PROPOSED MIXED USE DEVELOPMENT
41 – 47 PUNCHBOWL ROAD, BELFIELD

Assessment of Traffic and Parking Implications

May 2016
(Rev D)

Reference 127/2015
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<td>SITE</td>
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<td>ROAD NETWORK</td>
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<tr>
<td>4</td>
<td>TRAFFIC CONTROLS</td>
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</tbody>
</table>
1. INTRODUCTION

This report has been prepared to accompany a Development Application to Strathfield Council for a proposed residential apartment based mixed use development on a site with frontage to Punchbowl Rd in Belfield (Figure 1).

The site is located within the small Belfield Centre where zoning permits high density mixed use development as there is ready access to transport services and the arterial road system. The proposed development scheme comprises a new 6/7 level building with 80 apartments, ground level retail/commercial units and basement carparking.

The purpose of this report is to:

* describe the site and the proposed development scheme
* describe the road network serving the site and prevailing traffic conditions
* assess the appropriateness of the proposed parking provision
* assess the potential traffic implications
* assess the proposed vehicle access, internal circulation and servicing arrangements
2. PROPOSED REDEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND EXISTING USE

The site (Figure 2) is a consolidation of Lot 1 and 2 of DP355842 and Lot 7 of DP262966 which occupies an irregular shaped area of some 2,451m² with frontages to the eastern side of Punchbowl Road and western side of Water Street. There is a road widening reservation running along the Punchbowl Road frontage

The site is located midway between Cosgrove Road and Coronation Parade within the small Belfield Commercial area and the surrounding land uses include:

* Residential dwellings which adjoin to the north
* Industrial buildings which adjoin to the west
* The pub on the southern side of Punchbowl Road and mixed use retail/commercial uses along Burwood Road

The site is currently occupied by industrial sheds and open storage on the western part while the eastern is cleared and vacant, part was formerly occupied by a building materials and equipment business.

2.2 PROPOSED DEVELOPMENT

It is proposed to demolish the existing buildings and excavate the site to construct a new 6/7 level building over basement carparking. The development will comprise:

<table>
<thead>
<tr>
<th>Residential</th>
<th>Retail</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 x 1 bedroom apartments</td>
<td>4 units (total 447.5m²)</td>
</tr>
<tr>
<td>52 x 2 bedroom apartments</td>
<td></td>
</tr>
<tr>
<td>3 x 3 bedroom apartments</td>
<td></td>
</tr>
<tr>
<td><strong>Total 80 apartments</strong></td>
<td></td>
</tr>
</tbody>
</table>
A total of 156 parking spaces will be provided in 3 basement levels with vehicle access located on Water Street towards the northern site boundary.

Architectural details of the proposed development are provided on the plans prepared by Olsson & Associates Architects, which accompany the Development Application and are reproduced in part in Appendix A.
3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The road network serving the site (Figure 3) comprises:

- **Georges River Road** – a State Road and sub-arterial route linking between Punchbowl and Ashfield
- **Liverpool Road** - a State Highway and arterial route connecting between the City and Liverpool
- **Coronation Parade and The Boulevarde** - a State Road and sub-arterial route linking between Enfield and Burwood
- **Burwood Road/Water Street** – a collector road route

Punchbowl Road and Water Street have 2 lanes in each direction being 12.8m wide with straight and level carriageways.

3.2 TRAFFIC CONTROLS

The existing traffic controls on the road system in the vicinity of the site (Figure 3) comprise:

- the traffic signal controls at the intersection of Punchbowl Road, Burwood Road and Water Street which include prohibition of the right turn movements.
- the other traffic signal controls at intersections along Georges River Road including Coronation Parade and Cosgrove Road
- the CLEARWAY and NO STOPPING restrictions along the Punchbowl Road and sections of Water Street and Burwood Road
- the BUS ZONE and period parking provisions on Burwood Road
- the 50 kmph restriction along Water Street and Burwood Road and 60 kmph along Punchbowl Road
3.3 TRAFFIC CONDITIONS

An indication of the traffic conditions prevailing on the road system in the vicinity of the site is provided by data\(^1\) published by the Roads and Maritime Services and surveys undertaken as part of this study. The RMS data is expressed in terms of Annual Average Daily Traffic (AADT) and recordings near the site are provided in the following:

<table>
<thead>
<tr>
<th>AADT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Burwood Road south of Punchbowl Road</td>
<td>14,397</td>
</tr>
<tr>
<td>Punchbowl Road west of Cosgrove Road</td>
<td>32,983</td>
</tr>
</tbody>
</table>

Traffic conditions on the road system in the vicinity of the site are generally satisfactory even during the peak “commuter” periods with the traffic signal controlled intersections providing access to and across the higher order arterial, sub-arterial and collector roads.

