

Before the Queenstown Lakes District  
Council

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In the matter of            The Resource Management Act 1991 (RMA)

And                            The Queenstown Lakes Proposed District Plan Stage 3; Stream  
18; Settlement Zone

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**Summary statement of evidence of Andy Carr for Universal Developments (Hawea)  
Limited #3248**

3 August 2020

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## **Introduction**

- 1 My full name is Andrew (“Andy”) David Carr. My qualifications and experience remain as set out in my primary evidence.
- 2 I have been asked by the submitter to address the matters raised by Mr Smith in his rebuttal evidence, and Mr Rossiter in his Summary Statement of Evidence and verbal responses to the commissioners. In preparing this evidence I have not carried out a point-by-point rebuttal of Messrs Smith and Rossiter, but have instead focussed on the core topics which they have raised.

## **Domain Road / Cemetery Road Intersection**

- 3 I confirm that an improvement is required to this intersection. Given the width of the legal road (20m) I did not provide further details of the scheme in my primary evidence and instead simply noted that this width was sufficient for an improvement scheme (as set out in paragraphs 63 to 65, and Table 11, of my primary evidence). Messrs Smith and Rossiter has queried this.
- 4 Given that no decision has been made about rezoning the land, I do not consider that a detailed design for the intersection should be produced, but rather, that ‘proof of concept’ is the more appropriate approach.
- 5 Figure 1 of Annexure A to this summary evidence shows the existing state highway layout at the Frankton Road / Stanley Street intersection in Queenstown. This is similar to the situation proposed at Hawea, where the main road turns and the ‘straight ahead’ movement has to ‘give-way’. The Frankton Road / Stanley Street intersection carries a greater traffic volume than is proposed under the rezoning sought and so in my view it provides a useful comparison.
- 6 On Figure 2 of Annexure A, I have traced over the carriageway markings of the main highway, to identify the extent of the curve through which the bulk of the traffic turn.
- 7 Figure 3 of Annexure A shows the extent of the legal road at the Domain Road / Cemetery Road intersection, and on Figure 4, I have overlaid the traced carriageway markings onto the existing Domain Road / Cemetery Road intersection (with no changes made to the carriageway markings).
- 8 On Figure 5 of Annexure A, I have extended the curves northwards along Domain Road. It can be seen that the inner curve aligns extremely well with the existing inner curve at the intersection. The outer curve is easily accommodated within the legal road. In my view this shows that for vehicles turning between Domain Road (north) and Cemetery Road, the curve through which they turn will be very similar to that at the Frankton Road / Stanley Street intersection.

- 9 I have reviewed the crash records for the Frankton Road / Stanley Street intersection and note that over the past five years, seven crashes were recorded at that intersection. Of these however, one was caused by a sudden vehicle failure and four involved intoxicated drivers. The remaining two crashes arose due to drivers failing to give-way, which is a common type of crash at a priority intersection.
- 10 I also note that this intersection does not have any chevron markings or advisory speed limit to indicate to drivers that they must slow down.
- 11 Based on my assessment I consider that the curve radii at the Frankton Road / Stanley Street intersection do not present any adverse road safety issues.
- 12 The angle through which vehicles turn at the Frankton Road / Stanley Street intersection is less than is proposed at the Domain Road / Cemetery Road intersection, and the minor approach is on a different side. Consequently on Figure 6 of Annexure A, I show a layout of an intersection in Rangiora, North Canterbury. This has the main road curving in the same manner as proposed at Hawea.
- 13 On Figure 7 of Annexure A I show a photograph of the intersection for context. On Figure 8 I have traced over the carriageway markings.
- 14 On Figure 9 of Annexure A I have overlaid the traced carriageway markings onto the existing Domain Road / Cemetery Road intersection. It can be seen that the intersection layout fits within the legal road reserve with ample area available.
- 15 For clarity, further design work will be needed in due course before the intersection scheme is implemented. However I consider that my assessment demonstrates that a suitable arrangement is possible without the need for third party land.
- 16 In passing, it is likely that a proportion of the traffic generated by the upzoning of the existing Hawea township sought by the Council will pass through this intersection. No assessment has been provided by the Council of the upzoning, but I consider that it is possible that some form of intersection upgrading may be required to accommodate this (in other words, it is unlikely that it is solely the Universal Developments rezoning that triggers the potential for upgrading).

