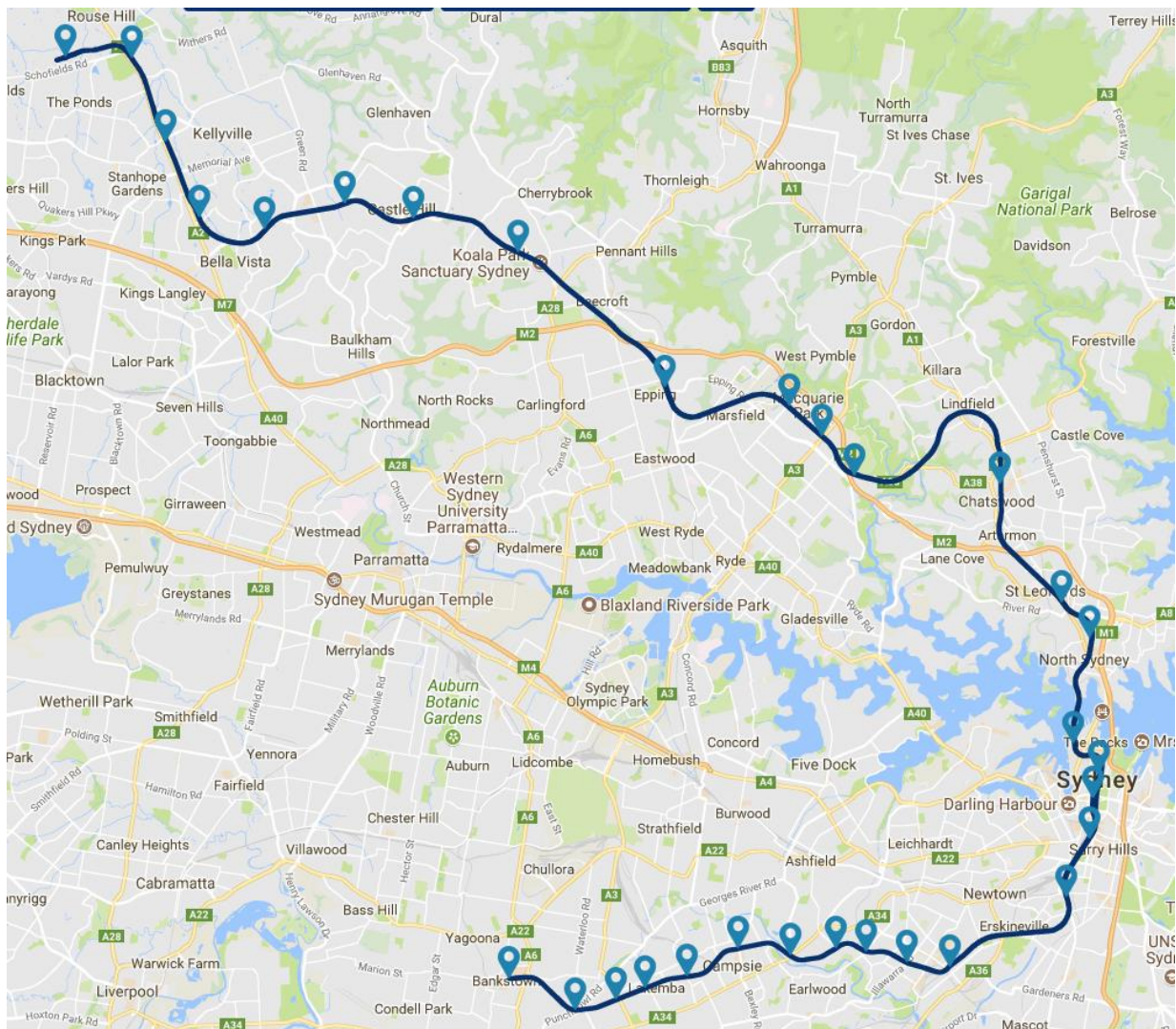


Figure 10 - Sydney Metro Route Map (Source: Sydney Metro)

