

**Before the Decision Makers appointed by the
Canterbury Regional Council**

IN THE MATTER OF The Resource
Management Act 1991

AND

IN THE MATTER OF Resource Consent
Application CRC193563,
CRC193564 and
CRC193773 by Sol
Quarries Limited for a
land-use consent to
undertake quarrying
activities (extraction and
cleanfilling); discharge
permit to discharge
contaminants to air; and a
discharge permit to
discharge contaminants
(cleanfill) onto and into
land where they may
enter water.

Section 42A Officer's Report – Supplementary Report of Rubie Alice McLintock

Date of Hearing: 7 to 9 December and 14 December 2020

INTRODUCTION

1. My full name is Rubie Alice McLintock and I am the reporting officer for the Canterbury Regional Council. The section 42A Officer's Reports for Sol Quarries Limited ('the Applicant') were circulated on 11 November 2020. Following this, further evidence has been provided by the Applicant and submitters.
2. This supplementary reported is intended to provide a response to additional matters raised within the evidence circulated, evidence provided during the hearing by the Applicant, their experts and submitters.

PLANNING MATTERS

3. In Mr Simon Hedley's evidence¹, he notes that he disagrees with my rule assessment regarding Condition (6) of Rule 5.177 of the Canterbury Land and Water Regional Plan (LWRP), which relates to the deposition of cleanfill.
4. I do not consider that relying on the existing Cleanfill Management Plan, which was prepared for the existing quarry site, to meet the conditions of Rule 5.177. Therefore, I still consider the deposition of cleanfill to be a *restricted discretionary activity* under Rule 5.178 of the LWRP.
5. Nonetheless, the applications are bundled, and the overall activity has been classified as a *discretionary activity* by Mr Hedley and myself.

¹ Paragraph 51 to 63

DUST MITIGATION

6. The conclusions of the potential and actual effects on air quality and sensitive receptors being acceptable, is dependent on water availability and reliability, and the diligent implementation of mitigation at all times.

Water Availability and Reliability

7. Mr Hedley's statement of evidence² states that the Applicant requires 199.5m³ of water per day for the purpose of dust suppression. To alleviate my concerns regarding water availability and reliability, the Applicant obtained a resource consent (CRC203210) for the take and use of 110m³ of groundwater per day.
8. The key points of resource consent CRC203210 are as follows:
 - a. The resource consent authorises the use of water for the purpose of irrigation³ over 5.43 hectares;
 - b. Condition 10 requires that the '*consent holder shall take all practicable steps to avoid the use of water onto non-productive land such as impermeable surfaces and river or stream riparian margins*';
 - c. The consent authorises a 14-day volume, of 3,283.2m³, and an annual volume of 40,005.32m³. the daily volume required for dust mitigation (110m³) is based on an average over the annual period; and
 - d. The water permit expires in July 2032.
9. To meet the daily water requirements, the Applicant proposes to use resource consent CRC203210, take groundwater as a *permitted activity* pursuant to Rule 5.114 of the LWRP. The Applicant has a certificate of compliance for this (CRC162398⁴). As discussed in my s42A Report, the Applicant also proposes to use and take water from the Paparua water race as a backup supply.
10. Based on the information provided regarding the proposed take and use of groundwater on site, I consider my assessment of Rule 5.114 of the LWRP as detailed in my s42A report has changed. Rule 5.114 states (emphasis added):

The taking and using of less than 5 L/s and more than 10 m³ but less than 100 m³ per property per day of groundwater on a property more than 20ha in area is a permitted activity, provided the following conditions are complied with:

 1. *The bore is located more than 20 m from the property boundary or any surface waterbody.*
11. Mr Headley considers that the combination of the two authorisations provides the Applicant with 210m³ of groundwater per day. However, if the Applicant abstracted and used 110m³ of water on any day in accordance with CRC203210, they would be unable to take any water as a permitted activity in accordance with the certificate of compliance, as the daily permitted limit of 100m³ per property per day would be exceeded. Therefore, I do not consider the Applicant can use

² Paragraph 166 to 177

³ Irrigation is defined in the LWRP as: *means the application of water to land for the purpose of assisting the production of vegetation or stock on that land, other than by naturally occurring rainfall, springs or rainfall run-off*

⁴ Mr Headley has referred to Certificate of Compliance CRC155101 on multiple occasions. However, I note that CRC155101 does not exist, but the Applicant holds Certificate of Compliance CRC162398, which is associated with the abstraction of groundwater.

CRC203210 and take groundwater in accordance with Rule 5.114 at the same time.

