

Planning Proposal for a
Proposed Residential Development

Lot 71 in DP706546
St Andrews Road, Varroville

TRAFFIC AND PARKING ASSESSMENT REPORT

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Ref 17476

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TABLE OF CONTENTS

1. INTRODUCTION	1
2. PROPOSED DEVELOPMENT	4
3. TRAFFIC ASSESSMENT	11

LIST OF ILLUSTRATIONS

Figure 1	Location
Figure 2	Site
Figure 3	Road Hierarchy
Figure 4	Existing Traffic Controls

1. INTRODUCTION

This report has been prepared to accompany a planning proposal to Campbelltown City Council for a residential subdivision to be located at Lot 71 in DP706546 (Figures 1 and 2).

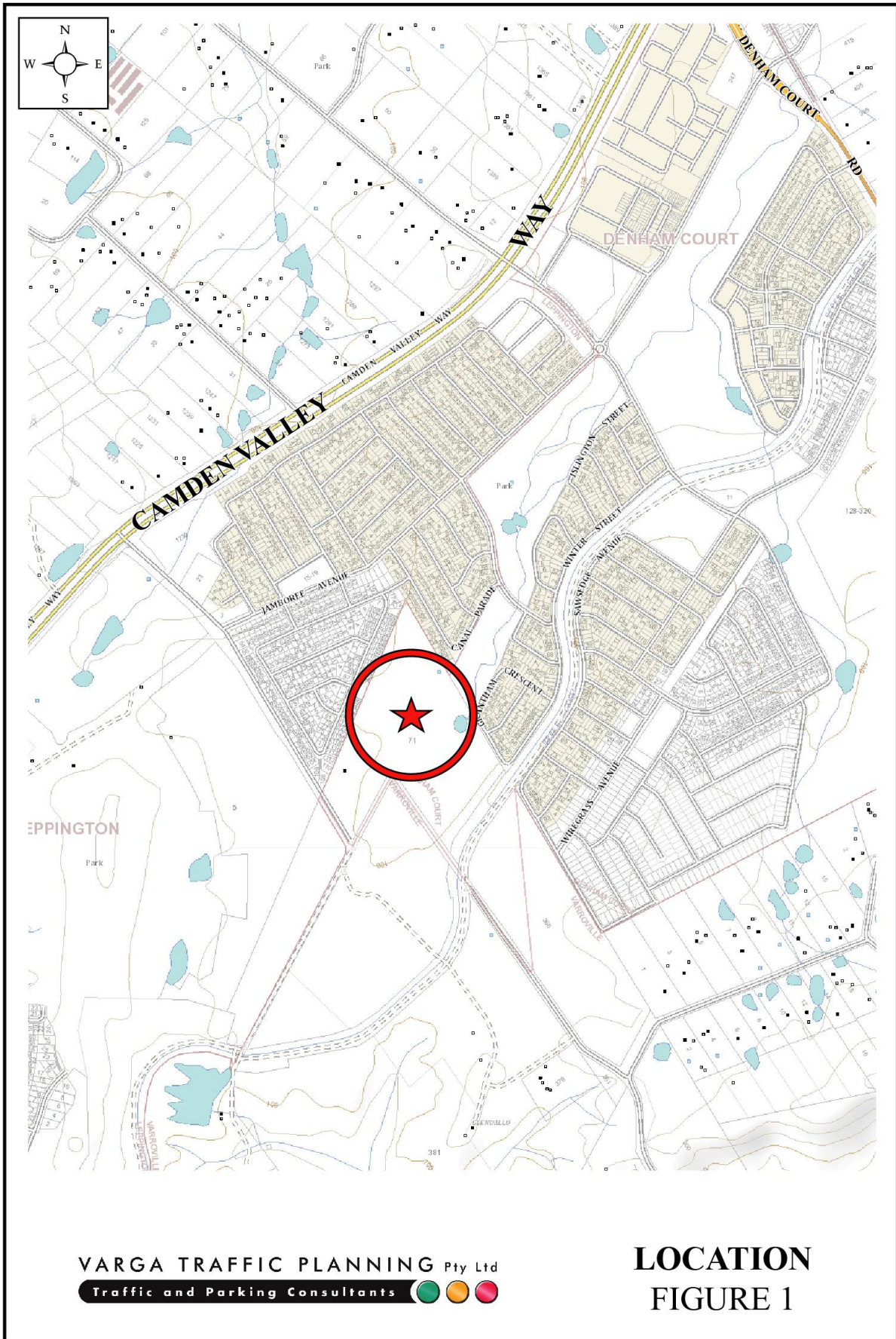
The Planning Proposal involves the subdivision and rezoning of the land from *E3 Environmental Management* to part *R2 Low Density Residential* and in part retention of the *E3 Environmental Management Land*.

