

**Before Independent Commissioners Appointed by the Canterbury Regional Council and Selwyn District Council**

**In the matter of**            The Resource Management Act 1991

**And**

**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

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**REBUTTAL EVIDENCE OF KEVIN MICHAEL BLIGH ON BEHALF OF  
FULTON HOGAN LIMITED**

**PROJECT AND CONDITIONS OF CONSENT**

**DATED: 21 OCTOBER 2019**

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## **Introduction**

1. My name is Kevin Michael Bligh.
2. I have previously provided a written brief of evidence in relation to the Roydon Quarry Proposal. That evidence is dated 23 September 2019. I confirm my qualifications and experience as set out in paragraphs 1 to 8 of that evidence.
3. I also confirm I have read and agree to comply with those parts of the Environment Court Practice Note that bear on my role as an expert witness, in accordance with paragraph 12 of my earlier evidence.

## **Scope**

4. In my rebuttal evidence I address the evidence of the following witnesses:
  - (a) Mr Richard Jackett and Ms Lara Stace on behalf of the New Zealand Motor Caravan Association (**NZMCA**)
  - (b) Mr Rhys Boswell on behalf of Christchurch International Airport Limited (CIAL)
  - (c) Mr Charles Kirkby, Mr Michael Smith, Ms Gemma Conlon and Ms Jolene Eagar on behalf of the Templeton Residents Association (TRA)
  - (d) Ms Abigail Smith, Mr Timothy Wright and Ms Susan Rushton on behalf of the Christchurch City Council (CCC)
  - (e) Mr Murray England on behalf of the Selwyn District Council (SDC)
  - (f) Ms Pam Butler on behalf of KiwiRail Holdings Limited (KiwiRail)
  - (g) Dr Stephen Chiles on behalf of the Canterbury District Health Board (CDHB)
  - (h) Ms Sara Harnett-Kikstra on behalf of the Yaldhurst Rural Residents Association (YRRA)
  - (i) Mr Martin Flanagan
  - (j) Mr Gareth Mitchell on behalf of Southern Woods Nursery
5. I will also identify matters not discussed in my primary evidence but which are raised by other witnesses and with which I agree.

6. I comment on the appropriateness (or otherwise) of changes suggested to the draft conditions that were attached to my evidence in chief at Annexure B.
7. I have not attached a revised set of conditions to this evidence. I will instead provide that prior to the commencement of the hearing and after the completion of any expert caucusing and further discussions that may occur between the applicant and submitters.

**Mr Jackett and Ms Stace (New Zealand Motor Caravan Association)**

8. In the evidence of Mr Jackett, he considers a special audible characteristic (SAC) penalty of 5db should be applied to noise from the quarry. Mr Jackett then in turn uses this to determine that there will be periods of non-compliance with noise levels, along with the potential for adverse effects on amenity values of the NZMCA site to the west of the proposed Roydon Quarry.
9. Mr Jackett also considers there will be potential for adverse impacts on amenity values at the NZMCA site in the evening and at night when operations occur, although noting noise levels will be below those proposed.
10. Derived from these conclusions, Mr Jackett and Ms Stace propose amendments to the conditions which relate to the operational aspects of the quarry to minimise effects on the NZMCA site. These amendments are set out in paragraphs 114 to 120 of Mr Jackett's evidence and 86 to 89 of Ms Stace's evidence.
11. In summary, they propose restrictions on the use of the processing plant between 6pm and 8pm weekdays, restrictions on the number of days in a month that evening and night works may occur, restricting mobile crushing activities to the central part of the quarry site, restricting the use of Curraghs Roads to deliveries in the immediate area, not using tonal beepers on site, and a number of other wording changes.
12. Mr Jackett's conclusion that noise levels will be exceeded principally occurs if using the noise limits Fulton Hogan has proposed (which are lower than the SDP) and adding a 5 db penalty for special audible character (SAC). Mr Farren has explained in detail in his rebuttal evidence why this is in fact not a breach of any noise limit.