12. Based on the information provided, I consider the Applicant would be able to:
 - a. Utilise resource consent CRC203210 and take water from the Paparua Water Race in accordance with the authorisation obtained from the Selwyn District Council. This would provide 214m³ of water per day; or
 - b. Take groundwater in accordance with the *permitted activity* rule and surface water from the Paparua Water Race, which provides 204m³ of water per day. Taking and using groundwater and surface water concurrently is not conflicted with the permitted activity rule.
13. Therefore, I do not consider the issues regarding water availability or reliability of supply to be resolved by being able to utilise resource consent (CRC203210). The same outstanding issues regarding the take and use of water from the Paparua Water Race remain, and these have been detailed in my s42A Report.
14. I also note resource consent CRC203210 cannot be used for dust suppression purposes. If the Applicant intends to use it for this purpose, a resource consent to authorise this water use would be required. Further, the water permit does not authorise irrigation of non-productive land, and the use of water to irrigate roads and bunds is not provided for under the water permit, unless these areas were actively farmed.
15. The water permit also expires in 2032, and therefore even if able to be used for dust suppression until then, there is no guarantee that a new water permit for the same volumes would be granted.
16. There has been discussion about the appropriateness of a condition of consent that allows the quarry to operate only when at least 199.5m³ of water is available. I consider this a viable option; however, there is a degree of uncertainty if a resource consent is granted and the required water volumes have not been secured already for the entire duration of the resource consent.

Adequacy of Mitigation

17. The effectiveness of mitigation and robustness of conditions of consent has been discussed throughout the course of the hearing and it depends on mitigation measures being diligently used at all times. The use of mitigation tools is also linked to staff training and buy-in, support from the company and site management. Therefore, if resource consents are granted, protocols relating to staff training must be included in any conditions relating to management plans .
18. Automated systems, including the proposed automated sprinkler systems and PM₁₀ monitoring, are beneficial mitigation tools and are capable of reducing the human error factor that could be associated with effectively implementing the mitigation tools at all times. However, even for automated mitigation systems, there remains the risk of systems or equipment failure, or the system not being designed and/or installed in the first place to ensure effective dust management. I also note that even the automated systems are reliant on human action (e.g. moving the k-line sprinklers). Finally, as discussed above, there may be insufficient water available to operate the automated systems, then there is the potential for unacceptable effects.
19. Overall, the proposal is reliant on automated systems, diligent observations and performance of a complex suite of conditions. Compliance is required at all times and over a long period, and while it has to be assumed that compliance is

achieved subject to the imposition of conditions that address potential effects of the activity and which can be reasonably met⁵, there is a degree of uncertainty as to whether compliance can be achieved by the applicant at all times.

CLEANFILLING

Additional Management Tools

20. The summaries of evidence for Mr Hedley and Mr Freeman state that the Applicant is willing to implement some additional cleanfill management tools. These have been evaluated and discussed in the supplementary report of Ms Iles and Dr Massey. I adopt their conclusions and agree that the Applicant has made some improvements to the proposed cleanfill management. However, there is still a degree of uncertainty as to whether only appropriate materials will be deposited and who will be carrying out the visual inspections.

Cleanfill Waste Acceptance Criteria

21. During the hearing, the level of control sought by the CRC regarding the deposition of cleanfill, and the waste acceptance criteria was queried. In Appendix 1 of this supplementary report, I provide an overview of the waste acceptance criteria of some cleanfill operations within Canterbury that have been granted resource consent, including for the existing SOL Quarry.
22. As shown in Appendix 1, the approach of the CRC has aligned with the Ministry for the Environment (MfE) (2002) 'A Guide to the Management of Cleanfill'. This is somewhat directed by Rule 5.177 and Rule 5.178 of the LWRP, which manage the deposition of cleanfill material and directly refer to the MfE guide.
23. Fulton Hogan's Roydon Quarry is the most recent quarry/cleanfill granted within Canterbury. A few of the conditions of this consent are under appeal; however, it is my understanding that no conditions relating to the waste acceptance criteria have been appealed. The Roydon Quarry conditions include '*material should meet the expected background concentrations of contaminants in soil*'.
24. The Applicant initially proposed a condition with wording to this effect; however, following circulation of evidence on the 8 December 2020, this has been removed. It is my understanding following discussions regarding Conditions that the Applicant may insert this again.
25. I make the following key points regarding the waste acceptance criteria:
 - a. As noted by Dr Massey and Ms Iles, both the MfE Guide and WasteMINZ Guide require that cleanfill meets the background concentration of the applicable soil type;
 - b. The policy direction of the LWRP seeks to prevent the deposition of material other than cleanfill in the Christchurch Groundwater Protection Zone, specifically Policy 9.4.1(c) of the LWRP which states:
[...] 'Preventing new landfills or any expansion of existing landfill disposal areas, except for the disposal of inert fill or clean fill only'; and [...]
 - c. The NPS-FM 2020 sets a new national direction in how freshwater is to be managed in future, where the health of the freshwater body (i.e. the underlying aquifer in this instance) is to be prioritised above health needs of people and socio-economic wellbeing. This leads me to believe that in