The proposed residential subdivision is located adjacent a completed residential subdivision which forms part of the East Leppington Precinct, and makes provision for the following:

- 98 new residential allotments
- construction of a new local road network which connects with the completed residential subdivision on the adjacent Cornish site.

The purpose of this report is to assess the traffic and parking implications of the subdivision proposal and to that end this report:

- describes the site and provides details of the planning proposal
- reviews the road network in the vicinity of the site
- estimates the traffic generation potential of the planning proposal
- assesses the traffic implications of the planning proposal in terms of road network capacity
- reviews the geometric design features of the proposed new road network
- assesses the off-street parking implications of the planning proposal.



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LOCATION
FIGURE 1



2. PROPOSED DEVELOPMENT

Site

The subject site is located on the eastern side of St Andrews Road, north of the Sydney Water Canal. The site has a street frontage approximately 148m in length to St Andrews Road and occupies an area of approximately 13.5ha.

The subject site is currently occupied by a single dwelling house with a number of associated outbuildings. The remainder of the site generally comprises tall trees, a dam and a riparian corridor through the centre of the site.

Vehicular access to the site is currently provided via a single driveway located at the north-western corner of the St Andrews Road site frontage.

East Leppington Precinct

The NSW State Government has approved the rezoning of East Leppington Precinct that hugs the northern and eastern boundaries of the subject site to provide land for approximately 4,450 dwellings, a local centre, a village centre, 26 hectares of open space and recreation areas, new primary school and community centre, upgrades to major roads, including Camden Valley Way and Denham Court Road, new pedestrian and cycle links integrated with open space.

Significant infrastructure will be provided in the East Leppington Precinct over time to support the increase in population. These will include interconnected roads, walking and cycling networks, a bus-friendly road network and higher housing densities.

A number of upgrades to Camden Valley Way have already been completed, including new traffic signals at its intersections with St Andrews Road, Willowdale Drive and with Denham Court Road, creating an increasingly accessible transport corridor connecting the Precinct with surrounding major centres and infrastructure.

Cardno prepared a detailed traffic assessment and green travel strategy in June 2013 as part of the East Leppington Precinct project application, both of which are referenced throughout this report. Extracts from the *Cardno* reports are reproduced in the following pages illustrating the following:

- *Figure 4.1 Indicative Layout Plan (including subject site overlay)*
- *Figure 5.2 East Leppington Road Hierarchy (including subject site overlay)*
- *Figure 5.5 SIDRA Intersection Layouts (including Camden Valley Way & St Andrews Road)*
- *Appendix A – Local Street Section.*

Proposed Development

The planning proposal involves the subdivision of the subject site to create 98 new residential allotments. The proposed new allotments will have an average frontage of 15m and a minimum lot size of 450m².

A new local road network is proposed with a road reservation width of 16 metres, including a new local road link with the completed subdivision on the adjacent Cornish site, consistent with the East Leppington Precinct road hierarchy requirements.

The planning proposal will also make provision for the widening of St Andrews Road along its frontage.

Plans for the purposes of this planning proposal have been prepared by *Lean, Lackenby & Hayward* and are reproduced in the following pages.

