

BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY CANTERBURY REGIONAL COUNCIL AND SELWYN DISTRICT COUNCIL UNDER THE Resource Management Act 1991 in the matter of applications by Fulton Hogan Limited for all resource consents necessary to establish, operate, maintain and close an aggregate quarry (Roydon Quarry) between Curraghs, Dawsons, Maddisons and Jones Roads, Templeton

Introduction

My name is Martin Flanagan. I am a manager in a local company in the Health Sector; my role is focused on business planning, project management and performance improvement. My work background includes structural engineering, civil engineering construction, business casing significant engineering and business projects. I have a Civil Engineering degree from Canterbury University and an MBA from Cranfield University (UK).

I live near Templeton with a rural aspect around our house. My family and I moved here from Christchurch for that rural feel, to a place with less congestion, cleaner air, and less noise.

This document addresses the following matters raised after the post submission changes to the Roydon Quarry application following initial submissions and section 42 report:

- Economic benefits
- Traffic
- Ground water
- Rehabilitation
- Condition changes

Economic Benefits

Employment benefits are overstated

The benefit to Selwyn is stated as jobs at \$0.7m. While this may be correct for Selwyn, there is unlikely to be any net growth in jobs in the Christchurch/Selwyn area. This is because:

Creating this quarry does not change demand for aggregate so with or without this quarry a similar number of jobs will be required to produce a given volume of aggregate.

The volume of aggregate required in Christchurch is reducing with the majority of earthquake related work complete and the northern and southern motorways nearing completion; so there is likely to be an ongoing net reduction in quarry related work.

The dust conditions are suggesting that to ensure the total dust in the air does not exceed the maximum allowed that Pound Rd would need to be closed before the Templeton Quarry begins so we could reasonably assume a transfer of jobs not a net increase.

With no net employment benefit the net economic position becomes negative

Cost of transport savings are small in the scale of the Christchurch economy

- Net cost of a site further from Christchurch in a real rural environment where there are not thousands of people impacted to any degree.

- The FH map shows a multitude of potential sites in real rural areas about 10 kms beyond the current Miners Road Quarry.
- Transport costs stated in ME memo at \$0.4 per tonne/km
- A quarry further from people at 10 km would increase the cost of delivered aggregate by \$4 per tonne.
- At 500,000 tonnes per annum from this quarry is an increased cost to the Christchurch economy of \$2.0m
- Canterbury GDP in 2017 was \$20bn, so \$2.0m is 0.01% of GDP
- Canterbury population in 2017 was 380k so \$2.0m is \$5.25 per person per year
- Any increased costs would only come as the closer aggregate supplies are used around 2040

In summary the impact to the Christchurch economy of this site is minimal.

Traffic

Traffic on Dawsons Road

Throughout the Metherell Traffic Effects Report Dawsons Road is described as arterial road; this is incorrect. Figure A-2 on page 35 of the Report correctly identifies Dawsons Road as a secondary collector road. Dawsons Road is not designed nor designated as a road meant for passing heavy vehicle traffic.

The traffic reports talk of small numbers of trucks travelling on Dawsons Road. However, the Kevin Bligh report discusses material imported to the site with a 3-4% of truck movements. It seems likely that these truck movements would be from quarries in Yauldhurst yet these truck movements are not included in the truck numbers for Dawsons Road. 3-4% would be up to 30 inter quarry truck movements per day; however the traffic report states 0-5 movements per day.

With 3.1 m lane widths Dawsons road is not suitable for heavy vehicles; single vehicles tend to drive over the white line when there is no other traffic is present; two heavy vehicles passing in opposite directions tend to drift onto the verges to give a safe passing distance between the vehicles.

Historically there may not have been accidents with Heavy vehicles on the Dawsons Jones, Madison, Newtons, and SW73 roads, but these are all dangerous high speed intersections which have had multiple recent accidents. Putting more heavy vehicles though these intersections can only increase the probability of accidents and then the severity of those accidents.

If the quarry cannot operate without Dawsons Road as an access road then the quarry should be declined. If the quarry can operate without Dawsons Road except for local delivery the Roydon Quarry Transport Management and Routing Plan should include Dawsons Road in the "Heavy Vehicle Restrictions in the same manner as Jones Road.

Dawsons Road intersections with Jones Road, the railway line, and SW1

The potential of heavy traffic through Templeton is a problem Fulton Hogan has obviously recognised. However their mitigation has a low probability of success. To have any probability of success it would need a change in driving behaviour in every truck driver using the quarry.

The "Roydon Transport Management and Routing Plan" approach is to put up a sign and hope truck drivers will follow the instructions for the next forty years. Jones Road is a public road so it is difficult to for Fulton Hogan to enforce compliance.

The proposal has no monitoring of individual compliance and no consequence for non-compliance.

