BEFORE INDEPENDENT HEARINGS COMMISSIONERS APPOINTED BY CANTERBURY REGIONAL COUNCIL AND SELWYN DISTRICT COUNCIL

IN THE MATTER	of the Resource Management Act 1991 ("the Act")
AND	
IN THE MATTER	Applications by Fulton Hogan Limited for resource consents necessary to establish, operate, maintain and close an aggregate quarry (Roydon Quarry) between Curragh, Dawsons, Maddisons and Jones Roads, Templeton

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EVIDENCE OF RICHARD SHAW ON BEHALF OF THE NZ TRANSPORT AGENCY

14 October 2019

My name is **RICHARD SHAW** of Christchurch and I work for the NZ Transport Agency (the Agency). I have been requested by the Agency to assist them in the provision of evidence regarding their submission on the resource consent application lodged by Fulton Hogan Limited for the proposed Roydon Quarry.

1 Qualifications

1.1 I am employed by the Agency as Team Leader – Consents and Approvals covering the South Island. I have been practicing as a Planner for approximately 20 years. I have worked in a number of planning and environmental management roles in both New Zealand and the United Kingdom in local and central government as well as the private sector.

1.2 I have a MSc in Resource Management from Lincoln University.

2 Expert Witness Practice Note

2.1 While not a Court hearing I note I have read, and agree to comply with, the Code of Conduct for Expert Witnesses as required by the Environment Court's Practice Note 2014. In providing my evidence all of the opinions provided are within my expertise and I have considered and I have not omitted to consider any material facts known to me which might alter or qualify the opinions I express.

3 Scope of Evidence

3.1 Resource consent has been lodged by Fulton Hogan Limited to establish, operate, maintain and close an aggregate quarry known as Roydon Quarry. I note as part of the proposal the applicant has revised the maximum number of vehicle movements down from 1,500 vehicles per day to 1,200 vehicles per day.

3.2 The application, section 42A reports and evidence of experts on behalf of the applicant have provided detailed descriptions of the proposal including assessment of the various aspects of the proposed activity. The submission of the Agency was in opposition to the proposal and the content of the submission was limited to concerns around the impact of the associated vehicle movements from the quarry on the safe operation of the State Highway.

3.3 This evidence is limited to those matters within my expertise and those matters within the scope of the submission lodged. This evidence is to be read in conjunction with the evidence of Ian Clark and David Scarlet who have also submitted evidence on behalf of the NZ Transport Agency.

3.4 In my evidence I provide comment on:

- The provisions of the Selwyn District Plan;
- The formation of the State Highway / Dawsons intersection;
- The risk of potential queueing into the State Highway intersection;
- The impacts of queueing into the intersection;
- Relevant objectives and policies in the Selwyn District Plan;
- Potential mitigation measures; and
- A summary of my evidence.

4 Selwyn District Plan

4.1 A detailed analysis of reasons for resource consent being required has been undertaken by the applicant and the Council appointed reporting planner has confirmed the findings of that analysis. The outcome of the analysis is that, under the provisions of the Selwyn District Plan, land use consent is required for a discretionary activity.

On this basis there are no restrictions or limitations on those matters which can be considered through the resource consent process. Accordingly, the hearings panel are able to consider those issues raised by the Agency, being the impact on the safe operation of the State Highway / Dawsons Road intersection.

5 Existing Intersection

5.1 The existing intersection of State Highway 1 and Dawsons Road is a cross intersection. At this point the state highway is single laned and there is a central painted median which enables turning into the side roads, being Dawsons and Waterholes Roads.

5.2 This intersection is being upgraded as part of Stage 2 of the Christchurch Southern Motorway project. A double lane roundabout is being constructed and the roundabout will provide a functional point for change of speed environment between the Templeton area and the motorway. For east bound traffic (approaching the roundabout from Rolleston) the roundabout will provide the first traffic calming measure for vehicles that have departed the motorway. The roundabout will provide an important visual cue between the motorway and built up area. Construction of the roundabout commenced in September 2019 and is projected to be completed at the same time as the wider project, being April 2020.

5.3 A plan of the improved intersection has been included in the evidence of Mr David Scarlet. It is my understanding that the speed limit on this section of State Highway, on both sides of the roundabout, will be 80km per hour.

5.4 The main trunk railway runs parallel to State Highway 1. This means that there is a level crossing on Dawsons Road which includes bells and barriers. The distance between the level crossing and the roundabout intersection will be approximately 52 metres. This is the distance that will be the available for queueing for vehicles that have turned from the State Highway into Dawsons Road, if the railway barriers are down.

6 Potential Queueing

6.1 The Agency is concerned that at times, when a train is passing through the level crossing, vehicles may queue back from the railway barrier and the queue could be of such a length that vehicles may queue into the roundabout intersection.

6.2 The proposed activity has the potential to result in this issue occurring due to the number of heavy vehicle movements the activity is anticipated to generate.

6.3 A large truck and trailer unit can be up to a maximum of 23 metres in length. Naturally truck lengths may vary depending on the type of truck utilised and it is understood there will be a range of vehicle types. That said, based on the maximum of 1200 heavy vehicles per day, issues of vehicles queuing back into the State Highway intersection are foreseeable.

