

# MEMO

**To:** Mary Osman  
**From:** Mark Pisani  
**Date:** 17 December 2021  
**Subject:** Application No: Not Provided  
Description: Big Housing Build (Richmond)  
Site Address: 147-161 Elizabeth Street, Richmond

I refer to the above Planning Application received on 29 November 2021 in relation to the proposed Big Housing Build at 147-161 Elizabeth Street, Richmond. Council's Engineering Referral team provides the following information:

## Drawings and Documents Reviewed

	Drawing No. or Document	Revision	Dated
Kerstin Thompson Architects	A001 <i>Development Summary</i>	1	12 November 2021
	A020 <i>Proposed Site Plan</i>	1	12 November 2021
	A100 <i>Basement Plan</i>	6	12 November 2021
	A101 <i>GA Ground Floor Plan</i>	6	12 November 2021
	A301 <i>Elevations - East</i>	5	12 November 2021
One Mile Grid	Executive Summary – Transport Impact Assessment		11 November 2021
	Transport Impact Assessment report		11 November 2021

## CAR PARKING PROVISION

### Proposed Development

Under the provisions of Clause 52.20-6.7 of the Yarra Planning Scheme, the development's parking requirements are as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate	No. of Spaces Required	No. of Spaces Allocated
Dwelling (Social Housing)	72	A minimum of 0.6 spaces for each dwelling	86	75
Dwelling (Affordable Housing)	72			
<b>Total</b>			<b>86 spaces</b>	<b>75 spaces</b>

The development would also be providing a food and drink premises, whose parking requirement is covered under Clause 52.06-5, as follows:

Proposed Use	Quantity/ Size	Statutory Parking Rate*	No. of Spaces Required	No. of Spaces Allocated
Food and Drink (Café)	154 m <sup>2</sup>	3.5 spaces per 100 m <sup>2</sup> of leasable floor area	5	1
<b>Total</b>			<b>5 spaces</b>	<b>1 space</b>

\* Since the site is located within the Principal Public Transport Network Area, the parking rates in Column B of Clause 52.06-5 now apply.

### Car Parking Demand Assessment

Parking Demand Consideration	Details
<i>Parking Demand for the Dwellings</i>	<p>One Mile Grid traffic engineering consultants have indicated that the on-site parking rates for the dwellings would be as follows:</p> <ul style="list-style-type: none"> <li>▪ Social housing dwellings – 0.44 spaces/dwelling (30 spaces)</li> <li>▪ Affordable housing dwellings – 0.54 spaces/dwelling (37 spaces)</li> <li>▪ Dwelling (accessible) – 1.0 space/dwelling (8 spaces)</li> </ul> <p>For the social housing parking demand, One Mil Grid has referred to a previous study prepared by GTA Consultants - <i>Review of Social Housing Car Parking Demands: Car Parking Studies</i> (published 2017). The study indicated that for average car ownership social housing type dwellings in the inner metropolitan area was 0.36 spaces per dwelling. The proposed on-site car parking rate of 0.44 spaces per dwelling is considered appropriate.</p> <p>The on-site parking rate for the affordable housing type dwellings falls just below the 0.6 spaces per dwelling as specified in Clause 52.20. By comparison, Council had reviewed the affordable housing component of the GTV9 site (171 Stawell Street, Richmond) which had accepted an on-site parking rate of 0.24 spaces per dwelling. The proposed rate of 0.54 spaces per affordable housing type dwelling is also considered appropriate.</p>

Parking Demand Consideration	Details
<i>Parking Demand for the Food and Drink Use</i>	For the parking demand of the café, a staff parking demand of 1.0 space per 100 square metres of floor area could be adopted. The proposed café would generate one to two staff parking spaces. Any customer parking would be generated off-site. The allocation of one space for the café use is considered appropriate.

- *Availability of Public Transport in the Locality of the Land.* The following public transport services can be accessed to and from the site by foot:
  - Church Street trams – 200 metre walk
  - Victoria Street trams – 220 metre walk
  - North Richmond railway station – 550 metre walk
- *Convenience of Pedestrian and Cyclist Access.* The site has good pedestrian access to public transport services, shops, supermarkets, essential facilities, places of employment and education. The site also has very good connectivity to the on-road bicycle network.

