



21 December 2018

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Kia ora Don,

Request for Further Information

Response required by: 31 January 2019

Applicant Name: Fulton Hogan Limited

RECORD NUMBERS AND ACTIVITY DESCRIPTION:

Selwyn District Council		
Reference Number	Consent Type	Description
RC185627	Land Use (s.9)	Land use consent to establish, operate and rehabilitate a quarry.
Canterbury Regional Council		
CRC Number	Consent Type	Description
CRC192408	Land Use (s.9)	Use of land to excavate material
CRC192409	Land Use (s.9)	Use of land to deposit cleanfill over an unconfined/semi-confined aquifer
CRC192410	Discharge Permit (s.15)	To discharge contaminants into air from an industrial or trade premise or process
CRC192411	Discharge Permit (s.15)	To discharge contaminants into water from an industrial or trade process within the Selwyn- Te Waihora sub-region
CRC192412	Discharge Permit (s.15)	To discharge stormwater into land where contaminants may enter groundwater

CRC192413	Discharge Permit (s.15)	To discharge contaminants into land where contaminants may enter groundwater associated with the deposition of cleanfill for site rehabilitation
CRC192414	Water Permit (s.14)	To use water for aggregate washing and dust suppression

Overview

As you are aware, we been processing your consent application. So, we can progress your application, we are asking for some further information under Section 92 of the Resource Management Act 1991 (RMA).

Options available to you are detailed below under **Response options**. Please complete one of these options by 31 January 2019. We need this information, so we can better understand the proposal and its actual or potential effects.

Canterbury Regional Council

1. Scope of the application

- 1.1. The queries listed below refer to information that is inconsistent in appendices of the application, or where further clarification is required.
- 1.2. Section 2.2 of the AEE (Pg. 3) mentions the purchase of a block of land adjoining the applicant's existing Miners Road Quarry site.
 - a) Please confirm whether aggregate extracted from the proposed Roydon Quarry site will be the only aggregate washed, processed and stockpiled at the site.
 - b) If aggregate from the Miners Road Quarry site or any other site is to be processed at the proposed Roydon Quarry site, please provide further details on the expected volumes of aggregate to be transported to the proposed site.
- 1.3. Section 4.4 of the AEE (Pg. 18) proposes that smaller stock piles associated with mobile plant may be located up to 100 metres from the site boundary, while Section 2.4 (Pg. 9) of the 'Air quality assessment' (appended to the application as Appendix D) notes that smaller stockpiles associated with mobile plant may be as close as 250 metres to the site boundary.
 - a) Please confirm the setback distance of smaller stockpiles, associated with the mobile processing plant, to the site boundary.
 - b) If stockpiles, associated with mobile plant, are proposed to be located up to 100 metres from the site boundary, please confirm the Air Quality Assessment assesses this
- 1.4. Section 2.5 (Pg. 9) of the 'Air Quality Assessment' also notes a "*proposed transfer of any additional water from consented takes within the same zone.*" There has been no application made to transfer water, please provide further details on this.

2. Canterbury Air Regional Plan (CARP)

- 2.1 Section 3.4 of the Statutory Assessment (appended to the application as Appendix K) sets out an assessment of the relevant rules of the CARP.

It has been assessed that the dust generating activities proposed at the site are unable to meet conditions (1) to (6) of Rule 7.35 or “the conditions” of Rule 7.36. Subsequently Section 3.4 concludes a discretionary activity status applies under Rule 7.63. However, we note that Rule 7.63 is only applicable to activities which do not comply with Rules 7.47 to 7.62, and therefore we do not consider it to be relevant to the proposed dust generating activities. Instead, we consider that Rules 7.3 to 7.5 apply where the conditions of Rules 7.35 and 7.36 are unable to be met

Condition (2) of Rule 7.3 is similar to condition (1) of Rules 7.35 and 7.36 requiring the discharge of dust to not cause an offensive or objectionable effect beyond the boundary of the property of origin. Given that it is stated in the Statutory Assessment that this requirement cannot be met in relation to Rules 7.35 or 7.36:

- a) Please provide an updated assessment of the CARP addressing the matters set out above, in particular please assess the proposed dust generating activities against Rules 7.3 to 7.5.
- 2.2 The CARP includes rules relating to discharges into air from large scale fuel burning devices. Section 3.2.2 of the Statutory Assessment provides an assessment of the National Environmental Standards for Air Quality Regulations (NESAQ, 2004), however there has been no assessment of the relevant rules authorising the discharge of contaminants into air from mobile and fixed plant proposed to be located at the site.
- a) Please provide an assessment of the large scale fuel burning device rules in the CARP relevant to assess the discharges into air from the mobile and fixed plant.
- b) If it is determined resource consent is required to cover these discharges, please provide an updated assessment of the actual and potential adverse effects on air quality.

