17 April 2020

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Selwyn District Council

Attention: Jane Anderson

Dear Jane,

TRANSPORT REVIEW
PROPOSED Z ENERGY SERVICE STATION
RC205094 – 2 BROOKSIDE ROAD, ROLLESTON

1. This letter sets out our review of the assessments of transport effects undertaken by Stantec for the proposed service station at 2 Brookside Road, Rolleston. The proposal also includes formalisation of car parking at the Rolly Inn, as well as use of the first floor of that building as a function centre. The information reviewed includes:

   i. The Transport Assessment, prepared by Stantec dated 11 February 2020;

   ii. The transport elements of the Assessment of Environmental Effects, prepared by 4 Sight Consulting dated 21 February 2020; and

   iii. The transport related responses in relation to the Council Request for Further Information (RFI), prepared by Stantec dated 20 March 2020.

The Proposal

2. The proposal is satisfactorily set out in the application documents. From a transport perspective, the key elements are:

   i. The activity will be a service station (including 245m^2 GFA store) with 16 fuelling points and a car wash;

   ii. Service station access will be taken from Main South Road (State Highway 1) via a left-in / left-out access point that requires works to the State highway to provide a solid median to prevent right turns. Two all-movement accesses are also proposed to Brookside Road;

   iii. The service station site will be supported by 12 car parks. A further eight car parks are proposed on the service station site that will be allocated to staff at the Rolly Inn;

   iv. The Rolly Inn will include a conversion of the first floor to accommodate functions, which will have a capsacity of 60 people (85m^2 PFA);

   v. The Rolly Inn car park will be formalised to provide 27 car parking spaces; and

vi. The activity is predicted to generate 150 vehicle movements per hour during the peak period and 70% of traffic has been assumed to be pass-by (i.e. already on the road network passing the site). There is predicted to be an additional 30 vehicle movements per hour on Brookside Road (south-west of the site) during the peak hours.

3. Although not stated in the application, it is assumed that the daily traffic volumes using each access is as per the following. This is based on the assumption that the peak hour traffic volumes are typically 10% of the daily traffic volumes:

   i. Main South Road – 820 vehicles per day;

   ii. Brookside Road south-west – 420 vehicles per day; and

   iii. Brookside Road north-east – 260 vehicles per day.

4. The number of heavy vehicle movements per day are not known, although it is anticipated this will exceed the District Plan thresholds of 4 heavy vehicle movements per day to the State highway and 2 per day to Brookside Road.

5. We consider access to State Highway 1 (SH1) to be a key component of the application. The Transport Assessment does not contemplate a scenario in which access is not available to the State highway.

The Transport Environment

Existing Transport Environment

6. The existing transport environment has been satisfactorily outlined in the application. The key points to note are that SH1 currently provides one lane in each direction and has a flush (painted) median.

7. Brookside Road is a *Local Road* that is the minor arm at a priority-controlled intersection with SH1. Brookside Road also links to Byron Street (further to the south-west), which is a Collector Road.

Future Transport Environment

8. The ITA sets out a future road arrangement for SH1, which is based on previous proposals for this road. We understand from the NZ Transport Agency that they are reconsidering the layout of this road improvement project and the proposal included in the ITA may well not be the proposal that is progressed. A final proposed arrangement for SH1 is not currently available from the NZ Transport Agency. Given this, it appears that little weight can be given to the discussion of the proposed SH1 arrangement in the ITA.

District Plan Compliance

9. It is understood that the overall status of the proposed activity is non-complying. The specific transport non-compliances identified are:

   i. Rule 5.3.1.1 – Distance of vehicle crossings from intersections;

ii. Rule 5.3.1.1 – Number of vehicle crossings;

iii. Rule 5.3.1.1 – Vehicle crossing widths;

iv. Rule 5.3.1.4 – State highway access;

v. Rule 5.5.1.1 – Car parking supply;

vi. Rule 5.5.1.1 – Car parking area location;

vii. Rule 5.5.1.2 – Loading and manoeuvring;

viii. . Rule 5.5.1.2 – Car park manoeuvring;

ix. Rule 5.5.1.2 – Queueing space;

x. Rule 5.5.1.4 – Mobility parking; and

xi. Rule 5.5.1.7 – Cycle parking.

