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Dear Craig,

TRANSPORT REVIEW – PRIVATE PLAN CHANGE REQUEST
CONIFER GROVE TRUSTEES LIMITED – BIRCHS ROAD, PREBBLETON

You have requested a review of the transport related components of the private Plan Change (PC) application for Conifer Grove Trustees Ltd. The Plan Change requests rezoning of the site from *Rural Inner Plains* zone to *Living 3* zone. The Living 3 zoning would allow for the creation of 16 allotments that range in size from 0.444ha to 1.26ha. Each lot would have access to one of the frontage roads (Trices Road, Birchs Road or Hamptons Road).

This review will primarily focus on the proposed Outline Development Plan (ODP) and the Integrated Transport Assessment (ITA) prepared by Abley Transportation Consultants, dated 28.03.13. This initial transport review will focus on the following issues:

- Whether the ITA is robust and consistent with the land use elements sought in the PC;
- Whether the level of effects identified are accurate and whether further management or mitigation of effects is required;
- Consideration of the validity of the assumptions made in respect to traffic generation and the implications of these should they be overstated or understated;
- The design and layout of the proposed ODP in terms of safety, efficiency and access to the existing transport network; and
- The capacity of the surrounding road network to absorb the traffic likely to be generated.

The review of the above points will determine whether the PC application contains sufficient information from a transport perspective for it to be notified or whether any additional matters should be included within the ITA prior to notification.

It is noted that proposed Lot 17 contains the existing power substation. It is assumed that all existing traffic generation and access arrangements for this activity will not change and as such this report does not provide further comment on this component.

Description of the Traffic Environment

The ITA prepared by Abley provides a detailed description of the existing environment. A site visit undertaken on 16 May 2013 confirms that this description is accurate. Of particular note is that, at the application site, the District Plan classifies Trices Road as an arterial road, Birchs Road as a collector road and Hamptons Road as a local road. The existing speed limit on these roads is shown below.

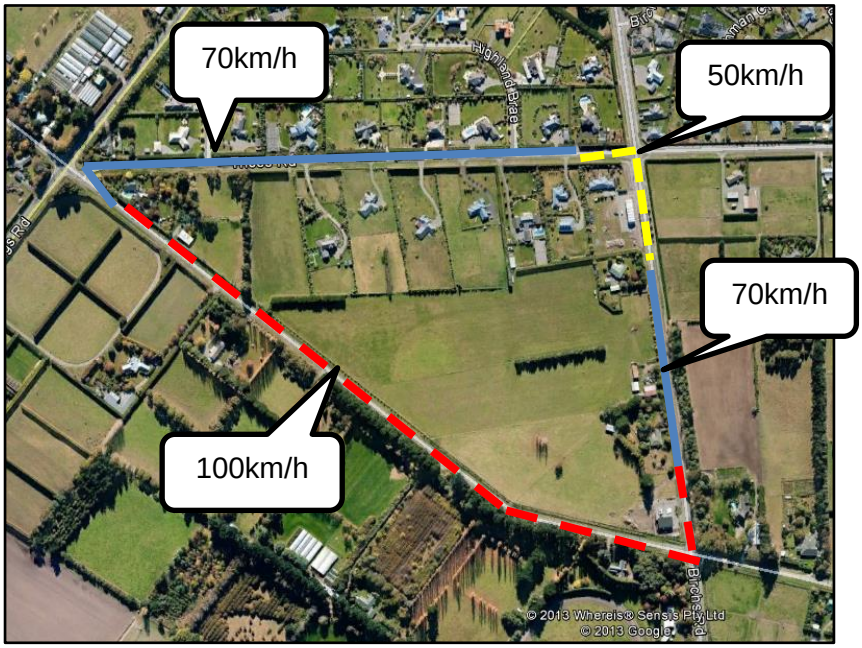

Figure 1: Existing Speed Limits

Council traffic volume counts indicated 636 vehicles per day on Trices Road (between Birchs Rd and Hamptons Road in June 2012), 193 vehicles per day on Hamptons Road (between Birchs Rd and Springs Rd in February 2010), and 3,117 vehicles per day on Birchs Road (between Trices Rd and Hamptons Rd in July 2012). This suggests that the traffic volumes on Birchs Road have increased from the 2,570 vehicles per day shown in the ITA which was based on a 2010 traffic count. This increase does not exceed the thresholds shown in Table 4.1 of the ITA above which detailed analysis of the intersections with Trices Road or Hamtpons Road would be necessary.