3. Actual and potential adverse effects on air quality

- 3.1 In June 2018, a report was released on the Yaldhurst Air Quality Monitoring Programme in Yaldhurst run by Environment Canterbury in conjunction with the Canterbury District Health Board and Christchurch City Council. The report found that nuisance dust from quarries can be an issue. As a result, Environment Canterbury announced a new approach to quarries, requiring all quarries within 500 metres of someone’s home to install continuous dust monitors on their boundaries (as outlined to Fulton Hogan in a letter from Environment Canterbury Chief Executive Bill Bayfield, dated 9 July 2018).
- 3.2 Please provide comment on the proposed dust monitoring and whether it is consistent with Environment Canterbury’s new approach to quarries and dust monitoring.
- 3.3 Throughout the AEE and the Air Quality Assessment (appended to the application as Appendix D), the use of field conveyers are proposed as a primary method to minimise the production of dust when transporting extracted aggregate to the processing areas on the site. However, it is noted that the applicant wishes to maintain the ability to use dump trucks to transport aggregate around the site when required. The following information is requested:

- a) Under what circumstances will the use of dump trucks or trucks and trailers be required in lieu of field conveyers (for example, is there a necessary frequency or relative quantity where the use of a dump truck is required vs when the field conveyer can be used)?
- b) How will operations be managed to minimise the need for any transportation of aggregate via dump trucks?

3.4 Section 3.1.1 of the Air Quality Assessment (Pg. 12) sets out the potential sources of dust which may arise from the operations proposed. It is assessed that:

“dust emissions from the aggregate extraction can occur if the working face has dried significantly.”

It is concluded that discharges from this source are likely to be of *“short duration and relatively insignificant.”*

If it was determined the scale and nature of effects from the working face was resulting in offensive or objectionable dust discharges, what dust management controls would be implemented?

3.5 Section 3.1.1 of the Air Quality Assessment (Pg. 13) also outlines the size fraction of dust, including Respirable Crystalline Silica (RCS), likely to arise from the activities proposed.

Please provide references to external evidence or reports used for this discussion.

3.6 Section 3.1.3 of the Air Quality Assessment (Pg. 15) states:

“Exposure to RCS has a potential to cause silicosis where people may be exposed to high levels for prolonged periods. A low potential maybe assumed if the parent rock material has low levels of crystalline silica. However, this can be exacerbated where significant unmitigated rock crushing activities occur within 500 m of residential dwellings or public buildings.”

Please provide a reference for this statement, particularly the last sentence.

3.7 Section 4.1 of the AEE (Pg. 14) sets out the description of the proposal. It is proposed that excavation is undertaken in stages with an “active working quarry area” of no more than 40 hectares at any one time. Compared to other recently granted consents for quarries in the greater Christchurch area, 40 hectares is a substantial area to be exposed at any one time.

Please provide further detail on the staging proposed (e.g: will aggregate be extracted in sub-stages within each of the five 40 hectare stages?).

3.8 It is proposed that any areas where cleanfilling and rehabilitation are occurring will be additional to the 40 hectare limit of the “active working quarry area”:

- a) What is the maximum area of the site that could be used for cleanfilling and rehabilitation at any one time (in addition to the 40 hectares of active quarry area)?
- b) As proposed in the current application, the “active quarry area” could be in Stage 5 and cleanfilling/rehabilitation could still be in Stage 1. Please confirm whether this will be the case.
- c) What specific dust management methods will be utilised in the areas being cleanfilled and rehabilitated?

- 3.9 Section 8.0 of the Air Quality Assessment (Pg. 45) provides an assessment against Regulation 17 of the National Environmental Standards for Air Quality (NESAQ). Regulation 17(1) directs a consent authority to:

“...decline an application for resource consent (the proposed consent) to discharge PM₁₀ if the discharge to be expressly allowed by the consent would be likely, at any time, to increase the concentration of PM₁₀ (calculated as a 24-hour mean under Schedule 1) by more than 2.5 micrograms per cubic metre in any part of a polluted airshed, other than the site on which the consent would be exercised.”

The Air Quality Assessment concludes that while the location of the proposed quarry is directly adjacent to the gazetted Christchurch Airshed (considered to be a polluted airshed) discharges to air are very unlikely to contribute a more than negligible amount of PM₁₀ in the Christchurch Airshed.

