



Traffic & Transportation Direction

Subdivision Development

192 Narellan Road (Lot 4),
Campbelltown

Traffic Impact Assessment

July 2021

Reference: 144 rep 210706 final

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Prepared for: Clearstate CamNarr192 Pty Ltd

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1. Introduction

Amber Organisation has been engaged by Clearstate CamNarr192 Pty Ltd to advise on the traffic and parking matters of the proposed subdivision located at 192 Narellan Road (Lot 4), Campbelltown.

The proposal involves the subdivision of land at Lot 4 in DP 1213869 to accommodate a total of 131 residential lots, a group of neighbourhood shops and 3 public reserves. Access to the site is proposed by providing a new leg at the roundabout intersection of Maryfields Drive and Gabriel Circuit in the south-eastern corner of the site. The internal road network provides access to the individual lots and is proposed to connect to the wider road network following development of the adjacent lots.

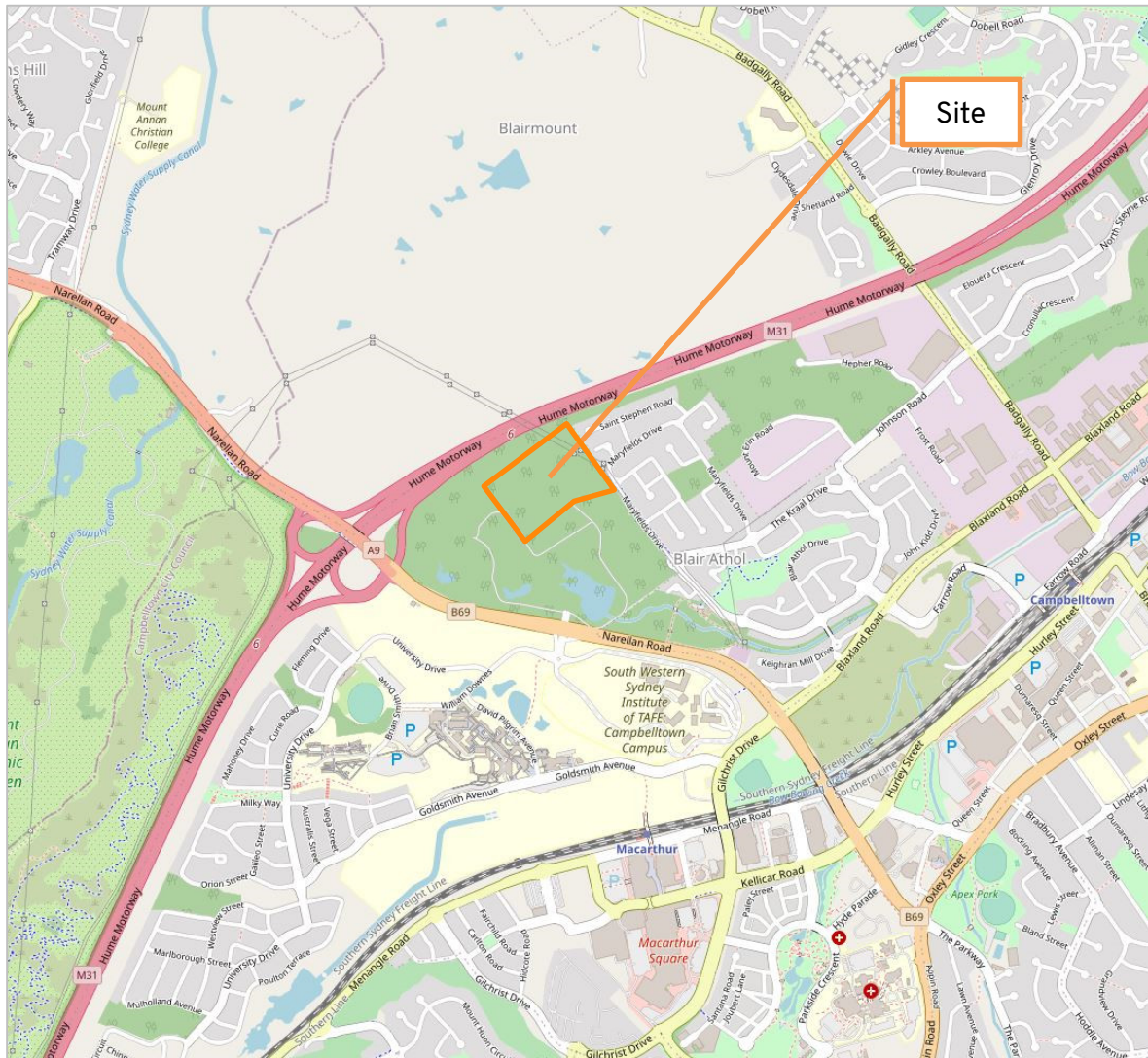
This report has been prepared to address the traffic and parking impacts of the proposed development. It is based on observations at the site and our experience of similar developments elsewhere.

