

**APPENDIX E**

**TRAFFIC IMPACT ASSESSMENT REPORT**  
Prepared by Bitzios Consulting Engineers

**RECEIVED**  
28/07/2023  
**TOOWOOMBA**  
**REGIONAL COUNCIL**



**Gold Coast Office**

S: Suite 26, 58 Riverwalk Avenue  
Robina QLD 4226  
M: PO Box 5102 Q Super Centre  
Mermaid Waters QLD 4218  
P: (07) 5562 5377  
F: (07) 5562 5733  
W: www.bitziosconsulting.com.au

**Brisbane Office**

S: Level 2, 428 Upper Edward Street  
Spring Hill QLD 4000  
M: Level 2, 428 Upper Edward Street  
Spring Hill QLD 4000  
P: (07) 3831 4442  
F: (07) 3831 4455  
E: admin@bitziosconsulting.com.au

**Sydney Office**

S: Studio 203, 3 Gladstone Street  
Newtown NSW 2042  
M: Studio 203, 3 Gladstone Street  
Newtown NSW 2042  
P: (02) 9557 6202  
F: (02) 9557 6219

**21 July 2023**

Odd Lots (Highfields) Pty Ltd  
PO Box 154  
HAMILTON QLD 4007

Attention: **Bill Lambert**

Sent via email: [bill@portfolioprojects.com.au](mailto:bill@portfolioprojects.com.au)

Dear Bill,

**RE: COUNCIL FURTHER ADVICE | PROPOSED RECONFIGURING A LOT AT 49 CAWDOR ROAD, HIGHFIELDS**

**1.0 INTRODUCTION**

Bitzios Consulting has been engaged by Odd Lots (Highfields) Pty Ltd (applicant) to provide traffic engineering advice in relation to a one (1) into 93 Reconfiguring a Lot (ROL) development at 49 Cawdor Road, Highfields (subject site).

Toowoomba Regional Council (Council) issued a Further Advice (FA) letter dated 5<sup>th</sup> June 2023 in relation to the proposed development. A copy of Council’s FA letter is included at **Attachment A**.

This letter responds to Item 5.1 to 5.3 of the FA letter.

**2.0 ITEM 5: TRAFFIC IMPACT**

**2.1. Item 5.1: Layout Requirements**

<b>5.1</b>	<b>Aspect of Development:</b>
	The reconfiguration layout for the future upgrade works at the Cawdor Drive/Cawdor Road/Woolmer Road/Kratzke Road intersection provided by Bitzios in Appendix G of the Traffic Impact Assessment (TIA) is incomplete and does not allow for the provision of shoulders/cyclist space on Cawdor Drive nor does it show any of the layout requirements for the Cawdor Road, Woolmer Road and Kratzke Road legs
	<b>Further Advice</b>
	The applicant is requested to provide an amended conceptual layout plan for the Cawdor Drive/Cawdor Road/Woolmer Road/Kratzke Road intersection designed in accordance with Austroads and TMR guidelines. The layout must identify road dedication requirements for the development site on Cawdor Road and Cawdor Drive and confirm any road resumption requirements for lots on the northern side of the intersection.

**Bitzios Response**

It is understood that Council has provided the applicant with an upgrade layout for the Cawdor Road / Cawdor Drive / Woolmer Road / Kratzke Road intersection. Council’s upgrade illustrates the ultimate form of the intersection as a roundabout. The proposed development lot layout has been

updated to include the land resumptions noted in the roundabout upgrade plan. A copy of the updated development layout has been included in **Attachment B**.