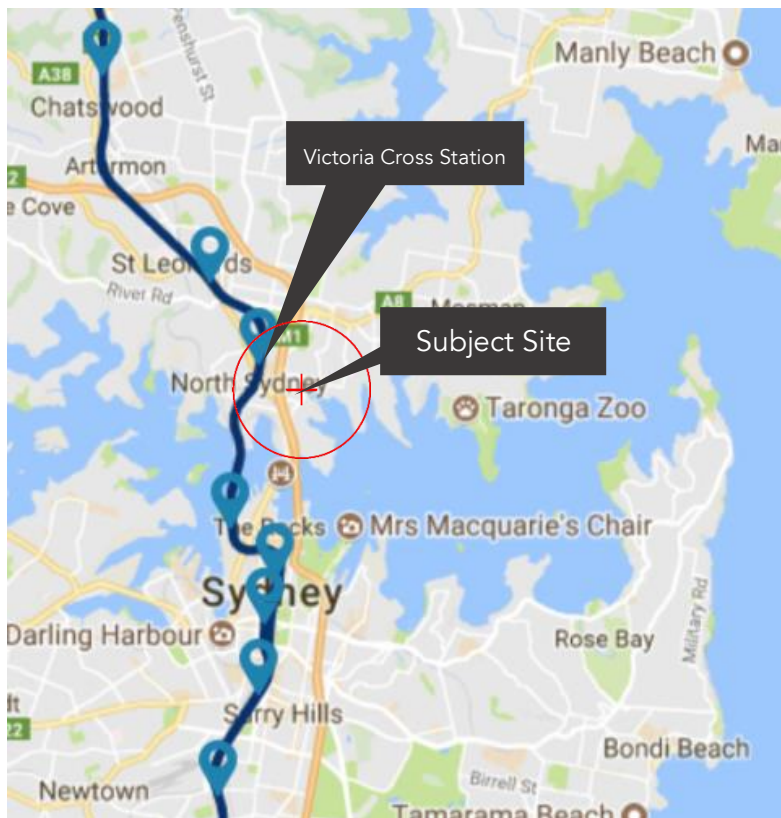


Figure 11 - Victoria Cross Station

4.3 Active Travel

In addition to public transport, the locality was also assessed for its active transport potential. It is noted that the proximity of the North Sydney Town Centre and Commercial Core will likely lead to higher rates of walking and cycling as most general functions can be carried out within convenient walking distance of the site (groceries, shopping, healthcare, dining, library, banking, education etc.). Furthermore, many features outside the town centre are similarly anticipated to attract active transport, such as local schools and public parks, including Anderson Park and Milson Park.

In terms of public infrastructure, the local road network offers a high level of amenity and safety for pedestrians, providing refuge islands, separated footpaths, pedestrian crossings, supporting signage and appropriate lighting throughout the locality.

A review of the local cycling network identifies numerous dedicated on-road and off-road shared cycle paths within the vicinity of the site. A suggested unmarked bike route is provided along High Street and Clark Road which provides convenient access to the local cycle network and links to the greater Sydney cycle network.

A map of the local cycling infrastructure is presented in Figure 12.

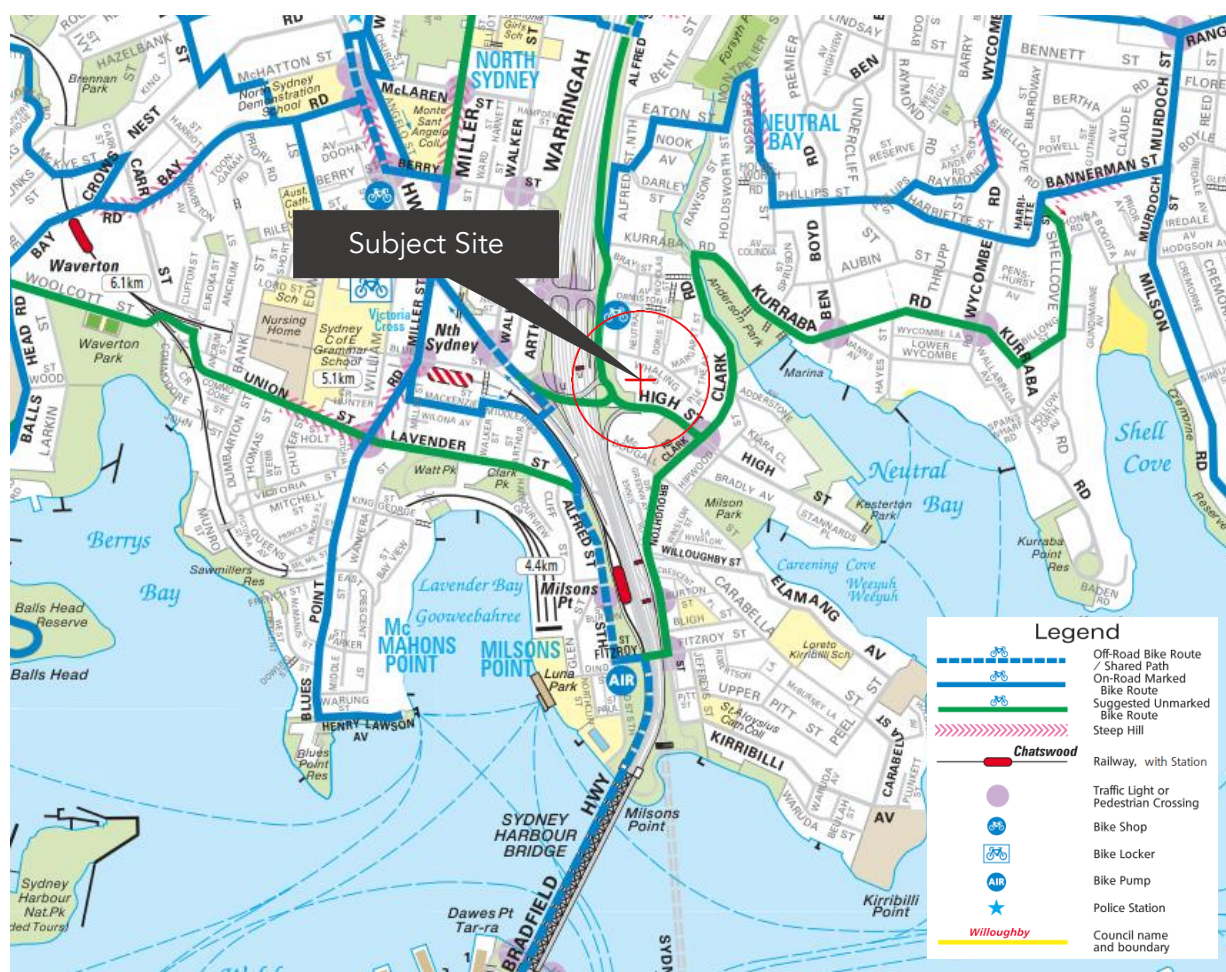


Figure 12 – Local Bicycle Network (Source: North Sydney Council Bike Map 2012)

It can be seen that there are numerous public and active transport options available to staff and visitors providing convenient links to the North Sydney CBD as well as the Sydney CBD.