2. Transport Environment

2.1 Site Location

The site is located on land at Lot 4 DP 1213869 in Campbelltown and is situated on the south-western side of Maryfields Drive. Figure 1 shows the location of the site in relation to the surrounding transport network.

Figure 1: Site Location



Source: OpenStreetMap

The site is located within the Maryfields Estate and is zoned R3 – Medium Density Residential. Land to the east of the site is residential use and immediately north of the site is the Hume Highway. Land immediately south and west of the site form the remainder of the Maryfields Estate and is currently undeveloped. Other notable land uses in the surrounding area include the Campbelltown CBD which is located 1.8 kilometres east of the site, and the Western Sydney University Campbelltown Campus which is located approximately 700 metres south of the site.

The Maryfields Estate is located within the Macarthur Precinct of the Glenfield to Macarthur Urban Renewal Corridor. The proposed land uses within the Maryfields Estate are illustrated within Figure 13.2 of the *Campbelltown (Sustainable City) Development Control Plan 2015 - Part 13: Maryfield's DCP*. The Maryfields Estate Masterplan contains four distinct precincts comprising the Business Park and main lake, a Heritage Park, a Seniors Housing Precinct and a Residential Precinct (the subject site).

The site is noted as Stage 2 of the overall precinct within the DCP and is indicated to accommodate medium density residential land and a small group of neighbourhood shops along the southern boundary. Figure 2 shows the location of the site in relation to the Maryfields Estate.

Figure 2: Site Location in Maryfields Estate



Source: *Campbelltown (Sustainable City) Development Control Plan 2015 - Part 13: Maryfield's DCP*

Figure 3 shows an aerial photograph view of the site and the surrounding area. The figure shows that the site is currently occupied by agricultural land with access to the site provided via a driveway that connects within Narellan Road.

Figure 3: Aerial Photograph



Source: SixMaps

2.2 Road Network

Maryfields Drive is a municipal collector road that provides a loop extending northwest from The Kraal Drive and runs along the eastern boundary of the Maryfields Estate. It has a carriageway width of approximately 11 metres which accommodates two-way vehicle movement and kerbside parallel parking on both sides of the road. It has a speed limit of 50km/hr, and a footpath is provided on the eastern side of the road adjacent to the site.

Gabriel Circuit is a municipal local road which provides a loop to the east of Maryfields Drive. It has a carriageway width of approximately 8 metres which accommodates two-way vehicle movement and kerbside parallel parking on both sides of the road. It has a speed limit of 50km/hr and no footpaths.

The intersection of Maryfields Drive and Gabriel Circuit is controlled by a roundabout.

2.3 Public Transport

The site has access to the public transport network via the following bus services:

- Route 879 (Leumeah to Campbelltown via Blair Athol) operates along The Kraal Drive with bus stops provided on both sides of the road approximately 580 metres walking distance southeast of the site.
- The following routes operate along Narellan Road with bus stops provided on both sides of the road at its connection with William Downes Avenue at the southern boundary of the Maryfields Estate:
 - 890 - Campbelltown to Harrington Park via Narellan Vale & Narellan
 - 891 - Mount Annan to Campbelltown via Currans Hill
 - 892 - Campbelltown to Mount Annan via Narellan Vale
 - 893 - Narellan to Campbelltown via Elderslie and Spring Farm
 - 894 - Bridgewater Estate to Campbelltown via Camden and Narellan
 - 895 - Campbelltown to Camden South via Camden
 - 896 - Campbelltown to Oran Park via Gregory Hills
 - 897 - Smeaton Grange to Campbelltown
 - 898 - Harrington Park to Campbelltown via Narellan Rd

These bus services provide future users of the site access to the public transport network.