#### **Domain Road / Capell Avenue Intersection**

- 17 In my primary evidence I noted that an intersection improvement scheme was required at this location and that a roundabout would provide an excellent level of service (as set out in paragraphs 68 and 69, and Table 12, of my primary evidence). Messrs Smith and Rossiter have queried whether a roundabout would

be possible. In passing, I note that in questioning, Commissioner McLeod highlighted that the Hawea Community Association, Wanaka Community Board and NZTA are already exploring options for a roundabout.

- 18 In my evidence I also noted that the available land was sufficient for a roundabout with a diameter of 30m. This is shown on Figure 1 of Annexure B. Within this district there are two very similar-sized roundabouts in Wanaka, at the intersection of Brownston Street and Ardmore Street, and the intersection of State Highway 84 with Anderson Heights.
- 19 The former was cited in the media as being "*the busiest intersection in Wanaka*" (stuff.co.nz, 10 December 2009) as it provides the primary entrance into Wanaka for traffic that has used the state highway network (including long distance traffic, and the Three Parks and Northlake subdivisions). Moreover, it was relatively recently constructed (2013/14) and was promoted and designed by the Council.
- 20 The vast majority of traffic passing through this roundabout also passes through the State Highway 84 / Anderson Heights roundabout, and both roundabouts carry considerably more traffic than would arise at Hawea under the requested rezoning. For the purposes of my assessment I have adopted the example of the State Highway 84 roundabout because it also has three approaches rather than the four approaches at the Brownston Street roundabout.
- 21 Figure 2 of Annexure B shows this roundabout, and on Figure 3 I have highlighted the key roading geometry, being the central island (and raised over-run area) and the outer 'inscribed' diameter.
- 22 In Figure 4 of Annexure B I have transposed the central island and inscribed diameter the State Highway 84 / Anderson Heights roundabout onto the Domain Road / Capell Avenue intersection. It can be see that they fit within the area available.
- 23 Finally, on Figure 5 of Annexure B I have shown how each approach to the roundabout could be connected.
- 24 As with my assessment of the Domain Road / Cemetery Road intersection, further design work will be needed in due course before the roundabout scheme is implemented. However I consider that my assessment demonstrates that a suitable arrangement is possible without the need for third party land.
- 25 A large proportion of the traffic generated by the upzoning of the existing Hawea township sought by the Council will pass through this intersection. I consider that it is very likely that the intersection will need to be upgraded to accommodate this, especially given the unusual intersection geometry at present.

## State Highway 6 / Dam Road Intersection

- 26 Mr Rossiter correctly highlighted that in my evidence I identified that in the evening, the peak queue of vehicles turning right from the highway would reach 7 vehicles (Table 14). I then noted that in the event that an intersection improvement scheme was required, there was ample space to undertake this. Mr Rossiter has identified that in his view, it would be appropriate to lengthen the right-turn bay to accommodate the forecast seven vehicles queuing.
- 27 I note that NZTA, as the road controlling authority for the intersection, has not submitted on the proposed rezoning. I might reasonably be surmised that as they have a statutory duty to operate the highway safely and efficiently, they do not share Mr Rossiter's concerns. However I have examined the intersection in more detail and note that the expected queue length in the model used to generate my Table 14 is 50m. At the holding line for the right-turn lane at the intersection (where drivers wait before turning right), the width of the turning lane is 3.5m wide. At 50m back from this, the width is also 3.5m. Consequently the queue of vehicles can be accommodated within the current geometry.
- 28 Fortuitously, the Google Streetview image of the intersection shows this in practice, as a car has been photographed wholly within the central median of the highway, at a location around 50m from the holding line (for clarity, the 50m distance is located at the front of the car).



