

**BEFORE A COMMISSIONER APPOINTED BY THE OTAGO REGIONAL  
COUNCIL AND THE CENTRAL OTAGO DISTRICT COUNCIL**

**IN THE MATTER OF**

the Resource Management Act 1991

**AND**

**IN THE MATTER OF**

applications by Cromwell Certified  
Concrete Limited for resource  
consents to expand Amisfield Quarry

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**STATEMENT OF EVIDENCE OF MATTHEW CURRAN  
ON BEHALF OF CROMWELL CERTIFIED CONCRETE LIMITED**

Dated: 30 November 2021

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## 1 INTRODUCTION

- 1.1 My name is Matthew Curran. I hold the qualifications of a Bachelor of Science (Geography) and a Master of Planning, both of which I obtained from the University of Otago. I am an Associate Member of the New Zealand Planning Institute (NZPI). I have nine years' professional experience in planning and resource management. I have been employed by Landpro (based in Cromwell) as a Senior Planner since July 2019.
- 1.2 Landpro was engaged by Cromwell Certified Concrete Limited (the applicant) in January 2020 in relation to a proposal to expand the existing Amisfield Quarry. I have been responsible for providing planning advice, preparing the resource consent applications and AEE, including undertaking the statutory and planning analysis which forms part of the AEE and reviewing all technical reports.
- 1.3 In addition, I have been involved in the preparation of draft consent conditions, and refinement of those conditions following receipt of the Section 42A report. Those conditions may be refined further following expert conferencing before the hearing.
- 1.4 I have visited the site on a number of occasions and am familiar with the surrounding area.
- 1.5 In preparing this evidence, I have read and considered the following documents:
  - (a) The applications, the AEE and supporting technical reports;
  - (b) The submissions on the applications;
  - (c) The Section 42A reports prepared by Mr Whyte, and the evidence for the consent authorities; and
  - (d) All of the statements of evidence on behalf of the applicant.
- 1.6 Whilst this is a Council hearing, I acknowledge that I have read and agree to comply with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2014. My qualifications as an expert are set out above. Other than

where I state that I am relying on the advice of another person, I confirm that the issues addressed in this statement of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

## 2 **SCOPE OF EVIDENCE**

### 2.1 My evidence:

- (a) Provides a brief overview of the resource consents required to enable the deepening and expansion of the Amisfield Quarry (the Proposal);
- (b) Summarises the positive and adverse effects that may arise from the Proposal;
- (c) Addresses the applicant's proposed conditions of consent as they currently stand, including amendments made in response to the Section 42A report. This includes a discussion of how those conditions manage the effects of the Proposal;
- (d) Assesses the Proposal against the relevant statutory matters and planning documents;
- (e) Addresses key matters raised in the Section 42A reports which have been prepared by Mr Whyte; and
- (f) Addresses submissions on the applications that raise specific planning issues.

## 3 **RESOURCE CONSENTS REQUIRED**

- 3.1 A detailed description of the existing Amisfield Quarry, the consents required to authorise the Proposal and the activity status of those applications, is contained in the AEE. In the interests of brevity, I do not repeat that analysis here. However, I have set out below my precis of the key aspects of the resource consent applications.

*Central Otago District Council*

3.2 A new land use consent is sought to authorise the deepening and expansion of the Amisfield Quarry. The AEE identified the following specific activities which trigger the need for the land use consent:

- (a) The proposed operation of a quarry represents an activity of an industrial nature that involves more than three persons (4.7.6.B);
- (b) Proposed quarrying involves a predicted 3 dB infringement of the Central Otago District Plan (CODP) Rural Resource Area permitted noise limit at 1308 Luggate-Cromwell Road between 06:00 and 07:00, Monday to Saturday (4.7.6 E);
- (c) The proposed sign at the entrance to the quarry exceeds the permitted 3 m<sup>2</sup> area limit (4.7.6. H).
- (d) Proposed earthworks exceed the volume permitted in the Rural Resource Area (4.7.6 J.).
- (e) The vehicle parking area within the site is unsealed, individual parking spaces are not delineated and landscaping requirements are not complied with (12.7.2).

3.3 In addition to the above activities Mr Whyte has identified a number of other activities that require consent under the CODP, refer paragraphs 5.6.1 to 5.6.3 of the Central Otago District Council (CODC) Section 42A Report. I address these below.

3.4 I understand that the structure which Mr Whyte refers to as the white tunnel shed is a temporary structure which is used as part of the quarry workshop (refer Figure 1 below). I agree with Mr Whyte that this does not comply with Standard 4.7.6 D. However, I note that RC150052 includes provision for buildings providing they are located within the quarry pit and are not visible from the State Highway or Lake Dunstan (refer condition 8 of RC150052). In my opinion RC150052 likely provides for the workshop building and the location of the structure below natural ground level clearly mitigates any visual effects of the non-compliance with 4.7.6 D.



*Figure 1: Photo of 'tunnel shed'*

- 3.5 Mr Sutton's evidence addresses how part of a bund along the quarry's southern boundary came to be located on Lot 2 DP 508108. However, it is not clear whether retrospective resource consent is required to authorise any activities undertaken on Lot 2 DP 508108 by the applicant. Based on historical imagery, the bulk of works on Lot 2 DP 508108 occurred in the late 1990's – 2003, prior to when the current CODP was adopted in 2008. It is possible that the works were previously permitted under rules which have since been replaced.
- 3.6 It is my opinion that this issue is not relevant to this resource consent process. The proposed activities can occur without the retrospective consents that Mr Whyte considers are required.
- 3.7 Mr Allison has described how the material can be removed (if required) without generating any adverse dust effects. In my opinion any consents required to remove material on Lot 2 DP 508108 should be dealt with separately and Section 91 of the Act should not be applied.
- 3.8 In summary Mr Whyte and I are in agreement that resource consent for the Proposal is required from CODC as discretionary activity.

*Otago Regional Council*

- 3.9 In the AEE, a replacement water permit (for a take of 70 l/s) was sought to authorise the proposed increase in the volume of groundwater to be abstracted from bores G41/0127 and G41/0456

under Rule 12.2.4.1 (i) as a discretionary activity. The new consent would replace the applicant's existing consent which authorises a take of 46 l/s and expires in 2036.

3.10 Mr Whyte has noted that the proposed water take is now captured by Plan Change 7 (PC7) as recently decided by the Environment Court. As a new water take, Policy 10A.2.2 applies. That policy directs that new water permits can only be issued for a duration less than six years. The PC7 rules do not apply to takes of groundwater that are not connected to surface water. The proposed take of groundwater is still a discretionary activity under Rule 12.2.4.1 (i), and the effects of the increased water take must still be considered in light of the policies which are not affected by PC7.

3.11 When the applications for resource consent were lodged, PC7 was not applicable as it only applied to consents for entirely new takes.

3.12 However given the Court's decision on PC7, the applicant now wishes to retain its existing water take consent (for 46 l/s) and amend the application before the Council to only seek the additional quantity of water needed (22 l/s).

3.13 This approach means PC7 only applies to the additional volume of water sought to be abstracted. The following table identifies the existing, new and total volumes of water sought to be abstracted.

	Existing water take limits	New water take limits	Total water take limits
Instantaneous rate (L/s)	46	24	70
Daily rate (m <sup>3</sup> /day)	1,620	1,404	3,024
Monthly rate (m <sup>3</sup> /month)	50,220	43,524	93,744
Annual rate (m <sup>3</sup> /year)	453,600	393,120	846,720

3.14 The total combined take would be as per the volumes sought in the AEE, however the additional water will likely be subject to a maximum six year consent term given Policy 10A.2.2 and PC7. The applicant intends to provide updated conditions for the draft Water Permit to reflect this amendment.

- 3.15 The proposed discharge of contaminants to land associated with the disposal of wash and processing water is a discretionary activity under Rule 12.B.4.1.
- 3.16 The proposed increased rate of extraction and processing means the quarry is no longer able to comply with the permitted activity rules 16.3.5.2 and 16.3.5.3 that provide for the existing discharge of contaminants to air from the quarry. A discharge to air permit is sought to authorise the discharge of contaminants (dust) to air as a discretionary activity, under Rule 6.3.14.1.
- 3.17 Proposed excavation below groundwater constitutes the construction of a bore under the RPW. It is therefore necessary to authorise the construction of a bore as a controlled activity under Rule 14.1.1.1.

#### *Bundling*

- 3.18 Overall, adopting a bundling approach, I consider that resource consent for a discretionary activity is required to authorise the proposed activities. I note that Mr Whyte is of the same opinion.

#### *Commencement, lapse and duration of consents*

- 3.19 I have already discussed the duration of the water take consent sought by the applicant.
- 3.20 I note that Mr Whyte has recommended that the water take and discharge permits (to air and land) are granted for a duration of 15 years, but only for activities within the existing quarry. The basis on which he considers such a duration to be appropriate is not particularly clear to me, and I consider that the discharge permit should be issued for a term of 25 years.
- 3.21 While Mr Whyte has not recommended approval for the expansion of the quarry onto Lot 3 DP 301379, it is my opinion that should the District land use consent be granted as sought by the applicant, its duration should be unlimited.
- 3.22 I agree with Mr Whyte that it is appropriate to adopt a 5 year lapse date for all the consents sought. The applicant's draft proposed consent conditions reflect this.

*Permitted baseline*

- 3.23 The Commissioner will be aware that section 104(2) of the RMA affords a consent authority discretion to disregard a potential adverse effect of allowing an activity if the relevant plan permits an activity with that effect.
- 3.24 The CODP permits buildings in the Rural Resource Area up to 10 m in height with no restriction on area, providing they are not used for residential purposes and they comply with the relevant CODP standards, which include being set back from site boundaries by 10 m.
- 3.25 Rural buildings setback 10 m from the boundary of the expansion land would inevitably have an effect on open space and amenity values experienced at the existing dwelling at 1308 Luggate-Cromwell Road (owned by Bryson and Nicola Clark) and the consented dwelling on Lot 1 DP 508108 (owned by Amisfield Orchard Limited). In my view, effects on visual amenity values and open space associated with the construction of the bund on the expansion land can be disregarded or at least be considered mitigated by the level of effect that could occur as a permitted activity.
- 3.26 By way of example, I note that the commercial storage shed at 1308 Luggate-Cromwell Road is setback approximately 20 m from the boundary of the expansion land and is 1000 m<sup>2</sup> in area. I do not know how high the building is.
- 3.27 The CODP also permits the removal of 5000 m<sup>2</sup> of indigenous vegetation. Given the extent of indigenous vegetation on the expansion site is well below 5000 m<sup>2</sup>, it is considered that the effects of the proposed indigenous vegetation removal can be disregarded.

**4 EFFECTS ON THE ENVIRONMENT (SECTION 104(1)(a) RMA)**

- 4.1 Each of the expert witnesses for the applicant has provided comment on the effects that they are qualified to assess, together with recommended mitigation measures in respect of those effects. Below I have summarised the conclusion of the relevant expert on each effect and as raised in Section 42A Reports.