13. Mr Farren discusses in his rebuttal evidence why a special audible characteristic should not apply to the quarry, while Mr Kyle in his rebuttal evidence has also discussed how the focus of the SDP is on managing adverse effects as opposed to avoiding them.
14. As a general point, having been involved in numerous quarry applications, I am not aware of a SAC penalty having been applied at other quarry sites in New Zealand.
15. Having regard to the evidence of Mr Farren, the potential for amenity values on the NZMCA site to be affected would seem low in the context of the already reduced noise levels proposed by the applicant being complied with, that users of the motor caravan park are transient and that the operations NZMCA are primarily concerned with will only happen on a limited number of days of the year.
16. With respect to vehicles using Curraghs Road, as set out in the Integrated Transportation Assessment (ITA) provided with the AEE, heavy vehicle movements along Curraghs Road have been modelled at 0-5 vpd. Mr Farren discusses in paragraphs 61 to 70 of his evidence in chief why restricting the use of Curraghs Road beyond the already proposed restriction from 8 pm to 6 am is unnecessary from a noise perspective.
17. Mr Farren talks at paragraph 26 of his evidence in chief about why he would expect tonal reversing alarms only to be used on an infrequent basis while Mr Jolly in his rebuttal evidence has outlined the measures Fulton Hogan takes with respect to reversing alarms for its own vehicle fleet and equipment, site inductions, and how it has designed the site to limit reversing by any customer vehicles. I understand however that requiring every truck that comes to the site to not have these alarms, is not something Fulton Hogan is able to completely control.
18. I therefore do not consider the changes to conditions proposed by the NZMCA are required.
19. Notwithstanding that, having regard to the rebuttal evidence of Mr Jolly, Fulton Hogan may wish to limit any vehicles using the site at night, to its own vehicles, or only contracting trucks who do not have tonal reversing alarms. This would prevent any tonal alarms being used on the “up to 60 nights of the year” proposed for night time operations. If Fulton Hogan chose to take this approach, I have proposed the following wording for consideration:

Between the hours of 8 pm and 6 am, Fulton Hogan shall only allow trucks and machinery to be used on the site which uses non-tonal reversing alarms (i.e. broadband or hiss beepers, or alternatively flashing lights, which meet workplace safety requirements).

**Mr Charles Kirkby, Mr Michael Smith, Ms Jolene Eagar and Ms Gemma Conlon (Templeton Residents Association)**

20. Mr Kirkby, Mr Smith, Ms Eagar and Ms Conlon propose a number of changes to the conditions proposed. The changes requested by Mr Kirkby and Mr Smith are specifically addressed by Mr Cudmore and Mr Farren in their rebuttal evidence respectively, while other items raised by Ms Conlon and Ms Eagar are covered across numerous expert briefs.

**Mr Kirkby**

21. In paragraphs 23 to 26 of his evidence, Mr Kirkby proposes a number of amendments to the conditions of consent, particularly the CRC air discharge permit CRC192410. Ms Conlon has provided wording amendments which reflect changes proposed in Mr Kirkby's evidence.
22. I do not agree with the recommendations in paragraph 24.1.1 of Mr Kirkby's evidence that no extraction should occur within 100 m of 319 Maddisons Road or 153 Curraghs Road even if these dwellings provide written approval. Allowing for extraction closer to a dwelling where written approval has been provided is a commonly used approach and I am aware of this having been applied recently in respect of the Frews Quarry on Savills Road, McLeans Island and the Road Metals RM4 expansion at Old West Coast Road, Yaldhurst. I note in respect of Mr Kirkby's comment at paragraph 24.1.2 around the consent holder demonstrating regular compliance with limits on activity areas. This is provided for by way of Condition 33 of the SDC land use consent<sup>1</sup>.
23. In paragraph 25, Mr Kirkby proposes a number of changes to conditions which have been considered by Mr Cudmore in his rebuttal evidence.

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<sup>1</sup> Keeping of Records

33) At the conclusion of each stage, the consent holder shall forward a progress report to the Team Leader – Compliance Environmental Services, Selwyn District Council (compliance@selwyn.govt.nz). The report will note the volume of material extracted, the amount and type of fill placed, the area of excavation that remains open, and the number of daily truck movements associated with the operation during that stage. Each report will include a plan showing the area which has been worked during the applicable period.

24. At paragraph 25.1, Mr Kirkby suggests that monitoring commence prior to any earthmoving. I note no change is required as 'quarrying activities' already includes earthmoving under CRC192410<sup>2</sup>.

25. Mr Cudmore agrees with the changes proposed by Mr Kirkby at paragraph 25.2 to include a stall speed for the monitoring equipment in Condition 4. The revised wording for this condition is as follows:

1) *Prior to the commencement of quarrying activities, a meteorological station shall be installed at the site with instruments capable of continuously monitoring and providing representative metrological data for the site and surrounding area shall be installed. The instruments shall be capable of continuous measurement and real time logging and reporting of the following:*

a) *Wind speed as 1-minute ~~vector~~ scalar averages with maximum resolution of 0.1 m/s and accuracy of at least within +/-0.2 m/s, and a stall speed no greater than 0.5m/s.*

b) *Wind direction as 1-minute ~~vector~~ scalar averages with maximum resolution of 1.0 degree and accuracy of at least within +/- 1.0 degree, and a stall speed no greater than 0.5m/s.*

...

26. Mr Cudmore agrees with the amendments proposed by Mr Kirkby at paragraphs 25.3 to 25.5 to conditions 6 to 8 around the Dust Management Plan (DMP). Revised wording proposed for these conditions is as follows:

6) *The consent holder shall prepare and implement a Dust Management Plan (DMP) which shall include, but not be limited to:*

...

x *A maintenance schedule for meteorological monitoring and ~~PM<sub>10</sub>~~ particulate monitoring instruments.*

7) *The DMP shall be:*

■ *Developed to include separate Standard Operating Procedures (SOPs), with each of these dedicated to the management of*

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<sup>21</sup>) The discharge of contaminants into air shall only be generated from the following quarrying activities:

- a) Site preparation, topsoil stripping, overburden removal and storage;
- b) ...

