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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

18 March 2020

Reference: 200090.01FB

Ataai Investment
c/- Walsh Architects
Attention: Scott Walsh

TRAFFIC IMPACT STATEMENT FOR THE SENIORS HOUSING DEVELOPMENT AT 85-87 BLACKBUTTS ROAD, FRENCHS FOREST

Dear Scott,

Reference is made to your request to provide a Traffic Impact Statement for the proposed Seniors Housing Development at 85-87 Blackbutts Road, Frenchs Forest, with proposed plans depicted in **Annexure A**. This letter addresses the expected traffic generation of the proposed development.

1 Description and Scale of Development

The proposed development has the following characteristics relevant to traffic generation as advised by the client:

- A total of three (3) independent two-storeys and three (3) bedroom dwellings;
- A proposed vehicular access driveway from Blackbutts Road, providing access to three (3) separate residential double-garages:
 - A total of six (6) residential car parking spaces provided onsite.

2 Road Hierarchy

The road network servicing the site has characteristics as described in the following sub-sections.

2.1.1 Blackbutts Road

- Unclassified LOCAL Road;
- Approximately 12m wide two-way carriageway (one lane in each direction) and kerbside parking on both sides of the carriageway;
- Signposted 50km/h speed limit;
- Unrestricted kerbside parking permitted along both sides of the carriageway.

3 Site Context

The location of the site is shown on an aerial photo in **Figure 1**.

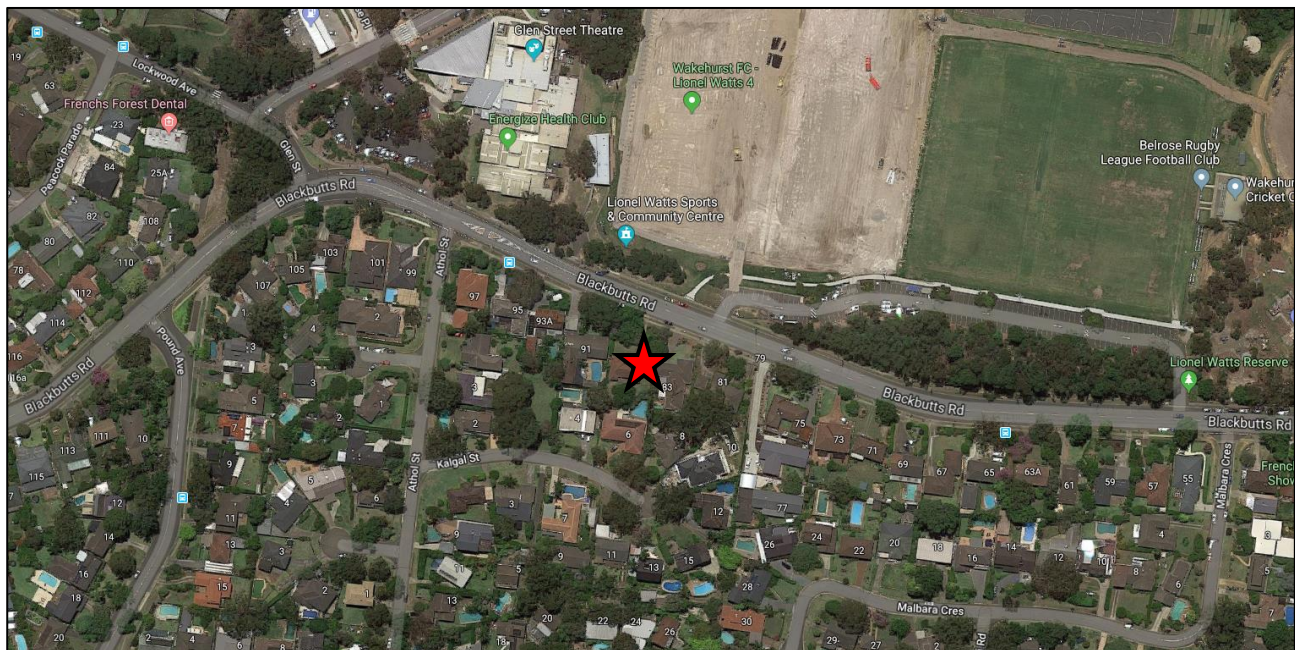


FIGURE 1: SITE CONTEXT – AERIAL PHOTO

4 Traffic Generation Assessment

Traffic generation rates for the proposed seniors living development are provided in the *Roads and Maritime Services (RMS) Guide to Traffic Generating Developments (2002)* and recent supplements and are as follows:

TDT 2013/04a

Housing for seniors

Weekday peak hour vehicle trips = 0.4 per dwelling

(Note that morning site peak hour does not generally coincide with the network peak hour)

The resulting traffic generation is summarised in **Table 1**. It is noted that for conservative assessment, the weekday peak hour peak has been applied to both AM and PM peak hour periods.

TABLE 1: ESTIMATED TRAFFIC GENERATION

Use	Scale	Generation Rate	Trips	Peak Hour Period	Peak Hour Split ⁽¹⁾
Seniors Living	3 units	0.4 per dwelling	2 (1.2)	AM	0 in, 2 out
				PM	2 in, 0 out

Note: (1) Assumes tidal flow (i.e. AM peak outbound, PM peak inbound).

As shown, the maximum traffic generation associated with the proposed development is in the order of two (2) vehicle trips in the PM peak hour period (2 in, 0 out). The AM peak traffic generation has been assumed to be the same for conservative analysis, with the traffic distribution split (0 in, 2 out).

The expected traffic generation of proposed development is minor and will not have an adverse effect on any nearby intersections. The minor increase in traffic can be readily accommodated within the existing road network with negligible impacts in terms of traffic flow efficiency and road safety considerations.

5 Parking Assessment

Reference is made to the *SEPP (Housing for Seniors or people with a Disability) 2004*, hereinafter referred to as *SEPP (Seniors)* which designates the following parking rates applicable to the proposed development:

50 Standards that cannot be used to refuse development consent for self-contained dwellings

(h) parking: if at least the following is provided:

(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider.

Table 2 presents the parking requirements of the proposal according to the above car parking rates.

TABLE 2: SEPP (SENIORS) PARKING REQUIREMENTS

Type	Scale	Rate	Spaces Required
Seniors Living	3 x three-bedroom dwellings	0.5 per bedroom	5 (4.5)

As shown, strict application of the *SEPP (Seniors)* to the scale of the proposed development requires the provision of five (5) car parking spaces, rounded up from 4.5, which cannot be refused under the *SEPP (Seniors)*. Three (3) double garages, resulting in the provision of six (6) car parking spaces are proposed, satisfying *SEPP (Seniors)* parking requirements.

It is noted that the *SEPP (Seniors)* does not require visitor parking for developments of seniors self-contained dwellings. As extracted above, the parking rate “*cannot be used to refuse development consent*” if the parking provision satisfies the *SEPP (Seniors)* requirement. The proposed development does satisfy *SEPP (Seniors)* parking requirements and therefore, development consent cannot be refused on parking grounds. It is further noted that the *SEPP (Seniors)* is an NSW Legislation document and therefore, is the document in authority for this development.

6 Vehicular Access

Vehicular access to the site is provided via a proposed two-way driveway from Blackbutts Road. The driveway is 5.5m wide at the property boundary, facilitating two-way passing. The plans depict a shared at-grade pedestrian access and footpath within the driveway, facilitating pedestrian access to the site. It is noted that Council has raised concerns over the shared driveway and pedestrian access arrangement.

It can be seen in **Section 4** that the expected traffic generation associated with the proposed development is less than two (2) vehicle trips. Further, it is expected that the development will exhibit tidal flow conditions, similar to most domestic residential developments, whereby vehicles leave in the morning and arrive in the afternoon. As such, the small scale of the development of three (3) dwellings results in an extremely low likelihood of vehicles requiring two-way passing at the property boundary.