*Existing environment*

- 4.2 Mr Whyte appears to rely on the estimated life of the quarry as stated in the AEE to determine what constitutes the existing environment. I do not consider it appropriate to define the existing environment based on the current estimate of the available resource and rates of extraction, as this situation may change in response to a variety of factors.
- 4.3 I consider that the existing environment includes the operation of the quarry as authorised by 150052 until 31 July 2036 when RM16.108.01 and RM16.108.02 expire.
- 4.4 Lot 1 DP 508108 and Lot 2 DP 508108 both contain residential building platforms that were consented on a non-notified basis following consultation with the owners of each parcel. Mr Sutton's evidence states that Lot 1 DP 508108 and Lot 2 DP 508108 are subject to a covenant in favour of the existing Amisfield Quarry.

The covenant requires that "*no more than one dwelling is erected or placed on any part of the Covenantor's Land...*". This means that no more than one dwelling can be erected or placed on those lots (combined). It is my opinion that if the platforms are to be considered part of the existing environment, effects should only be assessed as they relate to the consented dwelling on Lot 1 DP 508108. I note from aerial images that there already appears to be a structure on Lot 1 DP 508108 which several witnesses refer to as being used for worker accommodation or a dwelling. I note that the CODP definition of a dwelling is "*one detached self-contained building used or capable of being used solely or principally for residential purposes and occupied or intended to be occupied exclusively as the home or residence of not more than one household unit*". It is my opinion that workers accommodation could be considered a dwelling providing it only supports one household unit.

- 4.5 The application for resource consent for the building platforms states:

*The applicants/owners are also well aware of the effects associated with the adjoining quarry operation on Lot 8 DP*

301379, and there is an existing consent notice registered on the titles for the subject properties in this respect.

And

**7. Methods to avoid, remedy or mitigate the effects of existing activities including potential for reverse sensitivity, the provision of screening, landscaping and methods for noise control.**

*As noted above, the effects associated with the existing orchard operations on the applicants'/owners' properties, and the effects associated with the existing neighbouring quarry operation, are all well understood. The proposed residential building platforms will not change anything in this regard and, as such, the potential for reverse sensitivity is not considered to be an issue. Any on-site measures to mitigate the effects of the existing activities will be appropriately decided/implemented by future residents on the proposed platforms.<sup>1</sup>*

*Positive Effects*

4.6 I consider that Mr Whyte and myself are in agreement in relation to the positive effects of the Proposal. In summary they are described in Mr Colegrave's evidence and include:

- (a) Maintaining supply of concrete aggregates and non-concrete aggregates for construction and infrastructure development. Mr Sutton's evidence refers to 50% of all concrete aggregates in Inland Otago being provided by this site with very limited options for alternative supply of such aggregates;
- (b) Direct and indirect employment;
- (c) Investment in the local economy; and
- (d) Improvements to State Highway 6 – I note that Mr Whyte has identified the flow on effect of improvements to State Highway 6

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<sup>1</sup> At Page 16

for employment, while I identify its positive effect in terms of road safety.

- 4.7 The economic effects of the Proposal are addressed in more detail in paragraphs below in relation to Economic Effects.

*Dust and air quality effects*

- 4.8 In relation to dust effects, the proposed activities have been reviewed by Mr Cudmore (Golders Associates) and Ms Harwood<sup>2</sup> (Beca) for the applicant, Ms Ryan (PDP) for CODC and Mr Van Kekem (NZ Air) for ORC. I agree with Mr Whyte that there may be some variation in the views expressed by these technical experts.
- 4.9 In my opinion dust effects have been well canvassed in evidence and the various reports presented/submitted by the air quality experts. I understand that prior to the hearing these experts intend to conference on dust effects and may refine their views at the hearing. Given the experts have not yet conferenced, I have not attempted to identify issues on which they agree or disagree.
- 4.10 Quarries obviously have the potential to give rise to dust discharges that may result in adverse effects if they are not properly controlled. It is my opinion that dust effects create the greatest level of risk in terms of adverse effects for the surrounding properties, however it is also my opinion that the level of mitigation proposed by the applicant in relation to dust effects is commensurate to this risk.
- 4.11 It is Mr Whyte's position that a 100 m set back (recommended by Mr Van Kekem) would rule out quarrying on the expansion land as it could not be accommodated with that degree of setback. It is correct that a 100 m setback from the edge of the quarry to the boundary of the expansion land could not be adopted by the applicant.
- 4.12 Mr Cudmore considers that there other methods that can be applied to control effects associated with dust charges without a need for a 100m setback. Targeted control/mitigation measures are proposed for those locations that are at risk of dust effects. I consider it relevant to

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<sup>2</sup> Ms Harwood has retired.

note that at least 20 dwellings and a cherry pack house are located within approximately 50 m of the Parkburn Quarry. The boundary that the Fulton Hogan Quarry shares with dwellings in Pisa Mooring and CentralPac is approximately 1 km long, refer Figure 2 below.



*Figure 2: Share boundary between Pisa Moorings and the Fulton Hogan Parkburn Quarry (CentralPac pack house located to the east of dwellings).*

- 4.13 In addition to adopting standard best practice dust mitigation measures, including the use of a Dust Management Plan, the applicant is proposing permanent continuous on-site monitoring of wind speed and wind direction and continuous monitoring of ambient respirable particulate matter (PM<sub>10</sub>) concentrations at key locations. This will provide effective warning of wind conditions which have the potential to impact on the nearest sensitive receptors. Windspeed and PM<sub>10</sub> concentration alert limits are proposed which will trigger deployment of additional dust control measures on the site. If windspeed remains high and PM<sub>10</sub> limits have been reached, activities on the site which have the potential to create dust will cease until conditions improve and drop back within limits.
- 4.14 Based on the evidence prepared by Mr Cudmore, it is my opinion that the proposed approach to mitigating adverse dust effects provides for an appropriate level of precaution and adverse dust effects can be mitigated to an acceptable level.

#### *Noise and Vibration Effects*

- 4.15 Mr Exeter addresses the noise effects of the Proposal, these being operational noise and vibration, and construction noise.
- 4.16 Operational noise includes the day to day operation of the quarry. Mr Exeter states that:

*Operational noise will comply with the District Plan permitted noise limits for the rural zone. I have recommended proposed noise limits in terms of the current New Zealand environmental noise standards, NZS 6801:2008 and NZS 6802:2008. Adoption of these standards will not result in any increase in noise effects.*

- 4.17 I note that Mr Exeter has recommended conditions and noise limits in terms of LAeq and the current New Zealand environmental noise standards (NZS 6801:2008 Acoustics – Measurement of environmental sound and NZS 6802:2008 Acoustics – Environmental noise), in accordance with current best practice.
- 4.18 This change could mean that approximately 1-3 dB more noise (numerically) is enabled within a measured sample between 6 am and 7 am. Mr Exeter does not consider that this change will give rise to additional noise effects.
- 4.19 To mitigate the proposed increase in operational hours, Mr Exeter has recommended the following restrictions to ensure compliance with the proposed limits is achieved:
- (a) Between 6 am and 7 am: Monday to Friday only, no trucks or loading on more than two days per week , no product larger than 22 mm concrete aggregate to be loaded; and
  - (b) Between 7 pm and 8 pm: Monday to Friday only.
- 4.20 Mr Exeter considers that construction noise will comply with the District Plan permitted construction noise limits and the guideline limits of the New Zealand construction noise standard NZS 6803:1999. Mr Exeter does note that in order to comply with these standards backfilling associated with rehabilitation must be undertaken between the hours of 7:30 am and 6 pm.
- 4.21 Intermittent and low levels of vibration may be just perceptible within the neighbouring dwellings during excavation in the nearest parts of the site. If the vibration is just-noticeable it would be intermittent, limited to when excavation is taking place in the nearest part of the site, and during the daytime only. Mr Exeter considers that vibration effects are very unlikely to cause disturbance to residential activities.

- 4.22 In relation to noise and vibration effects, the proposed activities have been reviewed by Mr Exeter (Styles Group) for the applicant and Mr Trevathan (AES) for CODC. Both experts appear to agree generally that the noise and vibration effects associated with the proposed activities are acceptable, noting that Mr Trevathan has made a number of recommendations in relation to the proposed activities, including that conditions are adopted that require noise monitoring and non-tonal reversing alarms to be adopted. The applicant has adopted conditions to satisfy recommendations made by Mr Trevathan.
- 4.23 Mr Whyte describes noise effects as being minor on the adjoining site at 1308 Luggate-Cromwell Road and less than minor on the wider area.
- 4.24 Mr Exeter considers that with the conditions proposed, noise and vibration effects of the proposed activity are acceptable and will maintain an appropriate level of daytime and night-time residential amenity at the nearest dwellings.
- 4.25 It is my opinion based on evidence prepared by Mr Exeter that noise effects are acceptable.

*Landscape Character and Visual Amenity Effects*

- 4.26 Landscape character and visual amenity effects associated with the proposed activities have been assessed by Mr Pentecost<sup>3</sup> (Align) and Mr Compton-Moen (DCM Urban Design Limited) for the applicant. CODC did not seek a peer review of the Landscape and Visual Amenity Assessment.
- 4.27 The Landscape and Visual Effects Assessment (LVA) provided by Align in support of the application states that:

*Overall, the assessment of the adverse landscape and visual effects of the proposal when viewed from the greater landscape are low. The assessment of these effects on the sites directly adjacent the proposed quarry expansion are moderate-low, with*

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<sup>3</sup> Mr Pentecost changed roles and now works for a local council.

*these effects considered to be limited due to the isolated nature of the site.*

- 4.28 The LVA uses a seven point scale to describe effects. In the CODP Section 42A report, Mr Whyte sets out his understanding of how the seven point scale is interpreted/applied to determine a corresponding level adverse effect in the context of the RMA, stating that "I understand 'very low' to be equivalent to "less than minor" in an RMA context. "Low" is roughly equivalent to "minor" and anything above "low" would be deemed to be "more than minor". "High" would be considered to be a "significant" level of adverse effect".
- 4.29 Mr Compton-Moen's evidence confirms that Mr Whyte's interpretation of the seven point scale (which is used by the NZ Institute of Landscape Architects) is incorrect, and that a 'moderate-low' effect does not correspond to a 'more than minor' effect under the RMA.
- 4.30 I note that Mr Compton-Moen has peer reviewed the Align LVA and agrees with the conclusions it reaches. He states the following, clarifying that a 'moderate-low' effect corresponds to a 'minor' effect in the context of the RMA:

*I agree with the LVIA that these effects on the sites directly adjacent the proposed quarry expansion block are moderate-low (or minor), with these effects considered to be limited due to the isolated nature of the site.*

- 4.31 I therefore disagree with Mr Whyte's assessment that adverse effects on 1308 Luggate-Cromwell Road will be more than minor. I note that Mr Whyte's conclusion with respect to effects on 1308 Luggate-Cromwell Road changes to from 'more than minor' in paragraph 12.10.4 to 'significant' in paragraph 12.10.8. I do not consider that there is any basis for considering visual effects on 1308 Luggate-Cromwell Road to be significant.
- 4.32 I consider that way in which Mr Whyte has interpreted the 7 point scale also has implications for how he has assessed effects on landscape character and visual amenity values when viewed from the wider environment. Mr Whyte notes that when viewed from the wider environment, the proposed activities will have a minor adverse effect,

presumably because he considers that a 'low' effect as described in the LVA to be roughly equivalent to 'minor' effect under the RMA. It is my opinion, based on my knowledge of the how the 7 point scale is used by landscape architects, that effects on landscape and visual amenity values experienced from the wider environment will be less than minor, i.e. a 'low' effect in the seven point scale corresponds to a 'less than minor effect' in terms of the RMA. Mr Compton-Moen confirms this in his evidence.