*potential dust discharges from specific sources, including but not limited to:*

...

f. *Location and calibration of ambient particulate and meteorological and ambient PM<sub>10</sub> monitoring equipment; and*

...

■ *Reviewed (together with the SOPs) every two years, or more frequently if required, by the consent holder in consultation with the Community Liaison Group as required under Condition 64) of Selwyn District Council resource consent RC185627.*

...

27. I note that the change suggested by Mr Kirkby at paragraph 25.7, to include unprocessed stockpiled aggregates below ground level, is not appropriate as it could capture overburden and topsoil materials during site establishment and bunding. I noted this in my comments on the CRC Appendix 7 Recommended Condition Table (at page 17) included with Annexure B to my evidence in chief.

28. Mr Cudmore generally agrees with Mr Kirkby's amendments to Condition 18 in paragraph 25.8. Revised wording is proposed as follows although I note, an advice note may be required to clarify what the internal site access road covers.

18) *The consent holder shall take all reasonably practicable measures to minimise the discharge of dust from the site. These measures shall include but not be limited to:*

...

k) *All trucks leaving the site that contain sands and fine material that are dusty shall be covered. Measures will be taken to ensure all trucks leaving the site are appropriately loaded. For all other trucks, measures shall be taken such as covering sands and fine material and any such load content, or spraying loads with water, to reduce the potential for material to be windblown effectively control windblown dust from vehicles when in transit;*

...

- w) Keeping paved roads and yard areas free of dust by ~~either washing or use of~~ using vacuum sweepers;
- x) ~~Sections of the~~ The internal site access road will be sealed for its entire length and used in conjunction with a rumble strip to assist in removing muddy material from vehicle wheels before entering and exiting the site.

29. Mr Cudmore also generally agrees with Mr Kirkby's amendments made in paragraphs 25.12 to 25.14 to conditions around monitors and trigger levels. Revised wording is proposed to condition 22 as follows:

22) When quarrying and/or clean filling operations cause continuously recorded PM<sub>10</sub> *concentrations* at the site boundary, to reach or exceed the trigger levels listed below, then additional dust control measures shall be implemented:

- a) ~~Ten-minute rolling~~ PM10 concentration of 150 micrograms per cubic metre (1-hour average) updated every 10 minutes;
- b) ~~Ten-minute rolling~~ TSP concentration of 200 micrograms per cubic metre (1-hour average) updated every 10 minutes;
- c) ~~One hour rolling TSP~~ concentration of 60 micrograms per cubic metre (24-hour average) updated every 10 minutes.

30. Mr Cudmore does not agree to the changes proposed by Mr Kirkby in respect of wording changes to responses to trigger values or additional water suppression at paragraphs 25.15 and 25.16 however and therefore changes are not proposed to Conditions 23 to 25.

31. I note the air quality conditions may require some further amendment once Mr Cudmore has provided rebuttal to the (later) evidence of Ms Louise Wickham. Where appropriate, consequent amendments to the SDC land use consent will also be made in the revised set of conditions to be provided.

### **Mr Smith**

32. Mr Farren has explained in his rebuttal evidence why he considers the changes sought by Mr Smith are not warranted or are already adequately addressed by the conditions. In terms of Mr Smith's concern around tonal alarms, my comments above relating to the evidence for the NZMCA apply here as well.



33. I address Mr Smith's comment regarding an overarching Quarry Management Plan (**QMP**) together with Ms Conlon's comments regarding the same below.
34. Mr Farren does not consider setbacks around mobile plant, or amendments to dwelling setbacks, necessary to manage effects.

### **Ms Conlon**

#### 40 year duration

35. At paragraphs 12 and 13 of her evidence Ms Conlon states the application specifically requests a 40-year duration. This statement is incorrect. The application specifically requests an unlimited term for the SDC land use consent.<sup>3</sup> I have discussed in my primary evidence why a term is not required for the SDC land use consent.

#### Quarry Management Plan

36. At paragraphs 14 to 16 of her evidence, Ms Conlon suggests the management plans be incorporated into an overarching QMP. This suggestion is also made by Mr Smith.
37. Such an approach has been used for a number of other quarries across New Zealand. For this proposal, the conditions have been designed to extensively manage the effects with targeted management plans in respect of specific effects. While I do not consider that this would materially add to the management of effects for this proposal, Mr Jolly in his rebuttal evidence has confirmed that Fulton Hogan currently has a QMP for all its operational quarries. It would therefore be appropriate to amend the conditions to reflect this approach. The wording provided by Ms Conlon provides a useful basis for rewording of this condition, however it needs to be considered in the context of a number of conditions and I will provide updated wording in the revised set of conditions to be provided prior to the hearing.
38. Ms Conlon has also suggested at paragraph 18 that a Cartage Contractors Safety Rules and Guidelines document replace the Transportation Management and Routing Plan suggested in the conditions.
39. Mr Chittock has discussed in his evidence why this change is not supported by Fulton Hogan as the focus is on how trucks will get to and from the site.