Therefore, it is highly likely that vehicles will only require 3.6m to enter/exit the site, leaving 1.9m for pedestrians. It is noted that the pedestrian portion of the driveway is has a different surface finish to the vehicular portion, thus notifying entering and exiting vehicles of the potential presence of pedestrians.

Conflicts would only occur if a pedestrian were utilising the shared driveway whilst vehicles were simultaneously entering and exiting the site. The likelihood of this is extremely insignificant given the low and tidal traffic generation (detailed probability calculation provided in **Annexure B**). Nonetheless, there are clear pedestrian sightlines for vehicles entering and exiting the site, such that one party would likely give way to the others in this circumstance.

As such, the shared footpath and driveway arrangement at the property boundary does not result in any adverse pedestrian, vehicular or road safety issues and is acceptable. It is further noted that vehicular passing opportunities are provided along the whole length of driveway. Vehicles don't necessarily need to use the first 6m from the property boundary for two-way passing.

Furthermore, *Clause 2.6* and *Clause 3.2.2* of *AS2890.1:2004* state that the width of a Category 1 domestic driveway can be reduced to a minimum of 3m given the site context. The site has access to a local road with clear sightlines in both directions, the development is a very low traffic generator and abundant passing opportunities are provided within the site. Therefore, a 3m width driveway would be an acceptable outcome. However, as a best practice measure, the site provides an additional 2.5m of width which benefits both pedestrians and vehicles for ease of access into and out of the site.

Please contact the undersigned should you require further information or assistance.

