

**TRAFFIC AND PARKING IMPACTS REPORT
FOR A DEVELOPMENT APPLICATION
FOR A PROPOSED MIXED USE DEVELOPMENT
AT NO. 84 TALLAWONG ROAD ROUSE HILL NSW 2155**

Property address	84 Tallawong Road Rouse Hill NSW 2155
Client	Exclusive Real Estate
Prepared by	O. Sannikov, MEngSc (Traffic Engineering), MIEAust, PEng, MAITPM
Date	17/08/2017
Job No.	17033
Report No.	17033 01

Item	Report
Site location	<ul style="list-style-type: none"> Refer to Figure 1.
Existing land use	<ul style="list-style-type: none"> Two storey residential development Zoned R3 Medium Density Residential
Proposed development	<ul style="list-style-type: none"> Mixed use development <ul style="list-style-type: none"> Residential <ul style="list-style-type: none"> Divided into 3 lots <ul style="list-style-type: none"> Lot 1 <ul style="list-style-type: none"> 117 units <ul style="list-style-type: none"> 18 x studio units 16 x one bedrooms units 70 x two bedrooms units 13 x three bedrooms units Commercial premises <ul style="list-style-type: none"> 8 units total <ul style="list-style-type: none"> 433.7 m² Lot 2 <ul style="list-style-type: none"> 123 units <ul style="list-style-type: none"> 16 x studio units 16 x one bedrooms units 78 x two bedrooms units 13 x three bedrooms units Lot 3 <ul style="list-style-type: none"> 127 units <ul style="list-style-type: none"> 20 x studio units 16 x one bedrooms units 78 x two bedrooms units 13 x three bedrooms units

Item	Report
	<ul style="list-style-type: none"> ○ Basement car park <ul style="list-style-type: none"> ▪ 3 car parks (one carpark per lot) <ul style="list-style-type: none"> • Lot 1 carpark <ul style="list-style-type: none"> ○ 172 x car parking spaces <ul style="list-style-type: none"> ▪ Including 18 x accessible spaces ○ 49 x bicycle parking spaces • Lot 2 carpark <ul style="list-style-type: none"> ○ 155 x car parking spaces <ul style="list-style-type: none"> ▪ Including 17 x accessible spaces ○ 52 x bicycle parking spaces • Lot 3 carpark <ul style="list-style-type: none"> ○ 160 x car parking spaces <ul style="list-style-type: none"> ▪ Including 17 x accessible spaces ○ 53 x bicycle parking spaces