⁵ *The Strand Ltd v Auckland City Council* [2002] NZRMA 475 at [19].

order give effect to the hierarchy of obligations in Te Mana o te Wai, that it is paramount to have appropriate controls in place to ensure the health of the aquifer is not compromised, now and in the future.

26. It is worth emphasising that all cleanfill sites within Canterbury should only accept material that meets the expected background concentration of contaminants in soil, unless the waste acceptance criteria states otherwise. Therefore, I consider what the CRC officers have recommended is in effect no different to what should already be occurring. The only change, is that the CRC is seeking more evidence (i.e. laboratory reports, site investigations) that the material deposited is suitable to deposit at the site to ensure that any potential effect on groundwater quality and users is appropriately managed and at an acceptable level.

OBJECTIVE AND POLICY ASSESSMENT

27. In the 'Planning Bundle' Mr Hedley notes the planning provisions relevant to the application, and I note that some of these were not discussed in my s42A report. I outline these below:

28. Policy 6.12 of the Canterbury Air Regional Plan (CARP) states:

Where activities locate appropriately to mitigate adverse effects on air quality a longer consent duration may be available to provide on-going operational certainty.

29. I agree that this policy is relevant. There has been debate around whether the location of the proposed quarry extension in the rural environment is appropriate. I also note mitigating adverse effects on air quality is dependent on the implementation of mitigation measures at all times, as previously mentioned.

30. Photographic evidence provided by submitters at the hearing has shown that air quality around Conservators Road is likely to have been compromised on various occasions and that mitigation measures in place on surrounding quarries may not be sufficiently effective to address cumulative effects of quarrying activities.

31. Objective 3.2 of the LWRP states:

Water management applies the ethic of ki uta ki tai – from the mountains to the sea – and land and water are managed as integrated natural resources recognising the connectivity between surface water and groundwater, and between fresh water, land and the coast.

Further, Objective 3.5 of the LWRP states:

Land uses continue to develop and change in response to socio-economic and community demand.

32. I agree that the two objectives are relevant. While the land use for the proposed quarry operation is, in a general sense, adequate to be located in the rural area, it is important that the activity is managed in a way that ensures the underlying groundwater resource is protected.

33. It is worth noting that Policy 6.1 and Policy 6.13 of the CARP relate to cumulative effects, and these have been addressed in my s42A report.

34. Policy 6.1 states:

Discharges of contaminants, into air, either individually or in combination with other discharges, do not cause:

a. Diverse effects on human health or wellbeing; or

[...]

35. Throughout the hearing, it has been highlighted by the submitters, that quarries within the area have adversely affected their health and well-being.
36. Policy 6.13 directs that cumulative effects are minimised by requiring discharges allowed by resource consent to apply the best practicable option. I consider that the proposed mitigation can be seen as applying the best practicable option, provided it is implemented at all times.

CONDITIONS

37. Mr Hedley has proposed a variety of amendments to the Conditions. I highlight the following key points in regard to some of the key conditions:
 - a. I support the inclusion of measures to provide certainty that only cleanfill material is deposited, as discussed in the evidence of Dr Massey and Ms Iles. I disagree with the waste acceptance criteria proposed as of 8 December 2020 but I understand this may change.
 - b. I disagree with the Applicant's proposed certification process including certifying six management plans and the automated sprinkler within 20 working days. There may be extensive work involved in the certification process, including the use of external experts if required. The Applicant does not intend to commence quarry activities (within the exclusion of some enabling works) in the next 6 years (approximately). Given there is sufficient time before quarry operations could commence (if the application is granted), I recommend a certification period of at least 60 working days.
 - c. I consider that a requirement to vacuum sweep sealed roads and yard areas should be included as a condition of consent and that all stockpiles, excluding those comprised of washed aggregate should be dampened with water on dry days, as recommended by Mr Chilton.
 - d. As above, it may be appropriate to include a condition requiring that a minimum of 200m³ of water is available for dust suppression and irrigation in any one day, in order for quarrying to occur at the site. However, there are still outstanding concerns regarding the reliability of water supply and the effectiveness of the proposed automated sprinkler system in absence of detailed design plans.
 - e. I disagree with the removal of the bond conditions⁶. For the reasons outlined within my s42A report, I consider the bond conditions would ensure the site is adequately rehabilitated, notably if works on-site unexpectedly cease, to ensure that there are no long-term effects on groundwater resources. As such, I consider the bond conditions should be retained. I also acknowledge that the Applicant has retained the covenant conditions I recommended and I support this retention.
 - f. During the hearing, it has been suggested that a Community Liaison Group may be an effective way to address the concerns of neighbours. The Applicant has proposed to include this measure as per the evidence of Mr Hedley (8 December 2020). Based on the submissions presented, I consider this could be effective and provide an opportunity for the Applicant to develop relationships and build trust with their neighbours. I note that other quarrying resource consents define the purpose of this group as:

