

20 October 2020

Charles Horrell
Boffa Miskell Ltd
Level 4, Huddart Parker Building
1 Post Office Square
Wellington 6011

Dear Charles

**New Plymouth District Council
Plan Change Application for 2 Johnstone Street, Waitara
Technical Review of Transport Matters**

I have reviewed the following sections of the application document for a proposed private Plan change for 2 Johnston Street, Waitara:

- Sections 3.6, 9.5 and 9.8 (including sub-sections);
- Appendix A1 (Maps);
- Sections 3 of Appendix E (Engineer's Report);
- Appendix F1 (Integrated Transport Assessment);
- Appendices F2 (Traffic RFI Letter January 2019);
- Appendix H3 (Alternate Layout Options);
- Appendix H4 (Landscape Memo);
- Reviewed transport matters in submissions from:
 - Julie Weston;
 - Kathleen Weston
 - Brett and Anne MacDonald;
 - Marilyn and Pat Cadle;
 - Ross Johnston;
 - Theresa Wilcox;
 - Jo Limmer;
 - NZTA;
 - Manukorihi Hapū;
 - Te Kotahitanga o Te Atiawa

The Application is for a Plan Change from 11.34 Ha of rural zoned land to approximately 1.54 Ha of Open Space zoned land with the remainder being for residential zoned land to provide for residential housing of approximately 110 Lots.

Validity of Inputs, Assumptions and Conclusions in the Application Documents

I agree with that the overall approach to assess actual or potential transport effects as presented by the Applicant is appropriate. I agree with the description provided by the Applicant of the existing transport network (Section 4 of Appendix F1) and the existing traffic patterns (Section 5 of Appendix F1). I do not agree that some of the volumes presented in Section 5 of Appendix F1 are representative of the current traffic volumes. The traffic volumes on roads documented in Table 5-1 of Appendix F1 were reviewed and compared to the traffic counts provided in the NPDC's website (<https://www.newplymouthnz.com/Residents/Transportation/Maintenance/Traffic-Counts>) and shown below:

Road	Location	ADT Reassessment	ADT from Application (yr)
Ranfurly Street	West of Raleigh St	Agree	130 (2015)
Stafford Street Ext	Btwn Raleigh St and Ranfurly St	31 (2015)	1,000 (2015)
Raleigh Street	South of Johnston St	3237 (2019)	2,700 (2015)
Johnston Street	Bwtm Raleigh and end of seal	agree	25 (2013)

Table 1 – ADT reassessment

With regard to Figure 5-1 of Appendix F1, I agree with the directional split on Raleigh Street between northbound and southbound as shown in the time periods presented but disagree with the flow of vehicles per hour as set out above in that the traffic volume on Raleigh Street used by the Applicant is not representative of the ADT 2019 traffic volumes that are now available since the Applicant prepared their Integrated Transport Assessment in 2018. Additionally, the Applicant states that PM peak flows on Raleigh Street are between 250 and 300 vph, whereas these are recorded as 358 in the NPDC's traffic counts of 2019. This point is discussed further below as it relates to the intersection configuration to/from the proposed development.

With reference to Section 7 of Appendix F1, I agree that a development comprising more than 100 dwellings is a trigger to reassess the speed limit on Raleigh Street. In discussion with Mr John Eagles (NPDC Network Management Lead), a review of the speed on Raleigh Street is proposed for the end of October 2020 with a speed of 80 km/hr proposed for Raleigh Street from SH3 to the current urban boundary based on the current zoning of land use. This point is discussed further below as it relates to the intersection configuration to/from the proposed development.

I agree with Table 10-1 in terms of the traffic generated from the proposed 120 Lots for the purposes of assessing the forecast trips on the local network and acknowledge that Waka Kotahi require 10 trips per Lot as the traffic generation rate for assessment of trips from the proposed 120 Lots for estimating effects on the State Highway. My assessment relates to the traffic generated from the proposed development on the local transport network using the generation rate as set out in Table 10-1.