## 2.2. Item 5.2: Traffic Impact Assessment

<b>5.2</b>	<b>Aspect of Development:</b>
	<p>The provision of a safe intersection treatment for the development access with Cawdor Road/Kuhls Road has not been provided. Council requires the applicant to determine an appropriate development access location and treatment at Cawdor Road given the following:</p> <ul style="list-style-type: none"> <li>a) The separation between intersections on the southern side of Cawdor Road (i.e., Cawdor Drive and Granada Drive is some 860m. Cawdor Road is a distributor road with intersections spaced typically more than 200m apart;</li> <li>b) Existing traffic counts at Cawdor Road/Granada Drive show some 70% of existing traffic using Grenada Drive( in the AM and PM peak) is to and from the west (and north), rather than to the east and the New England Highway. Bitzios traffic distribution assumptions only allow up to 35% of traffic to the north/west in the AM peak and 21% in the PM peak, and appear to be understating the desire for local Highfields trips. If this existing distribution trend is replicated for the development site, a lot more traffic will be directed to the schools, shops and community facilities to the north at the Highfields town centre than projected within the TIA. Without a development access to Cawdor Drive, more trips are likely to occur via Fondulac Drive, Beaumont Avenue or Granada Drive; and</li> <li>c) The travel time to the nearest collector street or distributor road exceeds 60 seconds for 25% of the lots. A 60 second travel time on low-speed streets is considered a measure of reasonable connectivity.</li> </ul>
	<b>Further Advice</b>
	<p>The applicant is requested to provide the following:</p> <ul style="list-style-type: none"> <li>1. An amended Reconfiguration of a Lot Plan detailing a vehicle connection (roundabout) to Cawdor Road aligning with the existing Kuhl's Road Intersection;</li> <li>2. An amended Traffic Impact Assessment (TIA) detailing the provision of a safe intersection treatment for the development access located at the intersection of Cawdor Road/Kuhls Road, with the provision of an intersection layout to confirm the adequacy of the reconfiguration layout.</li> </ul> <p><i>Note: Pedestrian access (minimum 5m width) and the trunk water mains (minimum 10m) must be provided to the Cawdor Drive and Khuls Road intersection from the development site.</i></p>

### **Bitzios Response**

We do not believe that a roundabout access intersection to Cawdor Road aligning with Kulhs Road could be delivered by the proposed development without impacts to third party land. A roundabout concept plan for the Cawdor Road / Kulhs Road / Site access intersection has been prepared to demonstrate the physical constraints on the intersection. A copy of the roundabout concept plan has been included in **Attachment B**.

To facilitate a road connection to Cawdor Road, the development layout has been updated to provide a T-intersection between Selkirk Court and Stewart Court. The Cawdor Road / New Road intersection will be configured as a priority-controlled, left-in / left-out T-intersection. The road connection to Cawdor Road is illustrated on the of the updated development layout has been included in **Attachment B**.

It should also be noted that the development layout maintains a pedestrian connection to Cawdor Road opposite Kuhls Road, as requested by Council.

**2.3. Item 5.3: Traffic Impact Assessment**

<b>5.3</b>	<b>Aspect of Development:</b>
	<p>The Traffic Impact Assessment (TIA) prepared by Bitzios Consulting dated 28 April 2023 submitted in response to Council’s Information Request is not considered to be a complete assessment. In particular the following items requiring addressing:</p> <ul style="list-style-type: none"> <li>a) The safety risk assessment has not considered any of the local streets or intersections. The Fondulac Drive/Cawdor Drive intersection and Cawdor Drive/Cawdor Road/Woolmer Road/Kratzke Road intersection are of particular concern;</li> <li>b) The TIA has assessed pedestrian connectivity to public transport assuming a direct line between the bus routes and the lots, rather than walking distance; and</li> <li>c) The TIA has not identified any pedestrian crossing facilities on Cawdor Road.</li> </ul>
	<b>Further Advice</b>
	<p>The applicant is requested to provide an amended Traffic Impact Assessment (TIA) which includes the following:</p> <ul style="list-style-type: none"> <li>1. A safety risk assessment of the local government street network;</li> <li>2. Assessment of pedestrian connectivity to bus routes based on walking distance; and</li> <li>3. Details identifying how crossing facilities could be provided across Cawdor Road. Access to the future signals at Cawdor Drive/Cawdor Road/Woolmer Road/Kratzke Road should be facilitated via a pedestrian path connection through the adjacent drainage reserve.</li> </ul>

**Bitzios Response**

**Item #1**

A review of the proposed development’s potential safety impacts on the local road transport network near the subject site has been undertaken in accordance with TMR’s GTIA.