Please provide an evidential basis for the conclusion that NESAQ Regulation 17(1) will be complied with.

- 3.10 The discharge of dust beyond the boundary of the site has the potential to not only cause nuisance and amenity effects but can also cause adverse effects on water.
- Is there any roof collection of rainwater at the adjacent sites?
 - If so, what is the potential for dust to impact on water supplies and is any specific mitigation required?

4. Draft Dust Management Plan

- 4.1 A draft Dust Management Plan is appended as Appendix B to the Air Quality Assessment. Section 3.0 of the draft Dust Management Plan (Pg.3) raises rainfall and ground dampness as being important in the management of dust as *“dry dust lifts more easily than damp material.”* Section 7.2 of the draft Dust Management Plan (Pg. 17) requires the operation of a metrological monitoring station at the site. However, it is unclear whether this will measure rainfall (or only wind direction and wind speed).

Given the importance of rainfall in the production of dust, will rainfall be monitored, and records be maintained?

- 4.2 Section 7.3 of the draft Dust Management Plan (Pg.18) proposes the use of two continuous mobile dust monitors at the site. Where trigger levels are breached, an alert is required to be sent to the Environmental Manager or other nominated person responsible for managing dust effects at the site.

Has the option of publicly reporting real-time PM₁₀ data been considered?

- 4.3 Throughout the Air Quality and Statutory Assessments, it is stated that the measures for dust mitigation are consistent with, or in some cases exceeds, good industry practice.
- On what basis has it been determined that the dust mitigation and management measures proposed are an example of meeting or exceeding good industry practice?
 - Please provide a discussion and relevant references for what constitutes good industry practice for dust control in this type of activity.

5. Groundwater

Establishing the highest groundwater level at the site

5.1 Section 3.6 of the AEE (Pg. 12) has assessed the minimum groundwater table at the site to be between 10.9 and 9.1 metres below ground level. As a result, a maximum excavation depth between 9.9 and 8.1 metres below ground level is proposed. In Section 6.2.3 of the AEE ('Effects on Groundwater Quality', Pg. 30) only the deeper end of this range is considered (i.e. 9.9 metre excavation depth). With this in mind, the following information is requested:

- a) Will excavation be shallower in the south-eastern area of the site (where Stage 1 operations are proposed)?
- b) Please provide a contour map of proposed quarry extraction levels across the site relative to mean sea level.

5.2 In assessing the minimum groundwater table (AEE, Pg. 12) the 95th percentile for well M36/0142 over the past 10 years (2008-2018) was used to adjust the level of average piezometric contours. The following information is required:

- a) Please provide justification for using this approach (instead of the maximum over the entire length of record) for extrapolating the highest levels at the site.
- b) Was the longer-term record for well M36/0217 considered in the water level assessment?

Actual and potential adverse effects on groundwater quality

5.3 Page 12 of the AEE states the following:

"Groundwater quality at the site has been established from the four installed monitoring wells and is typical to that of the Canterbury Plains unconfined aquifer."

Please provide groundwater quality monitoring data that supports this conclusion.

5.4 Section 3.6 of the AEE (Pg. 9) identifies 36 active wells within 500 metres of the site boundary, but does not provide an assessment of potential adverse effects relating to these wells.

- a) Please provide an assessment of the actual and potential adverse effects, arising from the excavation, deposition and all discharges proposed, on these wells. The assessment should also include any potential aesthetic effects on water quality.
- b) Considering that flow paths deep wells may extend further upgradient than those of shallow wells, please provide an assessment of any potential long-term effects of persistent contaminants (arising from the excavation, deposition and all discharges proposed) on the community drinking water supply well M36/7575 located 580 metres immediately downgradient of the proposed quarry.

5.5 Section 4.2.1 of the AEE (Pg. 15) outlines that proposed site facilities will be developed on the site. How will discharges from staff amenity blocks and any showers be managed?

5.6 Section 4.5.3 of the AEE (Pg.20) sets out the truck washing methodology at the site. With reference to the actual and potential adverse effects on groundwater quality resulting from this activity, are any concrete batching operations proposed to be undertaken at the site?