4.33 Mr Whyte and I are in agreement on a number of aspects in relation to landscape and visual amenity effects, including:

- (a) The application site does not have any recognition within the CODP as an outstanding natural landscape or other landscape amenity value.
- (b) The low elevation of properties to the west and south relative to the quarry mitigates the effect of the proposed activities on landscape and visual amenity values experienced from these locations;
- (c) The proposed bunds on the expansion land would screen the quarry from dwellings on the building platforms to west, mitigating effects on landscape character and visual amenity values experienced from these locations;
- (d) Local topography means that the site of the quarry is not a prominent feature in the landscape when observed from the lake, settlements, or publicly accessible areas. Buildings, plant, and machinery will be below the surrounding ground level and largely screened from view.

4.34 Although Mr Whyte has not assessed the appropriateness of the proposed rehabilitation in relation to landscape and visual amenity values, I note that Mr Compton-Moen considers the proposed rehabilitation process to be appropriate and similar to several other quarry projects he has been involved in. I am also aware of a number of mining proposals where rehabilitation has involved the creation of ponds/lakes in conjunction with returning the land back to agricultural or other rural or recreational use.



- 4.35 At the time of writing this evidence, Align and Mr Compton-Moen are the only landscape architects that have provided expert technical advice in relation to the proposed activities.
- 4.36 Based on the LVA, Mr Compton-Moen's peer review of that report and his evidence, I consider that effects on landscape and visual amenity values will be no more than minor.

*Traffic/Transportation Effects*

- 4.37 Vehicles travelling to and from the site, particularly trucks carrying extracted gravel, have been identified to generate potential effects relating to traffic volumes, road user safety, and road maintenance.
- 4.38 Mr Fernando has determined that additional trips (primarily additional truck movements) resulting from the proposed expansion of the quarry warrant some upgrades to the existing site access, mainly provision of a right turning facility in accordance with Waka Kotahi design standards.
- 4.39 Following receipt of the Waka Kotahi submission on the Proposal, the applicant consulted with Waka Kotahi and agreed to adopt conditions to ensure the required upgrades are constructed to the appropriate standard. I note that Mr Fernando has confirmed that proposed conditions are appropriate, and reflect both his advice and the agreements reached with Waka Kotahi.
- 4.40 The proposed sign adjacent to the site access has the potential to impact traffic safety if not properly designed and located. The design and location of the proposed sign was confirmed following receipt of Waka Kotahi's submission. Mr Fernando has confirmed that the location of the sign does not obstruct a driver's clear line of sight to SH6 and Waka Kotahi has indicated their support for the proposed location and design of the sign.
- 4.41 Mr Fernando concludes with respect to effects on the wider transport network that effects will be minimal and the expansion, including associated roading improvements, can be supported from a traffic and transport perspective.

4.42 Based on Mr Fernando's evidence it is my opinion that effects of the transportation network will be less than minor. I note that Mr Whyte is of the same opinion, stating in the CODC Section 42A report that *"the proposal will have less than minor adverse transport effects"*.

#### *Lighting effects*

4.43 Although the quarry will use artificial lighting when operating in low light conditions, the applicant considers that the CODP permitted activity standards for lightspill can be complied with. Providing compliance with these permitted activity standards is achieved, effects associated with the use of artificial lighting will be less than minor.

4.44 Mr Whyte is of the same opinion, stating in the Section 42A report that *"...adherence to the District Plan's light spill standards, which the applicant has confirmed will be met such that the potential adverse effects associated with lighting will be less than minor"*.

#### *Public safety*

4.45 I understand that access to the proposed quarry is (and will continue to be) strictly controlled to ensure public safety as per health and safety regulations. I note that in Mr Allison's evidence he describes the boundary of the existing quarry site as bunded and fenced with a mix of sheep and deer fencing and that there are 'open pit' signs located approximately every 50m-100m around the boundary. I note that the same boundary treatments will be completed for the expansion land.

4.46 In my opinion the proposed activities will have a less than minor impact on public safety. I note that Mr Whyte is of a similar opinion, stating in the CODC Section 42A report that *"...there will be minimal adverse effects for public safety during the operation of the quarry, and once it is rehabilitated"*.

#### *Ecological Effects*

4.47 The proposed activities have the potential to effect ecological values attributed to the expansion land and the Mahaka Katia Scientific Reserve (the Reserve) which adjoins the northern boundary of the expansion land.

- 4.48 Mr Bevers in his evidence confirms that the expansion land is highly disturbed having been cultivated in the past. It is dominated by exotic weed species, a few native plants are present, however they are in low abundance and scattered. Mr Bevers considers that the expansion land provides for occasional foraging by banded dotterel, noting that it is unlikely that bird species nest within the expansion land given the proximity of better quality habitat nearby.
- 4.49 Mr Bevers describes ecological effects associated proposed quarrying on the expansion land as minimal/no more than minor given the land is highly disturbed and noting the proximity of better quality land/habitat for foraging and nesting.
- 4.50 Mr Bevers describes the Reserve as having sparse vegetation cover, but high ecological value due its remnant native plant community, which includes native cushion plant communities, and habitat for Banded Dotterel and South Island Pied Oystercatcher nesting.
- 4.51 Mr Bevers identifies the potential for some disturbance to wildlife in the Reserve from quarrying operations (due to noise and the presence of machinery and people) but states this is likely to be low given the mitigations proposed. In his evidence he references the proposed setback, bunding and dust control, as measures important to the management of effects on the Reserve.
- 4.52 Mr Bevers also notes in his evidence the extent to which the Reserve is already influenced by activities in the surrounding environment, including dwellings and horticulture developments located to the east and west of the boundary between the expansion land and the Reserve.
- 4.53 Following receipt of the submission made by the Department of Conservation (DoC), the applicant consulted with DoC and agreed to adopt conditions to mitigate the effects of the proposed activities on the Reserve. DoC have formally withdrawn its right to be heard at the hearing.

#### *Cultural Effects*

- 4.54 As per the Aukaha's submission on behalf Hokonui Rūnanga and Te Rūnanga o Ōtākou (Kā Rūnaka), the application site is located close to

Mata-au (Clutha) and Te Wairere (Lake Dunstan) which are of spiritual, historic and traditional importance to Māori.

4.55 Aukaha have sought that conditions are included to address a number of concerns. These concerns and my response are included below.

(a) Procedures if artefacts or archaeological materials are discovered;

4.56 The applicant has proposed to adopt an accidental discovery protocol.

(a) *Protection of ecological values by surveying the site and relocating any threatened species, and controlling noise and dust;*

4.57 The applicant is not proposing to survey and relocate any nests on the expansion land. Mr Bevers has concluded in his evidence that nests are unlikely to be present and relocation of any nests would not be practicable. His evidence also states the expansion land is an ecologically disturbed site and no specific mitigation is required to address the effect of proposed activities on the expansion land. I note that the proposed clearance of indigenous vegetation on the expansion land is a permitted activity, meaning associated effects can be disregarded.

(a) *Visual effects including through screening the site with locally sourced indigenous plants during the quarrying;*

4.58 The applicant has agreed in consultation with DoC to adopt a condition that requires the consent holder to engage with both the Department of Conservation and Kāi Tahu regarding the selection of locally sourced native groundcover plant species, ecotyped to the area.

(d) *Controls over stormwater, including overland flow paths, are sought to manage sedimentation and erosion effects; and*

4.59 Stormwater management controls will be detailed in the proposed Quarry Management Plan which is required by the applicant's draft proposed conditions.

*Preparation (in consultation with Kāi Tahu) and implementation of a rehabilitation plan that restores and enhances the natural values of the area.*

- 4.60 The applicant has proposed a condition that requires a Closure and Rehabilitation Plan to be submitted to CODC at least five years prior to extraction activities ceasing. In drafting the Closure and Rehabilitation Plan, the draft proposed conditions require that the applicant must consult with adjoining landowners and Kāi Tahu.
- 4.61 I note that Mr Whyte in the ORC Section 42A report identifies potential discharges to exposed groundwater as the greatest risk in terms of effects on cultural values. Given this is only potential pathway for the discharge of contaminants directly to water, I agree with Mr Whyte.
- 4.62 Mr Whyte states that *"With monitoring and progressive stabilisation and rehabilitation this risk could be reduced"*. It is the applicants intention (as described in Mr Allison's evidence) that the exposed ground water will be bunded to address the risk of overland flow paths discharging to exposed groundwater, this requirement would be included in Quarry Management Plan that will be drafted and adopted should consent be granted.
- 4.63 The applicant has also proposed draft conditions that the require the consent holder to take all necessary steps to prevent contaminants, other than silt and sediment, from entering exposed groundwater and has proposed quarterly groundwater quality monitoring in relation to G41/0456 and G41/0111 for contaminants that could potentially enter exposed groundwater.
- 4.64 It is my opinion that adverse effects on cultural values associated with the proposed activities are less than minor. Mr Whyte is of a similar opinion, stating the CODC Section 42A report that *"...adverse cultural effects of the proposed activity will be negligible or avoided"* and in the ORC Section 42A report that *"...even without additional mitigation measures the scale of these potential effects is likely to be a less than minor effect"*.

*Heritage values*

4.65 I agree with Mr Whyte that there are no known heritage sites identified in the CODP or the Heritage New Zealand Pouhere Taonga List and that the proposed activities will have no effects on heritage values.

*Archaeological effects*

4.66 I agree with Mr Whyte that there are no known archaeological sites impacted by the proposed activities and by adopting an accidental discovery protocol, the risk associated with encountering something no yet discovered is mitigated. I agree with Mr Whyte that effects on archaeological values are negligible.

*Natural hazards*

4.67 I agree with Mr Whyte that the risk of the proposed quarry being impacted by a natural hazard that results in environmental effects is exceptionally unlikely and that in relation to the proposed activities, environmental effects associated with natural hazards are negligible.

*Hazardous Substances*

4.68 The applicant has proposed draft conditions to manage the risk associated with use and storage of hazardous substances. I agree with Mr Whyte that any potential adverse effects on environment associated with hazardous substances are very low or negligible.

*Construction Effects*

4.69 I agree with Mr Whyte that construction effects associated with establishing the sign and the construction of the underpass, perimeter bunds, internal access can be managed effectively.

4.70 Mr Whyte expresses some uncertainty around rehabilitation construction effects. In relation to this I note that construction noise due to rehabilitation will be within construction noise limits, according to the noise evidence prepared by Mr Exeter. The dust mitigation methods required by the air discharge permit will be maintained until such time as the quarry is fully rehabilitated.

