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Des Corrie-Johnston
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Sent by email to: s 9(2)(a)

Peach Island Quarry Project – Significant Regional Benefits

Dear Des

This letter provides a brief assessment of the economic benefits of a proposed quarry at 134 Peach Island Road, Motueka (Tasman region). I previously provided evidence dated 15 July 2022 on the same project, which provided details of my qualifications and experience, the application, and the method used for the economic analysis.

I am advising on the economic benefits of the project with respect to the criteria for applications seeking to be listed in the Fast-track Approvals Bill currently before the Parliament (as at May 2024). Projects may be listed where they have significant regional or national benefits. The Bill sets eligibility requirements for projects to 'be considered by the joint Ministers' (clause 17). Clause 17(3) indicates that in determining whether a project would have significant regional or national benefits, the following matters are relevant:

> (b) will deliver regionally or nationally significant infrastructure:
>
> (c) will increase the supply of housing, address housing needs, or contribute to a well-functioning urban environment (within the meaning of policy 1 of the National Policy Statement on Urban Development 2020):
>
> (d) will deliver significant economic benefits:
>
> …
>
> (f) will support development of natural resources, including minerals and petroleum:
>
> (g) will support climate change mitigation, including the reduction or removal of greenhouse gas emissions'.

The Peach Island Quarry project would strongly support those grounds. A local aggregate source would improve the availability of concrete for regionally significant infrastructure. It would increase the supply of housing and contribute to the functioning of the Tasman region. It would deliver significant economic benefits. It would support the development of a local natural resource. It would produce lower future greenhouse gas emissions, relative to other sources of aggregate.

For those reasons, I consider that the Peach Island Quarry project is regionally significant.

(f) support development of natural resources

This application would support development of a mineral resource, namely river run aggregate. This is a finite resource that is essential for high-value end products – concrete and sealing chip – that have a wide range of uses in community, industrial, and infrastructure developments in the region. There are limited sources of river run aggregate available in the Motueka area. The demand cannot be met from rivers alone, and other rock cannot be substituted.[1]

This material is used for concrete for house builds, factories, sheds, driveways, marae, community facilities, infrastructure, and any other use where concrete is required.[2]

(b) deliver regionally or nationally significant infrastructure, and (c) increase the supply of housing

I reviewed evidence about the use of aggregate to supply infrastructure and housing in the region. Aggregate production in the Nelson/Tasman region has been at around 1 million tonnes a year in recent years (in 2020 it dropped to 640,000 due to Covid factors). The region uses more aggregate per person than other parts of the country because of its population growth, extensive roading network and lengthy coastal area. Growth is anticipated to continue, as reflected in the Nelson Tasman Future Development strategy, which suggests demand for aggregate will continue to be strong.[3] Looking at housing alone, I note that the anticipated 29,000 new homes forecast for the next 30 years would require 7.2 million tonnes of aggregate, based on industry averages, or 240,000 additional tonnes annually.

Aggregate is used for infrastructure including roads and community facilities.[4] These facilities cannot be constructed without a supply of aggregate. Sourcing this material from outside the Motueka area increases its cost, with flow-on effects for the cost of delivering infrastructure.

(g) support climate change mitigation, including the reduction or removal of greenhouse gas emissions.

Aggregate is extremely heavy, and is typically transported by diesel powered trucks. This has a high carbon emission footprint, which can currently only be reduced by sourcing aggregate in close proximity to its end use locations.

I estimate that using local aggregate would save 21,551 kilometres of heavy vehicle travel per year (compared with sourcing from outside the Motueka area), with a total tonne-kms of over 1.21 million per year. Using local aggregate would therefore save 285 tonnes of CO2-e annually.

(d) deliver significant economic benefits

The mineral resource at Peach Island would deliver significant economic benefits. It would deliver benefit by contributing to addressing housing needs and the infrastructure required for a well-functioning community environment, as mentioned in relation to clauses (b) and (c).

To estimate the economic benefit of the Peach Island quarry, I compared potential economic activity with the quarry operating to potential economic activity without the quarry. The alternative to local aggregate is either to supply river run aggregate to the Motueka area from outside the area to make

[1] RM200488, 200489 and 220578: Evidence of Tim Corrie-Johnston dated 15 July 2022

[2] Evidence of Tim Corrie-Johnston, above n 1.

[3] RM200488, 200489 and 220578: Evidence of Wayne Scott, CEO of the Aggregate and Quarry Association dated 4 November 2022

[4] Evidence of Tim Corrie-Johnston, above n 1.

concrete locally, or to supply concrete and sealing chip from outside the area.[5] I would expect those options to raise the price of concrete and sealing chip in the Motueka area,[6] and as a result reduce their use.

The two economic impacts from approving the quarry project would therefore be:

- A higher level of house building, other community and commercial building, and infrastructure building
- Lower costs for the building that does take place.

To quantify the economic impacts, I used the NZIER computable general equilibrium (CGE) model, TERM-NZ. I modelled two scenarios, one with the quarry and one without. If the quarry were undertaken, it would produce the benefit of an increase in the availability of local aggregate, at the cost of the loss of pasturage currently at the site. The measure of the economic impact was household consumption, as opposed to contribution to gross domestic product (GDP). GDP in this case would increase locally with the quarry because of additional productive activity. The impact on the Tasman region, however, is the change in the welfare of people in the area, which can be measured as the change in household consumption. At the time of my analysis (2022), the economic benefit was valued at $306,000 per year, and the economic cost was $970 per year. Over the 15 years of the proposed consent, the economic benefits would be $3.34 million in total (at a discount rate of 5 percent), and the economic costs would be $10,600 in total.

The overall supply of aggregate in the country is limited.[7] One limitation is geological: there is a limited number of high-quality sites for extraction. Another limitation is regulatory: sites need permission to operate, which limits their operation. In my economic analysis, I have not explicitly modelled a limit in the quantity of aggregate. Instead, I have assumed that price and market mechanisms would produce a price change that rationed the available aggregate to those people and uses that are willing to pay a higher price.

Another impact of having a local quarry is the environmental benefit of reduced emissions from cartage of low-value, high-bulk material, which has relevance for the criterion in clause (g). I estimated the value of the reduced carbon emissions at $21,400 per year.

The net economic benefit of the Peach Island quarry was estimated at $327,000 per year, including the benefit of access to local aggregate, the loss of pasturage, and the benefit of avoided carbon emissions. Over the 15 years of the proposed project, the net economic benefit was estimated at $3.56 million.

Yours sincerely

Dr Bill Kaye-Blake
Principal Economist

CC: Sally Gepp

[5] Evidence of Tim Corrie-Johnston, above n 1.

[6] Supported by the Evidence of Wayne Scott, above n 3.

[7] Evidence of Wayne Scott, above n 3.