In light of the above, the subject site is well located in terms of access to public transport services.

5. Development Traffic Assessment

The potential traffic generation of the proposed development has been estimated with reference to the following:

- RMS Guide to Traffic Generating Developments 2002 (RMS Guide)
- ITE Trip Generation Rates (8th Edition)

The technical direction contains the most recent RMS survey data for high-density residential developments.

5.1 Existing Traffic Generation

The site is currently occupied by three tennis courts. With reference to recreation facilities (tennis courts) rates suggested within the RMS Guide to Traffic Generating Developments 2002, the existing trips generated by the site have been estimated in Table 3.

Table 3 - Existing Traffic Generation

Component	Period	Vehicle Trip Rate	Courts	Existing Trips
Tennis Courts (Recreation Facilities)	Peak Hourly (PM)	4 / Court	3	12
	Daily	45 / Court	3	135

5.2 Proposed Traffic Generation

Applying the high-density residential rates to the proposed development, results in the following traffic activity as outlined in Table 4. The resulting net trip summary is provided in Table 5.

Table 4 – Proposed Traffic Generation

Component	Period	Vehicle Trip Rate	Room/Court/GFA	Proposed Trips
Serviced Apartments ¹	Peak Hourly (PM)	0.47 / Room	19	9 (8.93)
	Daily	5.63 / Room	19	107 (106.97)
Commercial premises	Peak Hourly	2 / 100m ² GFA	129	3 (2.58)
	Daily	10 / 100m ² GFA	129	13 (12.9)
Cafe ²	Peak Hourly (PM)	40.75 / 93m ² GFA	34	15 (14.9)
Tennis Court	Peak Hourly (PM)	4/ Court	1	4
	Daily	45 / Court	1	45

¹ The rates used reflect the traffic generation rates for motels, from the ITE Trip Generation Rates (8th Edition)

² The rates used reflect the traffic generation rates for coffee/ donut shop without a drive thru, from the ITE Trip Generation Rates (8th Edition)

Table 5 – Net Trip Generation Summary

Period	Development Trip Generation ¹	Existing Trip Generation ²	Net Trips ³
<i>Peak Hourly (PM)</i>	31	12	19

5.3 Traffic Impact Summary

The assessment indicates that the proposed development is likely to generate slightly greater traffic than the existing land use. Nonetheless, the peak hourly rates of 19 net trips represent a modest increase in traffic volumes, at approximately one vehicle every three minutes.

In light of the above, it has been concluded that the proposal will not lead to any significant traffic impacts to the local road network.

¹ Combined peak hourly trips calculated in Table 8;

² Existing rate calculated in Table 7;

³ Difference between proposed trips and existing trips.

6. Parking Provision

6.1 Planning Policy

The proposed development is subject to the maximum parking provision rates stipulated in Section 10.2 of the North Sydney Development Control Plan 2013, which are outlined below:

- *Serviced apartments* – 1 space per five apartments;
- *Café* - 1 space per 50m²;
- *Commercial* – 1 space per 100m²
- *Recreational facilities* – 1 space per 100m²

6.2 Proposed Parking Provision

The proposed development will accommodate 19 serviced apartments, a café, two commercial areas and a tennis court. Applying the above DCP rates to this development leads to the provisions outlined in Table 6.

Table 6 – Maximum Car Parking Provisions

Component	Apartments/ GFA/ Courts	DCP Parking Rate (maximum)	DCP Parking Requirement (maximum)	Proposed Parking Provision
Serviced apartments	19 apartments	1 space/ 5 apartments	4 (3.8)	
Café	34 m ²	1 space/ 50m ²	1 (0.68)	
Commercial	129 m ²	1 space/ 100m ²	2 (1.29)	
Tennis Court	462 m ²	1 space per 100m ²	5 (4.62)	
TOTAL:			12	7

In light of the above, the proposal includes a provision of seven spaces which is within the maximum car parking provision requirements of the DCP. Whilst no parking spaces are allocated for the tennis court, it is noted that the future intent is to retain the courts for local residents who will most likely walk or cycle to the venue.

It is also noted that of the seven car parking spaces, one is proposed to be a car share space. This arrangement is feasible as the car share parking space does not replace more than 25% of the total off-street parking requirement and aligns with the intent of the DCP to encourage sustainable transport.

6.3 On-street Parking Demand

Parking occupancy surveys have been conducted to determine the available on-street parking supply which can be utilised by staff and visitors. The occupancy surveys were conducted between 6pm-8pm on Wednesday, 11th October 2017, corresponding to the evening peak period for overnight residents for serviced apartment accommodation. The weekend period between 11am-1pm on Saturday, 14th October 2017 has also been included in the occupancy surveys to determine the available on-street parking during a typical weekend.

The study area and heat map of the peak occupancy periods during a typical weekday and weekend is presented below in Figure 13 and Figure 14. The study area includes a total capacity of 51 on-street parking spaces, which are governed by 1/2P, 1P and 2P parking controls operating between 8:30am-6pm (Mon-Fri). It is noted that the on-street parking spaces are unrestricted outside of these times. The surveyed periods fall within the unrestricted parking times, therefore providing a robust assessment of the on-street parking demand.