- 29 On this basis, I do not consider that there are any impediments in practice to lengthening the right-turn auxiliary lane, in the event that this was required by NZTA.

## Alternative Access Routes

- 30 Both Messrs Smith and Rossiter raised matters regarding the resilience of the potential rezoning, and in particular, that serving Hawea by one road would not be good practice because in the event of the dam being impassable, there would be no suitable roading alternatives. I assume that their concerns largely relate to a crash blocking the dam road for a limited period of time, since in the event of a catastrophe (such as following a major earthquake, where the dam could be closed for structural inspections), there are a wealth of other, non-transport, concerns that take precedence.
- 31 In fact there are three good routes towards the south. One via the dam and State Highway 6, and a second is towards the southeast, via Cemetery Road, Gladstone Road, and Camp Hill Road to the highway. A third route is via Cemetery Road and Gladstone Road, to Kane Road and then to join the highway just north of Luggate.
- 32 As part of assessing the effects of the proposed rezoning, I carried out several journeys between the site and the State Highway 6 / Camp Hill Road intersection to compare the travel times for the first and second options listed above. My timing showed that the route crossing the dam took 6 minutes and via Camp Hill Road, it took 9 minutes.
- 33 Drivers typically choose the shortest travel time, and therefore my assessment was based on the route via the dam. However the route via Camp Hill Road introduces only a small increase in travel time – in essence it would take 19 minutes to travel into Wanaka across the dam and 22 minutes via Camp Hill Road. In the event that the dam was blocked for a short time, I do not consider that this is an unreasonable travel time (and for completeness it would take 26 minutes via Kane Road).
- 34 The Camp Hill route is sealed over the full length and provides one traffic lane in each direction, other than for a short section where it crosses a single lane bridge. Vehicles would also pass Hawea Flat School. Given the latter, I do not consider that it is suitable as a long-term route to/from Hawea, but in practice, the propensity of drivers to select the shortest route means that the route via the dam would be the most likely to be chosen.
- 35 Irrespective, I do not consider that Messrs Smith and Rossiter's concerns in this regard are well-founded, as Hawea is served by several road accesses – it is simply that the route via the dam is the quickest.

## **Cycling**

- 36 Mr Smith raised (second rebuttal statement paragraphs 3.8 onwards) that the existing shared walking and cycling route on the northern side of Cemetery Road would “*typically*” be replaced by a footpath in future, meaning that it could not be used by cyclists who would then have to use the traffic lanes of the road.
- 37 In my view there is no reason why the shared route would need to be replaced in this manner. Mr Smith sets out that it could arise due to changes to the streetscape, but in my view the current shared route could easily be retained (and there are numerous examples of shared routes within urban areas). The legal width of Cemetery Road is 20m which is ample for a shared route to be retained.
- 38 Similarly, the legal width of Cemetery Road is sufficient to provide formal pedestrian/cyclist crossing places where and when desired without the need for third party land.

