CARPARK CERTIFICATION OF A PROPOSED RESIDENTIAL DEVELOPMENT

185 Fifth Avenue in Austral

Prepared for: GM architects

N1715868A (Version 1a)

October 2017

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1. INTRODUCTION

MOTION Traffic Engineers was commissioned by GM architects to prepare a car parking certification report of a proposed residential development at 185 Fifth Avenue in Austral.

Parking is provided in two parking areas. Each parking area has two basement levels.

Vehicle access and egress for Building A and B (two buildings closest to Fifth Avenue) to the car parking areas is via Fifth Avenue and the proposed residential sub division road.

Building C and D (both buildings furthest away from Fifth Avenue) have vehicle access and egress via a sub division road on the western side of the development.

Reference is made to AS2890.1 (2004), and AS2890.6 and Council's Development Control Plan for compliance.

2. DRIVEWAY AND RAMPS FOR BUILDING A AND B

The details of the driveway/ramp from Fifth Avenue to Basement 1A (Building A and B) are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of the driveway is 6.87 metres at the property line and stays uniform for its entire length.
- The gradients along the centre line are as follows:
    - 5 percent for 6 metres downhill
    - 12.5 percent for 2 metres
    - 25 percent for 11.52 metres
    - 12.5 percent for 2 metres

The details of the driveway/ramp from the future road to Basement 1A (Building A and B) are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of the driveway is 6.74 metres at the property line and stays uniform for its entire length.
- The gradients along the centre line are as follows:
    - 5 percent for 6 metres downhill
    - 12.5 percent for 2 metres
    - 25 percent for 10.7 metres
    - 12.5 percent for 2 metres

There are split ramps for building A and B on the upper basement. Each of the split ramps

- The width of the driveway is 7.04 metres at the start of the ramp and stays uniform for its entire length.

- The gradients along the centre line are as follows:
    - 12.5 percent for 6.4 metres downhill

The ramp from the upper basement to the lower basement for building A and B

- The width of the driveway is 5.8 metres at the start of the ramp and stays uniform for its entire length.
- The gradients along the centre line are as follows:
    - 12.5 percent for 2 metres
    - 25 percent for 10 metres
    - 12.5 percent for 2 metres

Convex safety mirrors have been provided at the top and bottom of all ramps and at intersections.

3. DRIVEWAY AND RAMPS FOR BUILDING A AND B

The details of the driveway/ramp from the future road to Basement 1D (Building C and D) are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of the driveway is 6.74 metres at the property line and stays uniform for its entire length.
- The gradients along the centre line are as follows:
    - 5 percent for 6 metres
    - 12.5 percent for 2 metres
    - 25 percent for 10.7 metres
    - 12.5 percent for 2 metres

The ramp at the property line will need convex safety mirrors for pedestrian sight distance.

There are split ramps for building C and D on the upper basement. Each of the split ramps

- The width of the driveway is 7.04 metres at the start of the ramp and stays uniform for its entire length.
- The gradients along the centre line are as follows:
    - 12.5 percent for 6.4 metres downhill

The ramp from the upper basement to the lower basement for building C and D

- The width of the driveway is 5.8 metres at the start of the ramp and stays uniform for its entire length.
- The gradients along the centre line are as follows:

- 12.5 percent for 2 metres
- 25 percent for 10 metres
- 12.5 percent for 2 metres

Convex safety mirrors will be required at the top and bottom of all ramps.

4. CAR SPACES FOR BUILDING A AND B

The details of the car parking areas are as follows:

Basement 1

- The car parking aisle is 5.8 metres wide minimum
- The general 90-degree car spaces are a minimum 2.4 metres wide and 5.5 metres long
- Spaces adjacent to walls do have an additional 300mm width
  - Car spaces next to walls are 2.7 metres wide
- The disabled car spaces are 2.4 metres wide with a length of 5.5 metres
  - Shared zones are 2.4 metres wide and 5.5 metres long minimum
  - Appropriate bollards have been placed in shared zones
- Columns setback and length complies
- A blind aisle extension of 1 metre had been provided through a wider car space

Basement 2

- The car parking aisle is 5.8 metres wide minimum
- The general 90-degree car spaces are a minimum 2.4 metres wide and 5.5 metres long
- Spaces adjacent to walls do have an additional 300mm width
  - Car spaces next to walls are 2.7 metres wide
- The disabled car spaces are 2.4 metres wide with a length of 5.5 metres
  - Shared zones are 2.4 metres wide and 5.5 metres long minimum
  - Appropriate bollards have been placed in shared zones
- Columns setback and length complies
- A blind aisle extension of 1 metre had been provided through a wider car space

5. CAR SPACES FOR BUILDING C AND D

The details of the car parking areas are as follows:

Basement 1

- The car parking aisle is 5.8 metres wide minimum

- The general 90-degree car spaces are a minimum 2.4 metres wide and 5.5 metres long
- Spaces adjacent to walls do have an additional 300mm width
    - Car spaces next to walls are 2.7 metres wide
- The disabled car spaces are 2.4 metres wide with a length of 5.5 metres
    - Shared zones are 2.4 metres wide and 5.5 metres long minimum
    - Appropriate bollards have been placed in shared zones
- Columns setback and length complies
- A blind aisle extension of 1 metre had been provided through a wider car space

Basement 2

- The car parking aisle is 5.8 metres wide minimum
- The general 90-degree car spaces are a minimum 2.4 metres wide and 5.5 metres long
- Spaces adjacent to walls do have an additional 300mm width
    - Car spaces next to walls are 2.7 metres wide
- The disabled car spaces are 2.4 metres wide with a length of 5.5 metres
    - Shared zones are 2.4 metres wide and 5.5 metres long minimum
    - Appropriate bollards have been placed in shared zones
- Columns setback and length complies
- A blind aisle extension of 1 metre had been provided through a wider car space

6. SWEPT PATHS

A swept turning path analysis is performed using a B99 and B85 vehicle to confirm that vehicle movements are adequate.

The following Swept Paths have been performed:

Basement 1

Most movements show adequate manoeuvrability.

7. SIGHT DISTANCE FOR FIFTH AVENUE

The car driver's sight distance requirement to enter the external road is stated in Figure 3.2 of AS2890.1.

The sight distance varies according to the speed of the external road. Fifth Avenue will have a speed limit of 50km/hr.

The minimum sight distance required is 45 metres. The minimum vehicle sight distance is met.

The pedestrian sight distance triangle is met as set out in Figure 3.3 of AS2890.1.

8. SIGHT DISTANCE FOR SUB DIVISION ROAD

The car driver's sight distance requirement to enter the external road is stated in Figure 3.2 of AS2890.1.

The sight distance varies according to the speed of the external road. The sub division will likely to have a speed limit of 50km/hr.

The minimum sight distance required is 45 metres. The minimum vehicle sight distance is met.

The pedestrian sight distance triangle is met as set out in Figure 3.3 of AS2890.1.

9. CONCLUSIONS AND RECOMMENDATIONS

The car parking area and driveway is generally compliant with Australian Standards and Council's DCP.

APPENDIX A – SWEPT PATHS