



Commercial Development – Astra Aerolab Williamtown

Transport Assessment

Prepared for:

Greater Newcastle Aerotropolis Pty Ltd

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Table of Contents

1	Introduction		
	1.1	Background	1
	1.2	Site location	1
	1.3	Proposal description	2
	1.4	Report purpose	2
2	Trar	nsport Assessment	3
	2.1	Traffic access routes	3
	2.2	Vehicle access and circulation	4
	2.3	Car park design	6
	2.4	Accessible car parking	8
	2.5	Car parking demands	8
	2.6	Bicycle parking	10
	2.7	Traffic implications	11
3	Sun	nmary	13

Figures

Figure 1	Site location	1
Figure 2	Traffic access routes	3
Figure 3	Vehicle site access arrangements	4
Figure 4	Vehicle swept path analysis (ground level)	5
Figure 5	On-site car parking area	7
Figure 6	Off-site car parking	9
Figure 7	Proposed bicycle parking1	0



1 Introduction

1.1 Background

JMT Consulting has been engaged by COX Architecture on behalf of Greater Newcastle Aerotropolis Pty Ltd (GNAPL) to prepare a transport assessment to support a Development Application (DA) for a commercial building within the Astra Aerolab precinct in Williamtown.

1.2 Site location

The subject site is located at proposed Lots 106 and 107 ('the site') within Lot 11, DP 1036501 ('Lot 11'), otherwise known as 38 Cabbage Tree Road, Williamtown, shown in Figure 1. The site is located within a broader 395-hectare precinct area identified as the Williamtown Special Activation Precinct (SAP).



Figure 1 Site location Source: Barr Planning



1.3 Proposal description

The proposed development is for the construction of a new eight (8) storey office premises. The ground floor will accommodate office premises, leasable tenancies for three (3) neighbourhood shops and a loading dock on the northern east elevation for service vehicle building access and deliveries. 17 car parking spaces (including one accessible parking space) would be provided as part of the proposal.

1.4 Report purpose

The purpose of this report is to describe the traffic and transport implications of the proposal, including:

- Suitability of revised site access arrangements and internal vehicle circulation, with consideration to requirements outlined in relevant Australian Standards
- Description of car parking arrangements to accommodate future demand
- Pedestrian connections to/from the proposed building
- Traffic implications on the broader road network as a result of the proposal



2 Transport Assessment

2.1 Traffic access routes

Access to the site will be via the regional road network – specifically through the Nelson Bay Road / Williamtown Drive signalised intersection and onwards onto Aerospace Avenue. This access from the broader road network is illustrated in Figure 2 below.



Figure 2 Traffic access routes



2.2 Vehicle access and circulation

Vehicular access to the site will be available via a 10 metre wide driveway from Aerospace Avenue constructed on Lot 107 on the eastern elevation of the site. A 9 metre shared access road be constructed to facilitate the vehicular access to future development on Lot 107 and potentially Lot 105.

Passenger vehicles will access an on-site car parking area via a dedicated driveway that ramps up to a single level car parking area. Immediately adjacent to this passenger vehicle ramp is a loading dock which can accommodate an 8.8m Medium Rigid Vehicle (MRV) which will be used to service the building. These access arrangements are shown indicatively in Figure 3, with vehicle swept path analysis provided on the following page of this document. The design allows for a 'B99' design vehicle to pass a 'B85' design vehicle simultaneously – meeting the requirements of Australian Standards.



Figure 3 Vehicle site access arrangements





2.3 Car park design

An on-site car parking area will be provided which contains 17 parking spaces, including one accessible space. All parking spaces within the on-site car park have been designed to comply with the requirements of 'AS/NZS 2890.1:2004 Parking facilities – Off-street car parking'. The parking dimensions are proposed to be larger than that required by AS/NZS 2890.1 (minimum required parking space dimensions are 2.4m wide by 5.4m long in accordance with User Class of 1). Minimum aisle widths shall be in accordance with AS/NZS 2890.1, which is 5.8m for 90 degree parking arrangements. The car park provides for:

- 2.5m wide parking spaces
- 5.4m long parking spaces; and
- 6.1m wide parking aisles

The vehicular access ramp serving the car park has been designed in accordance with the requirements of AS2890.1, including the provision of suitable transition gradients at the top and bottom of the ramp to ensure that the underside of vehicles do not scrape as they travel along the ramp.

As shown in Figure 5 on the following page there is sufficient width for two vehicles to pass at the one time within the car park and manoeuvre into and out of the parking spaces.





2.4 Accessible car parking

One accessible parking space is provided within the car park, meeting the requirements of the Port Stephens Development Control Plan (DCP) which notes a rate of 1 accessible car space per 30 car spaces for commercial uses. The car space design complies with AS2890.6-2009 with respect to parking space dimensions and the provision of shared zones.

2.5 Car parking demands

The Port Stephens Development Control Plan (DCP) 2014 outlines parking requirements for new developments containing office and retail uses. The DCP car parking rates and associated parking requirements are summarised in Table 1 below. This indicates a requirement for 117 car parking spaces to service the demand generated by the building.