⁶ Bond conditions have been included on the Roydon Quarry resource consent and the most recent extension to the Road Metals Quarry in Yaldhurst (CRC181273).

- i. Engaging on an on-going and regular basis about matters associated with the quarrying operations;
- ii. Promoting the flow of information between the local community and the consent holder so as to, wherever possible, address any issues that may arise; and
- iii. Discussing the results of monitoring and any matters that may arise as a result of the monitoring.

There are some differences between those resource consents and this application, but I consider a similar approach could be beneficial in this instance. If a Community Liaison Group was to be required as part of the conditions (if the application is granted), I consider it is important to tailor the purpose and function of the group with the community's needs in mind. I also recommend that both the CRC and CCC are part of the liaison group. Therefore, there may be some value in including the residents in any discussion regarding this tool.

38. I also note in Ms Kreleger's report, she identifies some changes to the proposed groundwater monitoring conditions, I support these amendments.
39. As has been indicated by Mr Hedley, the CRC is agreeable to conference regarding conditions that could be imposed (if granted). However, as discussed above, the submitters' needs should be incorporated into this one way or another, specifically in regard to the Community liaison Group.

SUMMARY

40. On the basis of the above discussion, I do not consider that the revised proposed conditions adequately address the outstanding issues that affected my recommendation in the Section 42A Officer's Report.
41. Therefore, my recommendation to not grant the application has not changed at this point in time.



Rubie McLintock
14/12/2020

Appendix 1. Recent Cleanfill Operations Granted Within Canterbury

Consent Holder	Consent Number	Activity and location	Duration	Cleanfill Material
Road Metals Company Limited (Shown in Blue on the map)	CRC181273	To use land for the deposition of cleanfill 581, 619, 635 Buchanans Road & 290-394 West Coast Road, Yaldhurst	Granted: 22 May 2018 Expiry: 22 May 2026	<p>Part of Condition (14): <i>Describe the operation of any importation of clean soils including but not limited to the following;</i></p> <ul style="list-style-type: none"> a. <i>Procedure for identifying where each truck load of imported clean soil has originated, to ensure it is not from contaminated land;</i> b. <i>Procedure for dealing with material that is suspected to be contaminated;</i> <p>Condition (15): <i>In addition to what is said in the CMP, at a minimum the consent holder shall require that all material imported for deposition under this consent are only accepted for deposition if:</i></p> <ul style="list-style-type: none"> a. <i>The material is soil</i> b. <i>The soil comprises of less than 3% vegetative matter</i> c. <i>The soil is not sourced from a contaminated site;</i> d. <i>The soil meets the requirements as set out in the Cleanfill Management Plan, which forms part of this consent;</i> e. <i>The material has been checked by the site manager prior to deposition in the pit. If the material is not classified as Clean soil, the consent holder shall immediately remove the material and arrange for its disposal at an appropriate location.</i> <p><i>All other materials shall be excluded from the site, including but not limited to, those materials defined as unacceptable in the document titled 'A Guide to the Management of Cleanfills,' Ministry for the Environment 2002;</i></p>
Taggarts Earthmoving Limited (Shown in Red on the map)	CRC185783	To use land for the deposition of material 117 Miners Road, Yaldhurst	Granted: 14 August 2018 Expiry: 14 August 2033 Quarrying and deposition on site since at least 2006.	<p>Condition (2): <i>The deposition of material shall be such that:</i></p> <ul style="list-style-type: none"> a. <i>The material deposited is only cleanfill; and</i> b. <i>The volume of vegetative matter in any cubic metre of material deposited does not exceed five percent; and</i> c. <i>The material shall not be deposited into groundwater; and</i> d. <i>Any cured asphalt deposited is placed in the land at least one metre above the highest groundwater level expected at the site; and</i> e. <i>Cleanfill deposited in the excavation area shall consist only of material defined as being 'Acceptable Material' as set out in Section 4.2 of the Ministry for the Environment Publication A Guide to the Management of Cleanfills ('Cleanfill Guide'), dated January 2002 or any replacement thereof.</i>