In terms of road safety, TMR’s GTIA states that:

*“Development should ensure that a road’s safety is not significantly worsened as a result of development and that any pre-existing or development-introduced unacceptable safety risk is addressed. ‘Significantly worsened’ is defined in terms of the change in the safety risk rating (for example, from low to medium or from medium to high).”*

Figure 2.1 illustrates the safety risk score matrix included in the GTIA.

		Potential consequence				
		Property only (1)	Minor injury (2)	Medical treatment (3)	Hospitalisation (4)	Fatality (5)
Potential likelihood	Almost certain (5)	M	M	H	H	H
	Likely (4)	M	M	M	H	H
	Moderate (3)	L	M	M	M	H
	Unlikely (2)	L	L	M	M	M
	Rare (1)	L	L	L	M	M

Source: TMR's GTIA

**Figure 2.1: Safety Risk Score Matrix**

Crash data for the relevant sections of nearby roads was sourced from TMR to assess crash history in the immediate vicinity of the proposed development. It is noted that KSI accidents include crashes resulting in fatality / hospitalisation.

The most recent five (5) years of crash data has been utilised for the assessment as follows:

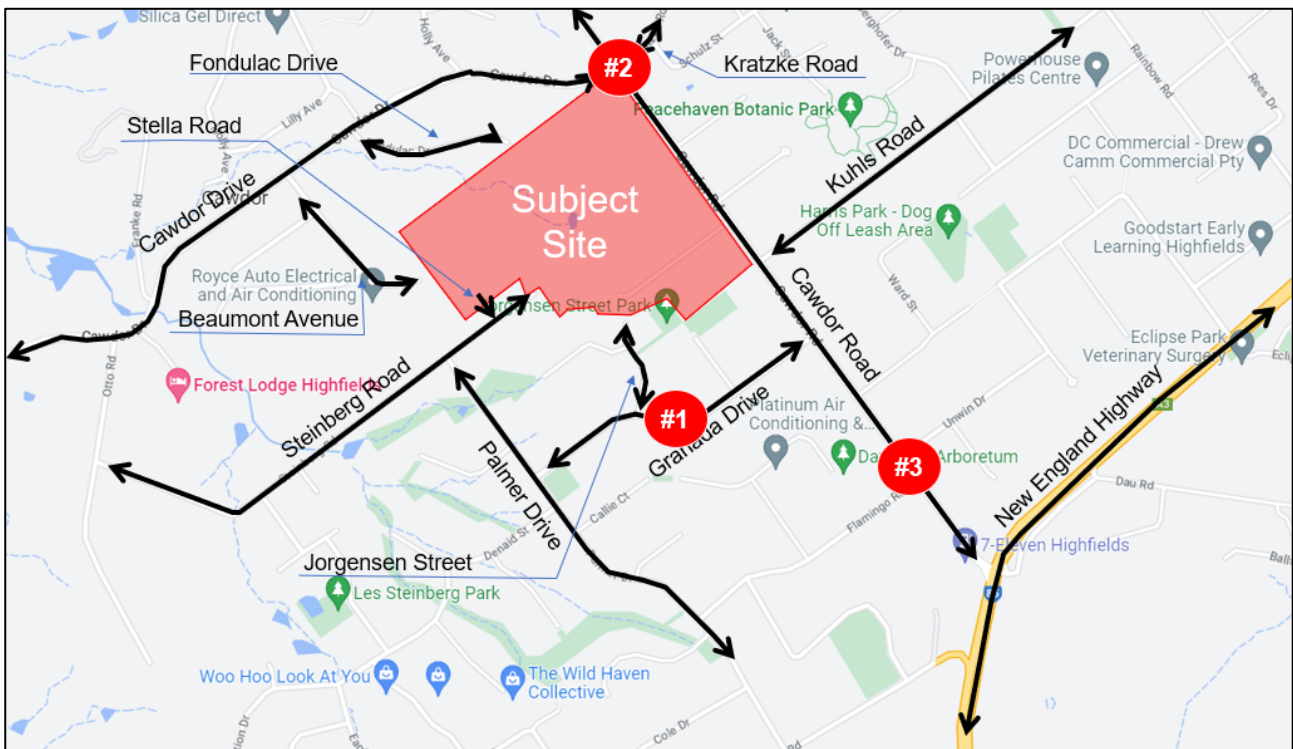
- **Fatal:** 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2021
- **Hospitalisation:** 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2021
- **Medical Treatment:** 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2021
- **Minor Injury:** 1<sup>st</sup> January 2017 to 31<sup>st</sup> December 2021.