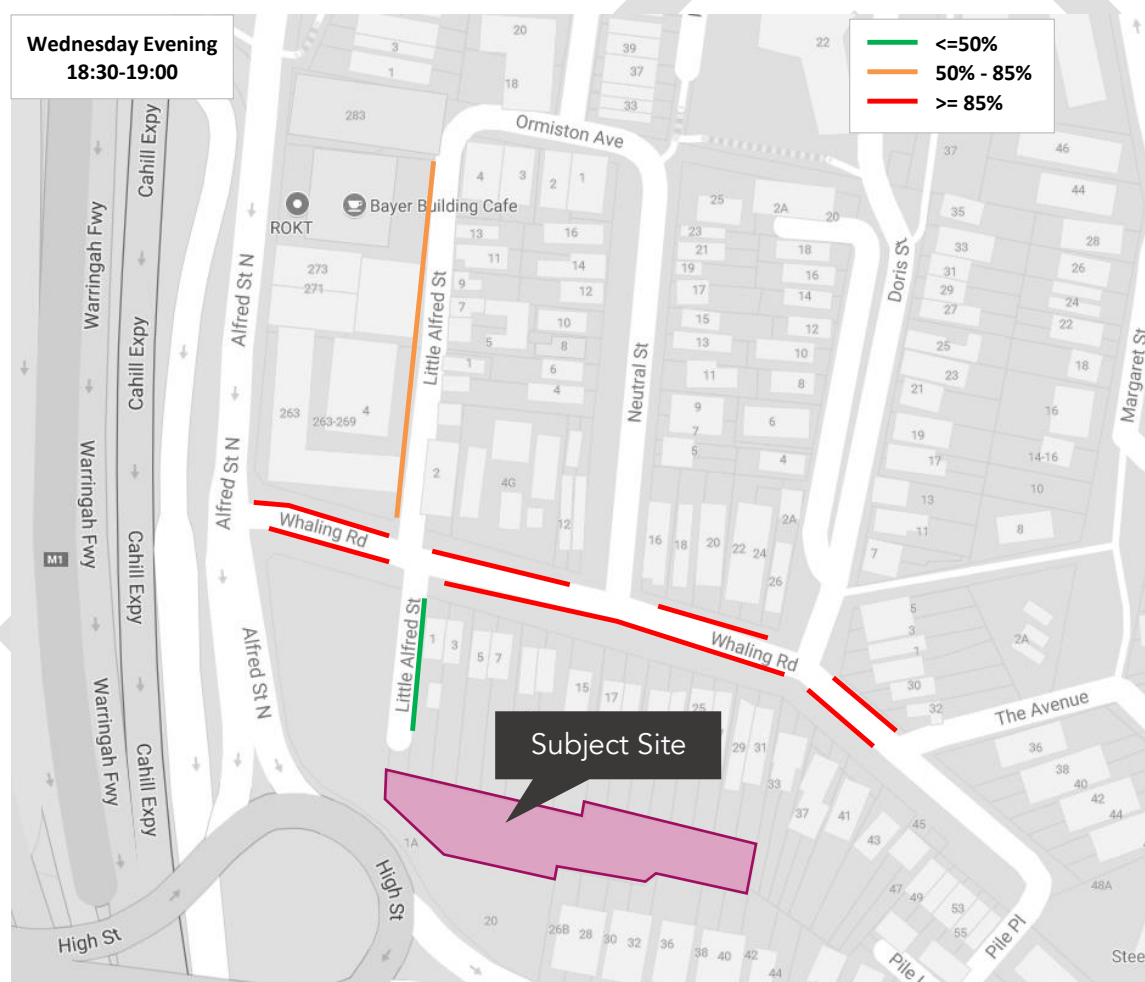


Figure 13 – Weekday Peak Occupancy Heat Map (6:30pm-7:00pm)

