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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SUPPLEMENTARY EVIDENCE OF MATTHEW CURRAN (PLANNING) IN RESPONSE TO FOURTH MINUTE OF THE COMMISSIONER

Dated: 28 March 2022

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1 INTRODUCTION

1.1 This evidence clarifies certain matters as requested by the Commissioner in a Fourth Minute issued on 9 March 2022.

1.2 As requested in paragraph 19 of the Fourth Minute, I have prepared a final set of the applicant's proposed conditions which shows (in track changes) the amendments proposed by the applicant to Mr Whyte's latest recommended set of conditions. That document is attached to this evidence as **Appendix 1**. The amendments I have recommended in this statement of evidence to address the matters raised in the Commissioner's Fourth Minute are both tracked and highlighted in yellow for ease of reference. References to condition numbers in this statement of evidence use the condition numbers in Appendix 1.

1.3 Comments explaining the reasons for any differences between the two condition sets (those proposed by the applicant and those recommended by Mr Whyte) have also been included in Appendix 1.

2 CLEANFILL DEPOSITION AND SITE REHABILITATION

2.1 As the Commissioner's Fourth Minute notes, only one lake is proposed to be retained and that lake will be located within the expansion area. The Draft Quarry Rehabilitation Plan has been updated to reflect this and is attached to my evidence as **Appendix 2**.

2.2 In terms of the applicant's intentions in relation to any deposition of cleanfill or other fill material at the site, as confirmed by Mr Allison in his supplementary evidence dated 28 March 2022, cleanfilling of the site does not form part of this proposal. However Amisfield Estate Society has asked that conditions be imposed requiring the recording of any cleanfill placed on the site in the future. The relevant conditions are Conditions 49(e), 54(a) and 61(e) of the CODC land use consent, and Condition 8(i) of RM20.360.04 (the bore consent).

2.3 Use of cleanfill is currently permitted by Rule 7.6.3 of the Regional Plan: Waste for Otago (Waste Plan) provided any landfill created is used solely for the disposal of cleanfill and sediments do not enter into any water body. Included below are the rules and definitions relating to the deposition of cleanfill in the Waste Plan.

7.6.3 Cleanfill landfills (permitted activity)

The discharge of any contaminants into or onto land when occurring as the result of cleanfill landfills is a permitted activity, provided that no sediments enter into any water body.

7.6.4 Cleanfill landfills (discretionary activity)

The discharge of any contaminant into or onto land when occurring as the result of a cleanfill landfill which does not comply with Rule 7.6.3, is a discretionary activity.

"Cleanfill" is defined as:

Generally a natural material such as clay, soil, and rock, and such other materials as concrete, brick or demolition products that are free of combustible or organic materials and are therefore not subject to biological or chemical breakdown.

"Cleanfill landfill" is defined as:

A landfill used solely for the disposal of cleanfill.

"Landfill" is defined as:

A site used for the deposit of solid wastes onto or into land.

2.4 Mr Allison has confirmed that if cleanfill were to be imported into the site for rehabilitation purposes, it would not be placed within groundwater. I have included a new condition (Condition 54(b) of the CODC land use consent) which expressly prohibits placement of any externally sourced cleanfill within 10 metres of any water body, water flow channel or stormwater system, and above the level of groundwater.

2.5 I have also added an advice note to Condition 54 which makes it clear that the consent does not authorise a cleanfill landfill and that if any cleanfilling occurs in the future, it may require resource consent under the relevant regional plans.

2.6 The applicant is proposing to backfill the deepened excavation (below groundwater) within the existing quarry using material from within the quarry. I do not consider this activity to constitute the operation of a cleanfill landfill. In my opinion it forms part of the activity authorised

by the consent sought to construct a bore. I have therefore added reference to decommissioning of the bore in the description of the bore consent. I have undertaken a review of recent consents issued by the ORC for the construction of a bore and note that they all provide for decommissioning of bores in the event that they are disused or abandoned.

2.7 To provide certainty that backfilling the pit where groundwater has been exposed does not constitute the operation of a cleanfill landfill, I have included a new condition (Condition 52 of the CODC land use consent) to require that material used to backfill the pit where groundwater has been exposed only originates from within the quarry.