### Adequacy of Car Parking

From a traffic engineering perspective, the provision of parking for the proposed residential development is considered appropriate in the context of the site and the surrounding area. Geographically, the site is very well positioned in terms of public transport services and the Victoria Street activity centre. The site also has very easy access to Melbourne.

The Engineering Referral team has no objection to the reduction in the car parking requirement for this site.

## TRAFFIC IMPACT

### Trip Generation

The trip generation for the site adopted by One Mile Grid is as follows:

Proposed Use	Adopted Traffic Generation Rate	Daily Traffic	Peak Hour	
			AM	PM
<b>Social Housing</b> One-Bedroom (5 No.) Two-Bedroom (22 No.) Three-Bedroom (7 No.)	2.0 trips per dwelling per day 3.0 trips per dwelling per day 4.0 trips per dwelling per day Peak hour volumes are 10% of daily volumes	10 66 28	1 7 3	1 7 3
<b>Affordable Housing</b> One-Bedroom (12 No.) Two-Bedroom (25 No.) Three-Bedroom (4 No.)	4.0 trips per dwelling per day 6.0 trips per dwelling per day 8.0 trips per dwelling per day Peak hour volumes are 10% of daily volumes	48 150 32	5 14 4	5 14 4
<b>Café</b>	1.0 trip per space in each peak hour	2	1	1
		Total	336 trips	34 trips
				34 trips

## Traffic Impact of Key Intersections

To assess the traffic impact of the development, One Mile Grid had analysed the following key intersections using the SIDRA intersection analysis program:

- Elizabeth Street/Church Street/Baker Street (signalised)
- Elizabeth Street/Lewis Court\* (unsignalised)
- Elizabeth Street/Williams Court\* (unsignalised)
- Elizabeth Street/Anderson Street\* (unsignalised)
- Elizabeth Street/Lennox Street (signalised)

\* Private roads.

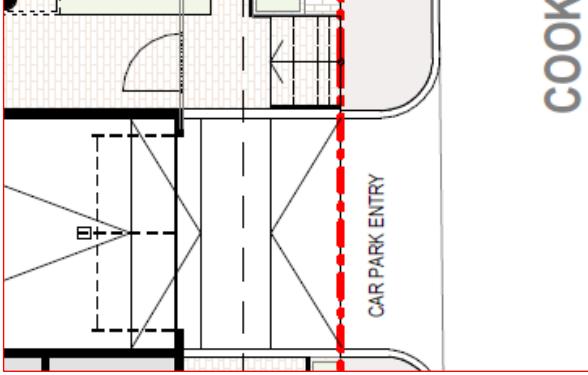
The traffic distribution assumptions made by One Mile Grid for the post development traffic movements are based on existing traffic distribution patterns.

The results of the post-development modelling during the AM and PM peak hours suggest that the intersections are expected to operate satisfactorily without adversely impacting on Elizabeth Street, Lennox Street or Church Street. SIDRA modelling works well under free flowing traffic conditions and may have limitations, such as queuing of downstream traffic (along major roads).

We are satisfied that traffic generated the proposed development will not be detrimental to the traffic operation of the surrounding road network.

## DEVELOPMENT LAYOUT DESIGN

### Layout Design Assessment

Item	Assessment
<b>Access Arrangements</b>	
Development Entrance Via Lewis Court	The width of the car park entry has not been dimensioned on the drawings.
Visibility	On the north side of the exit lane of the car park entry, there appears to be a wall obstructing driver sight lines of pedestrians, as shown below:
	 <p>Above: Plan View of entrance</p> <p>The diagram shows a plan view of an entrance area. A red dashed line represents a sightline from a pedestrian position on the left towards a car park entry. The sightline is blocked by a vertical wall located on the north side of the exit lane. The area is labeled 'COOK' on the right and 'CAR PARK ENTRY' at the bottom.</p>
	 <p>Above: North Elevation showing wall</p> <p>The diagram shows a north elevation of the site. A large tree is labeled 'COOKE COURT'. To its right is a building with a balcony labeled 'BR1'. A wall is visible behind some low-lying plants. A red dashed line indicates a sightline from a pedestrian on the ground level ('LV1') towards the building, which is obstructed by the wall. The text 'LV1 BEHIND LOW PLANTING' is shown at the bottom.</p>
Headroom Clearance	No section of the accessway has been provided and the headroom clearance has not been specified.
Internal Ramped Accessway	The wall-to-wall width of the ramped accessway has not been dimensioned.
<b>Car Parking Modules</b>	
At-grade Parking Spaces	The dimensions of the car parking spaces (2.6 to 2.9 metres by 4.9 metres) satisfy Clause 52.20-6.7 – Car parking spaces.
Accessible Parking Spaces	The dimensions of the accessible parking spaces and shared areas (each 2.4 metres by 5.4 metres) satisfy the Australian/New Zealand Standard AS/NZS 2890.6:2009. Bollards have not been provided for the shared areas.