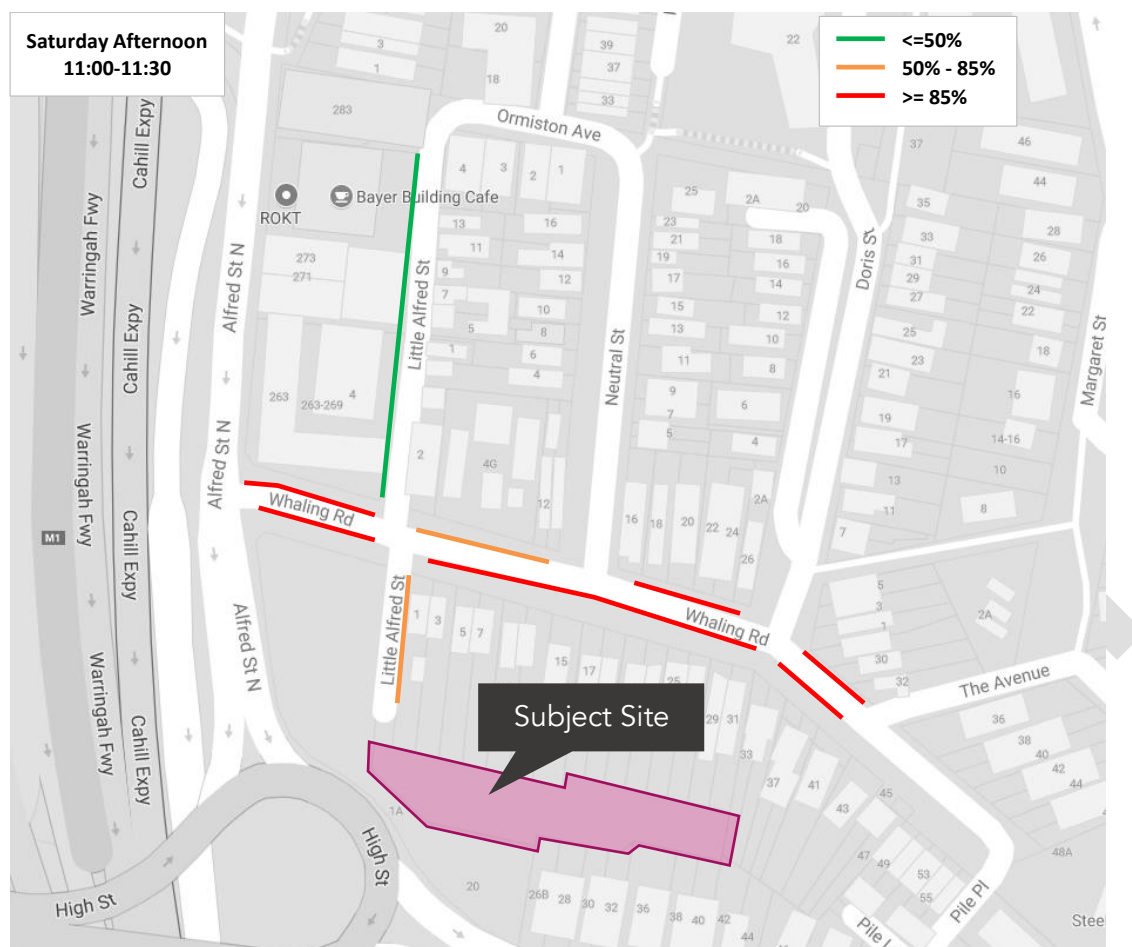


Figure 14 – Weekend Peak Occupancy Heat Map (11am-11:30am)

A summary of the percentage occupancy of the on-street parking are presented in below in Figure 15 and Figure 16, while the detailed survey data is included as **Attachment 3**.

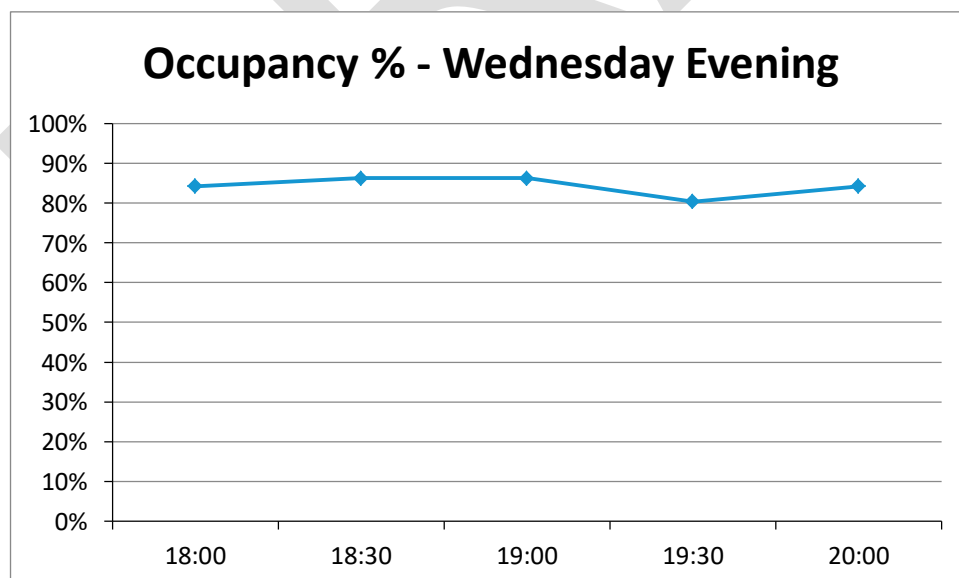


Figure 15 - Percentage Occupancy (Wednesday 6pm-8pm)

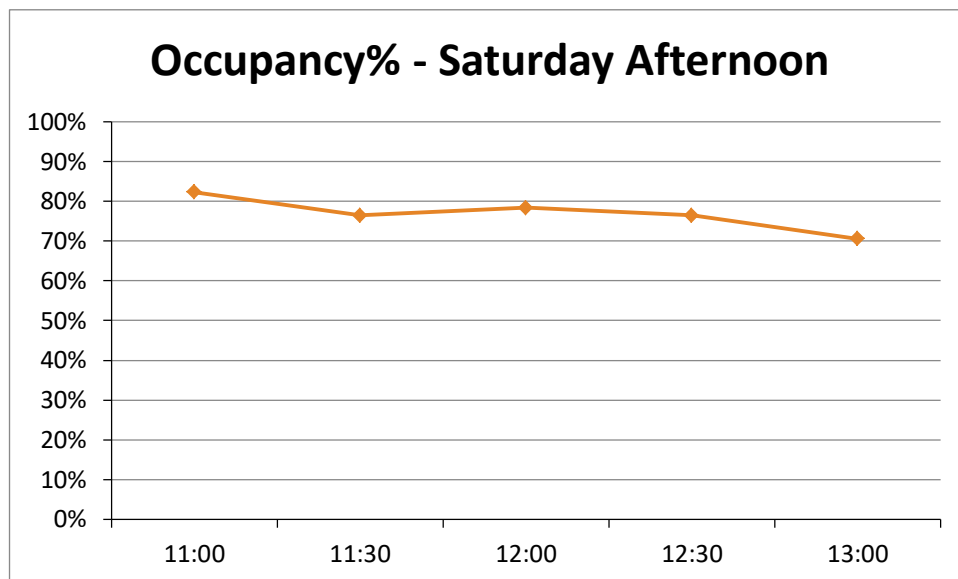


Figure 16 - Percentage Occupancy (Saturday 11am-1pm)

Reference to the heat map and occupancy graph presented in Figure 13 and Figure 15, indicates that Whaling Road was at capacity; however, there is on-street parking available during a typical weekday evening along Little Alfred Street. The survey data indicates that seven spaces were available during the peak weekday occupancy period of 6:30pm-7:00pm.