2.8 To prevent deposition by third parties occurring, I have suggested that a new condition (Condition 22 of the CODC land use consent) be included to require the quarry gates to be locked out of hours (this occurs currently) and that signage be erected at the entrance to the site to make it clear that no materials may be discharged or disposed of within the site without the written permission of the quarry manager.

3 MOBILE REFUELLING

3.1 Mr Allison has confirmed that all vehicles can be refuelled at the workshop area except for the long reach excavator. The reasons for this are set out his statement of supplementary evidence dated 28 March 2022.

3.2 I have recommended amendments to the applicant's proposed conditions (Condition 41(c) of the CODC land use consent and Condition 8(f) of RM20.360.04) to require all machinery to be re-fuelled within the workshop area, except the long reach excavator which may be re-fuelled outside the workshop area providing a 10 m set back is maintained from any waterbody, water flow channel or stormwater system and the nozzle described in Mr Allison's evidence is used (Condition 41(d) of the CODC land use consent and Condition 8(g) of RM20.360.04). I consider that the requirement to maintain a 10 m setback from water and use of the nozzle specified by Mr Allison suitably addresses any potential risk of a fuel spill during mobile refuelling of the excavator.

4 SAMPLING OF MONITORING BORES AND ASSOCIATED CONDITIONS

4.1 Dr Mike Freeman has discussed the matters raised in relation to Condition 13 of RM20.360.02 with Ms Badenhop and has recommended some amendments to that condition to address those matters. Those amendments are marked up and highlighted yellow in the set of conditions attached to my evidence in Appendix 1.

5 CONVEYOR

5.1 Mr Allison's supplementary evidence dated 28 March 2022 confirms that haul trucks will not be used to transport aggregate between the expansion land and the processing plant, and that this will only occur by the use of a conveyor. An additional sentence been added to the end of Condition 20 of RM20.360.03 (the air discharge permit) to prohibit the use of haul trucks for transporting aggregate from the expansion land to the processing plant as follows:

> *Aggregate once extracted from the quarry face shall be placed on a field conveyor and transported from within Lot 3 DP 301379 to the processing plant within Lot 8 DP 301379. Haul trucks shall not be used for that purpose.*

6 COMMUNITY LIAISON GROUP (CLG)

6.1 A CLG is now proposed (see Conditions 58 – 60 of the CODC land use consent and Conditions 40 – 42 of RM20.360.03 (the air discharge permit)). These conditions require regular CLG meetings to be held at not less than 12 monthly intervals. The purpose of the meetings is to require the consent holder to report to attendees on activities undertaken in the past 12 months, the works planned in the next 12 months and the results of monitoring undertaken in the past 12 months. Invitees are listed in Appendix 2 to the CODC land use consent and Appendix 2 to the air discharge permit, and include all of the persons identified as affected parties by the consent authorities.

7 BOND

7.1 Condition 62 of the CODC land use consent provides for the provision of a bond in relation to the rehabilitation of the site, and specifically:

a) removal of any plant or buildings;

b) recontouring of the quarry area, re-spreading of subsoils and topsoil, re-establishing grass, undertaking additional planting, and establishment of drainage sufficient to meet the post quarrying land use; and

c) leaving the land in a clean and tidy state.

7.2 The proposed bond amount has been calculated to provide for the above matters, with the calculations shown in Appendix 3 to my evidence. The bond calculation methodology was provided to Council on 10 November 2021. Mr Whyte has not raised any concerns as to the methodology used to calculate the bond or the proposed amount, although I now understand that he did not have the bond amount reviewed. The s42A report states:

> *Since the estimated date for completion of rehabilitation is 2051 and the bond is calculated in present day value terms, I believe that it is appropriate to include provision for an annual CPI adjustment for that bond amount. The consent holder could apply for a change to the relevant bond condition if they complete rehabilitation over part of the site before that time.*

7.3 A condition could be added to require the bond amount to be independently peer reviewed before the bond is put in place as follows:

> *Prior to entering into the bond referred to in Condition 62 of this consent, the Consent Holder shall engage a SQEP to review the bond amount required by Condition 62 and provide a report with their findings and recommendations (Bond Review Report). The Consent Holder shall submit the Bond Review Report to the Consent Authority at least 20 working days before entering into the bond. If the Bond Review Report recommends a higher amount than the amount specified in Condition 62, the Consent Holder shall provide a bond for the higher amount.*

7.4 The purpose of a bond is typically to ensure that an event such as restoration occurs, rather than to resolve compliance issues, and I am uncertain as to how one would calculate the value of a bond to address fuel spills or accidental deposition of contaminated fill. Given the applicant's Fletcher connection, I consider that the prospect of the consent holder being unable to meet the costs of any remediation should contamination occur is very low, however I acknowledge that the consents could technically be transferred to a third party in the future.