4.71 It is my opinion that construction effects associated with the proposed activities will be less than minor.

4.72 Mr Whyte assesses the appropriateness of the proposed bond in relation to construction effects. I agree with Mr Whyte that provision should be made for an annual CPI adjustment.

#### *Economic Effects*

4.73 It has been established in the evidence of Mr Sutton, Mr Allison and Mr Colegrave that the Amisfield Quarry is a significant supplier of concrete and non-concrete aggregates within Inland Otago and this is associated with a number of positive economic effects. It has also been established in evidence presented by Mr Colegrave that discontinuing quarrying would have adverse economic effects. Mr Colegrave summarises the economic effects of the proposed activities as follows:

*Consents are sought to extract the remaining resource on the site and to expand the quarry onto the adjoining land at an increased rate of production. This will preserve and gradually expand regional incomes for quarry workers, as well as those employed at related or downstream businesses. However the most significant economic effects of the proposal are related to its supply of aggregates (particularly concrete aggregates) in Inland Otago. The scale of this site belies its importance in terms of its role in supplying concrete aggregates and the contribution that it makes (and can continue to make) to Inland Otago and its economy.*

4.74 Mr Whyte accepts that the Economic Assessment submitted in support of the proposed activities establishes that there will be positive economic effects in relation to approving the quarry and adverse effects in relation to declining it, however he is not persuaded that it is a balanced assessment. Mr Whyte notes that the Economic Assessment does not provide a whole of life comparison for the proposed use of the site.

4.75 In response to this, Mr Colegrave's evidence states (and I agree) that the applicant is under no obligation to assess alternative uses of the

application site when assessing economic effects. Various different land uses could be established on the application site, a number of which could have positive effects in terms of employment and investment in the local economy. I do not consider this has any bearing on the positive effects established in the Economic Assessment.

- 4.76 I agree that the proposed activities will affect the capacity of the site to support potential future uses of the land following the cessation of quarrying, notably cropping. This effect relates to the loss of soils associated with the creation of ponds through the rehabilitation of the site. Mr Colegrave has addressed the loss of soils in his evidence stating that:

*Policies that relate to the loss of productive soils typically need to be balanced with policies which recognise the functional needs of mineral extraction and processing activities to locate where the resource exists, and the wider policy framework which often acknowledges the benefits of aggregate production and the types of development which require use of those products.*

- 4.77 As per Mr Colegrave's comments, it is my opinion that the loss of soil should be considered at a policy level, that includes an assessment of policies that set out the benefits of extracting minerals and the constraints associated with mineral extraction, notably being restricted by the location of minerals and that extracting material inevitably results in a deficit of land when it comes time to rehabilitate the site. On balance it is my opinion, having considered the relevant policies in relation to productive soils and the use of mineral resources, that the loss of soil associated with proposed quarrying is acceptable given the benefits associated with the extracting aggregate resource below it. I address the loss of soils further in relation to objectives and policies contained in the relevant regional policy statements.

- 4.78 I do not consider it relevant to consider or assess an alternative economic model for quarrying as proposed by Mr Whyte.



#### *Groundwater Allocation Status*

4.79 Mr Whyte has confirmed and I agree that the proposed take of groundwater will not result in the maximum allocation limit of the Pisa Groundwater Management Zone being exceeded.

#### *Aquifer Restriction Levels*

4.80 Mr Whyte has confirmed that restriction levels have not been set in Schedule 4B of the RPW for the Pisa Groundwater Management Zone. I agree that it is appropriate to include a condition allowing review of the applicant's new water permit with respect to restriction levels should these change at some point. I note that the applicant has proposed review conditions in relation to all resource consents sought.

#### *Groundwater Quality and Quantity Effects*

4.81 Effects on surrounding groundwater users associated the applicant's proposed take of groundwater have been assessed by Dr Freeman (Landpro) for the applicant and Ms Badenhop (E3 Scientific) for ORC. On 25 November 2021 Dr Freeman and Ms Badenhop visited the site and discussed technical issues relating to the following effects:

- (a) Effects on surrounding groundwater users;
- (b) Effects on surface waterbodies;
- (c) Efficiency of water use; and
- (d) Effects on groundwater quality

#### *Effects on Surrounding Groundwater Users*

4.82 There appears to be a degree of confusion in relation to modelled drawdown effects expressed in the ORC Section 42A Report. It appears that that tables summarising modelled drawdown effects included in her original peer review of the application (and included in the s42 report) have been misinterpreted by Mr Whyte. Ms Badenhop's table shows **available** drawdown in relation Amisfied Estate Soceity's bore (G41/0111) as 3.75 m, not level of drawdown **effect**.

4.83 It also apparent from Dr Freeman's evidence that his modelling of drawdown effects has been updated. Dr Freeman describes the various modelling assessments undertaken in his evidence. In reference to the updated modelling Dr Freeman states:

*This approach is a significantly more refined assessment than originally provided that takes account of the maximum abstraction from each pumping bore, rather than assuming that all water could be taken from either bore. This restricts the instantaneous take from bore G41/0456 to 45 L/s and G41/0127 to 25 L/s. The total maximum does not change. This is within the scope of the application and has been formally proffered as a proposed condition.*

4.84 It is my understanding that the below table (reproduced from Dr Freeman's evidence) represents the most recent and comprehensive assessment of modelled drawdown in neighbouring bores resulting from the applicant's proposed take of groundwater. In my opinion this table should be used as the starting point for considering drawdown effects and the tables in the AEE can be disregarded.

Table 1: Combined bore interference drawdown calculations for both proposed and surrounding takes and effect of lake recharge (2 bores only)

Pumping bores	Affected bores (estimated drawdown in metres)				
	G41/0238	G41/0265	G41/0111	G41/0220	G41/0321
G41/0456	0.205	0.172	0.132	0.169	0.179
G41/0127	0.088	0.078	0.082	0.099	0.096
<b>Total two bores</b>	<b>0.294</b>	<b>0.250</b>	<b>0.214</b>	<b>0.268</b>	<b>0.275</b>
<b>Total other bores</b>	0.466	0.228	0.165	0.369	0.525
<b>Lake recharge</b>	-0.072	-0.093	-0.101	-0.058	-0.058
<b>Grand Total</b>	<b>0.688</b>	<b>0.385</b>	<b>0.278</b>	<b>0.579</b>	<b>0.742</b>
<b>% of 10m</b>	<b>6.9%</b>	<b>3.9%</b>	<b>2.8%</b>	<b>5.8%</b>	<b>7.4%</b>

4.85 Ms Badenhop and Dr Freeman agree that the neighbouring bores have a 10 m column of water from which to draw water from and that the bore pumps are located at the bottom of the bores. Based on this information and in summarising the above table, Dr Freeman states drawdown "amounts to approximately 4 – 7.5% of the available 10 m of groundwater. Or to put it another way, instead of 10 m of groundwater being available there would be at least 9.25 m of

*groundwater*” and goes on to describe the effect of drawdown on neighbouring bores as negligible.

- 4.86 Mr Whyte notes that there is some uncertainty associated with modelling drawdown effects based on the aquifer test used to support the previous consent application. In response Dr Freeman notes that the *“assessment of drawdown includes conservative assumptions and the lack of an additional aquifer test for the two bores is not material”*. I note that updated modelling has adopted a wider range of variables as recommended by Ms Badenhop to address the uncertainty around the use of the old pump test data.
- 4.87 Mr Freeman has discussed in his evidence the technical issues associated with use of Schedule 5A to determine the level of effect a groundwater take will have on neighbouring bores, i.e. using 0.2 m as a threshold for significant environmental effects regardless of the amount of water available. I agree with Dr Freeman that the use of Schedule 5A should be limited to identifying parties that are potentially affected by a proposed groundwater take.
- 4.88 In the original drawdown assessment, the applicant assessed one scenario where drawdown was based on no water being returned to the aquifer. In reference to that assessment Mr Whyte states that *“... it is possible that the worst possible case could occur (no water is returned to the aquifer) and the effects of this must be considered”*. I do not agree with this approach to assessing effects. It is my understanding that the worst case scenario was assessed to put the effects of the proposed take in context, however there is no suggestion from the groundwater experts that this is the case. I note that elsewhere in the ORC Section 42A Report Mr Whyte has accepted that the proposed take and use of water is efficient, stating that *“it is considered that the take is an efficient use of water with most water being returned to the aquifer (approximately 88%)”*.

#### *Effects on Surface Water Bodies*

- 4.89 Through conferencing, Dr Freeman and Ms Badenhop agreed that there was a level of uncertainty in relation to possible stream depletion effects. To address this uncertainty the surface waterbodies that flow to the south the quarry were surveyed to establish their height relative

to groundwater i.e. to what extent is groundwater separated from groundwater by a layer of rock/gravel. Dr Freeman summarises his analysis of the survey results in his evidence stating that:

*the survey information strongly indicates that there will be a gap of approximately 10 m between the height of groundwater at bore G41/0456 and the bed of this branch of the Amisfield Burn at its closest point to the bore. The gap will decrease as the creek gets closer to the lake but even at the point marked on the above figure close to the lake at 196.511 m where it is possible that groundwater could fluctuate up and interact with the stream bed the distance is over 750 m from bore G41/0456 and the groundwater at that location will be dominated by the influence of Lake Dunstan meaning that it is highly likely that there would be no stream depletion effect.*

*Similarly, the north branch of the Amisfield Burn will be significantly higher than groundwater levels in the pumping bores and would not be subject to a stream depletion effect.*

4.90 It is my opinion that for the purpose of assessing effects, the applicant has now established that the proposed groundwater take will not have a stream depletion effect on the Amisfield Burn or its tributary.

4.91 In relation to stream depletion effects, I note that the Amisfield Burn dries up for an extended period of time through the summer months. In this situation the equations used to establish whether a stream depletion effect is likely are less valid. Schedule 5A of the RPW lists the following situations where a stream depletion effect is unlikely:

*Where the adjacent surface water body;*

- (a) Has an impermeable bed; or*
- (b) Is ephemeral, or dry for extended periods, containing or conveying water only in episodes of high runoff; or*
- (c) Is separated from the underlying water table by an unsaturated zone, decoupling the interaction into a one-way loss of surface water from the surface water body.*

- 4.92 It is my opinion that any uncertainty regarding the likelihood of stream depletion effects has been addressed and effects on surface water quantity can be considered nil.