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<sup>3</sup> SDC Resource Consent Application form attached to AEE and Section 4.11 of the AEE.

40. Accordingly, I do not consider any changes are required in respect of this provision.

Landscape Management Plan

41. At paragraphs 19 and 20, Ms Conlon suggests some minor edits to the conditions for the Landscape Management Plan so that plantings are undertaken in the first planting season after the consent is granted.
42. In this instance, Fulton Hogan has already undertaken extensive planting along the Jones Road and Dawsons Road site boundaries where shelterbelts are not already present. Fulton Hogan has also confirmed the planting and bunding can be decoupled, and for this reason together with the need to establish these plantings, this amendment would be appropriate. Conditions 16) i. and j. of the SDC land use consent are proposed to be amended as follows:

- i. *An additional row of plantings shall be established behind the existing shelter belts as shown on the Edge Treatments A and C (pages 19 and 21) of the LVIA prepared by DCM Urban, Project No. 2017\_31, dated 12 August 2019. This row of plantings ~~may shall~~ be established ~~at the base of the bunds~~ within the first planting season following the ~~establishment of the bunds~~ commencement of consent.*
- j. *Along the site boundaries where there is no planting, three rows of plantings shall be established in accordance with the Edge Treatments B and D (pages 20 and 22) of the LVIA prepared by DCM Urban, Project No. 2017\_31, dated 12 August 2019 within the first planting season following ~~establishment of the bunds~~ the commencement of consent.*

Operational restrictions and hours of operation

43. Ms Conlon suggests a number of amendments to the hours of operation for the various quarrying activities at paragraphs 21 to 36 of her evidence. I am not entirely clear whether these are Ms Conlon's professional opinion or are simply requests that have been proposed by Ms Eager as they do not appear to be consistent with the evidence of Mr Smith or Mr Kirkby.
44. Mr Farren has addressed why such amendments are not warranted in the context of noise effects, while the need for such activities has been explained in the evidence in chief of Mr Jolly (paragraphs 51 to 58). I therefore do not consider the changes are warranted.

45. At paragraph 32, Ms Conlon raises that there is the potential for 1200 vehicle movements on a Sunday or public holiday and suggests that it would be reasonable for an amendment to be made to Table 1 in the SDC land use consent to limit movements on such days to 30 an hour.
46. I note that Sunday or public holiday works are only proposed on a maximum of up to 15 days per year. I can appreciate that some certainty around the numbers of trucks per hour would be helpful in evaluating potential effects and the limit of 30 proposed is consistent with the number proposed between the hours of 8 pm and 6 am. An amendment is proposed to Condition 21 of the SDC land use consent as follows:

*Truck movements outside the hours of 6.00 am to 8.00 pm Monday to Saturday shall be restricted to no more than 30 vehicle movements per hour.  
Truck movements on Sundays and public holidays shall also not exceed 30 vehicle movements per hour.*

#### Community Liaison Group

47. At paragraphs 48 to 53, Ms Conlon has proposed a number of amendments to the CLG conditions.
48. From my experience having been involved in a number of CLGs for quarries and other activities, I have not observed the scope of discussions being restricted based on the conditions of consent. These groups serve as open forums for discussion and are not narrowly confined.
49. Having a condition which is too lengthy however, does require those involved to continually compare what is happening with the condition to ensure items are being covered.
50. I therefore do not consider the changes proposed to the 'purpose of the group' need to be expressed in the condition and more detail on this would generally come from the CLG meetings themselves.
51. Ms Conlon's suggested amendments around an independent chair and costs of the meeting seem reasonable but need to be written in such a way that they can be complied with and do not result in frequent changing of the chair. Ms Conlon's suggestion around a chair being mutually agreed could result in a chair not being mutually agreed and the condition not being able to be complied with. Providing the chair is suitably qualified and independent of Fulton Hogan, I do not see a need for that person to be 'mutually agreed'.

52. Ms Conlon's suggested amendment that the consent holder shall procure the services of a qualified independent professional mutually acceptable to the SDC, ECan, CLG and consent holder to review and verify the noise emissions report, record of heavy vehicle movements, the complaints register quarry rehabilitation plan etc, and prepare a report for circulation prior is not appropriate in my view. These records will either be prepared by an independent professional (i.e. noise monitoring) or will be items that do not warrant a secondary form of verification.
53. Ms Conlon's suggestion that the consent holder shall meet any ancillary costs of the CLG meetings (e.g. meeting invitations; meeting venue; preparation of meeting notes) and facilitation of meetings by an independent chair, seems generally reasonable but this should reflect reasonable administrative costs.
54. The following additional conditions are proposed as follows:

*The consent holder shall engage an independent chairperson to oversee the CLG meetings, with meeting minutes taken and distributed to members of the CLG.*

*The consent holder shall meet any reasonable administrative costs of the CLG meetings (e.g. meeting invitations; meeting venue; preparation of meeting notes) and facilitation of meetings by an independent chair, seems reasonable.*

*Other amendments*

55. Ms Conlon has also suggested a number of other changes to conditions such as reporting information on the Fulton Hogan website, and summarising traffic movements on a monthly basis. Provision of such information is often a balancing act between what is useful to those receiving the information, the amount of work necessary to collate this data and the need for it to determine compliance. Having reviewed the amendments proposed by Ms Conlon and Mr Smith I am of the view these would be unlikely to be of material benefit and this information will be available as part of reporting and at CLG meetings.
56. Provision of daily information is likely to require substantial work and website updating and likely to be of limited benefit. Fulton Hogan may wish to discuss this item further with the submitter because there may be other solutions that neither party has put forward yet.

## Ms Eager

57. Ms Eager discusses the effects of the proposal and its implications for the well-being of the Templeton community and residents closest to the Roydon Quarry. Ms Eager sets out the matters which the TRA seeks to be incorporated in any consent conditions and recommends a number of amendments to the proposal in paragraphs 77(a) to (h) of her evidence.
58. Ms Eager seeks to completely prohibit quarry trucks using local roads to protect the amenity of Templeton and surrounding areas. Mr Metherell demonstrates how the site is strategically located for efficient and safe use of the local road network for site access, given its position, and then the arterial road network (Dawsons Road) and the strategic road network (SH1). Having regard to Mr Metherell's evidence, I do not agree with Mr Eager's suggestion.
59. I note Fulton Hogan has also proposed a specific condition around restricting truck movements with respect to Templeton (SDC condition 38<sup>4</sup>). Mr Farren has in his rebuttal, addressed a similar suggestion from Dr Chiles, why a total prohibition on the use of local roads is not necessary.
60. Ms Eager suggests that no activity should occur at the quarry site before 8.00 am and after 5.00 pm, and on weekends, based on noise levels and proximity of the proposed quarry. Mr Farren has set out in respect of Ms Eager's evidence that his assessment confirms the proposed quarry can operate whilst maintaining an appropriate degree of amenity for all adjacent residences. Mr Farren further notes that the TRA's noise expert, Mr Smith, agrees that noise level criteria are appropriate, hence I do not consider the changes sought are appropriate.
61. Given the TRA's concerns around noise and dust generation closer to the boundary of the site, Ms Eager seeks that no mobile plant should be allowed to operate at the proposed quarry. Several mitigation measures, including those addressing mobile plant, are set out in the proposed conditions in Annexure B to my evidence in chief. These measures, including the

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<sup>4</sup> A Transportation Management and Routing Plan shall be prepared by the consent-holder.

This will include, as a minimum, that:

a. Fulton Hogan controlled trucks will only travel into or through Templeton if a delivery is in the immediate vicinity.

b. Fulton Hogan will require any non FH-controlled truck drivers accessing the site to sign

on to a code of practice committing to the same.

c. A prominent sign will be established inside the quarry gate reminding drivers not to travel through Templeton unless a delivery is in the immediate vicinity.

d. Arrangements for site induction shall include a section on truck route options to and from the site and specifically address point (b) above.

The consent holder shall ensure that all quarry activities are undertaken in a general accordance with the certified Transport Management and Routing Plan.

proposed 250 m setback for the location of mobile plant and stockpiling within the quarry floor, are based on recommendations discussed in the evidence of Mr Farren and Mr Cudmore, and have been determined to be sufficient to ensure an acceptable level of effects.

62. The requirement to cease some or all parts of site operations have been considered by the various experts and specific criteria for ceasing works is set out in the CRC192410 conditions to my evidence, therefore I do not agree with Ms Eagar's suggestion to cease operations unless a water cart is operating. For completeness conditions 23, 27 and 29 each provide circumstances in which Fulton Hogan is required to cease works, and I note condition 25 provides for water carts as a back-up as required for dust suppression during dry weather.
63. Ms Eagar also seeks a reduced excavation depth to ensure the protection of groundwater. Based on the evidence of Mr Van Nieuwkerk and Mr Eldred however, I consider that the proposed excavation, subject to the suite of mitigation measures recommended in his evidence and included as conditions to my evidence, is acceptable and does not need to be reduced. I have listed the key conditions, which Mr Van Nieuwkerk considers are critical to manage effects on groundwater quality, in paragraph 143 of my evidence in chief.
64. These conditions include the requirement for a 1 m excavation depth above the highest recorded groundwater level at the site when excavating or depositing material, and provisions for contingency backfilling measures should the groundwater level increase at any time. In particular, the CRC land use condition 6 provides for groundwater monitoring, where this information may be used to independently recommend a revised maximum depth of quarrying. Mr Van Nieuwkerk's rebuttal evidence further addresses Ms Eagar's comments. As per paragraph 44 of my evidence in chief, I note the LWRP (and proposed Plan Change 7) provide for quarrying to a metre above the seasonal high groundwater table as a permitted activity, where quarrying is not within 50 metres of water races<sup>21</sup>.
65. I note Mr Van Nieuwkerk and Mr Eldred both support inclusion of ongoing monitoring of water levels and reviewing the maximum quarry depth every 5 years to proactively identify any increases in water levels. To this effect, an amendment would be appropriate to the conditions of CRC192408/192409

but the particular wording warrants further consideration and will be revised after any expert caucusing.