2.4 Pedestrians and Cyclists

No dedicated pedestrian or bicycle facilities are currently provided within the vicinity of the site, excluding the footpath on the eastern side of Maryfields Drive, given the underdeveloped and low-density nature of the surrounding area.

3. Development Proposal

The proposal involves the subdivision of land at Lot 4 in DP 1213869 to accommodate a total of 131 residential lots, a group of neighbourhood shops and 3 public reserves. The proposal is to be constructed in stages as follows:

- Stage 1 – 20 residential lots and 2 public reserves;
- Stage 2 – 25 residential lots;
- Stage 3 – 31 residential lots; and
- Stage 4 – 55 residential lots, the neighbourhood shops, and a public reserve.

Access to the site is proposed by providing a new leg at the roundabout intersection of Maryfields Drive and Gabriel Circuit in the south-eastern corner of the site. The internal road network provides access to the individual lots and is proposed to connect to the wider precinct road network following development of the adjacent lots.

4. Traffic Assessment

The proposal reflects the intended land use outlined within Figure 13.2 of the *Campbelltown (Sustainable City) Development Control Plan 2015 - Part 13: Maryfeld's DCP* (Precinct DCP). The site is proposed to accommodate medium density residential use with a group of neighbourhood shops provided along the southern boundary of the site.

The road network has also been designed in a form generally in accordance with the layout outlined within the Precinct DCP. Traffic movements generated by the proposal are expected to predominantly be distributed from the internal roads to Maryfields Drive or via the internal road network of the precinct to Narellan Road.

The precinct has been designed to accommodate the demands expected, and the traffic volumes have been assessed as part of the Traffic Impact Assessment for the planning proposal, which was prepared by Aecom, dated July 2015. Accordingly, the traffic generated by the subdivision is expected to have a minimal impact on the operation of the existing road network.