I agree with the traffic patterns from the proposed development specified in Section 10.2 of Appendix F1.

Proposed Access Arrangements

In Section 9.2 of Appendix F1, the Applicant states that the distance of new access roads (from the proposed subdivision) to any other intersection meets or is close to the minimum requirements of the District Plan being “30m for a 50km/hr speed environment and 105m for a 80 km/hr speed environment”. With reference to (from Table 23.5 of and Diagram 23.6 of Appendix 23 of the District Plan), which relates to vehicle access points (as defined by the definitions accompanying the District Plan - <https://www.newplymouthnz.com/-/media/NPDC/Documents/Council/Council%20Documents/Plans%20and%20Strategies/District%20Plan/District%20Plan%20Definitions.ashx?la=en&hash=22D5A6908990B192B8A6C8CC09782657179BEF3D>). The Applicant has mis-quoted the distance (b) in Table 23.5 for an 80 km/hr posted speed limit as it should be 175m for a Collector Road, which Raleigh Street is (<https://www.newplymouthnz.com/-/media/NPDC/Documents/Council/Projects/Projects%20Strategic%20study%20report%20map%203%20Proposed%20urban%20road%20hierarchy%20bellblock%20and%20waitara.ashx>).

The proposed vehicle access point (intersection) for the proposed southern intersection from the development is too close to Johnstone Street, using the same 175m requirement.

It appears that the proposed northern access point (intersection) for the proposed subdivision is located in close proximity to the 50/80 Km/hr change in speed environment. This would then trigger the need for the proposed northern intersection to be 175m away from Ranfurly Street.

Taking the above two paragraphs together, and relocating the two proposed intersections a minimum of 175m away from Johnston and Ranfurly Streets would place these intersections within 175m of each other.

In summary, I don't agree with the Applicant that "the proposed new subdivision intersections can be designed at the subdivision stage in general accordance with the District Plan Rules and Standards" as to meet the required standards requires a different layout to that presented by the Applicant. This point is discussed further below as it relates to the intersection configuration to/from the proposed development.

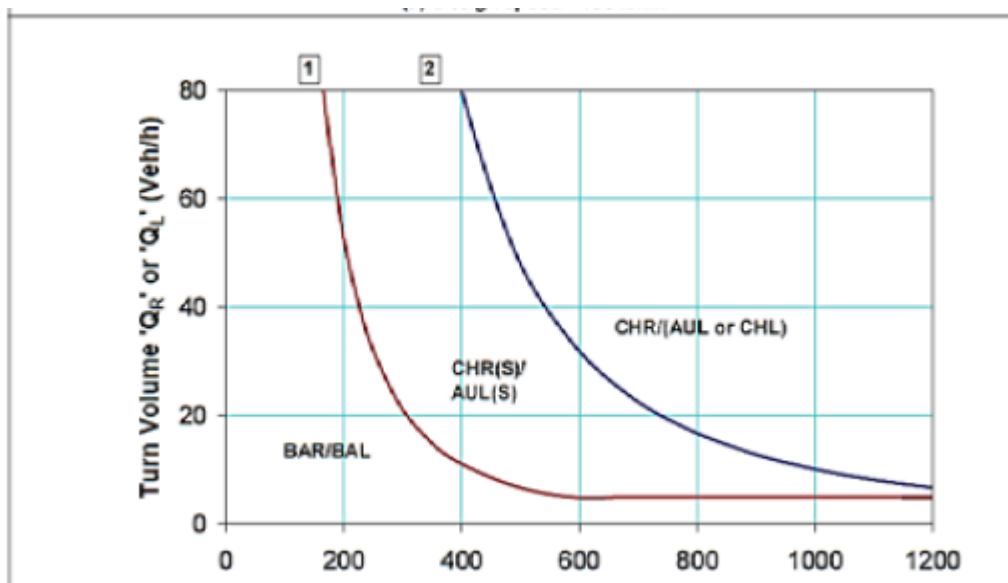
There are significant safety issues to be worked through with regard to access to and from Lots directly abutting Raleigh Street, particularly in the 80 Km/hr zone and the interaction with Raleigh Street through traffic, particularly those following a vehicle wishing to turn right into a specific Lot. This point is discussed further below as it relates to the intersection configuration to/from the proposed development. I have reviewed the alternative access arrangements provided in Appendix H3 of the Application and, from a traffic and roading perspective, prefer both of these layouts to that proposed by the Applicant in Appendix F1 if the Lots abutting Raleigh Street are within a speed restriction zone greater than 50 Km/hr.