*Effects on Groundwater Quality*

- 4.93 The proposed discharge of contaminants to land via the settling pond will be limited to naturally occurring silts and sands from the washing of gravel, and the sediment will be removed from the water column by settling in the soakage pond and then by the filtering process as water moves through the natural alluvium.
- 4.94 Dr Freeman's evidence states that:

*The combination of the type of contaminants generated by aggregate quarrying activities (silt and sediment), the location in alluvium material that provides a filtration system that effectively removes silt and sediment, and the distances between the quarry activities and neighbouring bores, enables me to conclude that the proposed activities are very unlikely to have an adverse effect on the quality of groundwater abstracted by any neighbour.*

- 4.95 In my opinion groundwater quality effects associated with the proposed discharge of contaminated water to land via the soakage pond will be less than minor.
- 4.96 I agree with Mr Whyte that the greatest risk of groundwater contamination relates to exposed groundwater in ponds from which material will be excavated. Dr Freeman assesses the risk of groundwater contamination associated with extracting material below groundwater and notes that with appropriate precautions in place, the risk can be reduced to negligible.
- 4.97 In my opinion, the resource consent conditions proposed appropriately address the risk associated with exposing groundwater, including that all necessary precautions must be adopted to prevent any discharge of contaminants to the pit or formed waterbody, other than silt/sediment in stormwater runoff and/or runoff from gravel washing. The applicant has also proposed to monitor the following parameters in relation to excavation below groundwater:

- (a) Escherichia coli (cfu/100ml);
- (b) Suspended Solids (g/m); and
- (c) Total Petroleum Hydrocarbons (g/m<sup>3</sup>)

#### *Historic Water Use and Efficiency of Water Use*

4.98 It estimated by the applicant that 12% of water applied to land would evaporate and less than 20 % of the proposed take can be considered consumptive. Based on this information, Mr Whyte and I agree that the proposed use of water is efficient.

#### *Discharge of Contaminants to Land (Water Quality)*

4.99 I agree with Mr Whyte that the proposed increase in the volume of contaminated water to be discharged will not affect the performance of the soakage pond and that adverse effects associated with discharge of contaminated water to land via the soakage pond is no more than minor.

#### *Cumulative Effects*

4.100 In my opinion consideration of effects cumulatively does not mean that they should be considered more than minor. I note that Mr Whyte has summarised cumulative effects as less than minor.

#### *Effects Conclusion*

4.101 It is my opinion that overall, the adverse effects of this proposal on the environment will be acceptable. This is based on the proposed mitigation measures to be implemented and taking into account the type of activities that are permitted on the application site and the level of effect associated with those activities.

## **5 CONDITIONS OF CONSENT**

5.1 In coming to their conclusions that the effects of the Proposal are acceptable, the experts for the applicant rely on a number of mitigation measures which the applicant has included as part of the Proposal.

Each expert has confirmed that those mitigation measures have been proposed as conditions of consent.

- 5.2 In this section of my evidence, I discuss the proposed conditions which specify the key mitigation measures the experts consider are required to manage effects to acceptable levels.

*Noise*

- 5.3 Mr Exeter concludes in his evidence that both construction noise and operational noise from the will comply with the District Plan permitted noise limits for the rural zone. Operational vibration generated by activities in the expansion area will also generally be imperceptible within the nearest dwellings, nor exceed standards for avoiding cosmetic building damage.

- 5.4 Below I summarise the consent conditions proposed to ensure that the noise and vibration effects of the Proposal will be acceptable, in line with Mr Exeter's evidence:

- (a) Limiting the hours of operation of the processing plant and restricting the number of heavy vehicle movements and type of aggregate that can be loaded outside the operational hours – CODC conditions 14, 19 and 20
- (b) Noise from the operation of the quarry must not exceed specified noise limits at certain time periods when measured in accordance with NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise – CODC condition 15.
- (c) Confirmation that the modelled noise emissions from the quarrying activity in the expansion land meets the District Plan noise limits by engaging an experienced acoustic consultant to measure and report to CODC within the first 12 months of quarrying commencing – CODC condition 17.
- (d) Only broadband noise alarms are to be used on quarry-based equipment or trucks – CODC condition 16.

- (e) All construction activities including the establishment and rehabilitation of the quarry shall be undertaken in accordance with NZS 6803: 1999 Acoustics - Construction Noise – CODC condition 18.

#### *Air quality*

- 5.5 Mr Cudmore concludes in his evidence that the risk of dust discharges beyond the boundary of the site being offensive or objectionable is considered to be low. He also concludes that the relevant air quality standards and guidelines will not be exceeded and any adverse effects, including health effects on people or adverse effects on crop production, are likely to be less than minor and any potential nuisance effects will likely be minor or less.
- 5.6 In reaching this conclusion, Mr Cudmore has proposed a number of additional dust control measures than are currently employed, to mitigate and manage dust discharges from the existing quarry activities and from the expansion land. Mr Cudmore notes that while the scale of activity on the site is proposed to increase, dust generated from activities currently undertaken on the site are likely to be further reduced with the conditions and additional measures proposed.
- 5.7 The applicant has proposed a range of measures to control dust discharges from the site. I have summarised the conditions below which were critical in reaching the conclusions of Mr Cudmore's air quality assessment:
  - (a) Restricting the annual volume of aggregate and the maximum area of unconsolidated land – ORC air discharge conditions 2 and 5.
  - (b) Requiring a Dust Management Plan (DMP) – CODC conditions 10, 11, 12 and ORC air discharge conditions 6, 7 and 8.
  - (c) Establishing equipment to record meteorological data – ORC air discharge conditions 14 – 16.
  - (d) Installing and operating permanent and mobile dust monitors – ORC air discharge conditions 17 – 22.



- (e) Specifying trigger levels and requiring the implementation of additional control measures if reached or exceeded – ORC air discharge conditions 9 and 10.
- (f) Implementation of a comprehensive set of dust control measures including assessing weather conditions, using a water cart, pre-dampening topsoil and overburden prior to removal, constructing internal haul roads from crushed, clean aggregate, limiting vehicle speed restrictions within the site – ORC air discharge condition 13 and CODC condition 20.
- (g) Controlling the construction of the bunds – ORC air discharge condition 23.
- (h) Ceasing all quarry activities if visible dust is blowing beyond the site boundary until resolved - ORC air discharge condition - 11

#### *Landscape and visual*

- 5.8 Mr Compton-Moen in his evidence concludes that in terms of landscape character and values of the area, any adverse effects are Low (less than minor). In terms of visual amenity, Mr Compton-Moen supports the LVIA conclusion that the highest effects will be experienced at the dwelling at 1308 Luggate-Cromwell Road. However, the proposed mitigation measures will mitigate these adverse effects to Low (less than minor).
- 5.9 Mr Compton-Moen considers that the approach of the Draft Rehabilitation Plan is appropriate and following rehabilitation, the site will retain a strong rural character which is in keeping with the surrounding environment.
- 5.10 Below, I have summarised the conditions and the proposed mitigation measures which were recommended by Mr Compton-Moen in his Landscape Assessment Peer Review dated 16 September 2021 and submitted to CODC:
- (a) Requiring the expansion land perimeter bunding to be constructed, planting established and irrigated prior to extraction – CODC condition 7.

- (b) Requiring a Closure and Rehabilitation Plan to be submitted at least 5 years prior to quarrying activities ceasing – CODC condition 29.
- (c) Additionally, the Landscape Assessment Peer Review specified the proposed bund setbacks from the dwelling at 1308 Luggate-Cromwell Road to be 50m (to the inner edge of the bund), the design of the outer face to have a gradient of 1:3 – 1:5 with an irregular slope profile and to maintain the bund height at 3m around the expansion land. The setback for all other locations shall be 25m (to the inner edge of the bund).

### *Traffic*

- 5.11 Mr Fernando concludes in his evidence that any effects on the wider transport network from the Proposal will be minimal, subject to proposed roading improvements and limiting the number of heavy vehicle movements per day.
- 5.12 Mr Fernando considers that the increased heavy vehicle movements warrants the provision of a right turning facility into the site access. He considers that the changes in the road infrastructure, if undertaken according to Waka Kotahi Standards, will not result in any adverse safety or operational outcomes.
- 5.13 The measures to manage the potential traffic effects are set out in the proposed conditions below:
  - (a) Requiring the proposed roading improvements to be approved, constructed and operational prior to commencement of the consented activity – CODC conditions 4, 5 and 6.
  - (b) Placing a maximum limit on heavy vehicle movements per day – CODC condition 19.

### *Groundwater*

- 5.14 Mr Freeman concludes in his evidence that the effects of the Proposal is very unlikely to have any significant adverse effects on surface and groundwater quantity or quality. Mr Freeman reaches his conclusion based on their being sufficient groundwater availability and the quarry

bores being sufficiently distant from neighbouring wells and surface waterbodies.

5.15 I have summarised below the consent conditions proposed to monitor the effectiveness of the methods proposed to maintain water quality and quantity:

- (a) Limiting the instantaneous, daily and monthly amounts of water that can be taken by both bores – ORC water take condition 3.
- (b) Implementing a groundwater quality sampling program to be carried out quarterly – ORC bore conditions 2 – 5, ORC discharge condition 6.
- (c) Managing hazardous substances and activities including stormwater run-off, refuelling, cleaning of machinery and restricting areas – ORC bore conditions 7 – 9.
- (d) Ensuring the only contaminants discharged are silt and sediment – ORC discharge condition 3.

5.16 I note that Mr Whyte has included an amended set of draft conditions with the Section 42A Reports. Prior to the hearing I intend on conferencing with Mr Whyte to reach as much as possible agreement on the wording of the draft conditions.

## **6 STATUTORY AND PLANNING ASSESSMENT (SECTION 104(1)(b) RMA)**

*Resource Management (National Environmental Standard for Air Quality) Regulations 2004*

6.1 Regulation 17 of the NESAQ restricts the granting of a new resource consent for discharges of PM10 if the discharge would be likely to increase the 24-hour average PM10 concentrations in a "polluted" airshed by more than 2.5 µg/m<sup>3</sup> (unless this can be offset). The closest polluted air shed is the Cromwell Air Zone, which is approximately 10.5 km to the south of the quarry. Therefore I do not consider that Regulation 17 applies to this application.

- 7 I note Mr Whyte and I agree that the NESAQ does not apply to the proposed activities and our position is supported by Mr Cudmore's evidence.

*Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007*

- 7.1 Regulation 12 relates to activities that have the potential to affect a registered drinking-water supply that provides no fewer than 25 people with drinking water for not less than 60 days each calendar year.
- 7.2 Although any abstraction of groundwater from bore G41/0111 by AES is limited to permitted volumes, it is understood that AES is a registered drinking water supplier.
- 7.3 Regulation 12 requires that if a consent authority considers that a drinking water supply could be contaminated by a spill or event which may have a significant adverse effect on the quality of the drinking water supply, it must impose conditions of consent (assuming consent it granted) requiring the consent holder to notify, as soon as reasonably practicable, the registered drinking-water supply operators of such a spill or event.
- 7.4 Although Dr Freeman considers it highly unlikely that a spill or event within the Amisfield Quarry could significantly effect the quality drinking water abstracted from Bore G41/0111, the applicant has taken a precautionary approach and adopted conditions as would otherwise be required by Regulation 12.
- 7.5 Should it become apparent that AES does not provide more than 25 people with drinking water, this condition may not be required, at least in relation to the National Environmental Standard for Sources of Human Drinking Water, although the applicant accepts it regardless.

*Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*

- 7.6 Regulation 4 sets out that the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010* apply to takes of water that are over 5 l/s providing the take is not con-consumption

(while a large portion of the take is returned to groundwater, the take is not considered non-consumptive).

- 7.7 Regulation 8 requires permit holders to provide records of water use to the relevant regional council. As Mr Whyte notes the regulations have been recently amended to introduce additional reporting requirements for takes between five and more than 20 litres. These additional reporting requirements include measuring water use every 15 minutes and storing and electronically submitting water use records to the relevant regional council every day. The applicant has proposed a draft condition for the water permit which requires water use to be monitored and reported on in line with the recent amendments to the regulations.

*The National Policy Statement for Freshwater Management 2020*

- 7.8 I agree with Mr Whyte's description of the NPSFW-2020 in the ORC Section 42A report.
- 7.9 In relation to the Objective of the NPSFW, I consider that the uncertainty that Mr Whyte references with respect to effects on water has been addressed. Dr Freeman's evidence details the additional sampling, modelling and investigations undertaken by the applicant to confirm effects on groundwater quantity and quality are acceptable.
- 7.10 Given effects on water have been demonstrated to be acceptable and appropriate conditions as per the Resource Management (National Environmental Standard for Sources of Human Drinking Water) Regulations 2007 have been adopted to address risks to human health, it is my opinion that the Proposal is consistent with the way in which the NPSFW-2020 prioritises water management.
- 7.11 In relation to Policy 2, it is my opinion that Māori freshwater values have been identified and provided for in relation to the proposed activities. Although Aukaha were not notified in relation to the consents sought from the ORC, the scope of their submission on the CODC application is broader than land use matters.
- 7.12 In response to their submission, the applicant consulted directly with Aukaha to canvas all the issues raised and where practicable the proposed mitigations have been adopted.

- 7.13 Based on Dr Freeman's conclusions with respect to effects on water quality and quantity and the consultation undertaken directly with Aukaha, I consider that tangata whenua have been actively involved in the management of freshwater water potentially affected by the proposed activities and Māori freshwater values have been identified and provided for.
- 7.14 Mr Whyte also comments in relation to Policy 3, Policy 11 and Policy 15 of the NPSFW-2020. He considers that the applicant has demonstrated that water will be used effectively and that the groundwater is not over allocated, however notes that an allocation assessment has not been considered in relation to the NPSFW-2020. With respect to future allocation assessments required by the NPSFW-2020, the applicant can only make an assessment based on the current policy framework and RWP schedules, the onus is not on the applicant to undertake a catchment wide allocation assessment to update the RPW. Mr Whyte also states that "*effects of the rate of take on neighbouring users of groundwater in the catchment will be less likely to be adversely affected if the rate of take is reduced*". This is true, reducing a rate of take will reduce its drawdown effect, however, as Dr Freeman concludes in his evidence, effects on other groundwater uses are negligible and do not warrant the applicant reducing the proposed take.
- 7.15 In my opinion, the proposed activities are consistent with Policy 3, Policy 11 and Policy 15 of the NPSFW-2020.

### **Planning Documents**

- 7.16 The relevant planning documents are identified in the AEE, and in the Section 42A report of Mr Whyte. They are:
- (a) The Partially Operative Regional Policy Statement;
  - (b) The Proposed Otago Regional Policy Statement 2021;
  - (c) The Regional Plan: Air for Otago;
  - (d) The Regional Plan: Water for Otago;
  - (e) Proposed Plan Change 7;

- (f) The Central Otago District Plan; and
- (g) Iwi Management Plan.

7.17 In the following sections I include a summary of my key conclusions on the relevance of the various planning documents based on my review of those documents, my understanding of the Proposal and its effects given the evidence for the applicant, and my review of submissions.

*The Partially Operative Regional Policy Statement*

7.18 Both Section 42A reports identify the same objectives and policies from the Partially Operative Regional Policy Statement (PO-RPS) and state that the proposed activities are not contrary to most of them. Mr Whyte notes that a precautionary approach is supported to address uncertainty (Policy 5.42) and that the Proposal is not consistent with maintaining amenity values or good air quality (Policy 5.42).

7.19 Policy 5.42 supports a precautionary approach for activities where adverse effects may be uncertain, not able to be determined, or poorly understood but are potentially significant or irreversible.

7.20 I understand that it is Mr Whyte's position that a precautionary approach should be adopted in relation to dust and groundwater effects. In my opinion, based on evidence presented by Mr Cudmore and Dr Freeman, dust and groundwater effects are not sufficiently uncertain, unknown or significantly adverse to warrant the adoption of a precautionary approach whereby the most appropriate course of action is to refuse consent as it relates to the expansion land.

7.21 The PO-RPS does not define what a precautionary approach is, however in my view precaution can be adopted by imposing appropriate resource consent conditions, for example, groundwater quality monitoring requirements and real time total suspended monitoring for dust.

7.22 With respect to the PO-RPS, the Section 42A Report concludes that the Proposal is not consistent with maintaining amenity values or good air quality. I have assumed that this conclusion is in relation to Policy 3.1.6. Based on Mr Cudmore's evidence, I consider dust effects beyond

the boundary of the site to be no more than minor, and that the Proposal is consistent with the Policy 3.1.6.

7.23 I note that the ORC Section 42A report does not assess the following policies in the PO-RPS that relate specifically to mineral extraction and processing:

***Policy 5.3.4 Mineral and petroleum exploration, extraction and processing***

*Recognise the functional needs of mineral exploration, extraction and processing activities to locate where the resource exists.*

***Policy 5.4.8 Adverse effects from mineral and petroleum exploration, extraction and processing Minimise adverse effects from the exploration, extraction and processing of minerals and petroleum, by all of the following:***

- a) *Giving preference to avoiding their location in all of the following:*
  - i. *Areas of significant indigenous vegetation and significant habitats of indigenous fauna;*
  - ii. *Outstanding natural features, landscapes and seascapes;*
  - iii. *Areas of outstanding natural character;*
  - iv. *Outstanding water bodies;*
  - v. *Areas subject to significant natural hazard risk;*
  - vi. *Places or areas containing significant historic heritage.*
- b) *Where it is not possible to avoid locating in the areas listed in a) above, avoiding significant adverse effects of the activity on those values that contribute to the significant or outstanding nature of those areas;*
- c) *Avoiding adverse effects on the health and safety of the community;*



- d) *Avoiding, remedying, or mitigating adverse effects on other values;*
- e) *Reducing unavoidable adverse effects by*
  - i. *Staging development for longer term activities; and*
  - ii. *Progressively rehabilitating the site, where possible.*
- f) *Considering offsetting for residual adverse effects;*
- g) *Applying a precautionary approach to assessing the effects of the activity, where there is scientific uncertainty, and potentially significant or irreversible adverse effects.*

7.24 Policy 5.3.4 and 5.3.8 give effect to Objective 5.3 which requires that sufficient land is managed and protected for economic production.

7.25 In assessing Policy 5.3.4 and 5.3.8 I note that the proposed quarry is located over a supply of quality aggregate and is not located on land that is valued for its significant indigenous vegetation and significant habitats of indigenous fauna, outstanding natural features, landscapes and seascapes, outstanding natural character, and it is not subject to a significant natural hazard risk and does not contain significant historic heritage.

#### *The Proposed Otago Regional Policy Statement 2021*

7.26 Both Section 42A reports identify the same objectives and policies from the Proposed Otago Regional Policy Statement (P-ORPS 2021) and provide same commentary in relation to those objectives and policies.

7.27 Similar to Policy 5.42 of the P-ORPS 2021, Policy IM-P15 supports a precautionary approach for activities where effects are uncertain, unknown or little understood, but could be significantly adverse, particularly where the areas and values within Otago have not been identified in plans as required by the P-ORPS 2021. I have assessed the appropriateness of a precautionary approach in relation to Policy 5.42 of the PO-RPS.

- 7.28 Similar to Policy 3.1.6, the Section 42A Report concludes that the Proposal is contrary to Objectives AIR-O1-O2 and Policies AIR-P1-P5 based on dust effects beyond the boundary of the site being more than minor and possibly objectional. As per my assessment of Policy 3.1.6 of the PO-RPS, I consider that dust effects beyond the boundary of the site will be no more than minor, and that the Proposal is consistent with the Objectives AIR-O1-O2 and Policies AIR-P1-P5.
- 7.29 Mr Whyte does not appear convinced that the Proposal appropriately prioritises the management of freshwater in accordance with LF-WAI-O1 and LF-WAI-P1 due to uncertainty regarding the scale of adverse effects on groundwater quality. In my opinion the scale of effect on groundwater quality has been appropriately established by Dr Freeman. Furthermore, the applicant has proposed conditions to monitor groundwater quality in bores that supply drinking water and are downstream of the proposed quarry.
- 7.30 In relation to LF-WAI-P1, Mr Whyte notes that there is uncertainty in regard to the connection between groundwater and surface water. In my opinion, the additional investigations as detailed in Dr Freeman's evidence have addressed any uncertainty in relation to effects associated with a potential connection between groundwater and surface water.
- 7.31 With respect to LF-LS-P17 I agree with Mr Whyte that the proposed activities will result in the loss of a soil resource where ponds are created in association with the rehabilitation of the quarry. However, this policy needs to be considered in the context of the proposed activity and the wider policy framework.
- 7.32 In my opinion Mr Whyte's position with the respect to loss of soils does not recognise that primary production includes quarrying as a use of land that needs to be provided for alongside the use of productive soils. Policy LF-LS-P19 was not assessed in the Mr Whyte's 42a Report, however is included below.

*LF-LS-P19 – Highly productive land*

*Maintain the availability and productive capacity of highly productive land by:*

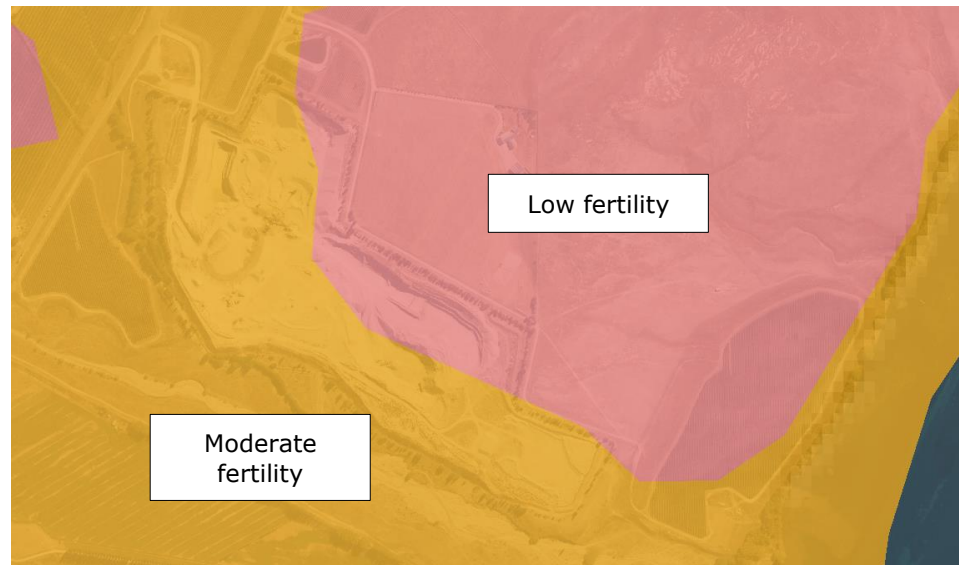
- (1) *identifying highly productive land based on the following criteria:*
  - (a) *the capability and versatility of the land to support primary production based on the Land Use Capability classification system,*
  - (b) *the suitability of the climate for primary production, particularly crop production, and*
  - (c) *the size and cohesiveness of the area of land for use for primary production, and*
- (2) *prioritising the use of highly productive land for primary production ahead of other land uses, and*
- (3) *managing urban development in rural areas, including rural lifestyle and rural residential areas, in accordance with UFD-P4, UFD-P7 and UFD-P8.*

7.33 LF-LS-P19 prioritises the use of highly productive land for primary production ahead of other land uses. It is my opinion that the application site can be considered highly productive land with respect to the underlying aggregate resource and therefore the extraction of aggregate should be prioritised over other uses.