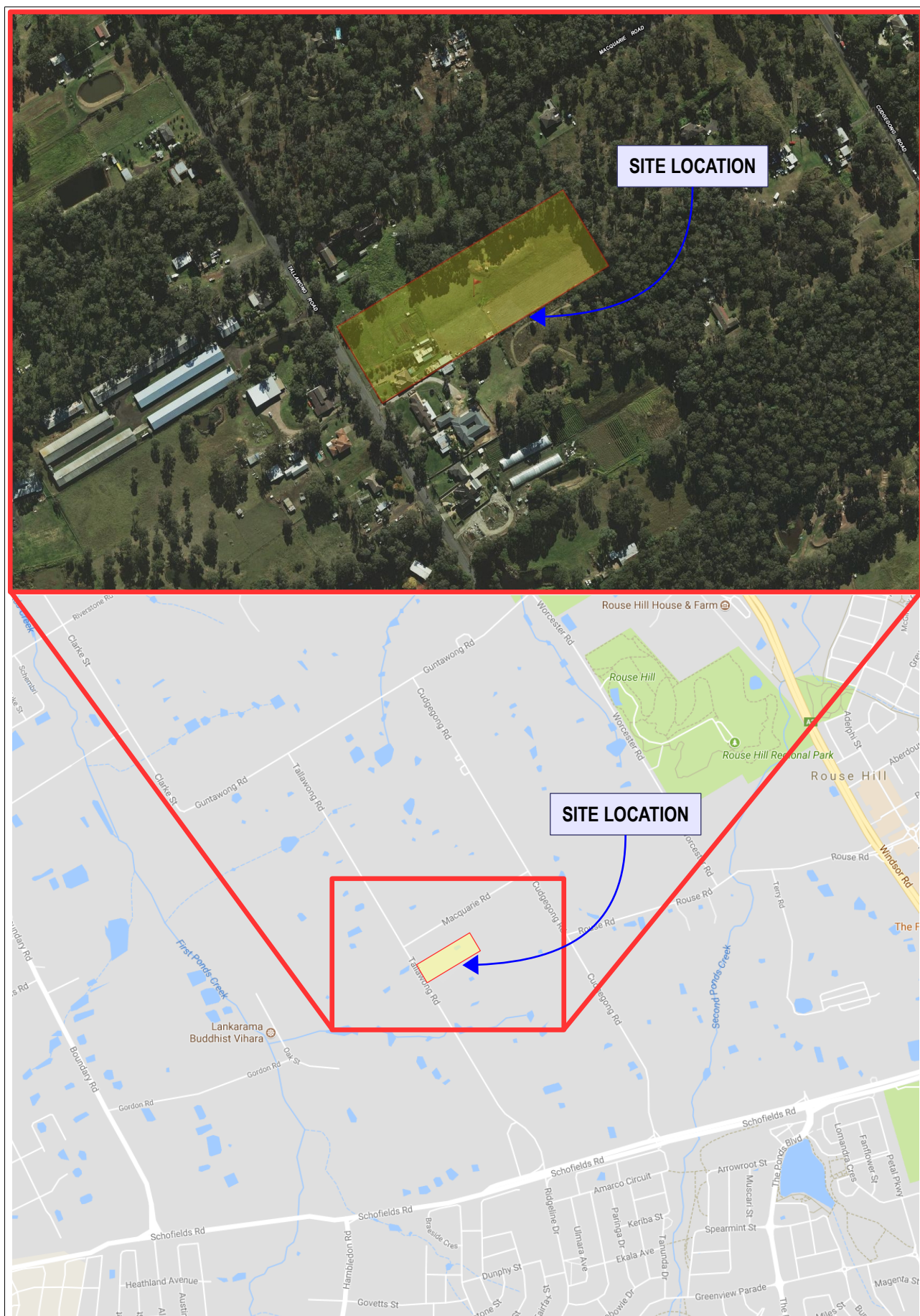


Figure 1. Site location.

Item	Report
Street characteristics	Existing traffic and parking situation
	<ul style="list-style-type: none"> Refer to Figure 2.
	<ul style="list-style-type: none"> The key roads around the proposed development are described below. <ul style="list-style-type: none"> Tallawong Road <ul style="list-style-type: none"> Collector road Unrestricted parking on grass verges Schofields Road <ul style="list-style-type: none"> Arterial road No on-street parking available Guntawong Road <ul style="list-style-type: none"> Collector road Unrestricted parking on grass verges Macquarie Road <ul style="list-style-type: none"> Local road Unrestricted parking on grass verges Other streets in the surrounding area are local/local collector roads. Street conditions are typical for a residential area, with low to moderate traffic volumes.