**Andy Carr**

Dated this 3 August 2020

Annexure A

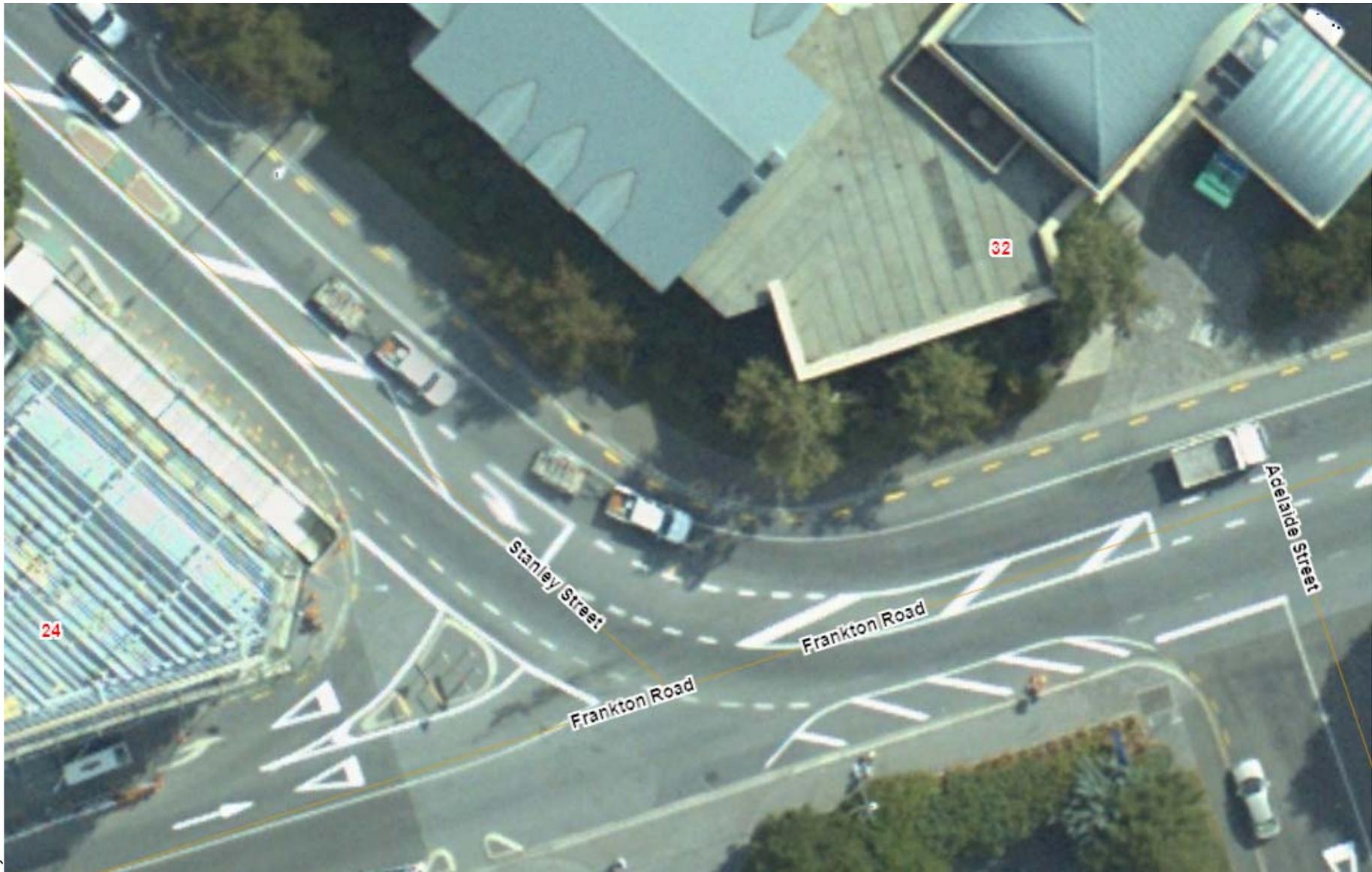


Figure 1: Frankton Road / Stanley Street Intersection

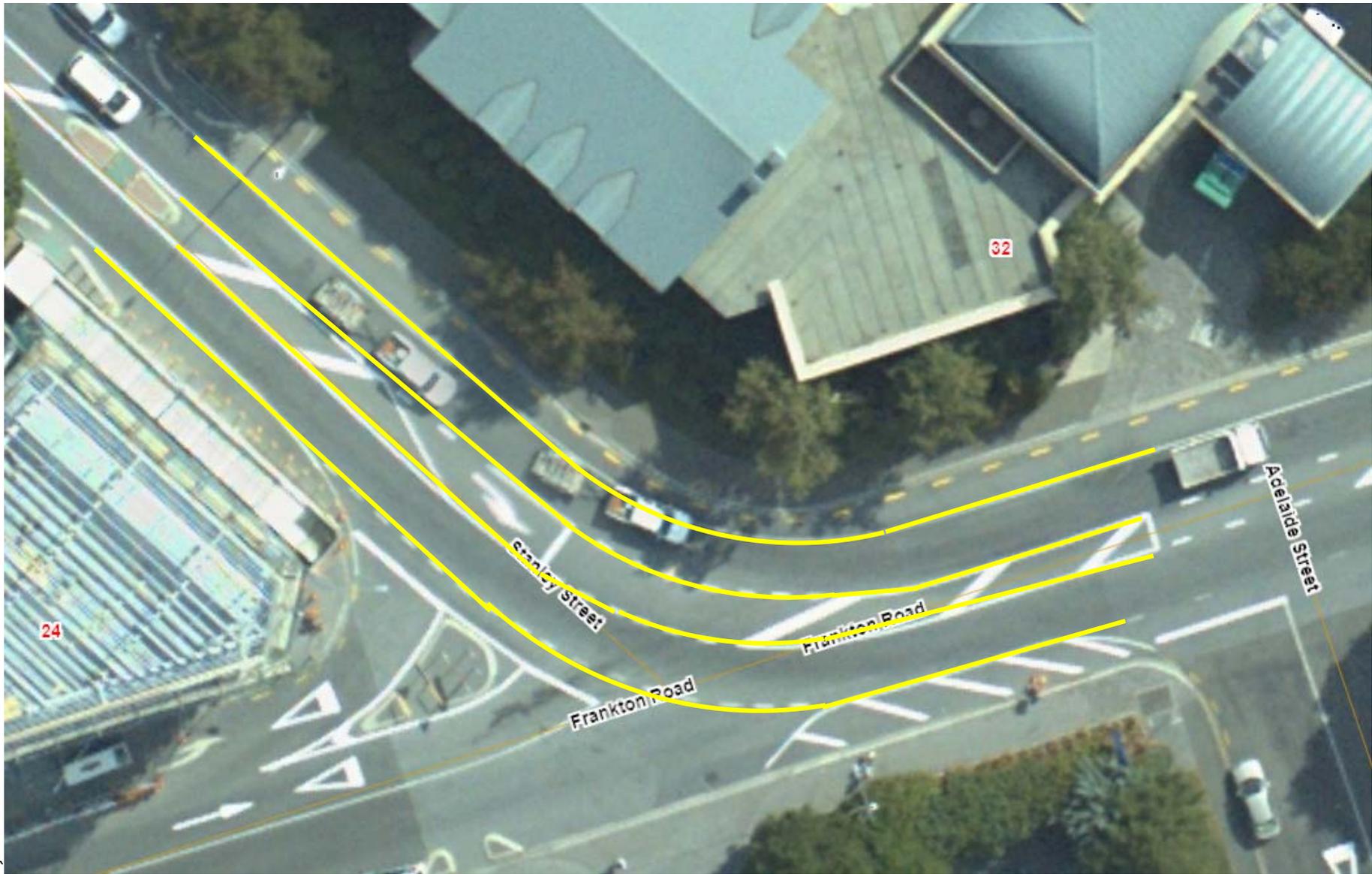


Figure 2: Frankton Road / Stanley Street Intersection (with Main Carriageway Markings Traced in Yellow)



Figure 3: Domain Road / Cemetery Road Intersection, Property Boundaries Shown Red



Figure 4: Domain Road / Cemetery Road Intersection, with Frankton Road / Stanley Street Intersection Main Carriageway Markings Overlaid



Figure 5: Curve Markings at Frankton Road / Stanley Street Intersection Extended to Align with Domain Road



Figure 6: Ivory Street / Northbrook Road Intersection, Rangiora



Figure 7: Ivory Street / Northbrook Road Intersection, Rangiora (Looking South)