With regard to direct access onto Johnstone Street for the approximately 6 Lots, this will increase the number of generated trips by approximately 54 trips per day, which will require the Johnstone Street to be widened to meet the 5.5 to 5.7 width (excluding shoulders) as specified in Table 3.2 of NZS 4404 up to the second to last new Lot, after which the existing width can be maintained. This is a design matter that can be worked through with NPDC during a Resource Consent Application for the proposed subdivision.

With regard to the internal roading layout within the proposed subdivision, I agree with the Applicant's internal roading arrangements set out in Section 9.3 of Appendix F1.

Transport Network Effects

With regard to the Applicant's assessment of the form of the proposed new intersections (as set out in Section 10.3 and Table 10-1 of Appendix F1, I do not agree with this assessment for the proposed intersection. As a minimum a basic right turn treatment is required at each of the proposed intersections as specified in Figure 2.23 from Austroads part 6 (reproduced below).



I could find no mention of any upgrade to Raleigh Street along the frontage of the subdivision, other than the provision of a berm and footpath. The provision of trees along Raleigh Street (as suggested by the Applicant) is not recommended without the provision of an independent safety audit for Raleigh Street for each vehicle access and intersection along the proposed subdivision frontage correlated to the location of each tree. The provision of private driveways and two new intersections along Raleigh

Street from the proposed subdivision together with trees creates a safety concern with potentially poor visibility when egressing the driveways and subdivision roads for through and side traffic.

Acknowledging that the area type is suburban and traffic volumes on Raleigh Street are above 2,000 vpd, the road width of Raleigh Street along the frontage of the proposed development should be reviewed and potentially upgraded to align with Figure E13 of Table 3.2 from NZS 4404.

Stormwater run-off

I could find no mention of the how stormwater run-off from Raleigh Street or the subdivision roads would be collected, disposed and treated. The Engineer's report in the Application documents makes mention of disposal to soak pits or an alternative to a stormwater detention pond but there are no flow calculations to support disposal of road runoff for either of these methods.

The Applicant should provide greater detail about how stormwater runoff from roads will be collected, disposed and treated prior to entering either the ground water or the detention pond and those calculations should demonstrate that the anticipated quantum of stormwater run-off from roads can be accommodated within the system that the Applicant proposes.

The Applicant should provide details on how they intend to maintain the stormwater flow in the existing swale drain on the western side of Raleigh Street or whether they intend to divert this flow into the proposed detention pond within the subdivision. Calculations to show that the design storm flow can be accommodated should be provided.

Mitigating the Proposed Intersections with Raleigh Street

As stated above, in meeting standards for the location of the proposed intersections and acknowledging that two separate intersections would not comply with standards in an 80 Km/hr speed restricted area, a method to remedy this non-compliance would be to provide a single access (intersection) to/from the proposed subdivision. This would require a channelised right turn treatment on Raleigh Street in accordance with Austroads standards for rural environments.

Alternatively, extending the speed environment to 50 Km/hr southwards to south of the Johnstone Street intersection would mean the two proposed intersections can be implemented in the general locations as set out by the Applicant and meet current standards, along with a basic right turn treatment. Extending the existing 50 Km/hr speed limit on Raleigh Street to south of Johnstone Street would also help address the safety concerns raised above in relation to property access to and from Raleigh Street for those properties abutting Raleigh Street.

For both scenarios, Raleigh Street requires widening to meet the width requirements for a Collector Road carrying more than 2,000 vpd

Yours faithfully

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