Groundwater monitoring

- 5.7 Section 9.0 of the AEE (Pg. 53) summarises the mitigation measures proposed throughout the application. Please provide more details on the groundwater level monitoring proposed at the site. This should include, but not be limited to, the following information:
- a) What is the proposed method and frequency of measurements?
 - b) How will the measurements be used to inform quarry and cleanfill management?
 - c) What groundwater trigger values will be proposed?
 - d) Will high risk activities (such as machinery operating) be moved away from the deepest areas at times of high-water table?
 - e) What actions are proposed if the onsite monitoring shows the anticipates one metre separation to highest groundwater level is not being achieved?
 - f) Will the maximum water levels be plotted on a map with surveyed excavation levels for compliance monitoring?
- 5.8 Please provide more detail on the proposed groundwater quality monitoring. This should include, but not be limited to, the following information:
- a) Given there are currently two upgradient and two down gradient monitoring wells, will any additional wells be installed?
 - b) Are any nearby private wells proposed to be monitored?
 - c) Please provide justification for the low frequency of sampling, particularly after the second year.
 - d) What actions are proposed if any of the trigger levels are breached?

6. Change of use of Well M36/0257 (CRC182422)

- 6.1 An application was lodged to change the conditions of the existing water permit for the site, to allow for additional water use for quarrying purposes. We consider that the proposed change is beyond the scope of the original application and will instead process this application as a new water permit for the use of water for aggregate washing, dust suppression and other ancillary quarrying activities.
- 6.2 The applicable LWRP rule to assess the additional use is Rule 5.6 (any activity that would contravene Section 14(2) of the RMA). Given this, please provide the following information:
- a) Policy 4.63 and 4.64 of the LWRP sets out a range of matters which must be addressed by the conditions of a water permit to abstract groundwater. The existing water permit already addresses many of these, however there is no annual volume included in the conditions. Please provide an annual volume for the take in accordance with these policies and Schedule 10 of the LWRP.
 - b) Policy 4.65 of the LWRP requires the rate, volume and seasonal duration for which water may be taken to be reasonable for the intended use. It is understood the use of water for irrigation is proposed to be maintained on the water permit. Please provide

an assessment of efficiency and reasonable use relating to the use of water for irrigation.

- c) Conditions (2)(a) to (c) of CRC182422 sets out the restrictions on the water take based on the water level in well M36/0217. When restrictions apply to the volume of water taken, will there be sufficient water to undertake dust suppression as proposed? Please provide information to confirm this. Where the take of water must cease in accordance with Condition (2)(c) of CRC182422, how will the proposed dust suppression measures be undertaken?

7. Selwyn District Council (SDC) Water Races

7.1 A number of sections in the AEE outline the proposal to take water from SDC water races which terminate within the applicant's site. With regards to the water races the following information is requested:

- a) An assessment of the actual and potential effects on groundwater quantity if the soakage from these races is removed by quarrying activities proposed or water is diverted for other uses within the quarry.
- b) An assessment of the water quality in the water race, and the actual and potential adverse effects of allowing this water to infiltrate into land at the site, particularly given the reduced separation distance to groundwater as a result of the proposed quarrying.
- c) Confirmation that the take and use of water from the water race is authorised as either a permitted activity or by resource consent, with an assessment against the conditions of the relevant rule if it is a permitted activity.

8. Discharge of aggregate washdown water

8.1 Section 4.5.2 of the AEE (Pg. 20) proposes the use of ponds to discharge aggregate washdown water to land. It is understood from Section 4.5.2 that aggregate washdown water ponds will be located on the quarry pit floor, in close proximity to the fixed processing plant area.

- a) What depth will the aggregate washdown ponds be excavated to?
- b) Is there potential for these ponds to be excavated to a depth which does not allow one metre separation to highest groundwater level to be maintained?

9. Truck washing

9.1 Section 4.5.3 of the AEE (Pg. 20) outlines the truck washing to be undertaken at the site. It is understood washdown water will be collected by bunding of the concrete pad and collected in a holding tank prior to treatment in an oil/water separator and discharged to land.

- a) Where will the truck washing area be located at the site? Will it be located at natural ground level?
- b) Will the truck washing area be roofed?
- c) Will truck washing also include the washing out of concrete truck barrels?

- d) If roofing the truck wash area isn't proposed, how will the applicant ensure the capacity of the holding tank and oil/water separator does not become overwhelmed (causing ponding and overflow) by the discharge of stormwater and truck wash water?
- e) How will water from the oil/water separator be discharged to land?
- f) Is there a sampling or testing regime proposed for the area of land where wash down water will be discharged to ensure treatment is effective?