Yours faithfully,

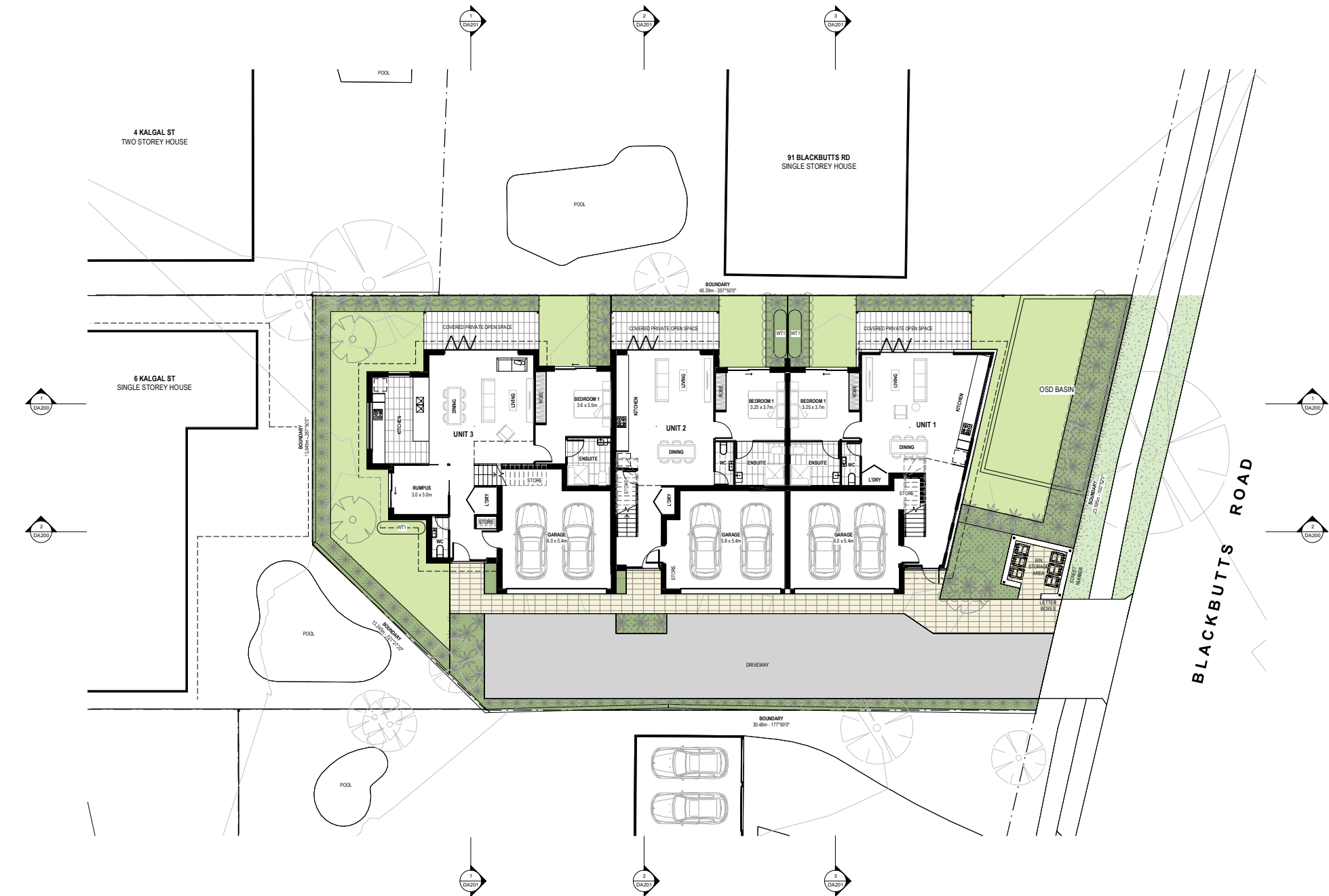
McLaren Traffic Engineering



Matthew M^cCarthy
Senior Traffic Engineer
BE Civil Engineering
Masters of Engineering Science
RMS Accredited Level 1 Road Safety Auditor
RMS Accredited Work Zone Traffic Management Plan Designer and Inspector



**ANNEXURE A: PROPOSED PLANS
(2 SHEETS)**



Project: **SENIORS HOUSING**
85-87 BLACKBUTTS RD, FRENCHS FOREST
Client: **ATAI INVESTMENTS**

Walsh²
Architects
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Scale
1 : 100 @ A1