Item	Assessment
Aisles	The widths of the aisles range from 5.708 metres to 7.106 metres and satisfy <i>Table 2: Minimum dimensions of car parking spaces and accessways</i> in Clause 52.20-6.7.
Column Depths and Setbacks	Not dimensioned on the drawings.
Clearances to Walls	Not dimensioned on the drawings.
<b>Gradients</b>	
Ramp Grade for First 5.0 metres inside Property	From the property line, the ramp profile comprises a 2.0 metre long upward grade of 1 in 8, followed by a flat section (not dimensioned) and a downward 1 in 8 ramp grade. The entrance would be providing an apex type treatment, which would satisfy the ramp grade requirement for the first 5.0 metres inside the property.
Ramp Grades and Changes of Grade	The ramp grades and changes of grade satisfy <i>Table 3 Ramp Gradients</i> of Clause 52.20-6.7.
<b>Swept Path Assessment</b>	
Vehicle Entry and Exit Movements Elizabeth Street/Lewis Court	The swept path diagrams of an entering and exiting B99 design vehicle at Elizabeth Street/Lewis Court intersection are considered satisfactory.
Vehicle Entry and Exit Movements Car Park Entry	The swept path diagrams of an entering and exiting B99 design vehicle at the development entrance off Lewis Court are considered satisfactory.
Vehicle Turning Movements Car Parking Spaces	The swept path diagrams of a B85 design vehicle entering and exiting the parking spaces throughout the basement car park are considered satisfactory.
Waste Collection Vehicle Movements	The swept path diagrams for a 6.41 metre long waste collection vehicle entering and exiting the site via Elizabeth Street and Lewis Court and servicing the development, are considered satisfactory.
<b>Other Items</b>	
Vehicle Crossing	Although Lewis Court is a private road, the Engineering Referral team recommends that the vehicle crossing servicing the basement car park be constructed to Council's Standard Drawings and requirements to ensure that vehicles can enter and exit the site satisfactorily.
Vehicle Crossing Ground Clearance	A vehicle crossing ground clearance check is to be undertaken by the applicant's designer to confirm that a B99 design vehicle can enter and exit the property without scraping out (Please see under ' <i>Engineering Advice for Design Items to be Addressed by the Applicant</i> ' section).
Numbering of Parking Spaces	The parking spaces have been numbered.
Annotation on Drawings	Lewis Court (the north-south aligned private road) has been erroneously labelled as Cooke Court on the drawings.
Construction of Footpath – West Side of Lewis Court	The west side of Lewis Court currently has no footpath (Please see appended aerial photo image). No details have been provided by the applicant relating to the construction of a footpath.