The crash data analysis identified a total of:

- One (1) hospitalisation crash:
  - Crash #1: DCA Code 005 Playing, walking or lying on the carriageway occurred in 2021
- Two (2) medical treatment crashes:
  - Crash #2: DCA Code 104 Veh'S Adjacent Approach: Thru-Right occurred in 2017
  - Crash #3: DCA Code 404 Veh'S Manoeuvring: Reversing occurred in 2017

A review of the publicly available crash data suggests that noncompliance with the road rules, rather than a deficiency with the existing road network, was the largest contributing factor in the recent crashes.

These crash locations are illustrated in Figure 2.2.



**Figure 2.2: Crash Locations**

The development-related safety impacts on the subject intersection have been assessed. The safety risks identified at the subject intersection have been assessed as summarised in Table 2.1.

**Table 2.1: Risk Assessment**

Risk Item	Without Development			With Development		
	Likelihood	Consequence	Risk Score	Likelihood	Consequence	Risk Score
<b>Risk #1:</b> Potential for vehicle-pedestrian crashes on the local road network	1	4	M	1	4	M
<b>Risk #2:</b> Potential for multi-vehicle crashes on the local road network	2	3	M	2	3	M
<b>Risk #3:</b> Potential for single vehicle crashes on the local road network	1	4	M	1	4	M

Regarding the safety risks summarised in Table 2.1, we note that:

- Risk consequences have been based on existing crash data where available or deemed relevant. Where no existing crash types have occurred, a crash consequence of Hospitalisation has been assumed
- It is specifically noted that development traffic is not expected to affect risk consequences.

- Crash frequencies have been based on existing crash data where available. Where no existing crash data is available, a crash likelihood of Rare has been assumed as the crashes are assumed to occur with a frequency greater than one (1) every five (5) years
- The quantum of additional development-generated traffic is very low, representing only 80 additional trips during each peak hour. This equates to slightly more than one (1) additional trip every minute
- Due to the very low increase in traffic volumes both in absolute and percentile terms, the likelihood of crashes has not been increased for the identified risks
- No existing crash risks have been given a high risk score.

The development-generated traffic is not anticipated to increase any of the risk scores associated with the risk items identified. Therefore, no safety mitigation measures are warranted.

### **Item #2 and #3**

As illustrated on the updated development layout, included in **Attachment C**, the development provides the following connections from the development to Cawdor Road:

- A pedestrian pathway generally aligning with the Cawdor Road / Kuhls Road intersection
- A pedestrian and vehicle connection via the proposed Cawdor Road / New Road left-in / left-out intersection.

We are not aware of any traffic engineering reasons why a pedestrian pathway could not be provided through the drainage reserve lot on the southern side of the Cawdor Road / Cawdor Drive intersection.

The provision of three (3) pedestrian links between the proposed development and Cawdor Road would significantly reduce the pedestrian walking distance to the future bus stop on Cawdor Road. Therefore, the majority of the proposed development lots could be considered as being within 500m walking distance of a future bus route.

A review of Cawdor Road at the subject site frontage has not identified any significant constraints that would prevent a pedestrian crossing on Cawdor Road. We believe that a midblock pedestrian crossing facility on the subject site's Cawdor Road could reasonably be conditioned. It is recommended that pedestrian crossings be incorporated into Council's future upgrade of the Cawdor Road / Cawdor Drive / Woolmer Road / Kratzke Road intersection.

### **3.0 SUMMARY**

I trust the above is sufficient to address Council's FA letter items related to traffic impacts and will allow Council to approve the development application with reasonable and relevant conditions.

Yours faithfully,

*R Trotman*

**Rhys Trotman**  
*Senior Traffic Engineer & Transport Planner*  
**BITZIOS CONSULTING**

Attachments:

- A. Council Further Advice Letter
- B. Proposed Development Lot Layout Plan
- C. Cawdor Road / Kuhls Road Roundabout Plan