

4 September 2020

Frasers Property Australia & Altis Property Partners  
**Attention: Mr Paul Solomon**  
PO Box 3307  
RHODES NSW 2138

Dear Sir,

**Re: 657 - 769 Mamre Road, Kemps Creek (SSD 9522)**  
**DPIE Response**

Further to your request we are pleased to provide our response to the road network items raised by DPIE in their letter dated 1 September 2020 and associated information request.

We provide the following response table to the engineering items in the correspondence noted above. We note that our responses are based on the new Frasers/ Altis J.V. *Masterplan SSD-MRM-SK-018 (Rev. F)* included as **Enclosure 1** to this letter.

No.	Item and Response
<b>Item 1)</b>	<p><i>Ensure a smooth continuous movement and alignment thereby removing sharp bends and acute angles along its entire alignment.</i></p> <p><u>Response</u></p> <p>Altis /Frasers have discussed with DPIE the inability to amend the whole of the current road network to remove all of the 90degree direction changes. This is based upon a large occupier commitment that will be investing over \$500m into the site/ local area and continuation of Southern Link Road. An amended masterplan has been prepared showing a concept to incorporate a larger turning radius within the north-south link road</p> <p>Reference to the revised masterplan shows a minimum radius of curvature of 98m at the above noted direction change. The minimum curvature adopted allows for efficient and safe turning at the design speed of 60km/h, being acceptable per Austroads based on the noted speed and paramaters confirmed in Item 2 response. The final intersection layout will need to be refined as part of design progression to include dedicated turn lanes and priority intersection arrangements.</p>
<b>Item 2)</b>	<p><i>The horizontal radius is subject to detailed design review with factors including design speed, design vehicles, superelevation, driveway sight lines, lane widening, etc.</i></p>

<b>No.</b>	<b>Item and Response</b>
	<p><u>Response</u></p> <p>Horizontal curves are based on Austroads Part 3 using design speed of 60km/hr (50km/hr posted) and a 26.0m b-double design vehicle. Lane widths are based on swept path assessments and utilize shoulder/ parking provision within the overall carriageway width (adopted on straight sections of road) to maintain consistent carriageway width when measured kerb to kerb. Superelevation is not currently proposed based on the low design speed (&lt;70km/hr) and urban road environment as allowable per <i>Section 7.8 of Austroads Guide to Road Design Part 3: Geometric Design</i>. Further review of the benefits of superelevation will be reviewed during detail design phase.</p> <p>Refer to response by Ason Group relating to site distances.</p>
<b>Item 3)</b>	<p><i>An appropriate horizontal and vertical integration with adjoining properties is to be established.</i></p> <p><u>Response</u></p> <p>Horizontal integration with the expected linkage south of the property has been considered. The connecting location has been positioned outside the 1% AEP flood line and E2 Zoned land south of the property.</p> <p>In relation to vertical integration, the proposed level of the road at the south boundary of the site is at RL 40.7m. This level enables the road (and development lots) to drain by gravity, considers flood planning requirements and expected future integration and filling of properties south of the JV boundary. It is anticipated that similar filling will be required to develop the site to the south of this development. Additionally consideration that the property to the south will need to bridge or cross a considerable overland flow in proximity to the boundary will also be required which will need development areas to be raised as noted.</p>
<b>Item 4)</b>	<p><i>A maximum longitudinal grade (considerate of efficient heavy vehicle requirements) is to be established.</i></p> <p><u>Response</u></p> <p>A maximum longitudinal grade of 10% would be considered suitable for efficient heavy vehicles requirements in the precinct.</p> <p>It is noted that grades of 3% or less are proposed for the road network in this development.</p>

This letter is provided by Costin Roe Consulting Pty Ltd. Please contact the undersigned if clarification of any of the above items are required.

Yours faithfully,

**COSTIN ROE CONSULTING PTY LTD**

A handwritten signature in black ink, appearing to read 'M. Wilson', with a stylized, flowing script.

**MARK WILSON** MIEAust CPEng NER  
Director

Encl. Frasers/ Altis JV Masterplan SSD-MRM-SK-018 (Rev. F)

**ENCLOSURE 1**

**Frasers/ Altis J.V. Masterplan SSD-MRM-SK-018 (Rev. F)**