## Engineering Advice for Design Items to be Addressed by the Applicant

Item	Details
Development Entrance Via Lewis Court	The development entrance is to be dimensioned on the drawings
Visibility	The architect is to confirm whether the wall adjacent to the exit lane of the car park entry is not obstructing visibility of pedestrians. The pedestrian sight triangle should be superimposed on the drawings.
Headroom Clearance	To be depicted on a section drawing to be prepared of the ramped accessway and basement car park.
Internal Ramped Accessway	The wall-to-wall width of the ramped accessway is to be dimensioned and have a width of no less than 6.1 metres as required by the Australian/New Zealand Standard AS/NZS 2890.1:2004.
Accessible Parking Spaces	Bollards are to be shown for the shared areas as required by AS/NZS 2890.6:2009.
Column Setbacks and Depths	Columns depths and setbacks from the aisles are to be dimensioned. The positions of the columns are to satisfy <i>Diagram 1 Clearance to car parking spaces</i> of Clause 52.20-6.7.
Clearances	Clearances for spaces abutting walls should not be less than 300 mm.
Vehicle Crossing Ground Clearance	<p><u>Ground Clearance Check</u></p> <p>To assist the applicant, a Vehicle Crossing Information Sheet has been appended to this memo. The ground clearance check requires the applicant to obtain a number of spot levels out on site which includes the reduced level 2.0 metres inside the property, the property boundary level, the bottom of kerb (invert) level, the edge of the channel level and a few levels on the road pavement – in this case, Lewis Court.</p> <p>These levels are to be shown on a cross sectional drawing, with dimensions, together with the B99 design vehicle ground clearance template demonstrating access into and out of the development.</p>
Numbering of Spaces	Parking spaces should be numbered in order for easier identification
Annotation on Drawings	'Cooke Court' should be replaced with 'Lewis Court' on the drawings (for the north-south aligned private road abutting the east side of the development).
Construction of Footpath	Details of the provision of a footpath on the eastern side of the development should be provided by the applicant. As Lewis Court is a private road, the applicant would confirm the arrangements for the construction of a footpath abutting the eastern boundary of the site from the owner/manager of the road. The width and cross-fall of the footpath should satisfy DDA requirements that are normally applied for new footpaths on public roads.

## **GENERAL ENGINEERING CONDITIONS**

### **Vehicle Crossing**

Before the development commences, or by such later date as approved in writing by the Responsible Authority, the new vehicle crossing must be designed and constructed:

- In accordance with any requirements or conditions imposed by Council.
- Demonstrating satisfactory access into and out of the site with a vehicle ground clearance check using the B99 design vehicle, and be fully dimensioned with actual reduced levels (to three decimal places) as per Council's Vehicle Crossing Information Sheet;
- At the Permit Holder's cost; and
- To the satisfaction of Council.

### **Road Asset Protection**

- Any damaged roads, footpaths and other road related infrastructure adjacent to the development site as a result of the construction works, including trenching and excavation for utility service connections, must be reconstructed to Council's satisfaction and at the developer's expense.

### **Construction Management Plan**

- A Construction Management Plan must be prepared and submitted to Council. The Plan must be approved by Council prior to the commencement of works. A detailed dilapidation report should detail and document the existing and post construction conditions of surrounding road infrastructure and adjoining private properties.

### **Impact of Assets on Proposed Development**

- Any services poles, structures or pits that interfere with the proposal must be adjusted, removed or relocated at the owner's expense after seeking approval from the relevant authority.
- Areas must be provided inside the property line and adjacent to the footpath to accommodate pits and meters. No private pits, boundary traps, valves or meters on Council property will be accepted.

### **Discharge of Water from Development**

- Only roof runoff, surface water and clean groundwater seepage from above the water table can be discharged into Council drains.
- Council will not permit clean groundwater from below the groundwater table to be discharged into Council's drainage system. Basements that extend into the groundwater table must be waterproofed/tanked.