Sheet Name
GROUND PLAN

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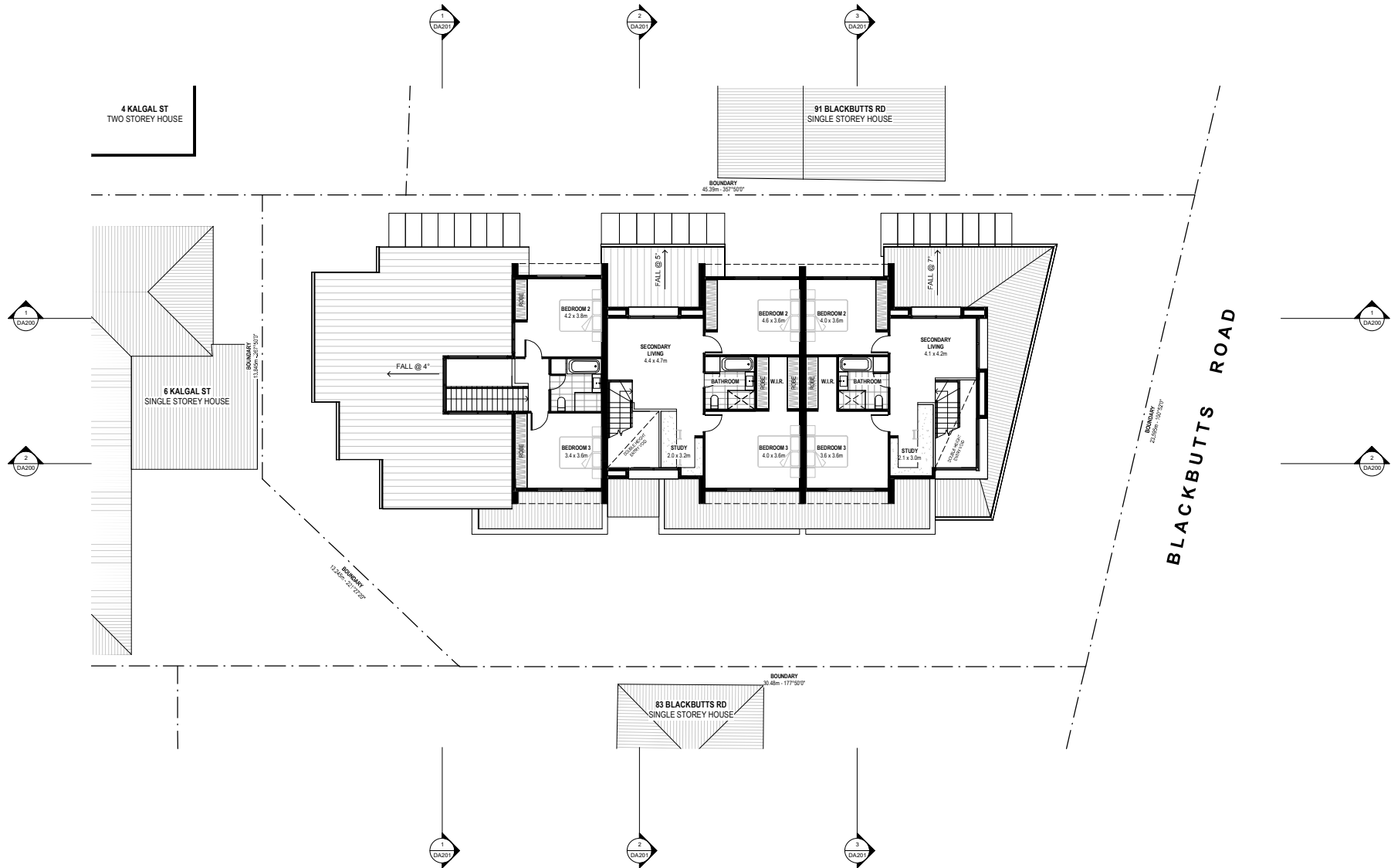
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DA101

No. A Description
FOR DEVELOPMENT APPLICATION

Date
16.03.20

Rev.
A





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Walsh²
Architects

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Scale
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Sheet Name
LEVEL 1 PLAN

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A Description
FOR DEVELOPMENT APPLICATION

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Rev.
A





ANNEXURE B: CONFLICT PROBABILITY CALCULATION
(1 SHEET)

Probability of Vehicular – Pedestrian Conflict at Site Driveway

As an exercise, **MTE** has estimated the likelihood of one (1) vehicle entering site, one (1) vehicle exiting site and one (1) pedestrian using the first six (6) metre portion of the driveway simultaneously, based on the following assumptions:

- One (1) inbound and one (1) outbound vehicle trip in an hour. (conservative, flow is likely to be tidal).
- Three (3) inbound and three (3) outbound pedestrian trips in an hour. (conservative, assumes a pedestrian from each dwelling departs and arrives back to the site within one (1) hour)
- It takes three (3) seconds for a vehicle to drive across the subject 6m length of driveway;
- It takes five (5) seconds for a pedestrian to walk across the subject 6m length of footpath.

The probability of these three (3) events occurring simultaneously has been calculated as shown:

Probability of two (2) vehicles passing at boundary
= Probability of car entering * probability of car exiting
= $3/3600 * 3/3600$

Probability of one (1) pedestrian using footpath
= $6 * 5/3600$

Probability of all three events occurring simultaneously
= $(3/3600 * 3/3600) * (6 * 5/3600)$
= 0.000000579% chance of occurring

OR
= 1/1,728,000

The likelihood of these three movements happening at the same time along this 6m section in a peak hour is 0.000000578%. *AS2890.1:2004* only requires storage spaces to be designed for the 98th percentile queue. This conflict is well within the 2% threshold and doesn't require mitigation. It is noted that the shared driveway design meets the 99.999942%ile event.