**Ms Abigail Smith, Ms Susan Rushton and Mr Timothy Wright (Christchurch City Council)**

66. The experts for CCC have recommended a number of changes to the conditions which are summarised as follows:
- 1) Aligning day time operations to 7.30am to be consistent with the SDP daytime period.
  - 2) Changes to planting and landscaping requirements, and a standard operating procedure (SOP) for dust arising from the construction, life and recontouring of bunds.
  - 3) Changes to traffic related conditions.
67. With respect to the recommendation from Ms Ruston to align the daytime period to 7.30 am, Mr Farren has addressed this in his rebuttal noting that he does not agree with Ms Ruston's recommendation, with the rationale for proposing 7 am hours as the onset of daytime being a result of the elevated ambient noise level in the area as described in *Environmental Noise Assessment*. The start of daytime at 7 am hours also reflects current best practice as represented by NZS 6802<sup>4</sup>. Mr Farren also notes his approach has been supported by all four other noise experts involved in this Hearing. I therefore do not consider the proposed change appropriate.
68. Turning to landscape matters, Ms Smith, and in turn Ms Ruston, have proposed a number of changes to the conditions regarding bunding and planting and to reflect maintaining plantings in perpetuity once quarrying has been completed.
69. Mr Compton-Moen has addressed these points in his rebuttal evidence directly. For the reasons given by Mr Compton-Moen, I consider there is no need to amend the conditions as they relate to the depth of planting or changing the staging of excavation so no extraction takes place within 200 m of a road boundary until plantings are 3 m high. As does Mr Compton-Moen, I consider that it would be appropriate to make some amendments to include reference to an 80% grass cover and extending the irrigation requirements out to 5 years as suggested by Ms Smith.

70. The change proposed to condition 10 of the SDC land use consent by Ms Ruston in paragraph 6.10 seems unnecessary and inappropriate in that it seeks to address noise and dust within a landscaping condition, while the last sentence of her proposed amendment is also unenforceable and should not sit within a condition.
71. In terms of including a bond which Ms Ruston suggests at paragraph 6.13 of her evidence, I refer to my comments<sup>5</sup> from my evidence in chief on the CRC officer's report. The applicant does not have a poor compliance history which might warrant a bond condition, although I note the applicant is open to discussing a bond. It would be useful however to understand the quantum of the bond being sought and the nature of it in terms of its release and terms.
72. In terms of amending Condition 7 of ECan permit RMA192408 Ms Ruston at paragraph 7.12 recommends the inclusion within Condition 7 of RMA192408 the management of dust from the construction, life of earth bunds and recontouring of slopes during rehabilitation by way of an SOP.
73. I consider this change can be made, with the exception of the 'life' of the bunds, which in itself does not seem to warrant an SOP, and propose the following wording to Condition 7 of CRC192410:

The DMP shall be:

*Developed to include separate Standard Operating Procedures (SOPs), with each of these dedicated to the management of potential dust discharges from specific sources, including but not limited to:*

- a. Central processing plant, associated product stockpiles;*
- b. Site roads – sealed and gravelled;*
- c. Excavation and cleaning filling area;*
- d. Exposed areas of the quarry such as stockpiles;*
- e. Soil and overburden stripping, and storage;*
- f. Construction bunds and recontouring of slopes during rehabilitation;*
- g. Location and calibration of ambient PM10 monitoring equipment;*  
*and*

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<sup>5</sup> Appendix 7, Page 13.



*h. Environmental information management for recording, quality assurance, archiving and reporting the quantity and types of data including all ambient environmental data for wind, rainfall- evaporation, PM10 concentrations, community feedback, and all data required for dust management of the site.*

74. In terms of the amendments proposed by Mr Wright to traffic conditions, Mr Metherell has addressed these in his rebuttal evidence and agrees with the inclusion of some of these changes subject to some refinement. Revised wording in respect of these conditions will be provided following any expert caucusing.
75. At paragraph 8.19 of her evidence, Ms Ruston discusses changes to the design for the cyclist/pedestrian refuge, based on Mr Wright's evidence. Mr Metherell has addressed this in his rebuttal evidence and has explained he does not consider specific mention of this is necessary as the requirements should be the same with or without the quarry. Therefore, no changes are proposed in respect of this item.