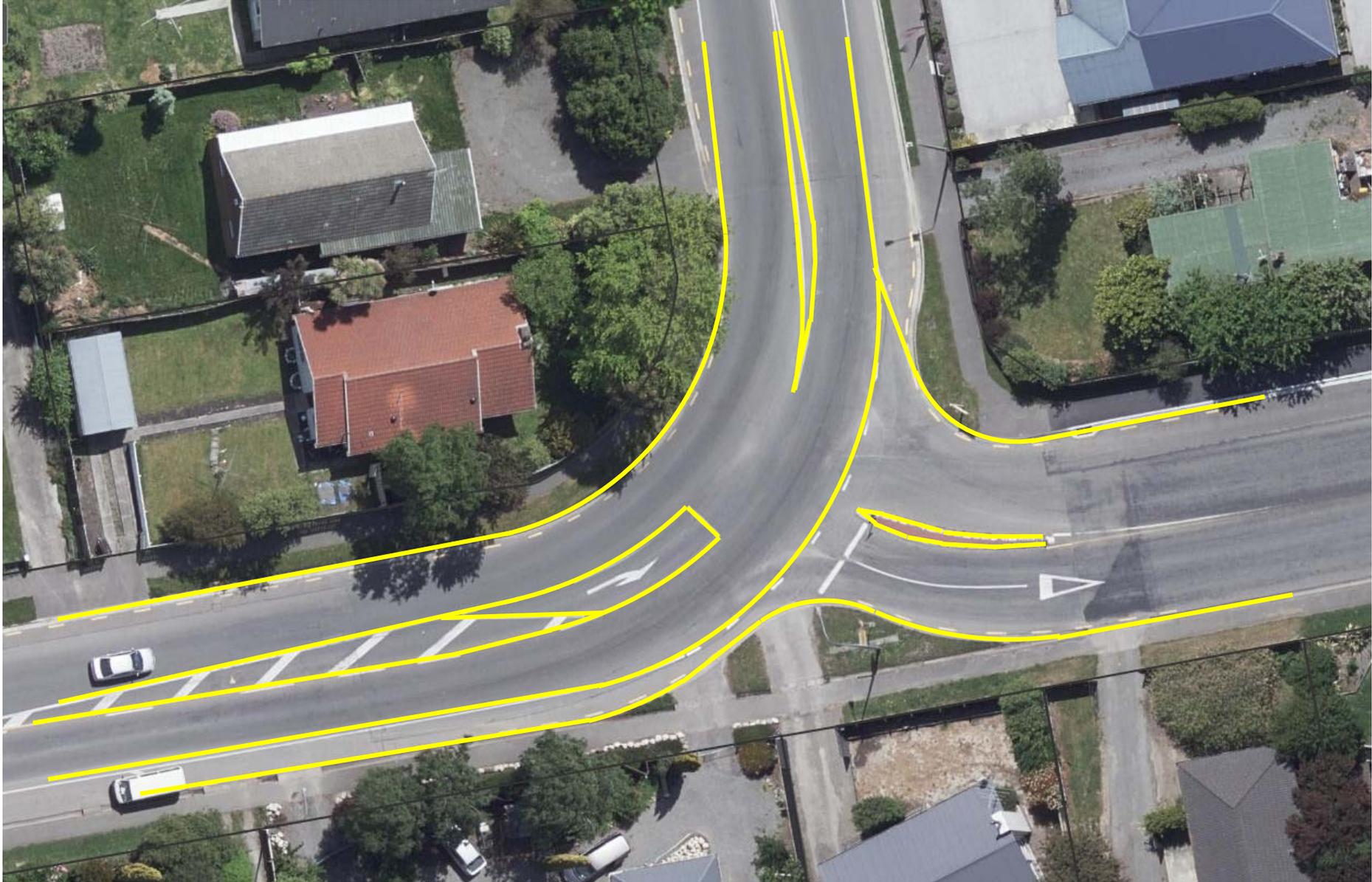


Figure 8: Ivory Street / Northbrook Road Intersection, Rangiora with Carriageway Markings Traced in Yellow