10. Stormwater discharges

10.1 Section 4.5.4 (Pg. 21) proposes the methodology to discharge stormwater into land at the site. The following additional information is requested:

- a) How will stormwater from the rooves of buildings at the site be discharged into land?
- b) How will stormwater generated from hardstand (e.g: carparking and accessways) at the site be collected, treated and discharged to land?
- c) Where hardstand areas are proposed on the quarry pit floor (for heavy machinery parking or similar) what measures are proposed to ensure hydrocarbons or other contaminants entrained in stormwater are not discharged to land?

11. Contaminated Land

11.1 Environment Canterbury's Contaminated Sites Team have reviewed the 'Combined PSI/DSI¹ Contaminated Report' attached as Appendix H to the application. In relation to the PSI, it has been identified there is no mention of consultation taking place with past and present land owners.

Please provide any details of consultation with past or present land owners at the site, for the purpose of gathering background information for the PSI.

12. Hazardous Substance Storage

12.1 Section 4.8 of the AEE (Pg: 22) sets out the quantity of hazardous substances proposed to be stored at the site. Prior to the fixed diesel tank being established, it is proposed to use a mobile tanker. Please provide the following additional information in relation to the mobile tanker:

- a) What is the total maximum volume of the mobile tanker?
- b) The use of a mobile tanker is consistent with the definition of 'Portable Container' in the LWRP. Accordingly, please provide an assessment against Rule 5.179 of the LWRP.
- c) What specific controls are proposed to prevent damage to the mobile tanker (and subsequent spillage of fuel) through accidental or natural events while traversing the site?

¹ PSI means Preliminary Site Investigation and DSI means Detailed Site Investigation

13. Cleanfill Management

13.1 The Contaminated Sites Team have reviewed the 'draft Cleanfill Management Plan' (appended to the application as Appendix F). The following additional information is requested:

- a) In terms of Section 3.5 of the draft Cleanfill Management Plan, what "specific training" is proposed for staff?
- b) Who/what provider is intended to provide such training?
- c) Will training refreshers be undertaken? If so, at what frequency?
- d) Section 5.4.1 of the draft Cleanfill Management Plan (Pg. 9) sets out the method of inspection when cleanfill loads arrive at the site. The methodology proposed only relies on visual or olfactory signs of contamination being identified.
 - i. What visual or olfactory signs will determine whether a load is contaminated or not contaminated?
 - ii. How will contamination that is unable to be detected via visual or olfactory methods be identified in cleanfill loads?
- e) How will a load of mixed fines (consisting of miscellaneous materials) be analysed for contaminants?
- f) Section 5.1 of the 'draft Cleanfill Management Plan' lists acceptable cleanfill material. The following additional information is requested:
 - i. How does allowing "*untreated wood*" as an acceptable cleanfill material comply with the definition of cleanfill in the LWRP and Ministry for the Environment's Cleanfill Guidelines (2002)?
 - ii. How has "*vegetative material comprising less than three percent of any load by volume*" been determined as acceptable cleanfill material comply with the definition of cleanfill in the LWRP and Ministry for the Environment's Cleanfill Guidelines (2002)?
 - iii. Please provide further details on the types of metals that are determined as 'acceptable cleanfill'.
- g) Section 5.2 of the 'draft Cleanfill Management Plan' lists unacceptable cleanfill materials. Will there be restrictions or prohibitions on accepting the following materials not considered explicitly in the Cleanfill Management Plan:
 - i. Uncured concrete;
 - ii. Liquid wastes or silts from hydroexcavation activities;
 - iii. Gypsum board (GIB) or medium density fibreboard (MDF);
 - iv. Treated timber
 - v. Roding material containing coal tar (including underlying affected soils); or
 - vi. Concrete washwater.
- h) Section 5.3 of the 'draft Cleanfill Management Plan' sets out the testing requirements for cleanfill material and soil. The section notes the following:

“...defined in the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 as at or below background concentrations.”

What ‘background concentrations’ will be used to determine “at or below background concentrations” when determining if material is contaminated?

- i) Section 4.7 of the AEE sets the cleanfilling methodology to be undertaken at the site. It proposed to utilise *“worked out areas of cleanfilling once suitably sized areas become available within the quarry pit floor.”*

What does the term “suitably sized” mean and how will a “suitably sized” area be determined?

14 Site Rehabilitation

14.2 The activities proposed will remove topsoil over a large area (up to 40ha at a time) and remove up to 9.9 metres, of unsaturated zone above groundwater. This removes some of the natural protection for the groundwater system against microbial, heavy metal and hydrocarbon contaminants. Even after rehabilitation at the site, it is unlikely the site will be restored to its original elevation.