**Mr Rhys Boswell (Christchurch International Airport Limited)**

76. Mr Boswell for CIAL discusses potential effects on airport operations pertaining to birdstrike effects and dust. Mr Boswell has recommended some minor amendments to the conditions included with my evidence in chief to address potential effects on birdstrike.
77. Mr Mthamo has responded specifically to these in his rebuttal evidence. For completeness I note that Fulton Hogan is willing to accept almost all of the CIAL changes and these will be reflected in the revised set of conditions I will provide prior to the commencement of the Hearing.
78. Regarding the concern raised by Mr Boswell at paragraph 33 of his evidence as to whether water from truck washing will be diverted to infiltration ponds or holding tanks, I can confirm in accordance with my evidence in chief, that this water will be collected in holding tanks and trucked off site. The conditions reflect this at Condition 5 of CRC192411 and CRC192412<sup>6</sup>.
79. Mr Boswell notes at paragraph 38 of his evidence (emphasis added in bold):

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<sup>6</sup> 5) *Truck washing shall be undertaken on a roofed wash pad formed of hardstand. Truck wash water shall be collected in holding tanks and transported offsite to be discharged as trade waste.*

*I was concerned to see that Mr Mthamo's evidence on rehabilitation does not discuss the need to make sure the final rehabilitated site does not increase the risk of bird strike at the Airport. **The QRP should contain a requirement to consult with CIAL on the final land use and rehabilitation activity planned to make sure it will not pose a risk to airport operations. During our discussions, Fulton Hogan has offered to involve CIAL in consultation around rehabilitation. CIAL wishes to have that offer formally recorded in either the Quarry Rehabilitation Plan itself or in the conditions of consent.***

80. I note this matter is addressed as condition 54 of the SDC land use consent, although a change will be proposed in the forthcoming revised set of conditions to make this more explicit. An amendment to this condition could read as set out below in underline.

*CIAL shall be provided with an opportunity to participate in the development and review of management plans for the duration of the consent to ensure that the plans are being implemented and as changes are needed, these are being actioned and implemented appropriately. CIAL shall also be consulted on the final land use and rehabilitation activity planned to allow CIAL to provide input on whether it increases risk to airport operations.*

81. Mr Boswell, at paragraph 39.1 and 39.2 requests that grass used is a low seed producing type that does not attract birds.
82. Mr Mthamo has stated in his rebuttal evidence that there are a range of such grasses available but the implications of their use can differ markedly between species (for example, some are not palatable to grazing animals). As noted by Mr Mthamo, it is also my understanding that Fulton Hogan wishes to better understand why this is a concern to CIAL at this distance from the Airport and also given that CIAL currently cannot control the kind of grass farmers can use on their land at this distance.
83. In terms of lighting, Conditions 48 and 49<sup>7</sup> cover the concerns raised in paragraph 46 of Mr Boswell's evidence.
84. As noted above, Fulton Hogan is willing to agree to all the amendments requested by CIAL. Consistent with the second s92 response dated August

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<sup>7</sup> **Lighting and Glare**

*48) Lighting from the site shall be directed downwards and shall have a maximum light spill not exceeding 3-lux spill on to any part of any other adjoining property, in accordance with Rule 9.18.1.2 contained in Part C of the Rural Volume of the Selwyn District Plan.*

*49) All lighting for the site will be designed and installed by an appropriate and recognised lighting specialist, in general accordance with the Lighting Plan prepared by Ideal Supplies Ltd. Lighting Design reference 3242, and dated 5 August 2019.*

2019 and as acknowledged by Mr Boswell in his evidence at paragraph 28, the recent Independent hearings panel process that considered the Christchurch District Plan (CDP) only provided a birdstrike management area extending 3 km<sup>8</sup> from the end of the CIAL runways.

85. With the proposed Roydon Quarry being located approximately 8 km from the end of the runway, a number of ponds or bird attracting activities could be established on other sites as of right between the site and the airport, which makes the approach being taken by Fulton Hogan a conservative one to managing any potential effects on CIAL operations.

**Mr Murray England (Selwyn District Council)**

86. Mr England on behalf of SDC has requested that if consent is granted, a number of conditions are imposed on the consent to address potential effects on groundwater and specifically the SDC public water supply well (M36/7575).

87. Mr Van Nieuwkerk has specifically discussed the conditions requested in his rebuttal. A number of these are already included in the proposed conditions included as Appendix B to my evidence, while the outstanding items are considered to be appropriate by Mr Van Nieuwkerk and myself and will be reflected in the forthcoming revised set of proposed conditions. An amendment to condition 24) e) of CRC192408/192409 is proposed as follows:

*The water quality monitoring results, and those of public water supply well M36/7575 as provided by the Selwyn District Council, shall be supplied annually to the Canterbury Regional Council, RMA Compliance and Monitoring Manager.*

**Ms Pam Butler (KiwiRail)**

88. Ms Butler on behalf of KiwiRail notes in her statement to the Panel that KiwiRail's key concerns are covered by the conditions proposed in Conditions 16, 17 and 18 of Mr Henderson's s42A report.
89. I note the conditions attached to my evidence are the same as Mr Henderson's with the exception of a minor change to condition 18 which

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<sup>8</sup> See Appendix 6.11.7.5 of the CDP replicated below which shows the extent of this area.

relates to the detailed designs being for technical certification instead of approval<sup>9</sup>.