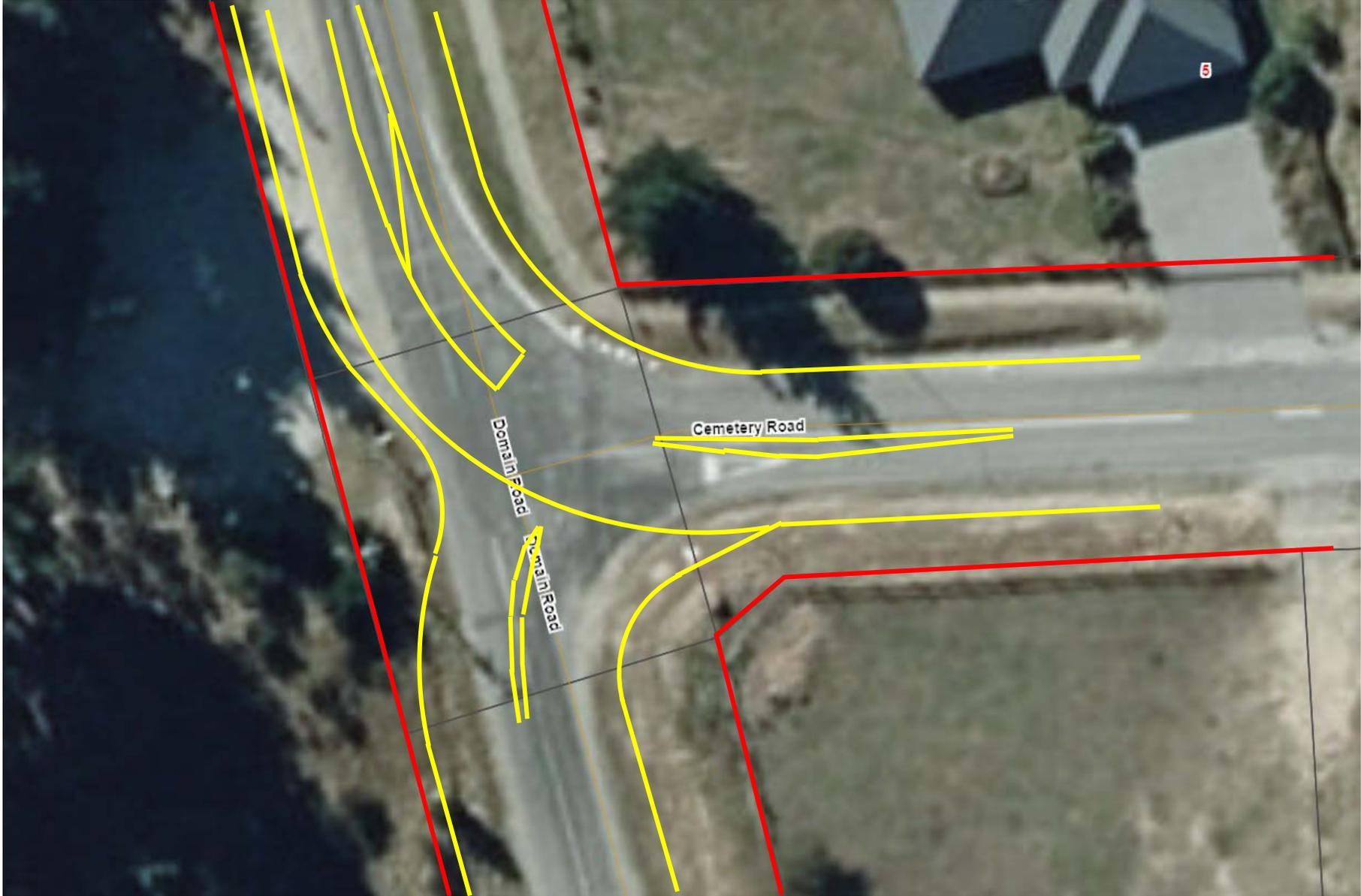


Figure 9: Ivory Street / Northbrook Road Intersection, Markings Overlaid onto Domain Road / Cemetery Road Intersection

Annexure B



Figure 1: 30m Diameter Circle Overlaid at Domain Road / Capell Avenue Intersection



Figure 2: 30m Diameter Roundabout at State Highway 84 / Anderson Heights



**Figure 3: State Highway 84 / Anderson Heights Roundabout with Central Island and Outer Diameter Highlighted**



Figure 4: Central Island and Outer Diameter of State Highway 84 / Anderson Heights Roundabout Overlaid at Domain Road / Capell Avenue Intersection