Written Approvals

10. Written approval from the NZ Transport Agency has not been provided with the application, nor was it provided as part of the RFI response.

11. It is noted that several statements are made regarding discussions with the NZ Transport Agency that indicated the proposed arrangement is favourable to a previously proposed service station that was located on the Rolly Inn (RC185441 in 2018). No formal correspondence is included in this application from the NZ Transport Agency. Furthermore, RC185441 has not been granted Resource Consent so we understand it does not represent a consented baseline.

Assessment of Effects

On-site Layout – Service Station

12. The site will provide a compliant number of car parking spaces for the service station activity and this is considered to be sufficient to avoid off-site car parking demands.

13. It is noted that the majority of the car parking spaces will comply with the District Plan layout requirements. The parking dimension non-compliance is with regards to the layout of the mobility spaces, which will comply with the requirements of AS/NZS 2890.6 (*NZ Standard for parking facilities – off-street parking for people with disabilities*) and this is considered to be an acceptable alternate standard.

14. We also note that two mobility spaces are required to comply with District Plan and Building Code requirements. The ITA correctly identifies that the space illustrated in **Figure 1** could be marked as a mobility space. We recommend a requirement to mark this as a mobility space as a condition of consent.

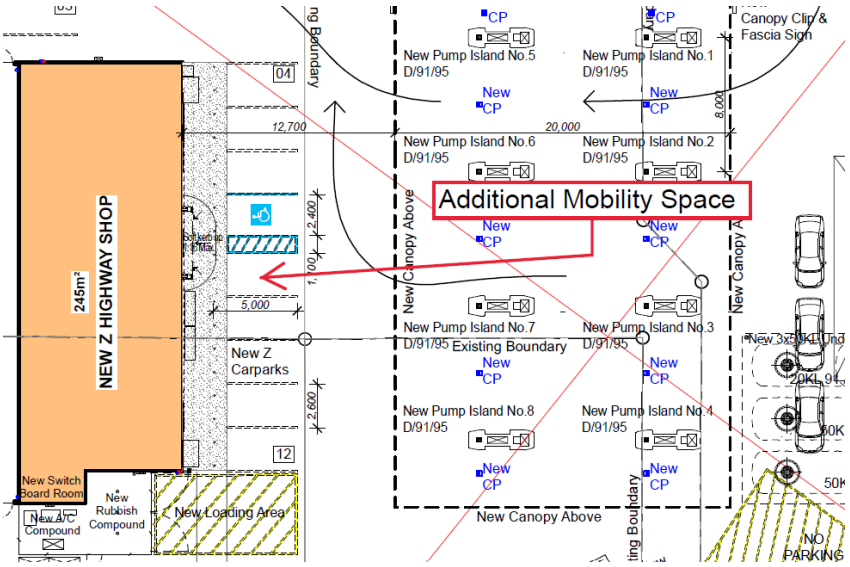

Figure 1: Additional Z Store Mobility Space

15. A loading space is proposed on-site to service the store, plus fill points are proposed for the delivery of fuel. These facilities are considered to be sufficient to avoid loading from occurring on-street and would not hinder access to or within the site (accepting the pedestrian access to the Z store would be temporarily blocked when loading occurs). It is considered that the loading facilities are acceptable.

16. The site will provide more than sufficient cycle parking to comply with the District Plan requirement. The location of these spaces is considered to be acceptable.

On-site Layout – Rolly Inn

17. The Rolly Inn has been identified as having a District Plan car parking requirement of between 41 and 56 spaces, compared to a provision of 35 spaces (including the eight spaces at the Z station site). The typical car parking demand has been estimated as being 20 vehicles associated with the existing activities.

18. The proposed function centre leads to an additional District Plan car parking requirement of nine spaces, although it has the potential to accommodate 60 people. The RFI response considers this could lead to an additional parking demand of 15 spaces, once car sharing, pick-up / drop-off and walking / cycling is accounted for. It is also identified that potentially ten on-street car parks are available outside the application site. We consider this is sufficient car parking to accommodate the likely demand, particularly given the low frequency of use of the function room (twice per month).

19. Eight of the Rolly Inn car parks are proposed to be located at the Z station. This is considered acceptable as these are staff spaces. These are proposed to be clearly marked as Rolly Inn staff spaces.