The peak weekend occupancy occurred between 11:00am-11:30am. From Figure 14 and Figure 16, a lower parking demand is observed during a typical weekend compared to the weekday demand. A total of 12 spaces were identified to be vacant during the peak weekend period.

In light of the occupancy survey data, the provision of seven parking spaces on-site is considered feasible with adequate on-street parking to supplement the parking provided on-site. Despite the worst-case scenario occurring during the weekday evening between 6:30pm-7:00pm, seven spaces remain vacant for staff and visitor use.

6.4 Bicycle Parking

Bicycle parking requirements are stipulated in Table B, Section 10.4 of the DCP. These have been applied to the development, as shown in Table 11.

Table 11 – Bicycle Parking Provisions

Use Type	User	Rooms/ GFA/ No. of staff	DCP Minimum Bicycle Parking Provision Rate	Minimum Bicycle Provisions	Proposed Bicycle Provision
Serviced apartments	Staff	2 staff	1 space/ 4 staff	1 (0.5)	1
	Visitors	19 rooms	1 space/ 20 rooms	1 (0.95)	1
Café	Staff	34 m ²	1 space/ 25m ²	2 (1.36)	2
	Visitors	34 m ²	2 + 1 space/ 100m ² over 100m ²	2	2
Commercial	Staff	129 m ²	1 space/ 150m ²	1 (0.86)	1
	Visitors	129 m ²	1 space/400m ²	1 (0.32)	1
Tennis Court ¹	Staff	1 staff	3-5% of staff	1 (0.05)	1
	Visitors	1 staff	5-10% of staff	1 (0.1)	1
Total:				10	10

The proposal allocates sufficient bicycle storage facilities for residents and bicycle rack for visitors within the basement car park.

The development will provide Class 2 facilities (communal storage cage) for the five staff bicycle spaces, and Class 1 facilities (public bike racks) for the five visitor spaces. Bicycle parking spaces shall be designed in accordance with AS2890.3 – Bicycle Parking.

6.5 Servicing

It is proposed that waste collection will be undertaken by a commercial operator and will occur along Whaling Road. In order to accommodate on-street collection, it will be the responsibility of the building manager to move the bins to the kerb for collection and return the bins after collection.

¹ The rate used reflect those found in Table 1 of the NSW Planning Guidelines for Walking and Cycling

7. Access and Car Park Assessment

The following section presents an assessment of the proposed development with reference to the requirements of AS2890.1:2004 (*Off-street car parking*) and AS2890.3:2015 (*Bicycle Parking*). This section is to be read in conjunction with the architectural plans provided by Carter Williamson (see **Attachment 1**) and the car park review conducted by ptc. (see Error! Reference source not found.).

7.1 Vehicular Access & Circulation

7.1.1 Driveway

When considering the access category of the development, it has been established that the parking facility accommodates seven spaces and is accessible via a local road, which according to Table 3.1, leads to a classification of Category 1. A Category 1 facility has an access driveway width requirement of 3.0m-5.5m. The development will utilise the existing vehicular crossover which has a width of 5.5m, meeting the requirement of AS2890.1.

In order to coordinate traffic entering and exiting the site, a traffic signal system is proposed to hold entering vehicles at the western end of the one-way circulation aisle whilst another vehicle is exiting and vice versa. A dedicated waiting bay has been provided at either end of the one-way aisle, with sufficient manoeuvrability area to accommodate two-way passing of a B99 and B85 vehicle. Details of the swept path analysis are provided within **Attachment 2**.

Bollards are also proposed at the eastern end of the aisle to provide protection to pedestrians by segregating pedestrian and vehicle movements.

7.1.2 Turning Bay

A turning bay is provided at the eastern end of the car park (See **Attachment 1**). The turning bay will allow vehicles to make a three-point turn to exit the car park in a forward direction. A swept path assessment has been undertaken to demonstrate that sufficient area has been provided such that a B99 vehicle can perform a three-point manoeuvre to turn around and exit the site (See **Attachment 2**).

7.2 Sight Distance

The sight distance requirements are outlined in Section 3.2 of AS2890.1 and are prescribed on the basis of the posted speed limit or 85th percentile vehicle speeds along the frontage road.

Little Alfred Street is a local road which provides access to the subject site from Whaling Road. Whaling Road has a speed limit of 50km/h, which requires a desirable visibility distance of 69 metres and a minimum stopping sight distance of 45 metres.

The access from Little Alfred Street onto Whaling Road is located in a straight section of the road where sufficient sight distance is provided.

The proposed car parking arrangement allows for all vehicles to enter and exit in a forward direction, therefore minimising potential conflict points and maintaining the overall safety of the road network. Furthermore, convex mirrors have been proposed at the western end of the circulation aisle to aid driver visibility.

7.3 Car Park Arrangement

7.3.1 Typical Requirements

The car park access and parking arrangements have been assessed against the requirements of AS2890.1:2004, with reference to Class 1A (residential and employee parking) facilities. In addition to the typical requirements of AS2890.1, Class 1A facilities are to provide the following dimensions (parallel parking):

- **Car Spaces:** 2.1m x 6.3m
- **Aisle Width:** 3.0m (one-way)

All parking spaces have been individually assessed, and found to be 2.1m x 6.3m, with a minimum aisle width of 3.3m (See **Attachment 2**). It is noted that both ends spaces are unobstructed and provide a length of 6.3m.