Figure 4.1 Indicative Layout Plan v12.6

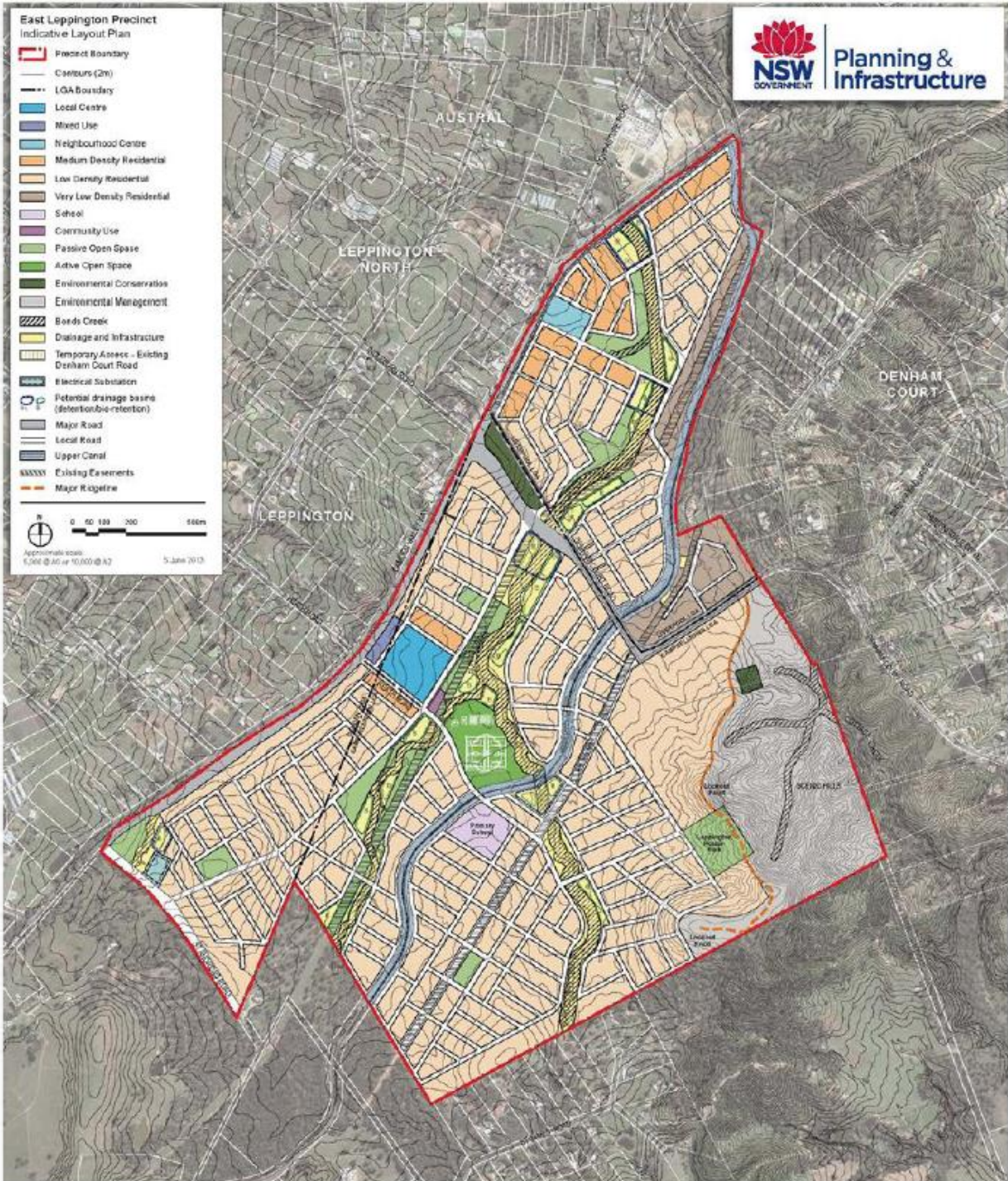