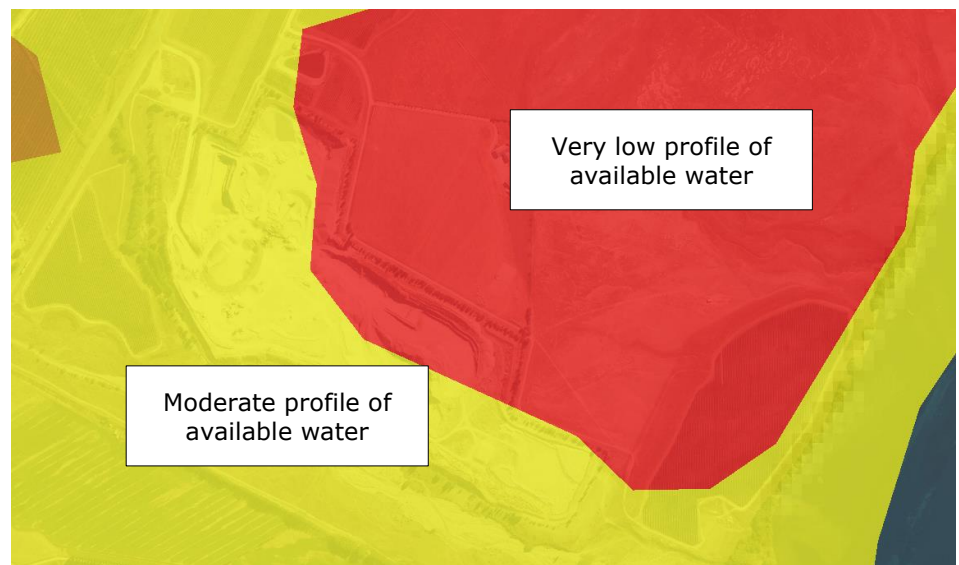
7.1 It is important to note that it has not been established that soil within the application site is particularly suitable to cropping. I accept that application site is located close to an abundant water source and has high sunshine hours which are suitable growing conditions, however conversely, these conditions could also be considered as suitable for quarrying. I note that the 1998 resource consent application submitted in relation the existing quarry states:

*The majority of the site is shown as Class VIIs12 on the NZ Land Resource Inventory Worksheets ... Class VIIs12 land is described as "very shallow stony terraces and plains in inland areas... light, low fertility soils , coupled with arid severe climate makes pasture establishment difficult.*

- 7.2 Further the Grow Otago GIS database classifies the land on which the quarry is proposed to expand as having low fertility and a very low profile of availability water. The existing quarry is largely classified as having moderate fertility and a moderate profile of available water, the rest is classified the same as the expansion land. The figures below are taken from Grow Otago's GIS database, Figure 3 indicates fertility and Figure 4 indicates profile of available water.



*Figure 3: Grow Otago map of modelled soil fertility*



*Figure 4: Grow Otago map of modelled Profile Available water*

*The Regional Plan: Air for Otago*

- 7.3 In relation to Objective 6.1.2 and Policy 8.2.3, Mr Whyte states that the proposed discharge of dust is *"likely to have adverse localised adverse effects on amenity values, plants and animals, and the life supporting capacity of air if the quarry expansion area is approved"*.
- 7.4 Reference to plants and animals in Objective 6.1.2 is tied to ecosystems. The Air Plan defines an ecosystem as *"a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit"*. I do not consider the adjoining cherry orchards or vineyards to be ecosystems and note that DoC have indicated that they are satisfied that dust effects on the Reserve will be adequately mitigated.
- 7.5 Based on the evidence of Mr Cudmore, it is my opinion that dust effects on amenity values and the life supporting capacity of air will be appropriately mitigated and that the Proposal is consistent with Objective 6.1.2 and Policy 8.2.3.
- 7.6 Policy 8.2.8 requires that noxious, dangerous, offensive or objectionable discharges to air are avoided. In relation to Policy 8.2.8 Mr Whyte states *"If taking a precautionary view, the quarry expansion area may lead to discharges to air that are at least offensive or objectionable for 8% of the time"*.
- 7.7 I believe this statement is linked to the Beca report which describes 1308 Luggate-Cromwell Road (Lot 2 DP 301379) and 1286 Luggate-Cromwell Road (Lot 2 DP 508108) as respectively downwind of the quarry in winds greater than  $> 5\text{m/s}$  7.9 % and 8.3 % of the time. I do not read those figures as suggesting that those properties could be subject to offensive or objectionable dust discharges approximately 8 % of the time. It is my understanding that wind speed and direction are just two of many factors used to determine the magnitude of dust effects. I note that the Beca report goes on to describe the magnitude of dust effects as 'negligible' on 1308 Luggate-Cromwell Road and 'slight' on 1286 Luggate-Cromwell Road.
- 7.8 Based on evidence presented by Mr Cudmore, it is my view that the Proposal is consistent with Policy 8.2.8.

- 7.9 I note that the AEE and ORC's Section 42A report do not assess Objective 6.1.3 which allows for the sustainable use of Otago's air resource. As per the stated principle reasons for adopting Objective 6.1.3, it was "*adopted to ensure continued access to Otago's air resource for a range of existing and new uses, recognising the need to provide for the social, economic and cultural well being of Otago's people and communities*". I consider that the Proposal is consistent with Objective 6.1.3 as means for people and communities to provide for their social and economic wellbeing, notably the supply of high quality aggregate.
- 7.10 In my opinion there are no provisions in the Air Plan which prevent consent being granted to discharge contaminants to air provided robust conditions are included on the consent to ensure dust is managed in the manner described by Mr Cudmore. Mr Cudmore has outlined that he considers the proposed conditions are suitably robust and will be effective in that context.

*The Regional Plan: Water for Otago*

- 7.11 Policy 6.4.0C promotes and gives preference to taking and using water from the nearest practicable source. In response to Mr Whyte's comment that the applicant has not considered taking water from the settlement pond, I note that fines in the settlement pond water would damage the surface water pumps. It is possible to treat water for reuse, however given the available supply of groundwater, this is not considered necessary.
- 7.12 Mr Whyte states in relation to Policy 6.4.10A5 that "*effects of sedimentation or contamination by exposing a large area of groundwater at this location and extracting aggregate from within it have not been quantified and there is uncertainty about the scale of these effects*". Evidence presented by Dr Freeman confirms risks to groundwater quality associated with excavation below groundwater can be managed to an acceptable minimum.
- 7.13 In relation to Policy 6.4.10AC Mr Whyte states that groundwater quality and levels should be monitored since a large area of groundwater is to be exposed and extraction undertaken within it. I

note that in relation to the proposed construction of a bore, the applicant has proposed to monitor groundwater quality.

7.14 In relation to Policy 6.4.10B, I disagree with Mr Whyte that it has been established that the proposed groundwater take is likely to significantly adversely affect other groundwater takers. In assessing effects on surrounding groundwater users Mr Whyte states that *"interference is considered significant if the groundwater take induces 0.2 m of drawdown in a neighbouring bore as per Schedule 5B of the RPW"*. In my opinion Schedule 5B references 'significance' in the context of a technical assessment, not as a measure of effect to be applied under the RMA to determine if effects are acceptable.

7.15 Schedule 5B states *"This schedule is the method for identifying parties likely to be affected by bore interference when a new application to take groundwater is received"*. At best I would consider Schedule 5B as a tool to be used in determining if a neighbouring bore is potentially affected by a groundwater take for notification purposes.

7.16 Dr Freeman has established that drawdown effects on neighbouring bores will be acceptable, I therefore consider that the Proposal is consistent with Policy 6.4.10B.

7.17 In addition to commenting on specific policies and groups of policies, Mr Whyte provides general comments on Efficiency of Water Take and Use, Efficiency of Water Transport, Storage and Application System, Alternative Water Sources and Water Take and Use Management (paragraphs 6.3.7.2 - 6.3.7.5 of the ORC Section 42 Report). I note that Mr Whyte appears to consider the proposed generally consistent with these matters.

7.18 The following policies were not assessed in the Assessment of Environmental Effects submitted in support of the proposed activities or within the Section 42A reports. In my opinion they are relevant and should be considered.

*9.4.19 To identify land which protects underlying aquifers from leachate contamination and to manage excavation, with respect to this land, so that any protective soil mantle or*

*impervious stratum is retained or replaced, or alternative groundwater protection is provided.*

*9.4.21 To support appropriate codes of practice and management guidelines for land use activities which may result in contaminants entering groundwater.*

7.19 Evidence prepared by Dr Freeman has established that the proposed activities are consistent the above policies.

#### *Plan Change 7*

7.20 At the time of submission PC7 had been notified and included the following objective:

*10A.1.1 Transition toward the long-term sustainable management of surface water resources in the Otago region by establishing an interim planning framework to manage new water permits, and the replacement of deemed permits and water permits to take and use surface water (including groundwater considered as surface water) where those water permits expire prior to 31 December 2025, until the new Land and Water Regional Plan is made operative.*

7.21 Objective 10A.1.1 references the long term sustainable management of surface water. Based on this and the lack of any evidence which suggested a connection between surface water and groundwater relevant to the proposed activities, it was determined that the notified version of Plan Change 7 did not apply.

7.22 PC7 was called in by the Minister for the Environment and an interim decision was released on 22 October 2021 following an Environment Court hearing. Following review by parties, the court made a number of amendments to the provisions of Plan Change 7 and released a final version on 17 November 2021.

7.23 The ORC Section 42A report includes an outdated version of Objective 10A.1.1. Included below is the final version of Objective 10A.1.1. I have track changed the below version to identify differences between the version included in the ORC Section 42A report and the final version in Plan Change 7.