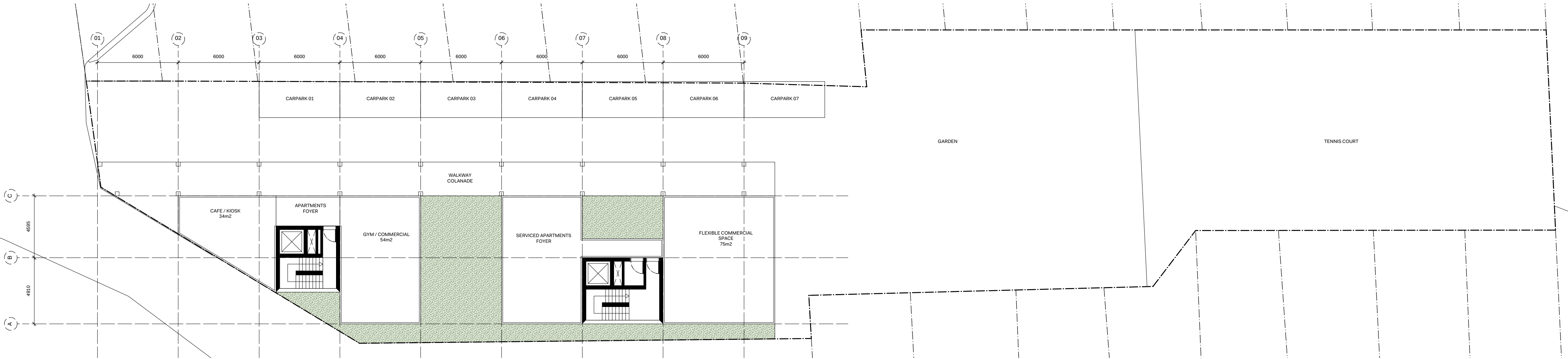
7.3.2 Bicycle Parking

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

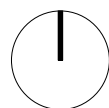
- Horizontal Parking: 1800mm x 500mm; and
- Accessible aisle: 1500mm OR 2000mm for lockers.
- Height Clearance: 2.0 metres (*for short distances within enclosed structures*)

Attachment 1 Architectural Drawings

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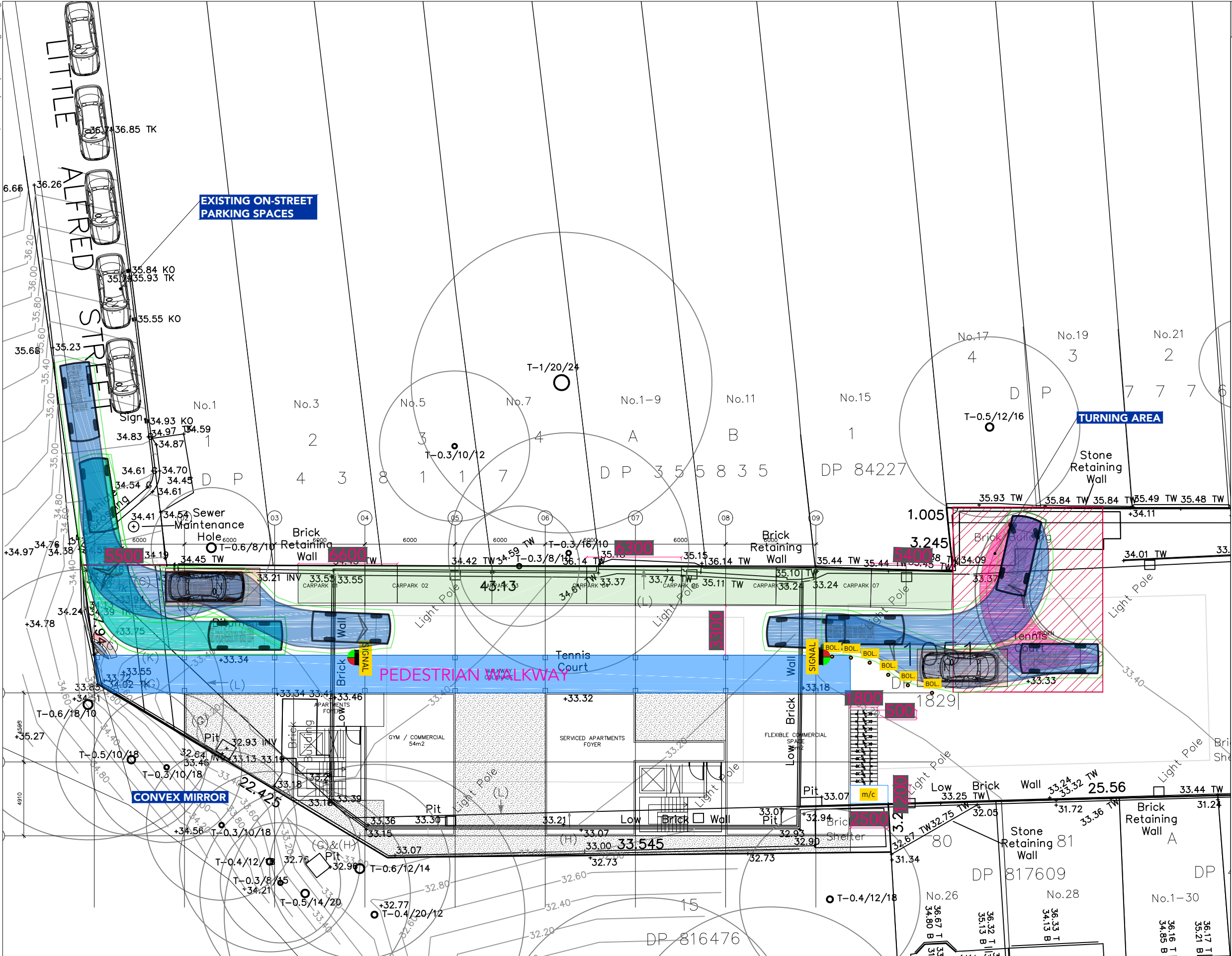
1 Plan: Ground
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Attachment 2 Car Park Review