The application includes the results of the CAS search and associated analysis of the resultant crashes. A current search including reported crashes for the five year period ending 15.05.13 did not reveal any additional crashes within the study area. The ITA contains sufficient detail on the existing road safety record and it is agreed that the crashes do not suggest any inherent issues in the design or layout of the existing surrounding road network.

The description of the existing transport environment in the ITA is considered to be accurate and of sufficient detail for the purposes of notification.

Traffic Generation Estimates

The ITA sets out estimates of the future traffic generation of the proposed PC based on the proposed 16 residential lots. The methods used to derive these estimates are discussed below.

Residential

The ITA adopts a traffic generation rate of 8 trips per lot, per day and 1 trip per lot in the peak hours. Although there is little supporting evidence provided in the ITA to support this rate, the body of literature available on residential traffic generation suggests that residential units typically generate between 6 and 14 trips per unit per day. The ITA correctly acknowledges that residences located further from larger metropolitan centres typically result in a lower daily traffic generation rate due to increased trip linking. On this basis, the adoption of the rate of 8 trips per unit per day is reasonable (and if anything, more likely to be at the higher end of the scale).

Residential land uses typically generate around 10% of their trips in the peak hour which would suggest a peak hour traffic generation rate of 0.8 trips per unit. The 1.0 trips per unit per hour adopted in the ITA is therefore considered to be adequately conservative for considering effects on the road network during the peak periods.

In summary the estimated daily traffic generation of 128 trips per day and 16 trips in the peak hour outlined in the ITA is considered reasonable and useful in respect to the consideration of potential road network related effects associated with the proposed plan change.

It is also noted that the site appears to contain two or three existing residences and as such the number of additional residential units would be less than 16 which also suggests that not all of the 128 trips per day (16 trips in the peak hour) would be new trips to the road network as some trips may already be occurring in association with the existing dwellings.

Access, Design and Layout of ODP

In terms of transport related infrastructure, the proposed ODP shows 16 residential lots, ten of which have frontage to either one or more of Trices Road, Hamptons Road or Birches Road. The remaining six lots (numbered 4-6 and 9-11) have access to Hamtons Road via a proposed Right-of-Way. A walkway is proposed between the end of the Right-of-Way and Birchs Road.

It is not entirely clear whether the 10 sites with road frontages will in fact have direct access to the frontage roads. The District Plan however limits the number of properties with access via a ROW to 6 dwellings (Rule C5.2.1.7), therefore assumed that only lots 4-6 and 9-11 will have access to the ROW with the other lots obtaining access to the frontage road(s).

The ROW is located on Hamptons Road mid-block between the intersections with Trices Road and Birchs Road. The proposed location appears to provide for good visibility in both directions and is adequately separated from nearby intersections or other high traffic volume vehicle crossings. It is however recommended that consideration be given to the angle at which the ROW intersects with Hamptons Road such that the western point intersects at as close to right angles with Hamptons Road as possible to maximise safe access onto and off the ROW. Whilst the design can be further considered at subdivision consent stage it would be beneficial to address this now and may necessitate some minor re-adjustments of the boundaries of Lots 3 and 12.

It is assumed that the ROW will comply with all relevant District Plan requirements with regard to the minimum legal and formed widths and provision of passing areas etc. which will ensure the safe and efficient operation of ROW.

Lots 1 and 2 will have frontage to both Trices Road and Hamptons Road. Where a site has two road frontages, the District Plan directs that access be to the lowest classified road (Rule C5.2.1.2). Given that Trices Road is classified as an arterial road and Hamptons Road as a local road, it is assumed that access will be to Hamptons Road.

Proposed Lot 3, and Lots 12 – 15 will have access directly to Hamptons Road. Given the local road status of Hamptons Road this is considered to be acceptable.