- a) Please provide an assessment of actual and potential effects of the changes noted above (removal of large areas of topsoil and up to 9.9 metres of unsaturated zone above groundwater) on the vulnerability of groundwater to contamination. This assessment should include any increase in risk to down gradient groundwater users and the appropriateness of post-closure land uses.
- b) Have conditions requiring a bond or covenant relating to site rehabilitation and land use post quarry been considered? If so, will such conditions be proposed?

Selwyn District Council

15. TRANSPORTATION MATTERS

15.1 The quarry relies on improvements being carried out to the state highway network (section 6 of the report). Please advise of the expected opening year of the quarry relative to the expected opening year of the highway improvements. If the quarry is to be operational prior to the highway improvements, please assess the likely effects on road safety and efficiency.

15.2 The trip distribution is based upon six weeks of data in 2018 (Table 10-1). This is necessarily a ‘snapshot’ and we would anticipate that deliveries will be made according to the location of customers, and that these will change over the life of the quarry (and noting that a 35-year consent duration is sought). However, the Transportation Assessment assumes that the distribution will remain the same and does not consider any variability at all in the destinations. Please undertake sensitivity testing to allow for an appropriate amount of variability in the destinations over time and advise whether the extent of works proposed and/or other mitigation measures remain appropriate (including but not limited to re-modelling the heavy vehicle site access).

- 15.3 Please provide details of whether auxiliary turning lanes are warranted at the light vehicle access, based on the criteria of the Austroads Guide (Section 12.2 of the Transportation Assessment)
- 15.4 Please provide information as to which details for the heavy vehicle access have been sourced from MOTSAM and which from the Austroads Guide, since in some cases, the two provide different design details/dimensions (Section 12.3 of the Transportation Assessment).
- 15.5 Please advise of the gap acceptance parameters for the modelling of the heavy vehicle access (Section 12.4 of the Transportation Assessment).
- 15.6 Please advise of any safety concerns with the installation of a roundabout on a road with a 100km/h speed limit, and in particular, whether measures are required in order for drivers to be able to have appropriate forward sight distance of the roundabout (Section 13 of the Transportation Assessment).
- 15.7 The traffic volumes presented in Tables 12-1 and 12-2 do not quite show the same volumes of Figures 11-5 and 11-6 (the Sidra appears to use traffic volumes around 4% less than calculated). Please update the Sidra analysis to use the calculated traffic generation in the Tables.
- 15.8 Please provide the full LCSS report (Section 14 of the Transportation Assessment).
- 15.9 Please confirm which improvement design is to be progressed for the Jones Road / Dawsons Road intersection. If this preferred option is not progressed for any reason (such as inability to use third party land or obtain any necessary consents), please confirm that the second-best (or third-best options) could be implemented and would operate satisfactorily in terms of efficiency and safety (Section 14 of the Transportation Assessment).
- 15.10 Although the assessment of the level crossing states that the trains passing are infrequent events, and the maximum traffic generation of the quarry is also an infrequent event, in our view the possibility of a train colliding with a vehicle is a “low probability / high potential impact” effect (s 3 of the RMA). Please therefore undertake an assessment of queue length using the maximum or 95th percentile quarry generation (Section 14.2 of the Transportation Assessment).
- 15.11 Please comment on the safety effects of vehicles potentially queuing back onto the roundabout – it is correct to say that drivers approach with an expectation that they will need to stop but this means that drivers look to their right whereas the queue will be on their left (Section 14.2.2 of the Transportation Assessment).
- 15.12 How have traffic flows for the inter-peak periods been sourced in order to generate Graphs 14-1 to 14-4?56
- 15.13 The swept paths show that the extracted materials would be moved using a truck+trailer (as we would expect). Please confirm whether the Sidra analyses have used the standard ‘heavy vehicle’ classification or the analysis has used ‘large trucks’ (that is User Class 2 or User Class 5 in the ‘movement definitions’ screen), with regard to the forecast queue lengths at the level crossing (Section 14 of the Transportation Assessment).
- 15.14 The peak traffic flows of the proposal would occur up to 3pm. Please provide details of any routes in the area used by school buses, and also assess any road safety effects arising from school-related trips coinciding with peak volumes of heavy vehicles (Section 18 of the Transportation Assessment).

- 15.15 Please provide information from the traffic counts regarding the cyclist usage (Section 18.1 of the Transportation Assessment) and comment on whether the proposed Jones Road / Dawsons Road roundabout will provide a suitable level of safety service to these road users.
- 15.16 Please provide information from the traffic counts regarding the pedestrian movements (Section 18.12 of the Transportation Assessment).