*10A.1.1 Facilitate an efficient and effective transition from the operative freshwater planning framework toward a new integrated regional planning framework, by managing:*

- (a) the take and use of ~~freshwater not previously authorised by a water permit~~; and*
- (b) the replacement of Deemed Permits, and*
- (c) the replacement of water permits for takes and uses of freshwater where those water permits expire prior to 31 December 2025.*

7.24 Mr Whyte does not provide an assessment of Objective 10A.1.1 as stated in ORC Section 42A Report. Regardless, I consider that the amended version of Objective 10A.1.1 does capture the proposed take of groundwater, meaning Mr Whyte and I are in agreement that PC7 applies to the proposed take of groundwater.

7.25 Policies 10A2.1 and 10A2.3 only capture groundwater takes where the groundwater is considered connected to surface water under Policy 6.4.1A (a), (b) and (c) of the RPW. Dr Freeman has established that this is not the case, therefore Policies 10A2.1 and 10A2.3 do not apply.

7.26 Policy 10A2.2 captures takes of freshwater generally, and I agree with Mr Whyte that the volume of water proposed to be abstracted above the volume that is already consented is captured by Policy 10A2.2 as a new water take and is subject to a maximum consent term of 6 years under PC7 which has legal effect but is not yet formally operative. For reference I have included the final version of the 10A.2.2 below, but note that it does not vary from what is stated in the ORC Section 42A Report.

*10A.2.2 Irrespective of any other policies in this Plan concerning consent duration, only grant resource consents for takes and/or uses of freshwater, where this activity was not previously authorised by a Deemed Permit or by a water permit expiring prior to 31 December 2025, for a duration of no more than six years.*

7.27 As described at the beginning of my evidence, the applicant has amended their application to only seek consent for the additional volume water required and will not be surrendering their existing water permit. PC7 then only applies to the proposed additional volume of water sought by the applicant.

*The Central Otago District Plan*

7.28 Both Section 42A reports include an assessment of objectives and policies in the CODC. My evidence is focused on objectives and policies that Mr Whyte has identified the Proposal as being contrary too. I have sought to address the objectives and policies collectively where appropriate i.e. where a policy gives direct effect to an objective.

7.29 Objective 4.3.3 and Policy 4.2.2 relate to landscape and amenity values. Mr Whyte states that the Proposal is consistent with all aspects of Policy 4.4.2 expect for 4.4.2(b) which provides for development that is compatible with the surrounding environment including the amenity values of adjoining properties.

7.30 In my opinion the Proposal is compatible with the surrounding environment including amenity values of adjoining properties. Expert evidence prepared by Mr Cudmore, Mr Exeter and Mr Compton-Moen confirms that dust, noise and landscape and visual effects associated with the proposed activities will be mitigated to an acceptable level.

7.31 The CODP permits the following activities in the Rural Resource Area; boundary fences, rural buildings (up to 10 m high), frost control devices (fans), bird scaring devices, orchard netting and structures. I understand that the surrounding environment contains most if not all of the above activities/structures.

7.32 In terms potential effects associated with the expanded quarry, visual effects are limited to a proposed bund with an outward facing gradient of 1:3-1:5 setback 25 m from the boundary of the site, noise effects have been assessed to be acceptable and dust will be actively monitored and mitigated to an acceptable level. I note that a large commercial storage shed has been erected on the Clarks property that did not require resource consent, in my opinion this type of built development would have a higher level of adverse effect on landscape

and visual amenity values than a 3 m high planted bund setback from the boundary.

- 7.33 Objective 4.3.7 and Policy 4.3.6 relate to soil resources. Objective 4.3.7 provides for the maintenance of the life supporting capacity of soil resources and Policy 4.4.6 provides for the protection of soil resources by avoiding, remedying or mitigating the adverse effect of land use activities.
- 7.34 I agree with Mr Whyte that the proposed activities will result in a loss of soil resource where ponds are created through rehabilitation and that this may have an impact on the future use of the land. As per my assessment of Policy LF-LS-P17 of the P-ORPS 2021, it is my opinion that quarrying is a primary production activity necessary to support a variety of activities that communities rely on and the CODP provides for. Some loss of productive soils is expected to allow quarries to operate and creating ponds in association with site rehabilitation is acceptable.
- 7.35 Policy 4.4.9 relates to reverse sensitivity effects and seeks to recognise that established rural activities have effects that may not be compatible with other land uses that develop around existing ones. The effect of the quarry on the surrounding residential land uses is not a reverse sensitivity effect. In this sense Policy 4.4.9 does not apply to the Proposal. I note that given the submissions on the Proposal, it appears that the converse may be true and surrounding land uses may have reverse sensitivity effects on the existing quarry.
- 7.36 Policy 4.4.10 provides for the management of effects of land uses in the Rural Resource Area by avoiding, remedying and mitigating effects on various different values. Mr Whyte notes that the Proposal is contrary to aspects of Policy 4.4.10 that relate to ground water quality, loss of soil and amenity values. I have addressed effects on these values in relation to other policies already discussed so will not repeat my assessment of these policies here, apart from noting that evidence presented by the applicant's technical experts has confirmed that adverse effects will be acceptable in relation to the above values.
- 7.37 Objective 12.3.2 and Policy 12.4.2 relate to noise effects. In my opinion evidence prepared by Mr Exeter confirms that the Proposal will

have acceptable adverse noise effects. I note that in the CODC Section 42A report Mr Whyte states in relation to noise effects that "*I am guided by the advice of AES that these will be minor effects and with additional conditions they will be of an acceptable level, and that other locations the noise effects will be less than minor*". It therefore appears to me that Mr Whyte considers the Proposal to be consistent with the CODP with respect to noise.

7.38 Objective 12.3.4 ensures that nuisance effects that relate to odour, dust, light spill, glare and electrical interference, are avoided, remedied or mitigated. In relation to Objective 12.3.4, Mr Whyte states that "*proposed activities do not avoid, remedy, or mitigate all noise or dust nuisance effects for adjoining sites that is contrary to this objective*". I note that noise is not within the scope of Objective 12.3.4 and that evidence presented by Mr Cudmore confirms that dust effects will be mitigated to an acceptable level.

#### *Iwi Management Plans*

7.39 I agree with Mr Whyte that the following iwi management plans and policy statements should be considered in relation the proposed activities:

- (a) The Ngāi Tahu ki Murihiku Natural Resource and Environmental Iwi Management Plan 2008
- (b) The Kai Tahu ki Otago Natural Resource Management Plan 2005
- (c) Te Rūnanga o Ngāi Tahu Freshwater Policy Statement 1999

7.40 Although Mr Whyte references uncertainty in relation to effects on groundwater quality, for the most part he considers the proposed activities to be consistent with the above iwi management plans and policy statement. I agree with Mr Whyte's assessment and note that in my opinion Dr Freeman has addressed uncertainty regarding groundwater quality effects.

#### **Section 105 and 107**

8.41 Mr Whyte has appropriately assessed Sections 105 and 107 in relation to discharge permits sought by the applicant. I agree with Mr Whyte's

assessment of Sections 105 and 107, with the exception of his assessment of dusts effects. As stated previously it is my opinion that dust effects can be mitigated to an acceptable level.

## **Part 2**

7.41 The various elements of Part 2 will be well known to the Commissioner. Many of the relevant Part 2 issues are directly addressed by the various planning instruments that I have referred to earlier, and so I do not wish to repeat that analysis here. That analysis is directly applicable to your ultimate evaluation of Part 2 matters, insofar as you need to do that, in light of the most recent determination on *Davidson*.

7.42 By way of summary, the key matters which stand out to me are:

- (a) The extent to which the quarry will contribute to and assist the social and economic wellbeing of the Cromwell area and Inland Otago;
- (b) There are no s6 matters of relevance to this proposal;
- (c) With respect to s7(b), the project will enable the efficient use and development of the aggregate resource contained at the site, and is well sited to make efficient use of existing road network infrastructure;
- (d) With respect to s7(c), amenity values will be maintained in accordance with the expectations set out within the District Plan;
- (e) With respect to s7(f), the quality of the environment will be maintained in accordance with the expectations of the various planning documents; and
- (f) There do not appear to be any particular issues in respect of the various tangata whenua aspects of Part 2, including s6(e), 7(a), 7(aa) and 8.

8 I consider that the Proposal represents sustainable management of resources and is consistent with the purpose of the RMA.

## 9 SUBMISSIONS

9.1 A summary of the issues raised by submitters is provided in the Section 42A reports of Mr Whyte. I agree with those summaries.

9.2 The only submission(s) which directly raise a matter on the planning documents are those from Irrigation Maintenance, Amisfield Estate Society and the Clarks.

9.3 The Amisfield Estate Society submission states:

*In accordance with the Objective of the National Policy Statement for Freshwater Management, the health needs of people (including through provision of drinking water) needs to be provided for in priority to other water uses such as that proposed. This objective is supported by the Regional Policy Statement provisions that require adverse effects of mineral extraction activities to be minimised including by avoiding adverse effects on the health and safety of the community*

9.4 The Clark submission states:

*The proposed application is contrary to the Rural Zone objectives and policies and intentions for use of the finite soil resources in the District, given that the land cannot be used for other purposes once the lifetime of the quarry has ended. No rehabilitation of the land has occurred to date on the Site.*

9.5 I consider that I have addressed matters raised by the Clarks and AES in the above statements in my assessment of the relevant statutory planning documents.

9.6 The Irrigation Maintenance submissions identifies a number of activities relating to protective mantle for which it states the applicant requires additional consents. The activities identified relate to the construction of a bore for which the applicant has sought a land use consent.

9.7 The Irrigation Maintenance submission identifies Issue 9.2.3(d) of the RPW as relevant to proposal. I agree that is it relevant and have

assessed the objectives and policies that link to the issue in my assessment of the RPW.

9.8 The other submissions raise various concerns with the effects of the project, and I have considered them when addressing the relevance of the various statutory planning documents to this proposal.

## 10 **CONCLUSION**

10.1 I have assessed the proposed expansion of the Amisfield Quarry against the relevant statutory provisions and planning documents.

10.2 Of particular relevance, when considering the effects of the Proposal, are the planning provisions which relate to:

- (a) Protection of amenity values;
- (b) The discharge of fine particulate matter;
- (c) Effects on groundwater quality and neighbouring groundwater users.

10.3 It is clear to me that relevant matters from the CODP and Regional Air Plan with respect to amenity require the effects of quarrying in this location to be very carefully managed so that neighbouring properties remain a pleasant place to live and work and that a rural character is maintained. However, it does not direct that the current level of amenity or outlook experienced at each site in that surrounding area be protected or effects avoided in their entirety.

10.4 The proposed conditions have been informed by appropriate expert assessment and based on the application of recognised standards for achieving good practice in order to provide a reasonable degree of amenity in the Rural zone. In my view this is an appropriate response in this location.

10.5 The Proposal will have a number of positive effects, most notably those which relate to the efficient use and development of natural and physical resources, including the existing quarry infrastructure, to provide additional supplies of aggregate important for the development and maintenance of buildings and infrastructure.

10.6 I consider that overall, the Proposal is consistent with most (and not contrary to the balance) of the objectives and policies of the relevant national, regional and district planning documents. It is also consistent with the purpose and principles set out in Part 2 of the RMA. There is no impediment in the planning provisions to granting the consents.

**Matthew Curran**

**November 2021**