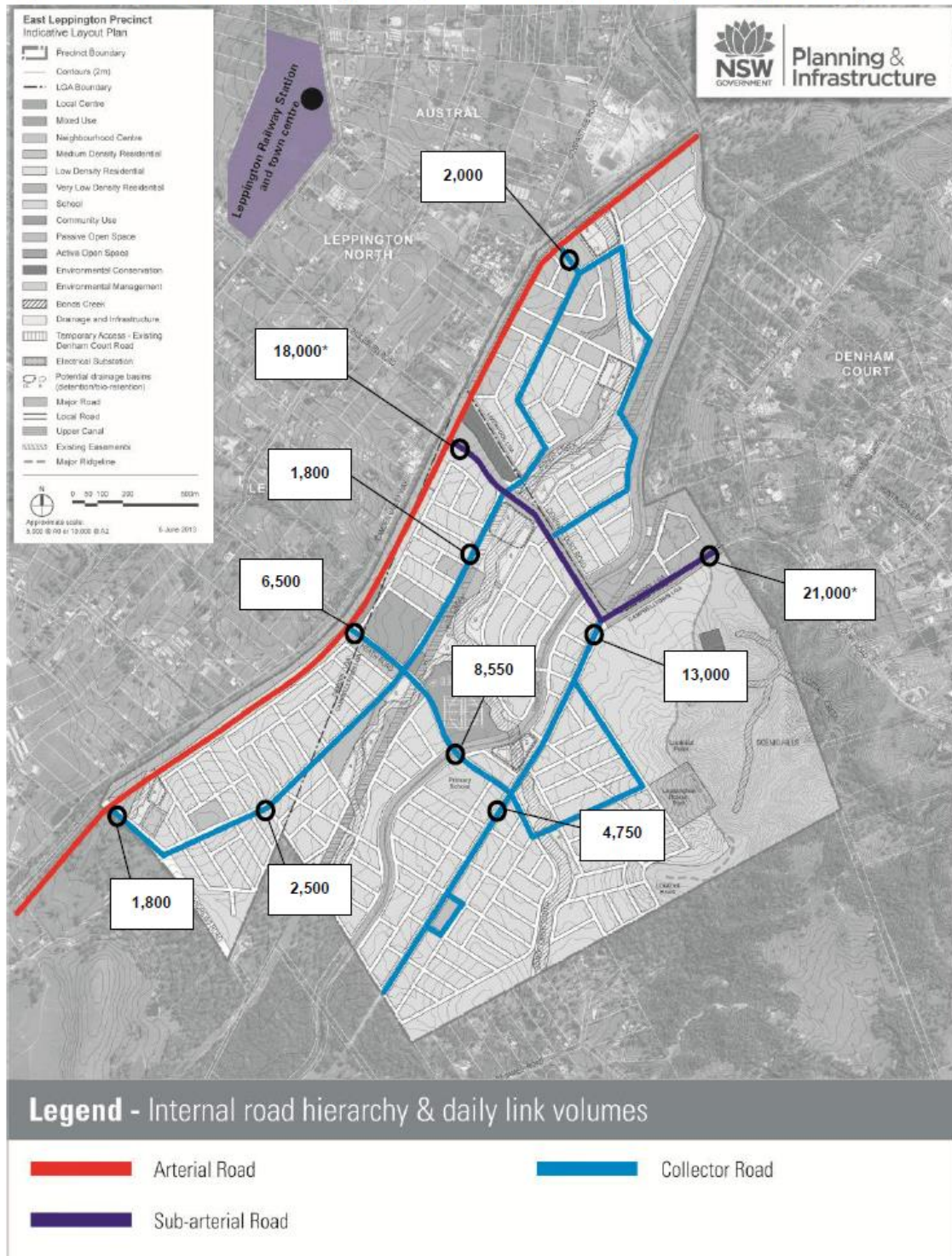
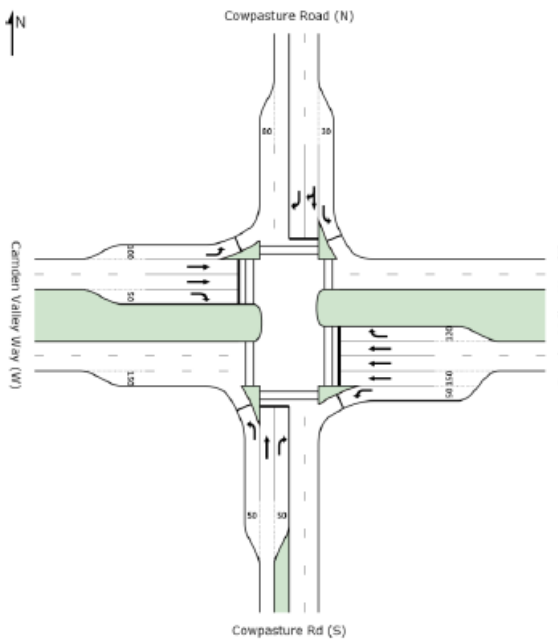