20. It is acknowledged that additional manoeuvring will be required to enter some of the parking spaces at the Rolly Inn car park. This type of manoeuvring is considered typical at the ends of parking aisles and is acceptable. A queue space non-compliance has also been identified regarding the Rolly Inn access. This is also considered to be acceptable given

the available space for entering vehicles, the low turn-over of Rolly Inn parking and the low volumes on Brookside Road.

21. A non-compliance has been identified regarding the lack of cycle parking for the Rolly Inn. The RFI response identified that the current site does not provide cycle parking, although it does recommend that two cycle rails (four spaces) be located near the entrance to the building. We agree with this recommendation and are satisfied with regards to cycle parking on the basis these spaces are provided.

Access Arrangements

General Commentary

22. As an overarching comment, it is agreed that the proposed accesses to Brookside Road will be able to operate safely and efficiently. The volume of traffic using these accesses is not high and the passing volumes are reasonably low from a traffic capacity perspective. The visibility out of the accesses will be sufficient to identify safe gaps in traffic.

Number of Vehicle Crossings

23. The site will provide four vehicle crossings to Brookside Road, plus two vehicle crossings to SH1. The District Plan permits one vehicle crossing for sites in residential zones, although it is noted there are currently three vehicle crossings to Brookside Road.

24. From a transport perspective, we consider the number of vehicle crossings to Brookside Road to be acceptable. The site has a frontage of greater than 100m to this road and the accesses are well separated. Low pedestrian volumes are anticipated along this frontage.

25. We also note that the existing egress from the bottle-store drive through is being retained and this arrangement appears to have historically operated satisfactorily. Overall, it is considered that the effects of this non-compliance are acceptable.

Width of Vehicle Crossings

26. Two of the proposed vehicle crossings are wider than permitted by the District Plan, which has been done to accommodate fuel delivery tanker tracking. The typical assessment matter for this non-compliance is the safety of pedestrians crossing the accesses.

27. There are no footpaths and no pedestrian traffic along the State highway, so the effects of this non-compliance on SH1 are considered acceptable.

28. We agree with the applicant that the site layout provides good visibility to pedestrians on Brookside Road to avoid a conflict. We also note the applicant has identified low pedestrian volumes on this road. Overall, we are satisfied that the effects of this non-compliance are acceptable.

Access Separation from Intersection – Brookside Road Accesses

29. The District Plan requires accesses to Brookside Road to be located at least 75m from the State highway, whereas 40m is proposed. We agree with the applicant's transport engineer that the operating speeds at this access are likely to be notably lower than the 80km/hr speed limit because of the proximity to the intersection and turning movements required.

30. As identified above and in the ITA, the existing bottle-store drive through exit is proposed to remain in close proximity to the Brookside Road / SH1 intersection. This access has historically operated safely and is anticipated to continue to do so.

31. Overall, we consider that the separation of these accesses from the State highway is acceptable.

Access Separation from Intersection – State Highway Accesses

32. The District Plan requires the proposed ingress to the service station to be 100m from the intersection with Brookside Drive, whereas a separation of 70m is proposed. We accept there is sufficient separation between the access and the Brookside Drive intersection to avoid potential concerns regarding confusion of drivers' intentions.

Access to a State Highway

33. The District Plan does not permit access to a State highway where alternate access is available. The effects of this non-compliance have been assessed in the ITA, with further information included in the RFI response. Whilst we acknowledge that written approval was provided for an adjacent service station development, that approval predates the NZTA's current reconsidering of SH1 upgrades and also relates to an unconsented activity.

34. We also note the commentary provided regarding the frequency of accesses and intersections to the north-east of the application site (on SH1) will lead to drivers being alert to the slowing of traffic as it turns into the proposed access. That said, we continue to have reservations regarding the degree to which traffic will slow in the through lane as it approaches the access.

35. The existing intersections and accesses typically provide left-turn slip lanes to better accommodate the slowing of traffic away from the through vehicles. Whilst we note that the Brookside Road intersection does not include a slip-lane, it does not require the same decision making and slow vehicle speeds that entering a service station forecourt requires.

36. It is also noted that works are proposed within the carriageway of the State highway, which will require NZTA approval. Given the concerns outlined above, we consider there are more than minor effects on SH1 until such time as the NZTA provide formal written approval.