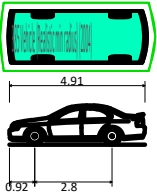
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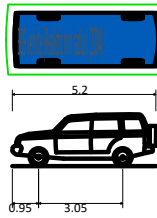


COMMENTS

A3



B85 Vehicle (Realistic min radius) (2004)
Overall Length 4.910m
Overall Width 1.870m
Overall Body Height 1.421m
Min Body Ground Clearance 0.159m
Track Width 1.770m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 5.750m



B99 Vehicle (Realistic min radius) (2004)
Overall Length 5.200m
Overall Width 1.940m
Overall Body Height 1.878m
Min Body Ground Clearance 0.272m
Track Width 1.840m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 6.250m



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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
3	16/10/17	FOR INFORMATION	HL	AM					
2	10/10/17	FOR INFORMATION	SH/HL	SW					
1	27/09/17	FOR INFORMATION	SH	AM					



PROJECT:
**1A LITTLE ALFRED STREET,
NORTH SYDNEY**

DRAWING TITLE:
Parking & Layout Assessment

CLIENT: **ETHOS URBAN**

DRG. #: **PTC-001**

PROJECT #: **T2-2157**

SCALE: **1:250**

REV: **3**

Attachment 3 On-street Parking Occupancy Survey Results

DRAFT

1A Little Alfred St

Street	From	To	Side	Bay Type	Capacity	Wednesday Evening					Saturday Afternoon				
						18:00	18:30	19:00	19:30	20:00	11:00	11:30	12:00	12:30	13:00
Little Alfred St	Ormiston Ave	Whaling Rd	West	1P 8.30-6 MF	10	7	6	6	5	6	4	3	3	3	3
Little Alfred St	Whaling Rd	End	East	1P 8.30-6 MF	6	2	3	3	3	3	4	4	4	4	4
Whaling Rd	Alfred St Nth	Little Alfred St	Nth	2P Meter 8.30-6 MF	5	4	5	5	3	4	5	4	4	3	3
Whaling Rd	Alfred St Nth	Little Alfred St	Sth	2P Meter 8.30-6 MF	4	4	4	4	4	4	4	3	3	3	3
Whaling Rd	Little Alfred St	Neutral St	Nth	1/2P 8.30-6 MF	5	5	5	5	5	5	4	4	5	5	5
Whaling Rd	Little Alfred St	Neutral St	Sth	1/2P 8.30-6 MF	5	5	5	5	5	5	5	5	5	5	4
Whaling Rd	Neutral St	Doris St	Nth	1/2P 8.30-6 MF	3	3	3	3	3	3	3	3	3	3	1
Whaling Rd	Neutral St	Doris St	Sth	1/2P 8.30-6 MF	7	7	7	7	7	7	7	7	7	7	7
Whaling Rd	Doris St	The Avenue	Nth	1/2P 8.30-6 MF	3	3	3	3	3	3	3	3	3	3	3
Whaling Rd	Doris St	The Avenue	Sth	1/2P 8.30-6 MF	3	3	3	3	3	3	3	3	3	3	3
				Total	51	43	44	44	41	43	42	39	40	39	36

Street	From	To	Side	Bay Type	Capacity	Wednesday Evening					Saturday Afternoon				
						18:00	18:30	19:00	19:30	20:00	11:00	11:30	12:00	12:30	13:00
Little Alfred St	Ormiston Ave	Whaling Rd	West	1P 8.30-6 MF	10	70.0%	60.0%	60.0%	50.0%	60.0%	40.0%	30.0%	30.0%	30.0%	30.0%
Little Alfred St	Whaling Rd	End	East	1P 8.30-6 MF	6	33.3%	50.0%	50.0%	50.0%	50.0%	66.7%	66.7%	66.7%	66.7%	66.7%
Whaling Rd	Alfred St Nth	Little Alfred St	Nth	2P Meter 8.30-6 MF	5	80.0%	100.0%	100.0%	60.0%	80.0%	100.0%	80.0%	80.0%	60.0%	60.0%
Whaling Rd	Alfred St Nth	Little Alfred St	Sth	2P Meter 8.30-6 MF	4	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	75.0%	75.0%	75.0%	75.0%
Whaling Rd	Little Alfred St	Neutral St	Nth	1/2P 8.30-6 MF	5	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%	80.0%	100.0%	100.0%	100.0%
Whaling Rd	Little Alfred St	Neutral St	Sth	1/2P 8.30-6 MF	5	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	80.0%
Whaling Rd	Neutral St	Doris St	Nth	1/2P 8.30-6 MF	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	33.3%
Whaling Rd	Neutral St	Doris St	Sth	1/2P 8.30-6 MF	7	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Whaling Rd	Doris St	The Avenue	Nth	1/2P 8.30-6 MF	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Whaling Rd	Doris St	The Avenue	Sth	1/2P 8.30-6 MF	3	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
				Total	51	84.3%	86.3%	86.3%	80.4%	84.3%	82.4%	76.5%	78.4%	76.5%	70.6%