Figure 5.2 Internal Road Hierarchy & Daily Link Volumes (2036 – 10 year design horizon)

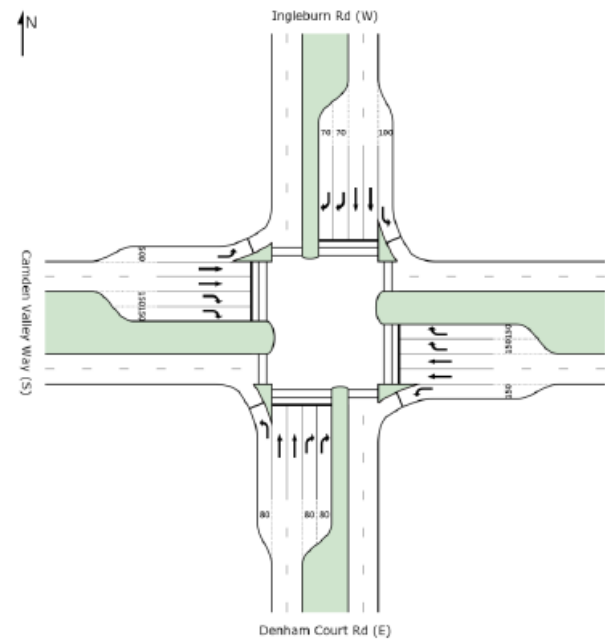


*East Leppington Precinct development traffic plus 2036 forecast background traffic of approximately 10,000 daily trips