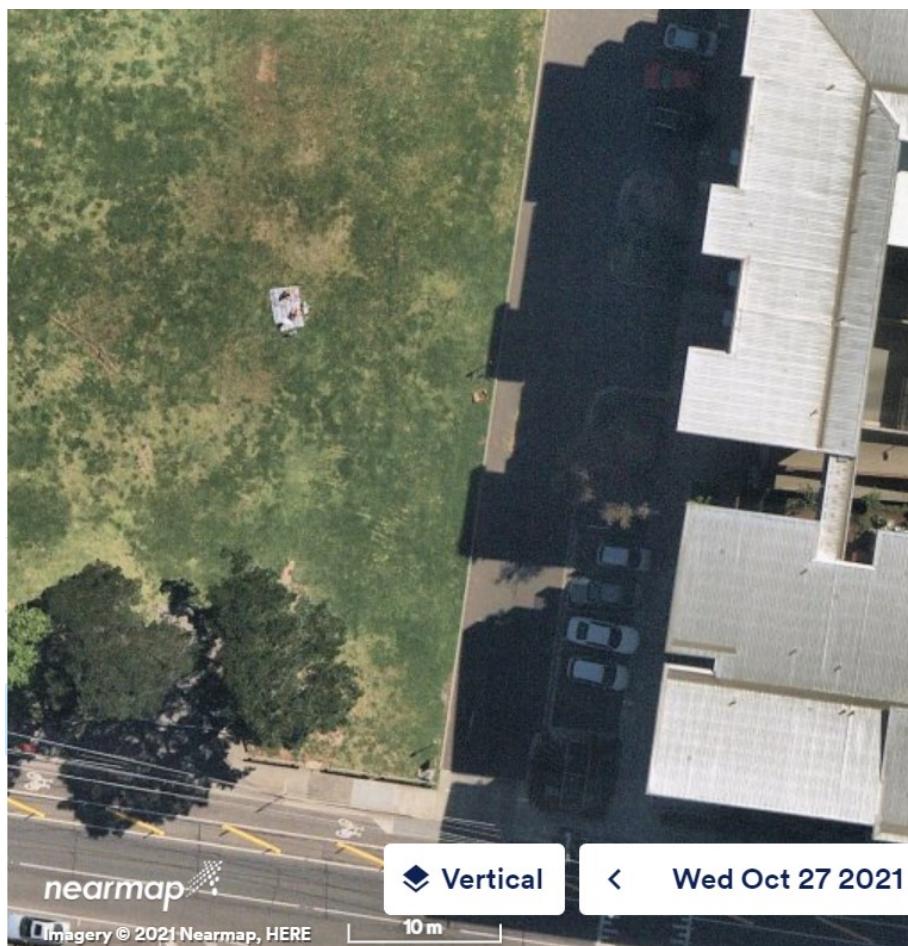
### **Removal, Adjustment, Changing or Relocation of Parking Restriction Signs**

- No parking restriction signs or line-marked on-street parking bays are to be removed, adjusted, changed or relocated without approval or authorisation from Council's Parking Management unit and Construction Management branch.
- Any on-street parking reinstated as a result of development works must be approved by Council's Parking Management unit.
- The removal of any kerbside parking sensors and any reinstatement of parking sensors will require the Permit Holder to pay Council the cost of each parking sensor taken out from the kerb/footpath/roadway. Any costs associated with the reinstatement of road infrastructure due to the removal of the parking sensors must also be borne by the Permit Holder.

## ADDITIONAL ENGINEERING ADVICE FOR THE APPLICANT

Item	Details
Legal Point of Discharge	The applicant must apply for a Legal Point of Discharge under Regulation 133 – Stormwater Drainage of the <i>Building Regulations</i> 2018 from Yarra Building Services unit. Any storm water drainage within the property must be provided and be connected to the nearest Council pit of adequate depth and capacity (legal point of discharge), or to Council's satisfaction under Section 200 of the <i>Local Government Act</i> 1989 and Regulation 133.

### LEWIS COURT - AERIAL PHOTO IMAGE



Left: No footpath has been provided on the west side of Lewis Court. As Lewis Court is a private road, the applicant is to confirm footpath construction and arrangements to be made with the owner/manager of the road.

## Vehicle Crossing – Cross Section



The designer is to submit a 1:20 scale cross section for each proposed vehicle crossing showing the following items:

- A. Finished floor level 2.0 metres inside property
  - B. Property line surface level
  - C. Surface level at change in grade (if applicable)
  - D. Bullnose (max height 60mm) – must be clearly labelled
  - E. Surface level at the bottom of the kerb
  - F. Surface level at the edge of channel
  - G. Road level 1.0 meter from the edge of channel
  - H., I. Road levels
- o Please note the cross section must be fully dimensioned. As shown in the sketch below.
  - o Please show both the existing and proposed surface.
  - o The maximum allowable cross-fall between points B and C is 1:40 (2.5%).
  - o A bullnose (max 60mm) is permitted at point D, however not compulsory.
  - o The levels shown must be exact reduced levels, to three decimal points. Interpolation of levels is not acceptable.
  - o The designer must demonstrate that an 85<sup>th</sup> or 99<sup>th</sup> percentile vehicle profile can traverse the design cross section as per the Australian/New Zealand Standard ground clearance template (AS/NZS 2890.1:2004).
  - o Significant level changes to the existing footpath level B to C will require additional level design either side of the proposed crossing.
  - o Please include any additional levels or changes in grade that are not shown in the diagram.

