CARPARK CERTIFICATION OF PROPOSED MIXED-USE DEVELOPMENT

221-235 and 241 Homer Street & 208 Wardell Road in Earlwood

Prepared for: Sitex Pty Ltd

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1. INTRODUCTION

Motion Traffic Engineers was commissioned by Sitex Pty Ltd to prepare a car parking certification report of a proposed mixed-use development at 221-235 and 241 Homer Street & 208 Wardell Road in Earlwood.

Vehicle access and egress to the basement parking areas is via a proposed lane way that runs off Wardell Road.

Parking is provided on the three basement levels.

A truck loading dock with a turntable is located on the ground floor level.

Reference is made to AS2890.1 (2004), AS2890.2 (2002), AS2890.6 (2009) and Council's Development Control Plan for compliance.

2. TRUCK ACCESS AND EGRESS

Aldi has a loading bay at ground level for deliveries as well as waste collection. Entry and exit to the loading bay is via Wardell Road. The largest truck is a heavy rigid truck (12.5 metres long). Entry is forward in. The turntable is used to allow for the truck to leave the site in a forward manner.

Other commercial units and residents will use the lane for trucks entering the site. The trucks enter the lane and reverse into the loading bay area (shared with Aldi). The outbound movement is via Wardell Road. The turntable is used to orientate the truck to leave the site in a forward manner. The largest truck is a waste truck (10.5 metres in length).

The truck opening on Wardell Road is 11 metres. The truck opening on the lane is 8 metres wide with a roller shutter.

A traffic management will be prepared to manage truck access/egress for the loading bay,

3. LANE WAY, DRIVEWAY AND RAMPS

A private laneway runs off Wardell Road and 6 metres wide (between kerbs) for approximately 10.9 metres (to the edge of the opening of the building).

The building opening to the building and ramp to the basement is 10.8 metres wide.

The laneway and the building opening to the Basement 1 is a two-way section. This has been shown in the swept paths.

The details of the driveway/ramp from proposed laneway to basement 1 are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of the driveway is 7.3 metres at the building opening and the beginning of the kerb
- The width of curved ramp narrows down to 6.7 metres between kerbs
- 300mm minimum kerb has been provided on both sides of curved ramp.
- A section of the ramp is curved in one section
- The gradients of the driveway/ramp are as follows:
    - Flat section before the ramp
    - 5 percent for 6 metres

    - *Curved Section:*

Inside Edge				
RL1	RL2	RL Change	Distance (m)	Gradient
42.15	41.79	0.36	2.00	18.00%
41.79	41.35	0.44	2.20	20.00%
41.35	41.05	0.30	2.00	15.00%
Centreline				
RL1	RL2	RL Change	Distance (m)	Gradient
42.15	41.79	0.36	2.80	12.86%
41.79	41.35	0.44	3.20	13.75%
41.35	41.05	0.30	3.85	7.79%
Outside Edge				
RL1	RL2	RL Change	Distance (m)	Gradient
42.15	41.79	0.36	3.60	10.00%
41.79	41.35	0.44	4.20	10.48%
41.35	41.05	0.30	5.45	5.50%

The ramp gradients, width and radius comply with Australian Standards.

Convex safety mirror is provided at the top and bottom of the ramp and at the building opening.

The details of the ramp from basement 1 to basement 2 are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of curved ramp is 7.435 metres between kerbs.
    - 300 mm minimum wide kerb is provided on both sides of curved ramp

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There are missing RL details in the drawing to work out the gradients.

Convex safety mirrors are provided at the top of the ramp.

The details of the ramp from basement 2 to basement 3 are as follows from the perspective of the inbound movement for descriptive purposes only:

- The width of curved ramp is 7.435 metres between kerbs.
    - 300 mm minimum wide kerb is provided on both sides of curved ramp

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There are missing RL details in the drawing to work out the gradients.

Convex safety mirrors are provided at the top of the ramp.