Figure 5.5 SIDRA Intersection Layouts

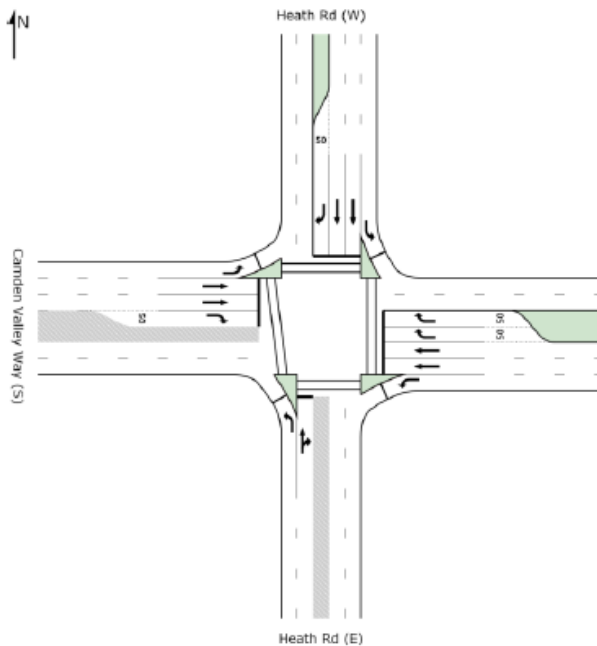


Camden Valley Way / Cowpasture Road

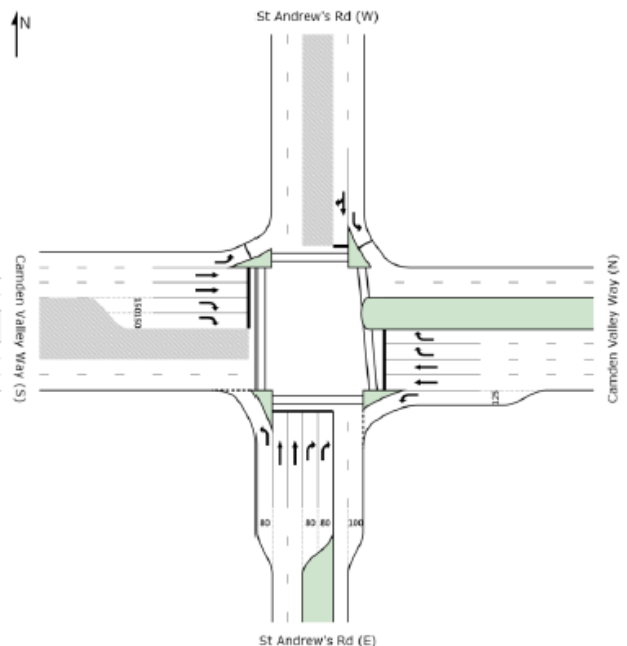


Camden Valley Way / Denham Court Road

East Leppington Precinct



Camden Valley Way / Heath Road

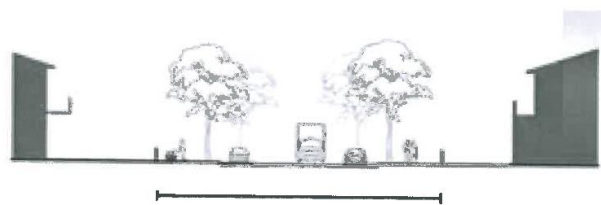


Camden Valley Way / St Andrew's Road

C.3 STREETS

street hierarchy: local streets

STREET TYPE/ROLE AND FUNCTION	URBAN DESIGN CHARACTER	TYPICAL REQUIREMENTS
<p>LOCAL STREETS</p> <p>Give priority to pedestrians and cyclists.</p> <p>Traffic loads are 1,000-3,000 vehicles / day</p> <p>Designed for a vehicle speed of up to 50km/hr.</p>	<p>Uses</p> <p>Local Streets should accommodate shared pedestrian and bike and vehicular uses. Local Streets should provide continuous pedestrian and cycle paths.</p> <p>Profile</p> <p>These streets are designed to slow residential traffic. The width of these streets may vary when accommodating buses or where there is a low demand for on-street parking.</p>	<p>Street Reserve: 16 metres</p> <p>Travel-way:</p> <ul style="list-style-type: none"> • 3.0 metres each way



Local Street Section
 Source: Edmondson Park Locality DCP Template, Liverpool City Council