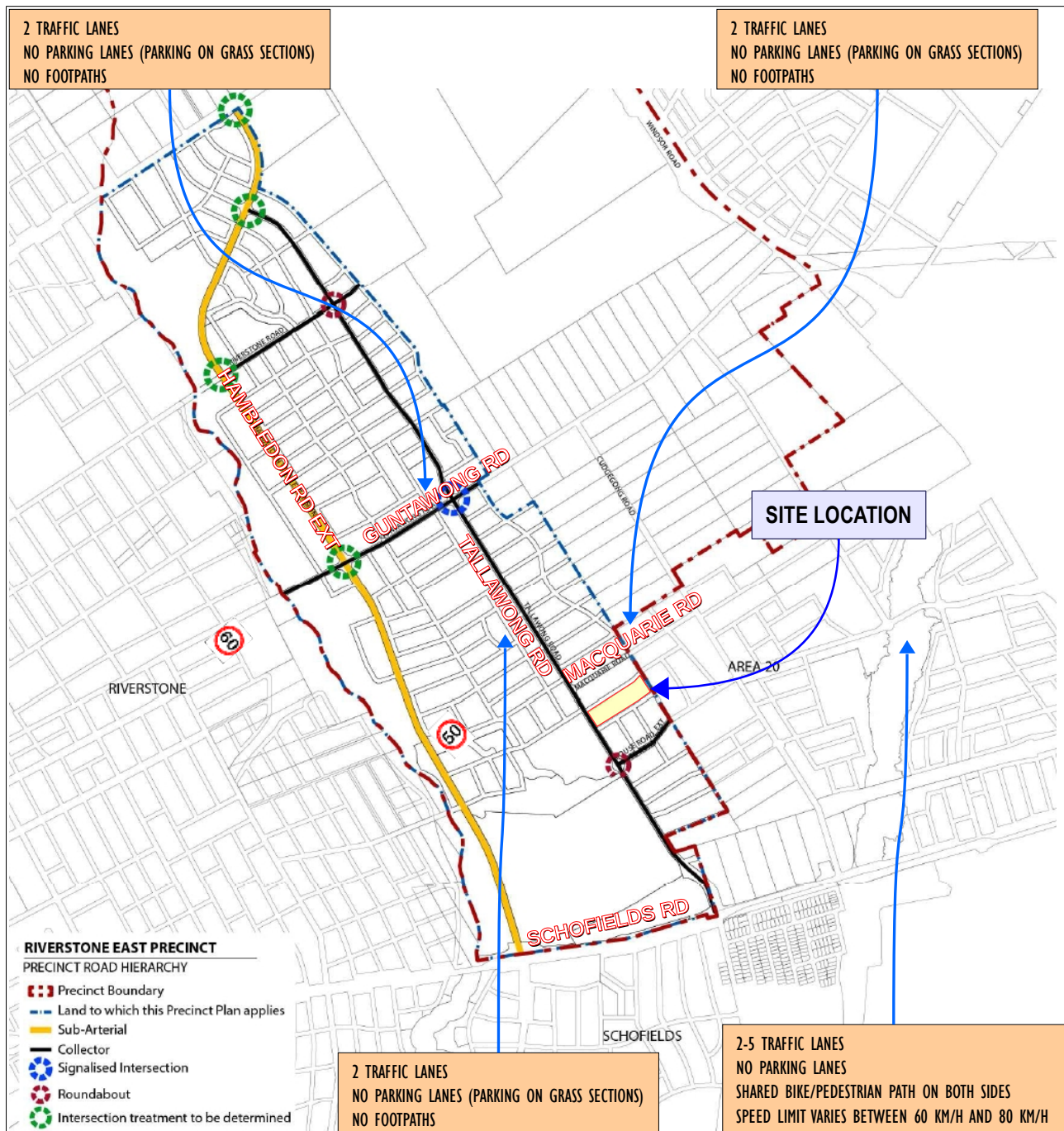


Figure 2. Street characteristics.

Item	Report
	Public Transport
Bus	<ul style="list-style-type: none"> The closest bus stops are located on Schofields Road, approximately 1000 metres from the site location.
	<ul style="list-style-type: none"> Refer to Figure 3. <ul style="list-style-type: none"> Bus route T72 <ul style="list-style-type: none"> Blacktown to Rouse Hill Town Centre <ul style="list-style-type: none"> Services operate every 30 minutes during the AM peak Services operate every 30 minutes during the PM peak Rouse Hill Town Centre to Blacktown <ul style="list-style-type: none"> Services operate every 30 minutes during the AM peak Services operate every 30 minutes during the PM peak Bus route T75 <ul style="list-style-type: none"> Blacktown to Rouse Hill & Riverstone <ul style="list-style-type: none"> Services operate every 15-20 minutes during the AM peak Services operate every 30 minutes during the PM peak Riverstone & Rouse Hill <ul style="list-style-type: none"> Services operate every 15-20 minutes during the AM peak Services operate every 60 minutes during the PM peak Additional bus services are expected to be introduced as the Riverstone Precinct area develops in the future.