In a scenario when a truck driver reaches the Jones Rd / Dawsons Rd intersection and sees a queue due to a train they have a choice wait or go down Jones Road. It is likely they will chose to keep moving rather than wait, you see it on the road all the time, we all make similar decisions on the road about the quickest route in given traffic conditions.

I have observed gravel trucks coming off SW1 at Dawsons Rd and driving down Jones Rd to Pound Rd and the Pound Road Quarry to avoid a tail back from the Pound Rd traffic lights. I would expect the same behaviour when there are queues at the railway line or to turn left onto SH1.

Fulton Hogan acknowledges the problem and the need for mitigation however, as the road is a public road there is no effective mitigation option and hence the application for the quarry should be declined.

If the quarry is accepted there is little that can be done to mitigate but to make it effective there needs to be individual consequences for non-compliance of the code of practice:

- A camera on the site will be set on the intersection to monitor compliance
- The camera will be sufficient to be able to identify truck number plates
- Non-compliance events are identified and drivers/ companies are given a warning, ongoing non-compliance result in ban from the site

An alternative would be to require all trucks using the site to have GPS trackers attached and monitored automatically recording when a truck is on a prohibited road. This is technology observed to be used in some Canadian mines. Again ongoing non-compliance would result in a ban from the site.

If this routing plan is accepted as effective mitigation then the trigger to adjust the sign should be less than over 90% (720 truck movements through Templeton per average day) non-compliance defined in Section 6 Route Monitoring. (I may have miss read the %, but even 10% at 70 truck movements is excessive).

The routing plan should be extended to Dawsons Road to protect all residents in the area. The impact on the quarry viability will be negligible.

Ground Water

The proposed mitigation for rising Ground Water levels by adding fill and raising the level of the quarry does not seem realistic. It is only applicable in small areas of active quarrying, not for the full quarry over and beyond its life time.

If the ground water rises in the following scenarios then the proposed mitigation is going to be very expensive to follow this mitigation:

1. If the central processing area is initially set at 1 m above current water levels and the water level rises is the processing are going to be moved and raised
2. Likewise for area that have been rehabilitated, or if 100 hectares are affected

In those scenarios I would expect that Fulton Hogan would appeal the condition as unrealistic. This should be accepted now. The only realistic way to mitigate the risk is to increase the protective layer from 1 m to one that allows for an expected ground water level rise.

Rehabilitation

If the quarry is approved, and we have seen that there is less than minor benefit to Christchurch and no benefit to the local community. If Fulton Hogan is serious about making a positive contribution from this quarry then the rehabilitation and end use should change from selling the land for 4 hectare life style blocks to something meaningful. I can envision a fully fenced ecosanctuary that overtime aims to replicate the podocarp forests of the Canterbury plains prior to the arrival of humans. Imaging a vision mix of Zealandia in Wellington, a 225 hectare sanctuary that has reintroduced 18 species of native wildlife and Riccarton Bush.

This would require planting native vegetation during the remediation activities rather than grass and at the end of the quarries life building a predator proof fence around the site. This would benefit the people of Christchurch, wildlife protection and environmental climate change.

Martin Flanagan comments and proposed changes to proposed conditions issues and changes in the Kevin Michael Bligh report.

If the Quarry is approved the following conditions with attached justification should be included. Due to poor reputation for compliance of the quarry industry in Christchurch rigorous monitoring must be included to ensure that the Quarry delivers to its promise of

Section	Condition change	Comments to proposed change
P11/59	CPSA construction area boundary to be bunded during construction	<ul style="list-style-type: none"> • There seems to be little management of noise during CPSA construction when all machinery is at existing ground level • Construction noise control should be part of conditions • Bunding close to the noise source is more effective than at a distance and this stage will take up to 5 years so close bunding will minimise initial noise while the plan is at the surface level
	Permanent roads that will be paved at the end of CPSA construction will be paved during construction period	<ul style="list-style-type: none"> • There cannot be period (up to 5 years) where the dust controls are not <u>all</u> in place as a consent condition
	All consented dust control measures will be in place for the CPSA construction period	<ul style="list-style-type: none"> •
	Truck counter at the and recorded with an alarm set once 800 truck movements have been recorded	<ul style="list-style-type: none"> •
	Permanent noise monitors	<ul style="list-style-type: none"> • This is a small cost and will help counter issues especially around short term peak noise events
P13/69	Record of mobile plant on site and running days	<ul style="list-style-type: none"> •
P13/74	Extraction will be to within 2 meter of the highest ground water level recorded at any time during the operation of the quarry	<ul style="list-style-type: none"> • Consideration should be given to the likelihood of ground water level increases due to forecast sea level rise otherwise this hole will become a lake at some time in the next century Ground water may rise during the time operation of the quarry •
P13/75		<ul style="list-style-type: none"> • How will ground levels be increased if the ground water