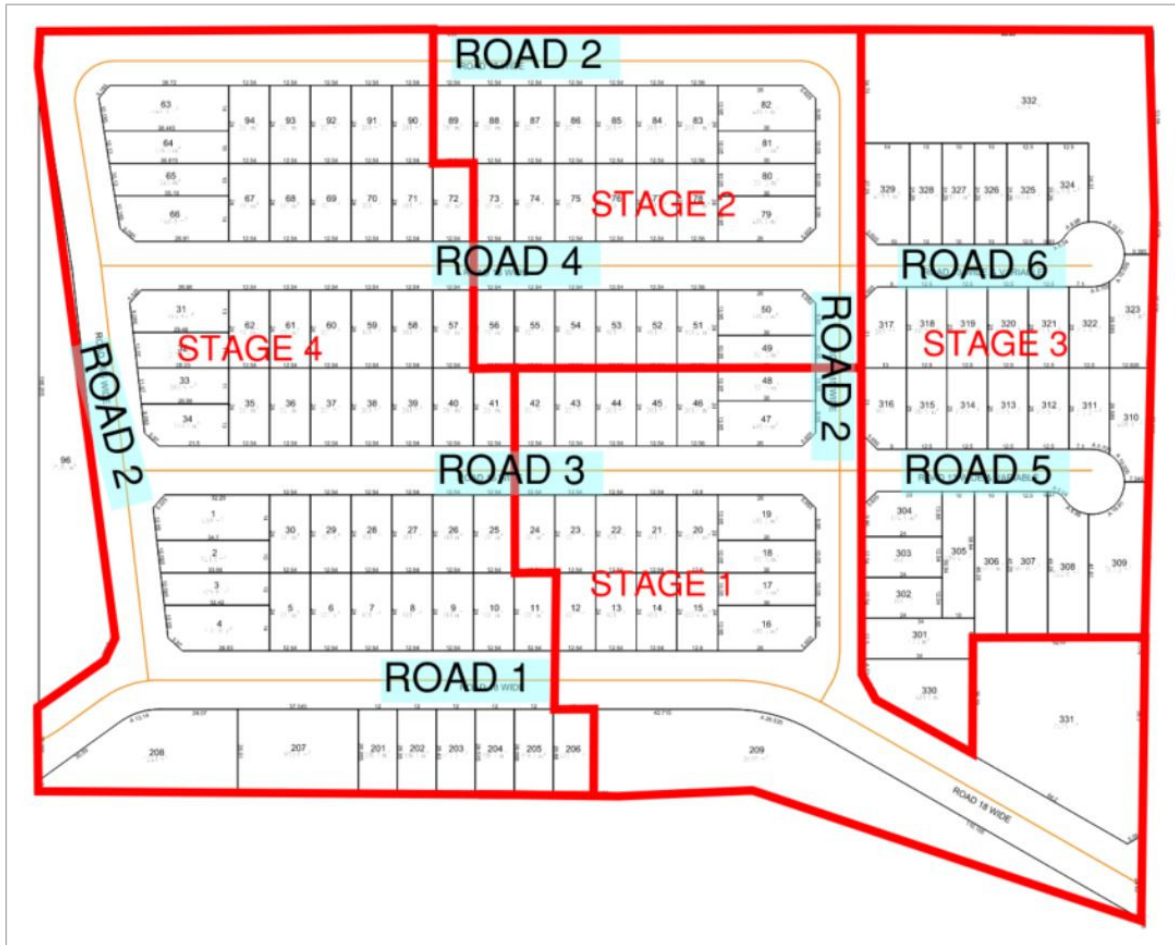
It is noted that the Precinct DCP requires the intersection of Maryfelds Estate with Narellan Road shall be upgraded by the developer in conjunction with the construction of road works for the Business Park precinct and is not required for this stage of the project.

5. Access and Internal Road Layout

5.1 Road Alignment

The internal road layout has been designed in general accordance with the road layout specified within the Precinct DCP and is shown within Figure 4.

Figure 4: Site Road Layout



The road network is also described below:

- Road 01 - A collector road is proposed near the southern boundary of the site which runs to the north of the neighbourhood shops. The road connects with the intersection of Maryfields Drive and Gabriel Circuit and will connect to the western portion of the precinct following construction of the adjacent lots;
- Road 02 – A local road which provides a loop around the site and connects with Road 01;
- Roads 03 and 04 - Two local roads run in an east-west alignment between Road 02; and
- Road 05 and 06 - The two central two roads extend further to the east of Road 02 and are provided with a cul-de-sac near the eastern boundary of the site.

The Precinct DCP only indicates two east-west roads and does not indicate the short cul-de-sac roads. The additional roads have been provided to allow orderly subdivision of land and are considered to provide suitable circulation of vehicles within the site. As such the road layout is

concluded to meet the objectives of the Precinct DCP by providing an efficient and connected street network that is generally in accordance with Figure 13.4 of the Precinct DCP.

5.2 Road Design

All roads have been designed in accordance with the cross-sectional requirements of the Precinct DCP. The southern road has been designed as a collector road, the eastern roads are classified as cul-de-sacs, and all other roads are classified as local roads. An assessment of the design for the internal road network against the requirements of the DCP is provided below in Table 1.

