



LAMBERT & REHBEIN
ENGINEERS • MANAGERS • SCIENTISTS

7 September, 2021
Our File Ref: B20453TL001
Contact: Mark Booth

RECEIVED
14/09/2021
TOOWOOMBA
REGIONAL COUNCIL

B Planned & Surveyed Pty Ltd
1 / 858 Old Cleveland Road
CARINA QLD 4152

Attention: Stewart Owen

**RE: PROPOSED RESIDENTIAL SUB-DIVISION
84-100 FRASER STREET, DARLING HEIGHTS QLD 4350
FURTHER ADVICE RESPONSE**

This letter is in response to the Council's Further Advice issued 8 July 2021 for the proposed Reconfiguring a Lot – Code – One (1) Lot into Five (5) Lots, located at 84-100 Fraser Street, Darling Heights. The traffic engineering issues being addressed are stated below in *italics*.

Issue

The proposed development is subject to the Performance Outcomes outlined in the Toowoomba Regional Planning Scheme 2012, Reconfiguring a Lot Code. The Traffic Impact Assessment (TIA) provided does not satisfactorily demonstrate that the relevant performance outcomes can be achieved. In particular, the following issues are of concern:

- *The TIA has not considered the adequacy of the traffic lane widths along Fraser and Hayden Streets or the compliance of these streets with Austroads and Council's typical cross sections;*

Lambert & Rehbein Response

We note that the existing pavement width varies between 5.9m – 6.0m along Fraser Road, following recent pavement widening completed by Council in 2019. While the existing pavement width does not meet Council's standards for a Distributor (7m of bitumen seal width), we note that land resumptions on both Fraser Street (2.5m) and Hayden Street (1.5m) have been proposed to ensure the proposed lot boundaries do not impact any future widening of Fraser Street and Hayden Street, as requested during pre-lodgement.

We note that the cost to widen the existing pavement to meet Council's standards would be detrimental to the small development which seeks to reconfigure a single lot into five (5) lots. We believe this would be an unreasonable request noting that the:

- Proposed development only seeks to reconfigure a single (1) lot into five (5) lots equating to an additional four (4) lots;
- Proposed development is likely to only increase traffic on Fraser Street by 3.5veh/hr equivalent to an additional trip every 17 minutes;

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- Hayden Street and Fraser Street currently only service a relatively small catchment ~40 lots generating low traffic volumes;
- All surrounding Distributor roads are of similar width (or less) including Maags Road which is one of the main connections for the local area to the Drayton Connection Road/ Gwynne Rd;
- The recent subdivisions at 44 -62 Fraser Street (RAL/2017/6685) and 44-58 Fraser Street (RAL/2020/3521), resulting in the approval of additional 4 lots accessing Fraser Street, required land dedication but no road widening was conditioned.

We are of the opinion that providing land dedication for future corridor trunk works is a suitable condition for a development of this scale, again noting the recent conditions of 44 -62 Fraser Street (RAL/2017/6685) and 44-58 Fraser Street (RAL/2020/3521).

Issue

• *The TIA has not demonstrated that the proposed vehicular access to proposed Lot 2 will not have excessive adverse impacts on the surrounding road network. Specifically, it has not been demonstrated that sufficient Safe Intersection Sight Distance (SISD), Approach Sight Distance (ASD), and Minimum Gap Sight Distance (MGSD) is available when considering the overall topography, and the impact of the longitudinal grades of the road on braking distances; and*

Lambert & Rehbein Response

AS2890.1 requires a minimum of 70m of sight distance for a domestic property access on Fraser Street based on the frontage road speed of 70km/h, as per AS2890.1 Figure 3.2 Note 6.

A SISD assessment of Lot 2's access points was completed. This assessment found that due to the existing topography and longitudinal grades 67.3m of SISD to the south can be achieved from the proposed site access – see enclosed sight distance assessment.

We note though that the likely prevailing speed of a vehicle traveling around the corner will be much lower due to the existing sharp radii of the bend. We are of the view that the sight distance requirements needs to meet the frontage road speed relevant to the prevailing conditions. We note that This assumption is based on:

- that existing radii of the corner varies from R=~14m to R=~76m, as illustrated in **Figure 1**;
- assuming an average radii of 21m, superelevation of 3.5%max, and side friction of 0.03, the desirable speed the corner is calculated for 30km/hr; and
- the corner is currently signed at an advisory speed of 30km/hr in both direction, as illustrated in **Figure 1**; and
- it would not be possible for a vehicle to negotiate the bend at 70km/hr without a significant risk that they would run off the road



Figure 1 – Hayden Street / Fraser Street intersection

As Lot 2's access will provide adequate sight distance for a domestic property access on Fraser Street that has a frontage road speed of at least 60km/hr (minimum of 60m of sight distance, as per *AS2890.1 Figure 3.2 Note 6*), we are of the opinion that the proposed location of Lot 2's access is a suitable location for a single dwelling.

Issue

- *The TIA has not considered the availability of Stopping Sight Distance (SSD) in the vicinity of the corner at the intersection of Fraser and Hayden Streets.*

Lambert & Rehbein Response

It should be noted that the proposed development is unlikely to increase traffic on Hayden Street and therefore increase traffic travelling around the existing Hayden Street / Fraser Street corner.

We note that the cost to address any sight distance issue, due to existing topography and longitudinal grades, is considered unreasonable on a single development that does not increase traffic around this corner. We are of the opinion that providing a 3 metre x 3 chord truncation land dedication for future corridor trunk works is an appropriate condition for a development that seeks to reconfigure a single (1) lot into five (5) lots.