16 NOISE

- 16.1 We understand from the Application that the quarried site will not be backfilled to original ground level, although it is "*anticipated that the final finished site level will be higher than the base of pit excavations across most of the pit*". The Marshall Day Acoustics (MDA) modelling in figures 16 and 17 of their assessment shows a rehabilitation area in the noise modelling. Assumed activities in this area appear to be heavy vehicle movements and "cleanfill plant". Can MDA provide further detail about the plant expected in this area and what height above the pit floor it has been assumed this will operate (i.e. what level will the site be refilled to). If a bulldozer will be required to spread fill can MDA provide comment on whether this will affect the predicted levels, particularly near the end of the rehabilitation when this will be at a higher level? A bulldozer is not currently included in table 15.
- 16.2 MDA have assessed heavy vehicle noise at night based on 40 heavy vehicle movements in an hour which they state is likely to be "reasonably conservative" and a "worst-case" assessment. The Integrated Traffic Assessment and the Application do not appear to provide specific detail which supports this assumption. Can MDA or a traffic expert provide further information to support this assumption, as it is key to the noise analysis and assessment?
- 16.3 In section 10.3.1 of their assessment, MDA have assumed a 10 dB reduction from the boundary fence at 4 Dawsons Road when assessing traffic noise. Can MDA provide further detail about the construction of this fence and basis for this assumption?
- 16.4 Could MDA please provide a figure similar to E2 in Appendix E which shows the daily LAeq and LAFmax levels. It is difficult to read this information from figure E1 provided.
- 16.5 In section 7.2.2 of the MDA report, the potential for reverse sensitivity effects associated with possible future dwellings in the Christchurch City District is discussed. For the Rural Urban Fringe Zone in which future dwellings would be located the Christchurch District Plan has notional boundary limits of 50 dB LAeq during the daytime and 40 dB LAeq during the night time - which may not be met if a new dwelling is constructed. For other dwellings in the Selwyn District, MDA have concluded that the proposed 'project noise criteria' limits at the boundary of the Applicant's site will be appropriate to ensure noise effects are acceptable. Could MDA elaborate on why they do not expect this to also be the case for possible new dwellings in the Rural Urban Fringe Zone. If it remains their view that the proposed 'project noise criteria' limits at the boundary of the Applicant site are not adequate to prevent possible reverse sensitivity effects associated with new dwellings in the Rural Urban Fringe Zone, can MDA provide a further discussion as to how the measures they described in the last paragraph of section 7.2.2 could be captured in conditions?

16.6 Can MDA confirm that the predicted traffic noise levels in section 10 are at the façade of dwellings?

17 LANDSCAPE

Introduction and Proposal

17.1 Ideally the LVA should stand alone in terms of the information it provides on the proposal, sufficient for all of the landscape and visual effects to be considered. By way of example, there is currently no mention in the LVA of revised road layouts and/ or vehicle entry/ egress, which both have the potential to generate adverse effects. The LVA would therefore benefit from more detail of the Proposal including (but not limited to) issues such as operational hours, anticipated vehicle movements, night time lighting (if applicable) and staging and timing of excavation and mitigation works, and an assessment of the actual and potential effects of these parameters on the landscape values of the surrounding area.

17.2 Staging and timing of the proposed bund and planting regime is also missing from the proposal section and given its importance to the application more detail should be provided. At this stage it appears as if all of the proposed bunding around the site will be implemented in 'one go' and there is no detail on how the construction of bunds are either partly or wholly reliant on quarry excavation, if indeed they are. Should direct reference to the Draft Rehabilitation Management Plan be relied on to provide some of this information, it should be provided very clearly.

Methodology

17.3 The relevance of the Table 1: Continuum of Natural Character to the LVA needs to be more explicit. The consideration of natural character has relevance to the coastal environment under the RMA and NZCPS but it is unclear why, in terms of methodology, it is considered relevant in this case. We note that natural character has not been considered under Section 3: Assessment of Effects of the LVA.

17.4 With regard to the assessment of effects on Rural Amenity, the LVA needs to ascertain/ confirm if 'visual effects' are the only aspect of amenity (which includes all sensory aspects that contribute to people's appreciation of a landscape) considered to be relevant? If it is not, then the LVA needs to consider aspects of the proposal that might affect people's broader appreciation for the local landscape – in both positive and negative ways.