Table 1: Road Design Review

| Road | Road Classification | Minimum Road Reserve Width Required | Road Reserve Width Provided | Minimum Road Carriageway Width Required | Road Carriageway Width Provided |
|------------|---------------------|-------------------------------------|-----------------------------|---|---------------------------------|
| 01 | Collector | 18 metres (with shared path) | 18 metres | 11 metres | 11 metres |
| 02 (west) | Local | 15 metres | 16.5 metres | 8 metres | 8 metres |
| 02 (north) | | | 17 metres | | 8 metres |
| 02 (east) | | | 15 metres | | 8 metres |
| 05 | | | 15 metres | | 8 metres |
| 06 | | | 15 metres | | 8 metres |
| 07 | Cul-De-Sac | 13 metres | 13 metres | 6 metres | 6 metres |
| 08 | | | 13 metres | | 6 metres |

The additional road reserve width provided to the northern and western portion of Roads 02 is due to the required retaining walls along the site boundary. Accordingly, the proposed road layout has been designed in general accordance with the dimensional requirements of the Precinct DCP.

5.3 Intersection Design

The internal intersections have been designed to meet the Safe Intersection Sight Distance specified within *Austroads Guide to Road Design – Part 4A: Unsignalised Intersections* to ensure the sight distance at each intersection allows the safe movement of vehicles on the road network.

The required sight distance within the Austroads Guideline is provided within Table 3.2. A design speed of 60km/hr has been assumed for the internal roads. Assuming a reaction time of 1.5 seconds which is applicable in a built-up area where drivers are more alert, the required sight distance at the intersections is 114 metres.

An assessment of the sight distance at the relevant intersection concludes that the required sight distance has been provided in both directions along the major roads in accordance with the requirements of the Austroads Guideline, excluding the eastern intersection of Road 01 and Road 02. The sight distance to the west is approximately 85 metres and as such, it is recommended that a speed hump be provided between the intersection and the crest along Road 02 to reduce the travel speed of vehicles and result in a compliant sight distance. Accordingly, the intersections are expected to operate in a safe manner.

5.4 Temporary Road Design

Temporary turning heads are proposed at the end of all dead-end roads that are generated due to the staging of the project. The turning heads are proposed to be designed in accordance with Council's Standard Engineering Drawings.

5.5 Road Safety

Given the relatively short and straight alignment of the internal roads combined with the local roads being provided with a narrow road width which includes kerbside parking, it is considered that no local area traffic management measures or safety barriers are required excluding the recommended speed hump on Road 02 as outlined within Section 5.3.

6. Car Parking

The applicant has advised that all car parking is to be provided in accordance with the Precinct DCP. In addition, the carriageway width of the internal road network allows for two-way traffic and on-street parallel parking once fully constructed. The on-street spaces will be available to service the needs of visitors of future residents within the subdivision. Accordingly, the subdivision is not expected to generate any parking impacts and the parking demand can be readily accommodated internally within the site.

7. Alternative Transport Modes

The Precinct DCP indicates that a bus stop is proposed on the southern side of the collector road adjacent to the neighbourhood shops. The bus stop is proposed to be an on-street facility and a bus shelter is proposed within the road reserve. The Precinct DCP also indicates public pathways are to be provided on Roads 01 and 02. The road reserve width allows footpaths to be provided on all roads. Accordingly, the alternative transport facilities comply with the Precinct DCP.

8. Conclusions

Amber has reviewed the traffic and parking matters of the proposed subdivision located at 192 Narellan Road, Campbelltown. The development is proposed to accommodate a total of 131 residential lots, a group of neighbourhood shops and 3 public reserves. Based on the above assessment, it is concluded that:

- The development complies with the intended land use outlined within the Precinct DCP and as such, the traffic movements generated by the proposal have already been assessed as part of the planning proposal for the site and can be accommodated on the road network;
- The road layout reflects the general form of road alignment as outlined within the Precinct DCP;
- The minimum road reserve and carriageway widths required by the Precinct DCP have been provided for all internal roads;
- The internal intersections have been designed to provide suitable sight distance in accordance with Austroads Guideline, excluding the eastern intersection of Road 01 and Road 02, with Road 02 proposed to have a speed hump provided to reduce the travel speed of vehicles;
- Car parking for the individual lots is to be provided in accordance with the Precinct DCP, with on-street parking provided for visitors; and
- Suitable provisions for alternative transport modes have been provided for in accordance with the Precinct DCP.

Therefore, it is concluded that the traffic and parking aspects of the proposed development are satisfactory, and the development will have a negligible impact on the surrounding environment.