<p>Fulton Hogan Limited</p> <p>(Shown in Yellow on the map)</p>	<p>CRC192408 / CRC192409</p>	<p>To excavate material and to deposit material</p> <p>107 Dawsons Road and 220 Jones Road, Templeton</p>	<p>Under appeal but granted April 2020</p>	<p>Condition (21):</p> <p><i>Where additional fill is required to be brought to the site for rehabilitation purposes the consent holder must ensure that all material deposited in the excavated area is:</i></p> <ol style="list-style-type: none"> a. <i>Only material defined as 'cleanfill' as set out in the Advice Note following this condition;</i> b. <i>Only material which meets the Canterbury Regional background levels which are described in Canterbury Regional Council, 2007 Background concentrations of selected trace elements in 14 Canterbury soils. Addendum 1: Additional samples and Timaru specific background levels. Environment Canterbury Report R07/1/2, Trace Elements Level 2: Regional – Recent for Heavy Metals;</i> <p>[...]</p> <p><i>Advice note: 'Cleanfill' is defined as material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:</i></p> <ol style="list-style-type: none"> a. <i>combustible, putrescible, degradable or leachable components;</i> b. <i>hazardous substances;</i> c. <i>products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices;</i> d. <i>materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances and liquid waste; and</i> e. <i>concrete slurry, coal tar and hydro-excavated waste</i>
<p>Frews Quarries Limited</p> <p>(Shown in Green on the map)</p>	<p>CRC153916</p>	<p>to excavate gravel from a quarry and deposit cleanfill</p> <p>61 Savills Road, Harewood, Christchurch</p>	<p>Granted: 10 August 2016</p> <p>Expiry: 10 August 2051</p>	<p>Condition (4):</p> <p><i>Cleanfill deposited in the excavation area shall consist only of material defined as being "Acceptable Material" as set out in Section 4.2 of the Ministry for the Environment publication 'A Guide to the Management of Cleanfills' dated January 2002, or its replacement, which forms part of this resource consent.</i></p>

<p>K B Contracting & Quarries Limited</p> <p>(Shown in Purple on the map)</p>	<p>CRC173385</p>	<p>to use land to establish a gravel quarry and deposit cleanfill</p> <p>between McLeans Island Road and Conservators Roads, Lots 40 - 58 DP 402292 and Lot 1 DP 364458</p>	<p>Original consent CRC142904 granted 27 November 2013</p> <p>Expires 27 Nov 2048</p>	<p>Condition (13): <i>Cleanfill from off-site deposited up to seven metres below natural ground level shall consist only of material defined as being Acceptable Cleanfill Material as set out in Section 4.2 of the Ministry for the Environment publication "A Guide to the Management of Cleanfills" dated January 2002.</i></p> <ul style="list-style-type: none"> <i>a. The volume of vegetative matter in any cleanfill material deposited shall not exceed three percent.</i> <i>b. Cured asphalt may be used as cleanfill material but must only be placed in the land at least one metre above the highest groundwater level recoded at the site.</i> <i>c. Any cleanfill material or soil deposited at the site shall not be sourced from any site on the Listed Land Use Register, or where a Hazardous Activities and Industries List activity (as defined by the Ministry for the Environment) has been occurring before the date the cleanfill material is received, unless the cleanfill or soil has been analysed for the appropriate contaminants and has been shown to be not contaminated, 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.</i>
<p>Sol Quarries Limited</p> <p>(Shown in Orange on the map)</p>	<p>CRC184073</p>	<p>To excavate and deposit material over an unconfined or semi-confined aquifer</p> <p>81 Conservators Road, Christchurch</p>	<p>Original consent granted 2016</p> <p>Expires 22 Febaruyr 2031</p>	<p>Conditions (33), (34) and (35): <i>Cleanfill sourced from off-site shall consist only of material defined as being Acceptable Cleanfill Material as set out in Section 4.2 of the Ministry for the Environment's publication 'A Guide to the Management of Cleanfills' dated January 2002.</i></p> <p><i>Cleanfill material shall not include plaster board, hydro-excavated waste, treated timber, general construction and demolition waste, infectious, or any other leachable materials.</i></p> <p><i>The material deposited in the quarry excavation shall not contain more than 3 percent vegetative matter by volume.</i></p>