Proposed Lots 7, 8 and 16 will have access directly to Birchs Road. Whilst it is less desirable to have access to a collector road than a local road, property access is still an anticipated function of collector roads. In this instance it is also noted that there appears to be existing vehicle access to Birchs Road for two existing dwellings. The provision of one additional residential access is unlikely to have any noticeable effect on the operation of this section of Birchs Road.

The creation of a walkway between Lots 6-7 and Lots 8-9 will facilitate a more direct route to the Prebbleton Town Centre (via Birchs Road) for future residents (including those with access to the ROW). This benefit however appears to be limited to those properties which have access to the walkway and or the ROW – unless some sort of legal mechanism were to be provided to widen its use. A face value, a local road rather than a ROW would have provided for general public access along the ROW thereby providing a wider benefit to the surrounding residential community. Either way, the provision of a walkway linking the ROW to Birchs Road does at least provide for improved connectivity for residents between the proposed lots and the Prebbleton Town Centre (accessed via Birchs Road).

Network Capacity

The ITA sets out that the bulk of residential trips are likely to be departing in the morning peak hour and arriving in the evening peak hour and have adopted a 25%/75% split (i.e., 75% departing and 25% arriving in the morning peak hour in the evening peak hour). This is a reasonable assumption and the proposed 25/75 split is commonly adopted in respect to residential trip pattern analysis.

The distribution of trips has been assumed to be primarily to and from Christchurch City. The analysis in the ITA has therefore assumed 90% of traffic will travel along roads between the site and Christchurch City with the remaining 10% travelling to other destinations such as Lincoln and Rolleston. A simple comparison of north and southbound traffic on Springs Road in the morning peak hour is likely to provide a good indication of the existing split between traffic travelling to Christchurch and to other destinations (Primarily Lincoln and Rolleston). Recent Council traffic volume data suggests that this split is close to 50/50 in the morning peak hour and around 60% (northbound) and 40% south bound in the evening peak. Regardless given the low volume of traffic generated by the site the different distributions are unlikely to have any noticeable impact on the level of effects.

The ITA gives consideration to the available capacity at the surrounding road intersections which shows that most of the intersections are below the typical thresholds where detailed analysis would be necessary. The ITA also undertakes SIDRA modelling of the Birchs Road – Springs Road intersection. This modelling shows that the intersection can continue to operate within acceptable levels of capacity. Whilst consideration of predicted traffic volumes associated with anticipated changes in land use (particularly residential growth in Lincoln) would typically be undertaken it is noted that given the very low peak hour volumes generated by the proposed plan change that this is not necessary in this instance. It is also noted that a number of people may choose to use the Hamptons Road – Springs Road intersection rather

than travel through the township to use the Birchs Road – Springs Road intersection. Regardless the volumes on Hamptons Road will remain low such that no detailed analysis of this option is necessary.

The ITA gives some consideration to existing public transport networks and active transport facilities in the surrounding area.

The ITA also includes some consideration of the consistency with the relevant strategic planning framework. It is noted that consideration of LURP may also now be of relevance. That said in terms of the wider road network, it is noted that a number of transport studies (for example CRETS) have considered the existing capacity and identified projects to cater for anticipated growth in Selwyn District generally including Prebbleton. It is therefore considered that from a wider / strategic perspective that some increase in traffic associated with residential development in and around Prebbleton is generally anticipated.

Conclusion

Overall the ITA generally covers the key transport related aspects and provides a reasonable assessment of the potential traffic related effects. Whilst some discussion on consistency with LURP and inclusion of updated traffic volumes for Birchs Road would be beneficial these are not considered to be critical to the understanding of the potential transport effects of the proposal and as such the ITA is considered to provide sufficient traffic related information to be notified.

It is noted that in due course some consideration should be given to the angle at which the ROW joins Hamptons Road and ideally minor amendments made to the alignment between lots 3 and 12 such that the ROW is as close as possible to right angles with Hamptons Road. It would also be beneficial to give some consideration to securing public access along the ROW and walking path such that the benefits of this connection are wider than just the future residents with access to the ROW.

We trust the above is sufficient, however, should you require any further information please do not hesitate to contact the undersigned.

Yours sincerely,

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