37. It is noted that the application is predicated on access to / from SH1. As such, we note that any proposal to restrict or alter access to SH1 to be different to that set out in this application (be it by the applicant or by NZTA through their proposed SH1 upgrade works) would not be within the scope of this assessment. Therefore, we consider a future consent variation would be required to assess the effects of any access changes. Given the uncertainty associated with these potential changes – and noting that the State highway is administered by NZTA – this further highlights the need for NZTA to be considered as a potentially affected party.

State Highway 1 Ingress Markings

38. We had requested additional markings at the ingress from SH1 to confirm this access is entry only. The response provided in the RFI was non-committal, only offering to

investigate this. We note these types of markings have been provided on the slip-lanes to the accesses from SH1 further north-east of the application site and these accesses are designed to be less likely used as egresses.

39. We consider that provision of a directional arrow at the proposed site ingress would benefit the operation of this access, avoid potential concerns regarding tanker tracking and more clearly indicate the routes drivers are required to take. As such, we suggest provision of a directional marking at the proposed SH1 ingress be included as a condition of consent.

40. We also note there is a bus stop that may be affected by the proposed access arrangement. Liaison will be required with the NZ Transport Agency regarding this (as it is within the State highway corridor) and InterCity as they use this stop. It appears to be unknown whether the bus stop will require relocation until a topographic survey is undertaken.

41. We are concerned there is potential for a situation to arise where proposed changes to the bus stop are unacceptable to InterCity. As such, we recommend that InterCity be identified as an affected party (or otherwise confirmed by NZTA if they have the jurisdiction as the road controlling authority).

Fuel Delivery Truck Manoeuvring

Fuel Delivery Vehicle Tracking

42. The Transport Assessment identified that fuel delivery vehicles are not able to satisfactorily turn left from Brookside Road into Byron Street and it is stated that trucks would not undertake this manoeuvre, thereby avoiding the potential vehicle tracking issue.

43. We agree that this would address the issue of vehicle tracking at this intersection. It is also agreed that this could be included in a Journey Management Plan and recommend a consent condition broadly as follows:

    Prior to operating the proposed activity, a Journey Management Plan shall be submitted to Selwyn District Council's Asset Manager (Transportation) for approval. This Plan should set out the route to be taken by fuel delivery vehicles to and from the site to ensure they only use routes where there is sufficient road space to accommodate the required vehicle tracking. This Journey Management Plan should be updated (and resubmitted to Selwyn District Council's Asset Manager (Transportation) for approval) as required when road network changes take place that affect the designated route (such as the NZ Transport Agency improvement works to State Highway 1).

44. Subject to the above (or similar worded condition), we consider the truck routing associated with the proposal to be acceptable.

Transport Network Effects

Traffic Generation

45. We have reviewed the traffic generation estimate of the proposed activity and consider this to be appropriate. We have validated this by using an alternate traffic generation methodology based on service stations capturing a percentage of the passing volumes. We note that the traffic generation used in the application is higher than our estimate, so we consider the traffic generation to be acceptable.

Brookside Road / Byron Street Operation

46. The applicant has undertaken intersection modelling of the Brookside Road / Byron Street intersection. This modelling indicates that the intersection can satisfactorily accommodate the predicted traffic volumes at this location. This is considered to be sufficient in terms of assessing the traffic capacity effects of the proposal on the Council road network.

Amenity Issues

47. Brookside Road is estimated to carry a daily traffic volume of 1,700 vehicles per day, as set out in the Transport Assessment. Given the small number of houses located along this road, it is clear that high numbers of extraneous traffic already utilise this road. This is largely because of the other non-residential activities located along this road, and the angled alignment of Brookside Road from the State highway through to Byron Street (Collector Road) further to the south-west, which might lend itself to some rat-running traffic. The applicant has predicted that the additional peak hour traffic on Brookside Road south west of the site is approximately 30 vehicle movements per hour. We have estimated this leads to an additional daily traffic volume on this section of road of 269 vehicles per day[1].

48. Whilst not directly applicable, guidance is provided in AustRoads *Guide to Traffic Management Part 8 – Local Area Traffic Management* as to when communities may notice increases in traffic volumes. **Figure 2** sets out the curve from the AustRoads guide.