We also note that any sight distance requirements would need to meet speed relevant to the prevailing conditions of the corner 30km/hr which the design is likely to have been originally designed to – see enclosed sight distance assessment.

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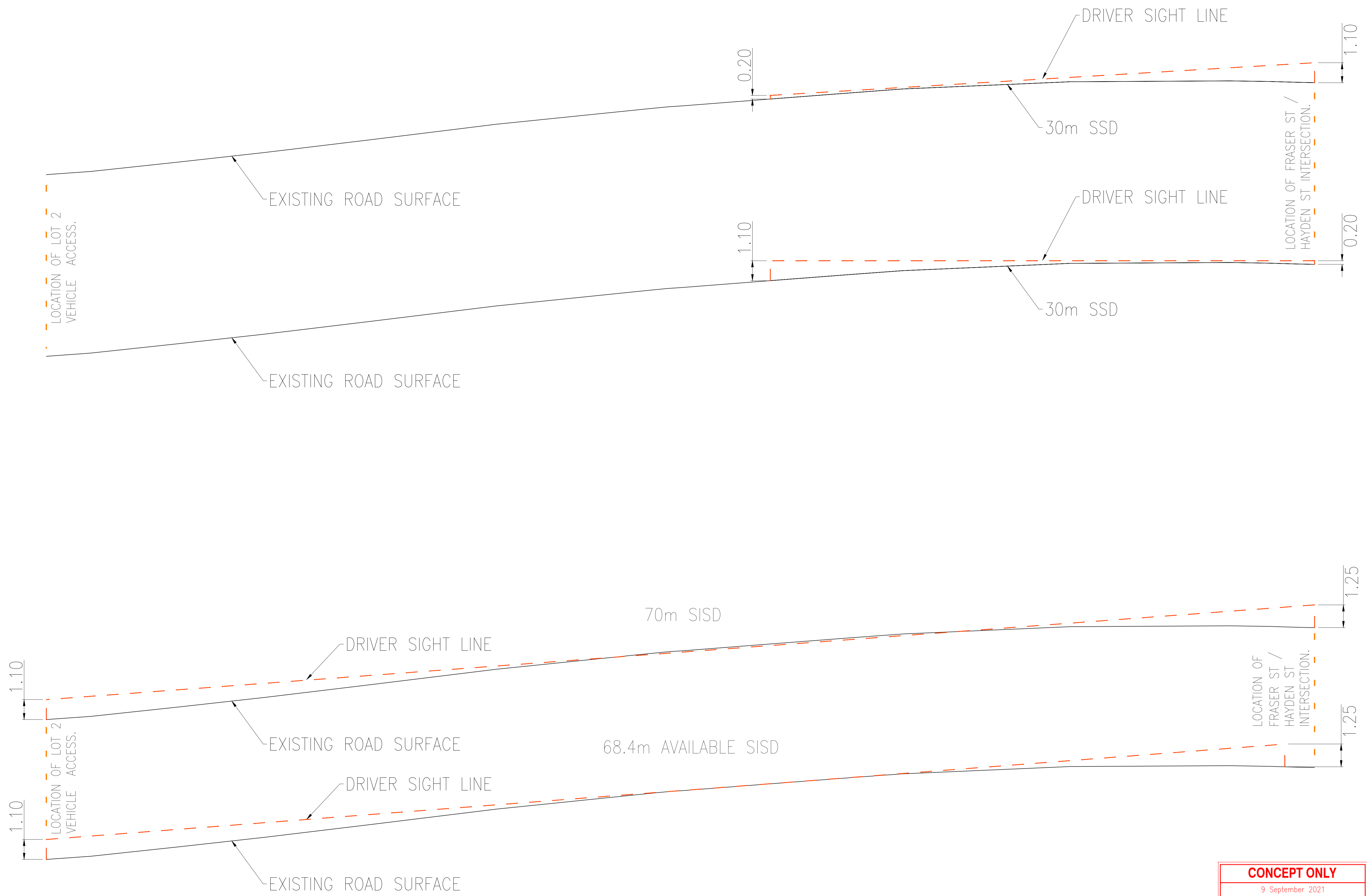
Yours faithfully
For and on behalf of
LAMBERT & REHBEIN (SEQ) PTY LTD

A handwritten signature in black ink, appearing to read 'M Booth', written in a cursive style.

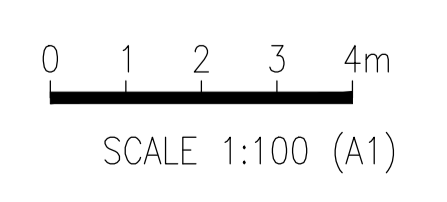
M.S. BOOTH BE(Civil),
SENIOR TRAFFIC ENGINEER
TRANSPORT & INFRASTRUCTURE

A handwritten signature in black ink, appearing to read 'S.A. Williams', written in a cursive style.

S.A. WILLIAMS BE(Civil), FIEAust, RPEQ #06417
DIRECTOR
TRANSPORT & INFRASTRUCTURE



CONCEPT ONLY
9 September 2021



Project:
PROPOSED SUB-DIVISION
307 HAYDEN STREET WEST DARLING DOWNS

Client:
David Robertson C/- B Planned & Surveyed Pty Ltd
Title:
STOPPING SIGHT DISTANCE (SSD) ASSESSMENT &
SAFE INTERSECTION SIGHT DISTANCE (SISD) ASSESSMENT

LAMBERT & REHBEIN
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The Association of
Consulting Engineers
Australia

Drawn: FM Checked: MB Approved: _____

Figure No:
B20453-SK-001

Scale: AS SHOWN A1

File Ref: SEE BELOW Sheet 2/2

Rev. Date: 09/09/21