Figure 3. Public transport.

Item	Report
Planning control document 1	<ul style="list-style-type: none"> NSW Planning and Infrastructure <ul style="list-style-type: none"> Blacktown City Council <ul style="list-style-type: none"> Blacktown City Council Growth Centre Precincts <ul style="list-style-type: none"> Development Control Plan 2010 (amended September 2016)

Requirement	Compliance
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4.2.8 Garages, Site Access and Parking

1. 1-2 bedroom dwellings will provide at least 1 car space.	Refer to Section 4.3.5 for car parking calculations.
2. 3 bedroom or more dwellings will provide at least 2 car spaces.	
4. Vehicular access is to be integrated with site planning from the earliest stages of the project to eliminate/reduce potential conflicts with the streetscape requirements and traffic patterns, and to minimise potential conflicts with pedestrians.	Complies
5. Driveways are to have the smallest configuration possible (particularly within the road verge) to serve the required parking facilities and vehicle turning movements and shall comply with AS2890.	Complies
6. The location of driveways is to be determined with regard to dwelling design and orientation, street gully pits and trees and is to maximise the availability of on-street parking.	Complies
7. Driveways are not to be within 1m of any drainage facilities on the kerb and gutter.	Complies
8. Planting and walls adjacent to driveways must not block lines of sight for pedestrians, cyclists and motorists.	Complies

4.3.5 Controls for residential flat buildings, manor homes and shop top housing

3. All residential flat buildings are to be consistent with:	
<ul style="list-style-type: none"> the guidelines and principles outlined in SEPP No. 65 – buildings Residential Flat Development; and the primary controls set out in Table 4-10, which take precedence over the above where there is any inconsistency. 	Complies with requirements for Residential flat buildings

Item	Report
	<div>Requirement</div> <div>Compliance</div>

Table 4-10: Key controls for residential flat buildings, manor homes and shop top housing.

Element	R2, R3 zones (shop top housing only)	R3, R4 zones (residential flat buildings)	R2, R3, R4 zones Manor home	B1, B2, B3 and B4 zones
Rear setback (minimum)	4m (excluding garages)	6m	4m (excluding rear garages)	8m
Zero lot line (minimum)	Not permitted	Not permitted	Not permitted to adjacent lots	Permitted on side boundaries only
Habitable room/balcony separation distance (minimum) for buildings 3 storeys and above	12m	12m	N/a	Refer to Other Part of DCP regarding B zonings.
Car parking spaces	1-2 bedrooms: 1 space (min) 3 bedrooms or more: 2 spaces (min) – may be provided in a 'stack parking' configuration. Garages to be set back 1m behind the building line	1 space per dwelling, plus 0.5 spaces per 3 or more bedroom dwelling. May be in a 'stack parking' configuration. Car parking spaces to be located below ground or behind building line 1 visitor car parking space per 5 apartments Bicycle parking spaces: 1 per 3 dwellings	1-2 bedrooms: 1 space (min) 3 bedrooms or more: 2 spaces (min) – may be provided in a 'stack parking' configuration.	1 space per dwelling, plus 0.5 spaces per 3 or more bedroom dwelling. May be in a 'stack parking' configuration. Car parking spaces to be located below ground or behind the building 1 visitor car parking space per 5 apartments (may be above ground) Bicycle parking spaces: 1 per 3 dwellings
Garage Dominance	N/a	A maximum of two garage doors per 20m of lot frontage facing any one street frontage.	A maximum of two garage doors facing any one street frontage.	N/a
Garages and car parking dimensions (min)	Covered: 3m x 5.5m Uncovered: 2.5m x 5.2m Aisle widths must comply with AS 2890.1			

Residential car parking required (Lot 1)	Residential car parking provided (Lot 1)
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1 space per dwelling plus 0.5 spaces per 3 or more bedroom dwelling.