49. The curve is presented as a range rather than a specific line because of errors and daily fluctuations in traffic volumes. Two supplementary lines are included (one for each side of the base line). An increase in traffic that occurs between the low curve and the base curve is *probably* acceptable. An increase between the base curve and the high curve is *possibly* acceptable. An increase that falls above the upper curve would *not* be acceptable.

50. The predicted increase in traffic associated with the proposed activity is between the lower and base curves (see yellow dash line in **Figure 2** below). Given this, the effects of this additional traffic volume on this road is probably acceptable as defined by this guide. However, it is emphasised that this information only forms part of the wider contextual analysis that considers the amenity effects on this road. Wider amenity related effects (for example, noise, vibration and glare etc.) might require input and/or assessment by others. From a traffic engineering perspective, the overall 'volume' increase is however considered to be within acceptable / tolerable limits.

[1] The ITE indicates a conversion of peak hour to daily traffic ratio of 11. The NZTA guidance suggests a ratio of 6.9. The average ratio of 8.95 has been applied to the 30 vehicles per hour to give 269 vehicles per day.

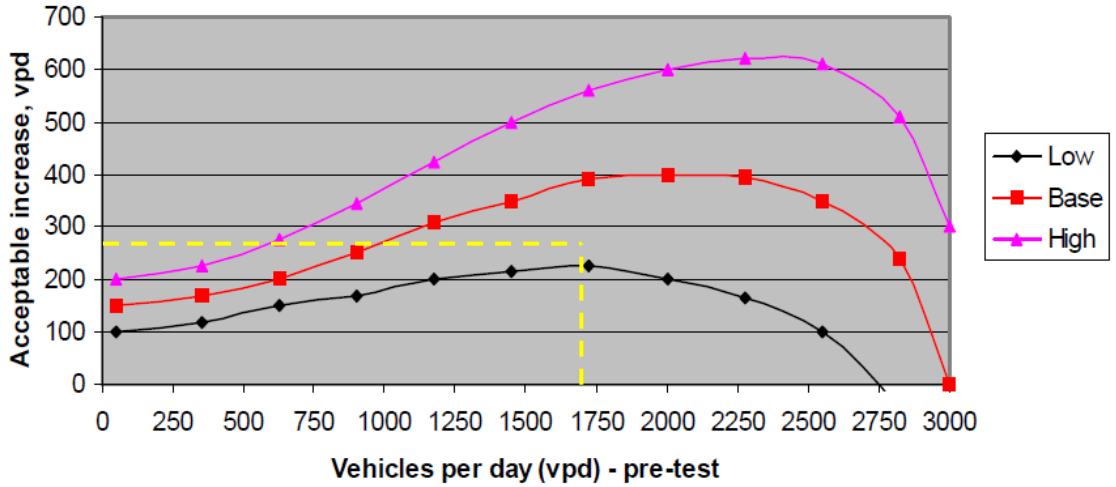

Figure 2: Extract from AustRoads Guide to Traffic Management

Conclusions

51. We consider there are more than minor effects on the operation of the State highway associated with the proposed activities. We consider that NZTA are an affected party. They are the road controlling authority and they need to confirm they are satisfied with the potential effects on the State highway network and the need to construct a solid median (as well as accesses) to accommodate the proposed activities.

52. We also recommend that InterCity are an affected party, as there are potential changes required to their bus stop on State Highway 1 that they have not been consulted on. Alternatively, if NZTA have jurisdiction of this matter, then this should be confirmed by them).

53. In the event the application is granted resource consent, we also recommend conditions regarding the following matters:

    a. The proposed access arrangements are to be provided as per the information set out in the Transport Assessment and on the application plans (particularly with regard to access to / from State Highway 1);

    b. The provision of an additional mobility space at the Z station (as outlined in paragraph 13);

    c. Provision of cycle parking at the Rolly Inn building (paragraph 20);

    d. Provision of a directional arrow at the SH1 ingress (paragraph 36); and

    e. Provision of a Journey Management Plan (paragraph 37).

54. We trust that this letter satisfactorily sets out our review of the transport effects of the proposed activity. Please do not hesitate to contact the undersigned if you have any queries regarding this matter.

Yours sincerely,

Novo Group Limited

Nick Fuller

Senior Transport Engineer

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