6.4 To investigate this matter the applicant has undertaken detailed investigations of the issue including modelling. This modelling has been reviewed by Ian Clark for the Agency and he has provided evidence regarding this matter. Importantly, his comments and review of the modelling verify this concern and provide some guidance as to the risk of the queueing of vehicles back into the State highway intersection. It is my understanding that modelling demonstrates that there is an increased probability that when a train passes across the level crossing that the resultant queue length could extend into the roundabout intersection.

6.5 I recognise that the modelling takes a cautious approach in its application of data and can at times represent an extreme but in my opinion the modelling and analysis demonstrates that it will not be uncommon for queueing to occur. In recognising this projected outcome it also needs to be remembered that the queueing will occur within a higher speed environment. Vehicles will slow significantly as they approach and pass through the roundabout but they will be approaching and departing within an area that has a speed limit of 80 kilometres per hour.

6.6 As part of the above I note that it is the character of the proposal, in generating a significant number of heavy vehicle movements, that are longer in length that highlights the issue and the Agency had not, when designing the motorway improvements, anticipated such a risk based on vehicle movements anticipated for the intersection. If an activity of the nature proposed was existing or consented during the motorway design phase, with similar vehicle movements as proposed, it is likely that the Agency would have considered an alternative formation arrangement for the intersection.

7 Potential Effects of Queueing

7.1 The evidence of David Scarlet provides details as to the potential effects of vehicles queueing back into the intersection. This includes the risk of vehicles colliding and potentially resultant injuries. As detailed above, the risk of this occurring is not low or negligible and the proposal could result in potential queueing back into the State highway intersection and risk of collision on a relatively frequent basis.

7.2 On this basis the proposal will result in an increased risk to health and safety with significant consequences. It is considered these potential adverse effects are at least more than minor and can be considered significant based on the increased risk as a consequence of the proposal.

8 Objectives and Policies

8.1 Transport related objectives in the Selwyn District Plan include the following:

Objective B2.1.1 *- An integrated approach to land use and transport planning to ensure the safe and efficient operation of the District's roads, pathways, railway lines and airfields is not compromised by adverse effects from activities on surrounding land or by residential growth.*

Objective B2.1.2 *- An integrated approach to land use and transport planning to manage and minimise adverse effects of transport networks on adjoining land uses, and to avoid "reverse sensitivity" effects on the operation of transport networks.*

8.2 The relevant policies, for the Agency, which stems from these objectives is Policy B2.1.4(b) which specifies:

Policy B2.1.4(b) *- Avoid or mitigate adverse effects on the safe flow of traffic along State Highways and Arterial Roads from new property access or new/expanded activities which generate a high level of traffic movements.*

8.3 The above provisions specifically seek to ensure the districts roads are not compromised by adverse effects from activities on surrounding land. With regards to State Highways this provision is further defined through a specific policy which seeks to avoid or mitigate adverse effects on the safe flow of traffic from new activities which generate a high level of traffic movements.

8.4 It has been identified that the proposed activity has the potential to have a significant adverse effect on the safe operation of the state highway network and an important reason for this is that the proposal will generate a high level of heavy vehicle movements. It is not considered that these potential effects have been avoided or mitigated.

8.5 On this basis it is considered that currently the proposal generates a significant conflict with important provisions of the Selwyn District Plan.

9 Mitigation Measures

9.1 As part of the resource consent application the transport assessment proposes the potential erection of warning signs to advise of potential queueing. In the past the Agency has used this type of sign to address an existing issue, as opposed to in preparation for a future issue.

9.2 No alterations or changes to the State Highway have been investigated by the applicant as part of the proposal (except signage) which is understandable given the works already being undertaken to the State Highway. It is also recognised that the ideal type of works, such as a grade separated intersection, would be both cost prohibitive and difficult to form within the road corridor.

9.3 An option that the Agency has discussed with Kiwirail is the erection of a variable message sign (VMS Sign) which advises motorists not to turn into Dawsons Road when a train is passing across the level crossing. Such a sign could be connected to the railway crossing alarm system so that when the crossing alarms turn on the sign would also turn on. It would need to be ensured that adequate space is available for vehicles to safely stop and wait and it is likely that such signs would need to be erected on three legs of the intersection. Initial discussions with Kiwirail have been positive, and similar measures have been employed elsewhere, but these discussions and investigations are only preliminary and more detailed investigations would need to be undertaken to explore this option further.

9.4 It is recommended that the applicant both investigate the feasibility of such an option and also explore potential wording for a condition which may require monitoring and a trigger point for the erection of VMS signs.

9.5 The Agency recommends this option is explored but cannot confirm if it would mitigate all potential traffic related effects until more detailed investigations have been undertaken.

9.6 The Agency is also open to exploring other options or measures which might have the same outcome in mitigating potential adverse effects.

10 Summary

10.1 Overall, the Agency is concerned about the potential impacts of the proposed activity on the intersection of State Highway 1 and Dawsons Road, which is currently being upgraded as part of the local motorway project.

10.2 The proposal has the potential to have significant adverse effects on the safe operation of the intersection due to the increased potential for vehicles to queue into the intersection. Consequently, this also results in potential conflicts with the provisions of the Selwyn District Plan.

10.3 The applicant should further consider and address this matter which may include mitigation measures through the introduction of VMS signs connected to the alarm system for the level crossing.

10.4 Resource consent should only be granted if these potential effects can be suitably addressed, particularly due to the consequences of the effects on persons health and safety.

Richard Shaw

14 October 2019