- 1 space per 1 bedroom dwelling
 - $1 \times 34 = 34$ spaces
- 1 space per 2 bedroom dwelling
 - $1 \times 70 = 70$ spaces
- 1.5 spaces per 3 bedroom dwelling
 - $1.5 \times 13 = 19.5$, say 20 spaces
- 1 visitor space per 5 units
 - $117 / 5 = 23.4$, say 24 spaces
- Total parking required
 - $34 + 70 + 19.5 + 23.4 = 146.9$, say 148 car spaces provided

147 car spaces

Complies

Item	Report	
	Requirement	Compliance
	Residential car parking required (Lot 2)	Residential car parking provided (Lot 2)
	1 space per dwelling plus 0.5 spaces per 3 or more bedroom dwelling.	
	<ul style="list-style-type: none"> 1 space per 1 bedroom dwelling <ul style="list-style-type: none"> $1 \times 32 = 32$ spaces 1 space per 2 bedroom dwelling <ul style="list-style-type: none"> $1 \times 78 = 78$ spaces 1.5 spaces per 3 bedroom dwelling <ul style="list-style-type: none"> $1.5 \times 13 = 19.5$, say 20 spaces 1 visitor space per 5 units <ul style="list-style-type: none"> $123 / 5 = 24.6$, say 25 spaces Total parking required <ul style="list-style-type: none"> $32 + 78 + 19.5 + 24.6 = 154.1$, say 154 car spaces 	
		155 car spaces provided Complies
	Residential car parking required (Lot 3)	Residential car parking provided (Lot 3)
	1 space per dwelling plus 0.5 spaces per 3 or more bedroom dwelling.	
	<ul style="list-style-type: none"> 1 space per 1 bedroom dwelling <ul style="list-style-type: none"> $1 \times 36 = 36$ spaces 1 space per 2 bedroom dwelling <ul style="list-style-type: none"> $1 \times 78 = 78$ spaces 1.5 spaces per 3 bedroom dwelling <ul style="list-style-type: none"> $1.5 \times 13 = 19.5$, say 20 spaces 1 visitor space per 5 units <ul style="list-style-type: none"> $127 / 5 = 25.4$, say 25 spaces Total parking required <ul style="list-style-type: none"> $36 + 78 + 19.5 + 25.4 = 158.9$, say 159 car spaces 	
		160 car spaces provided Complies
	Bicycle parking required (Lot 1)	Bicycle parking provided (Lot 1)
	<ul style="list-style-type: none"> 1 per 3 dwellings <ul style="list-style-type: none"> $117 / 3 = 39$ bicycle spaces 	
		49 bicycle spaces provided Complies
	Bicycle parking required (Lot 2)	Bicycle parking provided (Lot 2)
	<ul style="list-style-type: none"> 1 per 3 dwellings <ul style="list-style-type: none"> $123 / 3 = 41$ bicycle spaces 	
		51 bicycle spaces provided Complies
	Bicycle parking required (Lot 3)	Bicycle parking provided (Lot 3)
	<ul style="list-style-type: none"> 1 per 3 dwellings <ul style="list-style-type: none"> $117 / 3 = 42.3$ bicycle space 	
		53 bicycle spaces provided Complies
	Car parking requirements for commercial component	Car parking rates for commercial premises are not specified within this section. The most applicable car parking rates are from Section 5.0 Centres Development Controls Table 5-1 below (commercial/office premises).