4. CAR SPACES

Basement Level 1 (Retail)

- The car parking aisle is 6.6 metres wide minimum
- The general 90-degree car spaces are 2.6 metres wide and 5.4 metres long.
    - Car spaces adjacent to walls have a minimum 300mm clearance
- The 45-degree car spaces are 2.6 metres wide and 5.4 metres long
    - Car spaces adjacent to walls have a minimum 300mm clearance
- The disabled car spaces are 2.6 metres wide and 5.4 metres long
    - A shared zone of the same dimensions has been provided
    - Bollards with setback 700mm have been provided in the shared zones
- Column setbacks are compliant
- Blind aisle extensions have been provided
- Bicycle parking spaces have been provided

The circulation is one-way clockwise to minimise driver delay travelling to and from the ramp from ground level and within the basement parking aisle where there will be frequent parking manoeuvres.

Basement Level 2

- The car parking aisle is 5.8 metres wide at minimum
- The 90-degree car spaces are 2.6 metres wide and 5.4 metres long
    - Car spaces adjacent to walls have a minimum 300mm clearance
- The 45-degree car spaces are 2.6 metres wide and 5.4 metres long
    - Car spaces adjacent to walls have a minimum 300mm clearance

- The disabled car spaces are 2.6 metres wide and 5.4 metres long
    - A shared zone of the same dimensions has been provided
    - Bollards with setback of 700mm have been provided in the shared zones
- Column setbacks are compliant
- Blind aisle extensions have been provided
- Bicycle parking spaces have been provided

Basement Level 3

- The car parking aisle is 5.8 metres wide at minimum
- The 90-degree car spaces are 2.6 metres wide and 5.4 metres long
    - Car spaces adjacent to walls have a minimum 300mm clearance
- The 45-degree car spaces are 2.6 metres wide and 5.4 metres long
    - Car spaces adjacent to walls have a minimum 300mm clearance
- The disabled car spaces are 2.4 metres wide and 5.4 metres long
    - A shared zone of the same dimensions has been provided
    - Bollards with setback of 700mm have been provided in the shared zones
- Column setbacks are compliant
- Blind aisle extensions have been provided
- Bicycle parking spaces have been provided

A boom gate separates residential from retail parking.

An intercom is provided for afterhours service.

5. LOADING DOCK

A loading dock is located on the ground floor for waste collection and deliveries for all tenants. The loading dock largest vehicle is a large rigid truck.

Truck turn table has been provided with a diameter of 12.5 metres with a 1 metre clearance. The turntable allows for forward entry and exit of the loading bay.

Bollards have been provided within the pedestrian sight distance triangles in order to prevent truck from entering the pedestrian sight distance triangles or driving too close to the chamfering of the building.

Convex safety mirror has been provided adjacent to the driveway for pedestrian safety. A pedestrian sight distance between the bollard and the opening on both sides.

6. SWEPT PATHS

A swept turning path analysis has been undertaken for the loading bay and the ramp from the lane to all the basement levels.

The loading bay is designed for a large rigid truck and a waste truck and the truck swept paths show acceptable manoeuvrability. The residential waste truck swept paths shows entry via the lane.

The car swept paths from the lane to the basement for a 5.2-metre-long car (B99 car as defined by AS2890.1) travelling to the basement with another car leaving the basement and travelling to the lane.

The lane in the future will connect to Bakers Lane and will be on way from Wardell Road to Homer Street. A car swept path has been prepared for this scenario.

A car swept path has been prepared for a driver accidentally turning into the lane and needing to turn around.

The car and truck swept paths show adequate manoeuvrability.

The truck swept paths include all relevant details as per Council requirements:

- *"Dimensions of all trafficable pavements and location of all physical obstructions to vehicle movement including kerb and gutter in the new laneway, driveway crossing, any intercoms to operate after hours for resident, vehicle and staff access, fencing to private properties adjoining the laneway*
- *Location of street trees*
- *Footpath pavement and grades*
- *Laneway pavement grades*
- *Vehicle access crossings grades*
- *Sight distances for all movement directions"*

7. CAR SIGHT DISTANCE

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. Wardell Road has 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 with convex safety mirrors as set out in Figure 3.3 of AS2890.1.

8. TRUCK SIGHT DISTANCE

The truck driver's sight distance requirement to enter the external road is stated in Figure 3.3 of AS2890.2.

The sight distance varies according to the speed of the external road. Wardell Road has a speed limit of 50km/hr.

The minimum sight distance required is 69 metres. The minimum truck sight distance is met.

9. CONCLUSIONS AND RECOMMENDATIONS

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

APPENDIX A – SWEPT PATHS