		<p>rises say in 20 years when 70 hectares have been quarried and 30 rehabilitated? What will happen towards the end of life? This seems like a fake commitment it is not realistic.</p>
P14/83	No imports of rock material	<ul style="list-style-type: none"> • There must be enough on site • Additional truck movement on rural roads
P14/83	Any import to come to site from State Highway 1 not Jones, Curraghs, or Dawsons Roads	<ul style="list-style-type: none"> • Imports would likely come from Yauldhurst Quarries and this scenario has not been described in any document or assessment so should be excluded
P15/88	Load out of Trucks and clean fill deposition to start at 7.00 a.m.	<ul style="list-style-type: none"> • Trucks need to travel to the site and would be traveling prior to 6.00 a.m.; there should be no opportunity for trucks to be waking people up prior to 6.00 a.m. • Cannot trust drivers to stick to SW1
P15/88	No load out of trucks after 8.00	<ul style="list-style-type: none"> • Why can gravel not be stock piled at the site it is being used this is lazy thinking • Shift workers go to s • 60 nights is once a week – this is not reasonable • No economic benefit stated for night works in economic benefits report • Other methods are available to contractors like stockpiling at, or near the site of works
P15/89	No Sunday work	<ul style="list-style-type: none"> • There are only 52 Sundays in a year; 15 almost a third or every Sunday for a for 4 months – • This many days and associated truck movements is not reasonable • Other methods can be used to service sites like stock piling at the site the day before
P15/90	<p>Transport routing plan: consequences of non-compliance:</p> <ul style="list-style-type: none"> • GPS monitors on all trucks, good orgs will have this anyway for truck management 	<ul style="list-style-type: none"> • This proposal sounds nice but has a negligible probability of working. Truck drivers once on the road are unlikely to remember or care about the “code of conduct” if it means hitting their deadline, likewise I do not see Fulton Hogan employees seeing maintaining the code of conduct with

	<ul style="list-style-type: none"> • If truck travels on Jones Road, 1st time : warning; second time ban from site • If not GPS then permanent cameras that can be reviewed if a complaint is received and then the same provisions for driver consequences 	truck drivers as an important part of their job. His approach will not work in reality and cannot be accepted by the commissioners as an effective approach
P17/98	No dust suppressant chemicals	<ul style="list-style-type: none"> • The impact of the proposed chemical is not discussed at any stage and spraying large quantities of chemicals this close to the water table seems a bad idea • A safety assessment and separate consent should be considered to ensure the security of the ground water
Conditions		
P4/11	The central area shall be bunded during construction around the central area (not the boundary to mitigate construction noise for establishment when working at the ground level	
P5/16	Engine warm ups should start at 7.00 a.m. not prior	It is easier to monitor if the time for starting noise is clear not the time for start work
P6/18d	Stop work at or above 7m/s	Clear number and action, current proposal is unclear and could be misinterpreted
P6/18p	No chemical dust suppressant shall be used unless formally approved by ECAN for use	What is the chemical being used, for over 40 years within one meter of the water table? If the quarry cannot manage dust without chemical suppressants or stabilisers it should not be approved
P7/18u	No chemical stabilisers shall be used unless formally approved by ECAN for use	Ditto
P7/18w	Suction vehicle	Reports state suction not sweepers: big difference in effectiveness
P7/20	Public access to all monitoring information on a public website	This does not cost much and make all information equally available to FH, ECAN, and public

P7/23b	meets or exceeds	This then clearly states if there is a 7 in the wind speed work stops
P8/25	Use sprinklers and fogging equipment not water carts	Water carts were not recommended in the latest dust report
P8/26	No un approved dust suppressant	Are these chemicals safe in our water?
p8/28	The conditions, assessment and decision shall be recorded and available for review	This will help learning
P12 / 7	Of the water level whenever measured	
P12 / 8		This is not credible for 40 open hectares, it is too much work and will be appealed. This provision is a risk based one in the hope it will not happen What happens to areas that have been rehabilitated will these be raised too If the water level was to rise in the final year of works by .5 m would the base of the whole site be raised It's not credible
P12 / 9	Area of the central crusher and stockpiling permanent site should be 2 m to allow some buffer for rising water levels	To allow a risk factor
P 19 /32 P20/34 P26/8	Refuel on a concrete pad with a lip to contain small spills	This reduces risk of contamination of soil Any soil contaminated after a spill shall be removed from site to an appropriate site for disposal
New	Truck counter for truck movement limits	
New	CCTV cameras of trucks at designated sites and recording of video <ul style="list-style-type: none"> • Exiting site • Site exit • Jones /Dawsons road 	<ul style="list-style-type: none"> • Exiting to show truck was washed and load is covered • Site exit for road safety • Jones road to monitor compliance of conduct •
New	Number plate recording time stamped	<ul style="list-style-type: none"> • For all compliance purposes
New	Include Dawsons Road on the no traffic road in the Routing Plan	<ul style="list-style-type: none"> •