**Dr Stephen Chiles (Canterbury District Health Board)**

90. Dr Stephen Chiles on behalf of the CDHB considers that changes should be made to the conditions in respect of prohibiting tonal alarms, and that all trucks should travel via State Highway 1 together with other traffic controls, limits of engine braking, and road upgrading measures.
91. I have already covered tonal alarms in respect of both the NZMCA and TRA evidence above.
92. Mr Metherell and Mr Farren have addressed the suggestion that all trucks travel via State Highway 1 and the suggestions around vehicle direction and roading enhancements to reduce noise. Having regard to these statements of evidence, I do not consider any of the amendments suggested by Mr Chiles to be appropriate, nor warrant changes to conditions.

**Ms Sara Harnett Kikstra (YRRA)**

93. Amongst other things, Ms Harnett-Kikstra on behalf of YRRA has suggested amendments to reflect hours of operation which are in line with the standard hours in the Christchurch District, and has made comments regarding rehabilitation generally.
94. The effects of the quarry operations during the operating hours proposed have been assessed by the relevant experts and found to be acceptable. I note with reference to the Rural Quarry zone provisions of the Christchurch District Plan, while there is typically no processing after 6 pm, the CDP allows for a 6am start time.
95. Ms Harnett-Kikstra comments at Paragraph 10, that “no quarry in the Canterbury area with a processing plant has ever being fully rehabilitated”. This statement is incorrect and fails to reflect rehabilitation undertaken by Isaacs at McLeans Island, Christchurch City Council at

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<sup>9</sup> This change is proposed simply to achieve consistencies with the technical certification process that Mr Henderson proposed. The proposed change is shown in underline and strikethrough below.

*Prior to the commencement of the works required in Conditions 14 and 15, the consent holder shall provide detailed designs to the Council's Transportation Asset Manager for technical review and certification approval.*

Halswell Quarry Park, by Winstone Aggregates and Ready Mix at Amberley Beach or similar rehabilitation near Kaiapoi.

### **Mr Martin Flanagan**

96. Mr Flanagan provides a table attached to his evidence, which sets out several comments and changes he seeks to the proposed conditions in my evidence in chief. Mr Flanagan also considers that rigorous monitoring must be included to ensure the Roydon Quarry is compliant, owing to his view that the quarry industry in Christchurch has a poor reputation for compliance.
97. Mr Chittock has set out in his evidence in chief, Fulton Hogan's commitment to environmental compliance and the company's objective to be a positive part of the communities in which Fulton Hogan operate. Mr Flanagan proposes a number of changes to conditions (without specific wording changes) by way of a table attached to his statement. Many of the matters raised by Mr Flanagan have been expressly addressed through the rebuttal evidence of Mr Cudmore, Mr Farren, Mr Metherell and Mr Van Nieuwkerk. The conclusions of the respective experts is that the conditions do not require amendment in response to suggestions made by Mr Flanagan.
98. Additional items raised by Mr Flanagan include concerns around the use of chemical dust suppressants, suggestions regarding sharing of information on the Fulton Hogan website, controls on refuelling and no works on Sundays or at nights. I have commented on information on websites in response to Ms Conlon, and I note as follows in respect of the other items:
- 1) only chemical dust suppressants that fit within the permitted activity controls of the relevant planning documents will be used on site.
  - 2) Restrictions on operations are already proposed and further restrictions are not necessary to control effects.
  - 3) CRC192408/192409 include conditions with controls on refuelling including draft condition 32 which states:

#### **Spills**

- 32) *The consent holder shall take all practicable measures to prevent leaks and avoid spills of fuel or any other hazardous substances in accordance with a Spill Management Plan. This shall include but not be limited to:*

- (a) *Refuelling or maintenance of vehicles or machinery maintenance shall not occur on the quarry pit floor with the exception of generators for mobile plant;*
- (b) *Appropriate servicing and maintenance of vehicles and machinery such that they do not result in leaks or spills;*
- (c) *Only undertaking refuelling or maintenance on vehicles or machinery on hardstand surfaces that are roofed;*
- (d) *A spill kit capable of absorbing all fuel and oil products shall be kept on site and available at all times. All staff involved in the implementation of activities in condition (1) are to be trained in the use of spill kits.*

**Mr Gareth Mitchell (Southern Woods Nursery)**

99. Mr Gareth Mitchell has asked at paragraph 16 of his evidence that Southern Woods Nursery be part of the CLG should consents be granted. This request is reasonable and will be reflected in the revised set of forthcoming conditions.

**Kevin Bligh**

Dated 21 October 2019