17.5 In terms of Section 2.5: Effects Methodology states that "The proposal is assessed in its 'unmitigated form' and then in its mitigated form to determine the residual effects", yet the process set out in Section 2.4: Visual Assessment Methodology implies the consideration of post mitigation effects only (being that assessing the degree of sensitivity of receptors to change is not the same as assessing the effects of the Proposal on those receptors) and the assessment provided in Table 2 also implies a post-mitigation approach. The LVA needs to clearly identify which approach it is taking.

17.6 There needs to be more explanation of how the two 'scales' of assessment relate to one another. By way of example how does the NZILA 7-point scale 'mesh' with the QP 6-point scale? Also, has the 7-point scale only been used for the assessment of effects or has it also been applied to the assessment of landscape/ receptor sensitivity?

Assessment of Effects

- 17.7 The effects on landscape character are largely limited to changes in topography, however in the final sentence of Section 3.2 reference is made to “All other effects on landscape character...”. In doing so the LVA implies that there are other effects that may have not been considered due to their effects being less than minor. Clarification is needed on whether there are other aspects of the Proposal that may generate adverse effects regardless of whether these effects are less than minor or not.
- 17.8 In Section 3.4: Effects on Visual Amenity the report introduces the concept of “...availability of alternative views” as a matter for consideration. Firstly, the report needs to clarify why this is a relevant consideration with regard to determining visual effects and secondly, the assessment in Table 2 should (if it is a relevant consideration) make mention of these alternative views in determining the overall degree of visual effect.
- 17.9 In Section 3.5: Summary of Effects on Visual Amenity the report makes reference to the “...new shared path between Curraghs Road and Dawsons Road being constructed as part of CSM2”. The figures/ appendices attached to the LVA illustrate a shared foot path along all of the site boundaries and in the absence of sufficient detail in the proposal section of the LVA confirmation of the location of this pathway is needed as it is relevant in the consideration of potential positive effects of the Proposal.

Mitigation Measures

- 17.20 The mitigation measures identified in Section 4 of the LVA are central to the assessment of landscape and visual effects. We note that section 3.8 of the Draft Rehabilitation Management Plan (Draft RMP) reaffirms these mitigation measures. In the absence of proposed conditions for consent it is difficult to determine the level of certainty and/ or likelihood for success of the proposed measures effectively mitigating landscape and visual effects. The Draft RMP references previous works undertaken by the applicant on other sites (e.g. Miner’s Road), however in the absence of detail it is impossible to understand how those previous works are relevant to the Roydon Quarry site. Ideally, the application should include a draft Landscape Management Plan, that includes all aspects of landscape design/ mitigation being proposed and how it will be implemented and managed using a ‘whole of life’ approach.

18 PLANNING / GENERAL

- 18.1 Please provide a draft set of proposed conditions that identify how the proposal is to function with respect to timing, operation, monitoring and review.
- 18.2 Please provide additional detail regarding the operation of each stage. As each stage is nominally 40 hectares in area, and could potentially endure for up to a decade, please provide details of the mining methodology and mitigation measures that will be employed to ensure that adverse effects are minimised for the duration of each stage, including any adaptive management approach that may be proposed.
- 18.3 Please provide details of lighting to be established and operated on the site at night times, particularly when night time operations are proposed, and an assessment of the potential effects of such lighting beyond the boundaries of the site.

Response options

The options available to you in responding to this request for further information are set in Section 92A(1) of the RMA. You must respond this request before 31 January 2019 and do one of the following:

A. Provide the requested information

If the information can be easily collated and supplied by this date, please provide it in writing (via email is fine) to Andrew Henderson and Hannah Goslin.

B. Agree in a written notice to supply the information requested.

Sometimes technical information will take some time to collate or key contacts may not be immediately available. If you need a longer period of time to supply the information requested, please contact me to advise when you can provide the information. You can do this via email or letter.

C. Refuse in a written notice to supply the requested information.

If you refuse to provide the information requested, or you do not respond to this request (Options B and C), the application could be declined on the grounds that there is inadequate information to determine the application.

Please address the response for Environment Canterbury matters to Hannah Goslin:
Hannah.goslin@incite.co.nz

Please address the response for Selwyn District Council matters to Andrew Henderson;
Andrew.henderson@beca.com

If you would like to discuss this request in more detail, please don't hesitate to contact Catherine deGraaff at Catherine.deGraaff@ecan.govt.nz or 027 549 7654 or Andrew Henderson at Andrew.henderson@beca.com

Yours sincerely/ Ngā mihi



Catherine de Graaff
Team Leader Consents Planning; Environment Canterbury



Andrew Henderson
Senior Associate – Planning; Beca

cc: Golder Associates (NZ) Limited
C/: Kevin Bligh
PO Box 2281
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