OCTOBER 2006

3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

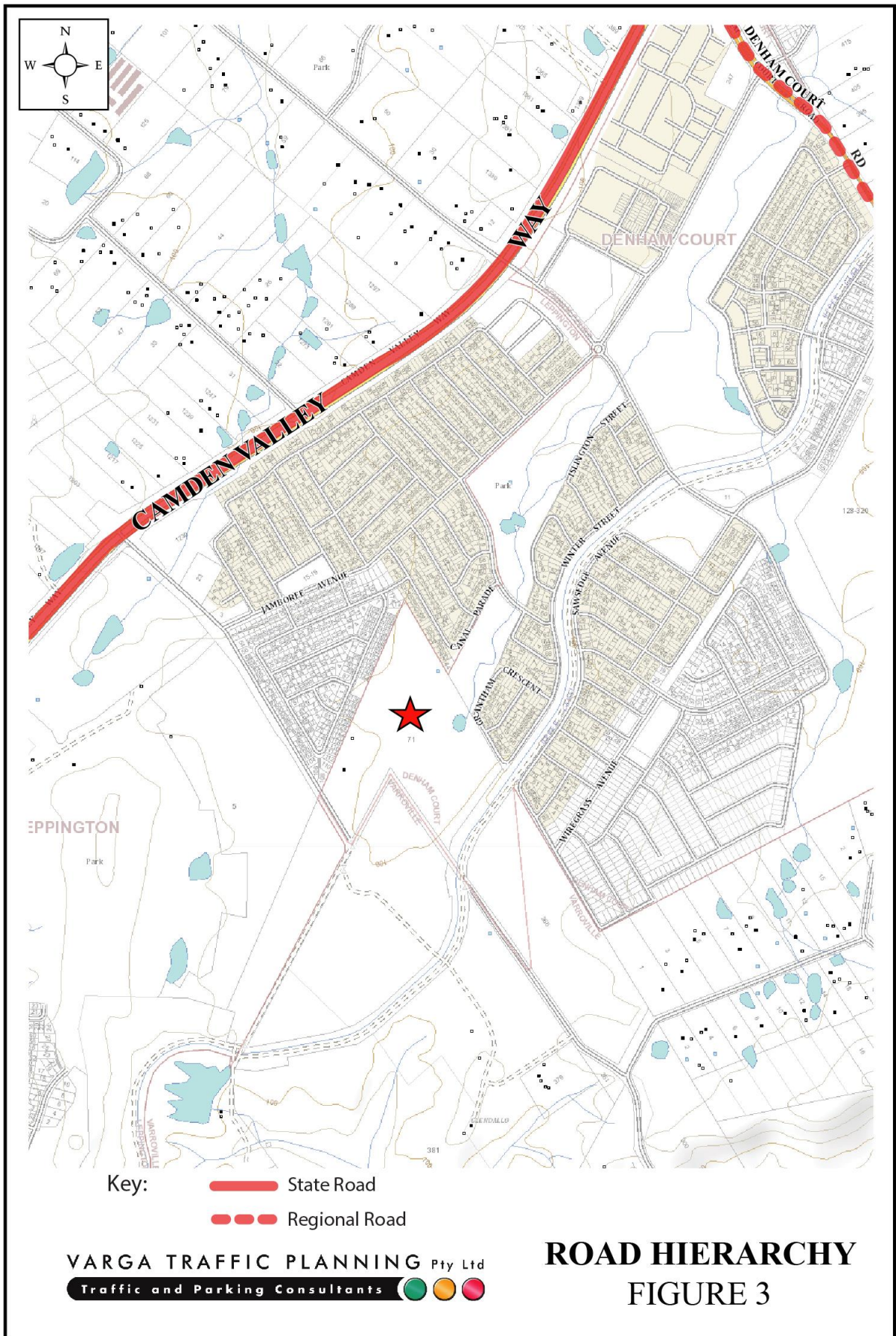
Camden Valley Way is classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Hume Highway, M7 and M5 interchanges at Prestons, near Liverpool, Camden, Narellan and Harrington Park. It has recently been upgraded to carry two traffic lanes in each direction with opposing traffic flows separated by a central median island.

St Andrews Road is a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties. Currently there is no connection to Campbelltown Road to the east.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- an 80 km/h SPEED LIMIT which applies to Camden Valley Way
- a default urban 50km/h SPEED LIMIT which applies to St Andrews Road and all other local roads in the area
- a SHELTERED RIGHT-TURN BAY in Camden Valley Way onto St Andrews Road
- TRAFFIC SIGNALS in Camden Valley Way where it intersects with St Andrews Road and Denham Court Road.





Traffic Generation

The traffic implications of development proposals primarily concern the effects of the *additional* traffic flows generated as a result of a development and its impact on the operational performance of the adjacent road network during the morning and afternoon commuter peak periods.

An indication of the traffic generation potential of the planning proposal is provided by reference to the Roads and Maritime Services' publication *Guide to Traffic Generating Developments, Section 3 - Landuse Traffic Generation (October 2002)* and the updated traffic generation rates in the recently published RMS *Technical Direction (TDT 2013/04a)* document.

The RMS *Technical Direction* document specifies that it replaces those sections of the RMS *Guidelines* indicated, and must be followed when RMS is undertaken trip generation and/or parking demand assessments.