Use	GFA Proposed	Parking Rate	Required Parking Spaces
Office	4,893m ²	1 space / 40m ²	122
Ground floor retail	75m ²	1 space / 20m ²	4
Ground floor restaurant / café	170m ²	1 space / 25m ² (in commercial premises)	7
Total			133

Table 1	Car	parking	requirements

The proposed development will provide 17 on-site car parking spaces which will result a deficiency of 116 car spaces. GNAPL are current preparing a precinct wide parking and pedestrian circulation strategy to provide additional parking that cannot be accommodated within development sites. The overall parking strategy will provide safe and secure common access parking to service the Astra Aerolab commercial core linked to development sites via the established system of pedestrian pathways. The future car park will be located within close walking distance of the commercial building and connected via a pedestrian pathway. Envisaged to accommodate in the order of 1070 additional car parking spaces for the Astra Aerolab precinct (subject to approval under a separate DA) the car park will have capacity to accommodate the full parking demands generated by the proposed commercial building along with the initial stages of the broader the Astra Aerolab commercial core.





Figure 6 Off-site car parking



2.6 Bicycle parking

One bicycle parking space for every 200m² office floor area is to be provided under the requirements of the Port Stephens Development Control Plan (DCP) – requiring 26 spaces to be delivered. The proposal provides for these 26 bicycle parking spaces at the ground level of the building as indicated in Figure 7 below. An internal set of stairs will provide a connection for cyclists through to the end of trip facilities provided on level 1 of the building. These end of trip facilities will comprise of lockers, showers and change areas which will support cycling as a mode of transport to the site. End of trip facilities will be provided in accordance with relevant Green Star requirements.



Figure 7 Proposed bicycle parking



2.7 Traffic implications

2.7.1 Forecast traffic generation

Using the adopted traffic generation rates of 2 trips per 100m² noted in the original traffic assessment supporting the Development Application 16-2009-324-1, the site may generate the following traffic movements:

- 92 vehicle movements in the morning peak hour; and
- 92 vehicle movements in the evening peak hour

It should be noted that since the completion of the traffic report supporting the Astra Aerolab precinct, Transport for NSW have released updated guidance in relation to traffic movements arising from commercial development. Utilising the rates recommended by Transport for NSW would yield the following peak hour traffic movements from the site:

- 73 vehicle movements in the morning peak hour; and
- 55 vehicle movements in the evening peak hour

It can be seen that by adopting the more recent Transport for NSW guidance the traffic movements on the external road network would be reduced compared to that originally considered in the traffic assessment supporting the broader Astra Aerolab precinct development.

2.7.2 Traffic infrastructure works

As part of the original development application for the Astra Aerolab precinct under Development Application 16-2009-324-1, extensive consultation was undertaken with Transport for NSW (TfNSW) and PSC regarding the potential impact of the development on the local transport network external to the site. Traffic modelling and analysis concluded that the proposed development would require offsite intersection upgrades on Williamtown Drive, Nelson Bay Road and Cabbage Tree Road to accommodate relevant stages of the development and ensure that the proposal does not impact on the performance of the surrounding road network. These offsite upgrades were linked to particular development staging/ release. The consent conditions of the recently modified Development Application 16-2009-324-1 sets out the necessary intersection works and are summarised in Table 2.



DA 16-2009-324-1 Condition Number (as modified)	Requirement	Timing
100A	reviewing trip generation rates at various points throughout the development.	Prior to any subdivision certificate being granted beyond Stage 2A of development
101A)1A Verifying the threshold points for infrastructure process	
	A second right turn lane shall be provided on the western leg of the intersection of Williamtown Drive and Nelson Bay Road	Prior to any subdivision certificate being granted beyond Stage 2A of development
102A	Duplication of Williamtown Drive between Nelson Bay Road and the development	Prior to Stage 4 of development
	Single connection with Cabbage Tree Road	Prior to any subdivision certificate beyond Stage 5 being granted

Table 2 Infrastructure requirements for development of Astra Aerolab precinct

Stage 1 of the Astra Aerolab precinct allows for the development of 11.235ha of land. The combined development thresholds for the proposed commercial building, along with the nearby Lot 109, have not been triggered and therefore no external road infrastructure works are required to support the proposal.



3 Summary

This transport assessment has been prepared by JMT Consulting on behalf of Greater Newcastle Aerotropolis Pty Ltd (GNAPL) to support a Development Application (DA) for a commercial building within the Astra Aerolab precinct in Williamtown. Key findings arising from the assessment are as follows:

- The development of the site is part of the broader Astra Aerolab precinct which has been approved for development under Development Application 16-2009-324-1.
- The site access has been designed to accommodate the simultaneous movement of vehicles entering and exiting the site.
- An on-site loading dock has been provided to accommodate site servicing including waste collection, capable of accommodating an 8.8m Medium Rigid Vehicle (MRV).
- On-site car parking is provided for 17 vehicles, with the remainder of car parking demand to be accommodated through a nearby overflow car park servicing the broader Astra Aerolab commercial core (subject to a separate DA approval).
- Bicycle parking and end of trip facilities will be provided for building staff at rates in line with Council's controls.
- Traffic impacts arising from the site development have previously been considered as part of detailed traffic modelling to support the Astra Aerolab precinct under Development Application 16-2009-324-1. The proposal would not trigger any road infrastructure upgrades, with thresholds for infrastructure upgrades not triggered under this proposal. Upgrades to the surrounding road network will be progressively delivered as the Astro Aerolab precinct further develops.

Based on the above key findings, it is considered that the proposal's impact on the transport network will be acceptable.