3.4 TRANSPORT SERVICES

The site is served by State Transit Route 415 bus service, which travels along Burwood Road and provides connection to Strathfield, Belmore and Campsie Railway Stations with connection to the metropolitan transport network.
4. **TRAFFIC**

An indication of the potential traffic generation of the proposed development is provided by the RMS Development Guidelines\(^2\) where the criteria specified for high density residential is 0.29 vtph per dwelling during the peak traffic periods. Application of this rate to the proposed 80 apartments would indicate a traffic generation of 23 vtph during the peak periods.

The potential use and hence traffic generation of the retail units is not known at this time however it is likely that these will have “convenience” rather than “destination” uses. There will be some 17 parking spaces allocated to the 4 retail units with 7 spaces for tenant’s cars and 21 spaces for customers. The potential traffic generation of the spaces is incorporated into the total projected generation of the proposed development is as follows:

<table>
<thead>
<tr>
<th></th>
<th>AM IN</th>
<th>AM OUT</th>
<th>PM IN</th>
<th>PM OUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>4</td>
<td>19</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>Retail</td>
<td>9</td>
<td>2</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>13</strong></td>
<td><strong>21</strong></td>
<td><strong>27</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

The traffic generation of the existing/former uses on the site during the morning and afternoon peak periods was likely to be as follows:

<table>
<thead>
<tr>
<th></th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Now Vacant</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>

\(^2\) Traffic Volume Data for Generating Developments
Rocks and Maritime Services
It is apparent that the traffic generation of the proposed development will be somewhat more than that of the existing/former uses on the site however the existing vehicle access will be removed from the Punchbowl Road frontage and the existing access on Water Street will be moved further to the north away from Punchbowl Road.

The projected access movements will be relatively evenly split between the north and south on Water Street while drivers egressing to the west may well choose to circulate via Chatfield Avenue to access Punchbowl Road via Cosgrove Road. Regular gaps are provided in the traffic flows along Water Street by the operation of the traffic signals at Punchbowl Road and those to the north.

It is apparent that the traffic generated by the proposed development will not result in any adverse traffic implications. Whilst a central median island could potentially be installed in Water Street to restrict access to left turn IN/OUT this would:

- force more access movements through Punchbowl Road intersection (e.g. right turn from the east)
- force significant circulation movements through the local roads to the north (or U turns on Water Street)
5. PARKING

The proposed parking provision has been established with reference to Councils DCP, which stipulates the following:

Residential
- One-bedroom dwelling - 1.0 spaces
- Two-bedroom dwelling - 1.5 spaces
- Three-bedroom dwelling - 2.0 spaces
- 1 space per 5 dwellings for visitors

Retail
- 6.2 spaces per 100m² GFA

Application of this criteria to the proposed development indicates the following minimum parking provision:

- 25 x One bedroom dwellings - 25 spaces
- 52 x Two bedroom dwellings - 78 spaces
- 3 x Three bedroom dwellings - 6 spaces
- Visitors (80) - 16 spaces
- Retail (447.5m²) - 28 spaces
- **Total** - **153 spaces**

It is proposed to provide a total of 156 spaces and it is apparent that this will be quite adequate and appropriate provision. The provision will include 14 accessible spaces (AS2890.6) while there is a requirement to provided bicycle parking as follows:

- Residents - 1 space per 5 units
- Visitors - 1 space per 10 units
- Staff - 1 space per 300m²

Accordingly it is proposed to provide secure parking for a total of 14 bicycles in the basement.
6. **ACCESS AND INTERNAL CIRCULATION AND SERVICING**

**Access**

Vehicle access will be provided on the Water Street frontage located towards the northern boundary.

The proposed driveway has been designed in accordance with the requirements of AS2890.1&2 being located on a straight section of Water Street where suitable sight distances are available. The location will be sufficiently removed from the Punchbowl Road intersection and other driveways.

**Internal Circulation**

The basement parking area has been designed in accordance with the requirements of AS2890.1&6 including aisle and ramp widths, parking space dimensions and manoeuvring provisions. The carparking arrangement with flexible 2 way circulation is entirely compliant with AS and therefore there will be quite adequate provision for turning and manoeuvring.

**Servicing**

Refuse would be removed from the basement by Council’s garbage collection service (MRV 3.6m height clearance) and details of the turning path assessment for this vehicle are provided in Appendix B. Small service/delivery vehicles (i.e. vans) would be able to use the delivery bay provided or the visitor parking spaces in the basement. Any occasional requirements for the large service vehicles would be satisfied by on-street parking as is normal for small residential mixed use based developments of this nature.
7. **CONCLUSION**

Assessment has been undertaken for a proposed residential based mixed use development in the small Belfield Centre. The assessment of the potential traffic and parking implications has concluded that:

- the projected traffic generation will not present any adverse capacity, safety or traffic related environmental implications
- there will be suitable and appropriate parking provision
- the vehicle access, internal circulation and servicing arrangements will be satisfactory
Appendix A

ARCHITECTURAL PLANS
Appendix B

Swept Path Analysis