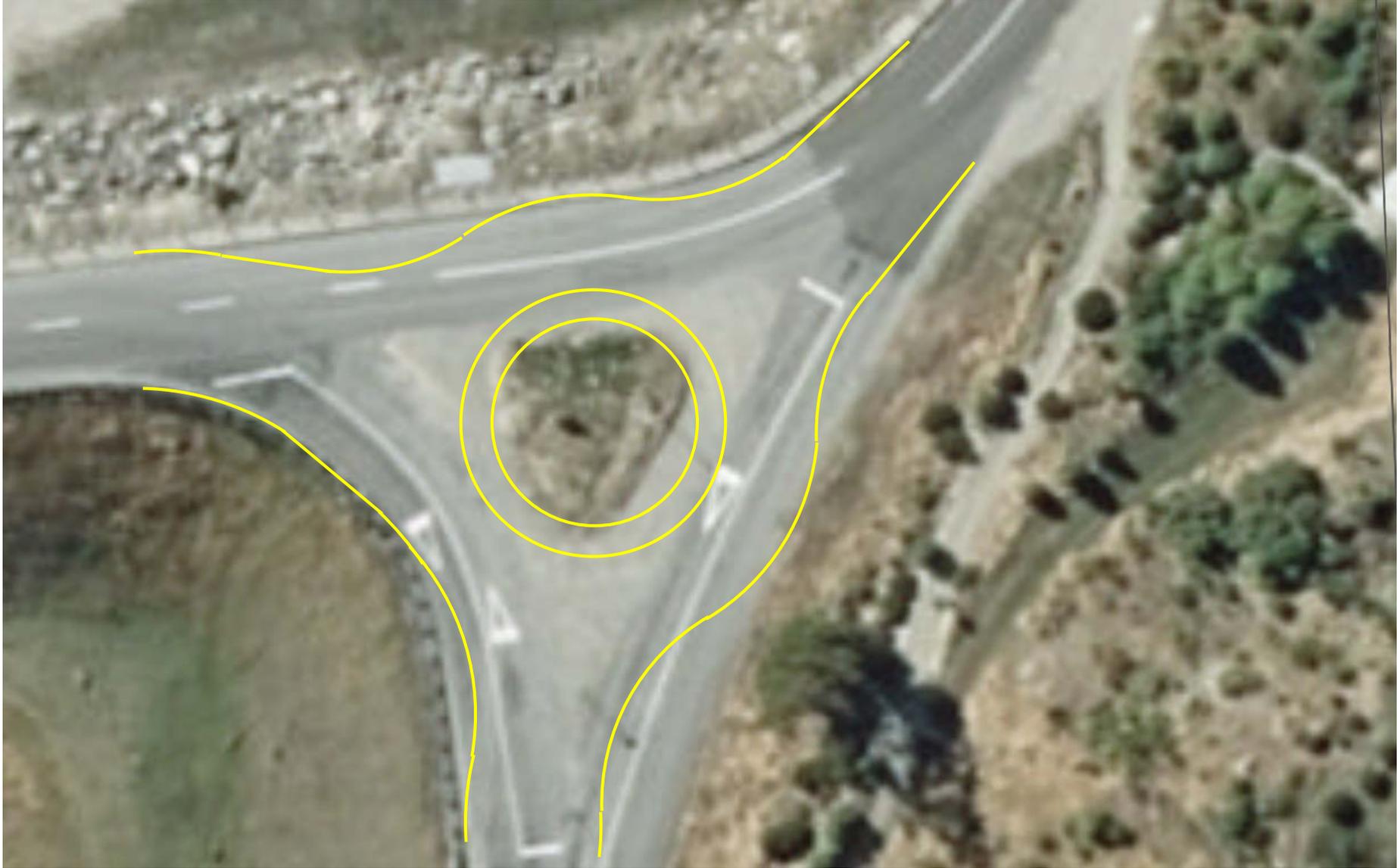


Figure 5: Possible Domain Road / Capell Avenue Roundabout Based on Geometry of State Highway 84 / Anderson Heights Roundabout