Item	Report																																
	<table> <tr> <th>Requirement</th><th>Compliance</th></tr> </table> <p>Table 5-1: Car parking requirements in centres.</p> <table> <tr> <th>Land use</th><th>Car parking requirements</th></tr> <tr> <td>Commercial/office premises</td><td>1 space per 40m²GFA</td></tr> <tr> <td>Retail shops/showrooms (less than 200m² GFA)</td><td>1 space per 30m² GFA</td></tr> <tr> <td>Retail shops/showrooms (greater than 200m² GFA)</td><td>1 space per 22m² GFA</td></tr> <tr> <td>Restaurants/cafes</td><td>1 space per 10m² of dining area 1 space per 3 employees</td></tr> <tr> <td>Residential development</td><td>Refer to clause 4.3.5</td></tr> </table> <table> <tr> <th>Commercial car parking required</th><th>Commercial car parking provided</th></tr> <tr> <td>Shop parking</td><td></td></tr> <tr> <td> <ul style="list-style-type: none"> 1 space per 40m² GFA <ul style="list-style-type: none"> 1 x 433.7 / 40 = 10.84, say 11 spaces </td><td> 24 commercial car parking spaces provided Complies and exceeds </td></tr> <tr> <td>May be in a 'stack' parking configuration</td><td>Complies</td></tr> <tr> <td>Car parking spaces to be located below ground or behind building line</td><td>Complies</td></tr> <tr> <td>Garages and parking dimensions</td><td></td></tr> <tr> <td>Uncovered: 2.5m x 5.2m</td><td>Complies with AS/NZS AS2890.1</td></tr> <tr> <td>Aisle widths must comply with AS 2890.1</td><td>Complies</td></tr> <tr> <td>7. Car parking and garages allocated to adaptable dwellings must comply with the requirements of Australian Standards for disabled parking spaces.</td><td>Complies</td></tr> </table> <p>Conclusion</p> <p>The proposed development is supported on parking grounds.</p> <p>Design checks of car parking and loading/unloading/waste collection areas are included in the Appendix.</p>	Requirement	Compliance	Land use	Car parking requirements	Commercial/office premises	1 space per 40m ² GFA	Retail shops/showrooms (less than 200m ² GFA)	1 space per 30m ² GFA	Retail shops/showrooms (greater than 200m ² GFA)	1 space per 22m ² GFA	Restaurants/cafes	1 space per 10m ² of dining area 1 space per 3 employees	Residential development	Refer to clause 4.3.5	Commercial car parking required	Commercial car parking provided	Shop parking		<ul style="list-style-type: none"> 1 space per 40m² GFA <ul style="list-style-type: none"> 1 x 433.7 / 40 = 10.84, say 11 spaces 	24 commercial car parking spaces provided Complies and exceeds	May be in a 'stack' parking configuration	Complies	Car parking spaces to be located below ground or behind building line	Complies	Garages and parking dimensions		Uncovered: 2.5m x 5.2m	Complies with AS/NZS AS2890.1	Aisle widths must comply with AS 2890.1	Complies	7. Car parking and garages allocated to adaptable dwellings must comply with the requirements of Australian Standards for disabled parking spaces.	Complies
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Item	Report
	Traffic impacts
Traffic generation	<ul style="list-style-type: none"> <li data-bbox="435 315 1038 342">• The surrounding road network is still undeveloped. <li data-bbox="435 353 1436 465">• The planned road infrastructure has been designed to accommodate for the forecast growth within the area, assuming that the specific developments are in accordance with the planned land uses and densities as specified in the State Environmental Planning Policy (Sydney Region Growth Centres) 2006. <li data-bbox="435 477 1436 533">• The proposed development is located in the Residential R3 Zone and fully complies with the density requirements of that zone. <li data-bbox="435 544 1436 629">• Therefore, the likely trip generation from the proposed development is within the planned levels for the Precinct and no negative impacts on traffic operations are expected.
Conclusion	<ul style="list-style-type: none"> <li data-bbox="435 633 1230 660">• The proposed development is satisfactory in terms of traffic impacts.

Conclusions

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



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References:

Blacktown City Council Growth Centre Precincts Development Control Plan 2010

Guide to Traffic Generating Developments RMS (2002)

Australian Standard AS/NZS 2890.1: 2004: Parking Facilities Part 1: Off Street Car Parking

Australian Standard AS 2890.3 - 2015: Parking Facilities Part 3: Bicycle Parking Facilities

Australian Standard AS/NZS 2890.6: 2009: Parking Facilities – Part 6: Off Street Parking for People with Disabilities

Appendix
Car park design checks and vehicle turning diagrams