The RMS *Guidelines* and *Technical Direction* are based on extensive surveys of a wide range of land uses and nominate the following traffic generation rates which are applicable to the planning proposal:

Low Density Residential Dwellings

AM: 0.95 peak hour vehicle trips per dwelling

PM: 0.99 peak hour vehicle trips per dwelling

Application of the above traffic generation rate to the 98 outlined in the planning proposal yields a traffic generation potential of approximately 94 vehicle trips per hour (vph) during the AM peak hour and 98 vph during the PM peak hour. This is likely to comprise approximately 19 vph IN/75 vph OUT during the AM peak hour, and 78 vph IN/20 vph OUT during the PM peak hour.

In the short term, that traffic activity will access the site via the now completed local road network on the adjacent Cornish site. A new local road link is proposed from Aqueduct Street in the adjacent Cornish site to connect with the local roads proposed on the subject site.

The projected cumulative traffic flows of 105 vph to 109 vph during peak periods expected to be generated by the proposed residential subdivision can be comfortably accommodated on that new local road link to the now completed Aqueduct Street on the adjacent Cornish site.

It is noted also that some 25% of trips are expected to be local trips in any event as detailed in the following extracts from the Roads and Maritime Services' publication *Guide to Traffic Generating Developments, Section 3 – Land Use Traffic Generation (October 2002)*:

*“Note that not all trips are external trips. As a guide, about 25% of trips are **internal** to the subdivision, involving local shopping, schools and local social visits. When reviewing the traffic impact of traffic generated on sub-regional and regional roads, some adjustment is necessary, depending on the location of the shops, schools and recreational facilities”.*

The external traffic activity expected to be generated by the subject site is likely to be dispersed over a number of collector roads such as St Andrews Road, Willowdale Drive and Denham Court Road. For the purposes of this assessment, it has been assumed that there would be approximately 14 vph IN/56 vph OUT in the AM peak hour, and approximately 58 vph IN/15vph OUT during the PM peak hour using either Willowdale Drive or Denham Court Road, and via the St Andrews Road intersection in the longer term.

The now completed dual carriageway on Camden Valley Way includes new intersection layouts at the St Andrews Road, Willowdale Drive and Denham Court Road intersections. These include turning lanes comprising highly efficient, high capacity intersections with substantial spare capacity, based on the results of traffic modelling undertaken in the *Cardno* report.

Accordingly, the external traffic flows expected to be generated by the planning proposal will be minimal, and are expected to be dispersed over a number of recently upgraded intersections along Camden Valley Way.

In the circumstances, it is reasonable to conclude that the external traffic flows expected to be generated by the planning proposal will not have any unacceptable traffic implications in terms of road network capacity.

Internal Local Road Layout Considerations

A new local road network is proposed on the site with a road reservation width of 16 metres, consistent with the East Leppington Precinct road hierarchy requirements, and will link with the now completed Aqueduct Street in the residential subdivision on the adjacent Cornish site.

The planning proposal will make provision for the widening of St Andrews Road along its frontage, and further extending it southward into the proposed residential subdivision.

Parking

The proposed new local road network makes provision for on-street car parking as illustrated on the *Appendix A – Local Street Section* drawing reproduced in Chapter 2 of this report.

Off-street car parking is to be provided on each individual allotment, and will be addressed in separate development applications for the construction of the dwellings. There is no doubt however, that the size of the allotments will be sufficient to accommodate vehicular access and off-street car parking being provided on each of the allotments in accordance with Council's parking requirements.

Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- the planning proposal seeks approval to permit the subdivision of the site into 98 residential allotments with a new internal road network
- the planning proposal could not be expected to have any unacceptable traffic implications in terms of road network capacity
- based on the modelling results in *Cardno's* report there is significant spare capacity in Camden Valley Way where it intersects with St Andrews Road, Willowdale Drive and

Denham Court Road, and no further improvements are needed to accommodate the additional traffic flows generated as a consequence of the planning proposal

- the future car parking facilities will be provided and designed in accordance with Council's requirements and the relevant Australian Standards
- the proposed internal/local road layout is consistent with the requirements of the East Leppington Precinct road network hierarchy.