7.5 Notwithstanding the potential difficulty in calculating an amount to cover remediation of contamination, the applicant has costed the provision of an alternative water supply, in the event that the Commissioner wishes to include a sum within the bond to cover that cost (see Appendix 3 to my evidence). If such costs are to be included in the bond amount, I note that the condition which describes the purpose of the bond (Condition 62 of the CODC land use consent) will need to be amended accordingly.

8 TIMING OF BUND CONSTRUCTION

8.1 The Minute states that there appears to be some inconsistency between proposed Condition 15 of RC200343 (no construction 1 September to 1 January in relation to bird disturbance) and Condition 19 of the Discharge to Air consent[1] (land stripping and rehabilitation to occur 1 May to 1 Sep). The Minute also states that it is anticipated that any consent granted would require bund construction to only occur during the winter period for dust control purposes, and seeks clarification of whether this is what is proposed.

8.2 The conditions relevant to bund construction (using the condition numbers in the set of conditions in Appendix 1 to my evidence) are as follows:

CODC Land use consent Condition 15	*Construction of the bunds shall not be undertaken between 1 September and 1 January in any year (bird nesting season).*
RM20.360.03 (air discharge permit)	*Land stripping and land rehabilitation shall be carried out during the winter months (1 May to*

[1] Now Condition 21.

Condition 21	*1 September) when ground conditions are damp (or the ground or material to be used for rehabilitation has been thoroughly wetted with a water cart) and winds are below 7 m/s (10 minute average).*
RM20.360.03 (air discharge permit) *Condition 37(a)*	*When constructing the bunds, the following controls apply:* *(a) The bunds shall be constructed during winter months (1st May to 1st September);…*

8.3 To avoid any confusion, I recommend that the relevant air discharge conditions be amended to require bund construction works to be completed by 31 August so as to avoid any overlap with the first day of the bird nesting season, and that Condition 15 of the CODC land use consent be amended to also reflect the requirement in the air discharge permit to form bunds during winter months (now defined as 1 May to 31 August). These amendments are shown in the conditions contained in Appendix 1 to my evidence.

9 CONFIRMATION PROCESS FOR THE SITING OF CONTINUOUS PM MONITORS

9.1 The process for determining the location of the PM monitors is provided for in Conditions 9(f)(ii), 9(n)(x), 29, 31 and 32 (b) of RM260.360.03 (the air discharge permit). I have set out the relevant components of those conditions below.

RM20.360.03 (air discharge permit) *Condition 9 f (ii)*	*The DMP shall include, but not be limited to:* *…* *f. A description of particulate matter and wind monitoring requirements including:* *(ii) The location of particulate matter monitors between active work areas and sensitive off-site activities.*
RM20.360.03 (air discharge permit) *Condition 9(n)(x)*	*The DMP shall include, but not be limited to:* *…* *n. Separate Standard Operating Procedures (SOPs) dedicated to the management of potential dust discharges from specific sources, including but not limited to:* *…* *(x) Location and calibration of particulate matter and meteorological monitoring equipment;*

RM20.360.03 (air discharge permit) *Condition 29*	*Prior to exercising of this consent, the Consent Holder shall operate and maintain one permanent real-time dust management monitor for continuous monitoring of ambient 10-minute average PM10 concentrations, which shall be installed and operated at a fixed location at the existing quarry's southwest boundary and in accordance with the DMP.* *Advice Note: The permanently located real-time dust management monitor shall be an accepted method for general dust management/monitoring purposes, and does not need to be a certified USEPA, or National Environmental Standards for Air Quality (NESAQ) compliant method.*
RM20.360.03 (air discharge permit) *Condition 31*	*Prior to the exercising of this consent, the Consent Holder shall operate and maintain at least two mobile real-time dust management monitors for continuous monitoring of ambient ten-minute average PM10 concentrations, whose location changes for different stages of the quarry development and in accordance with the DMP.*
RM20.360.03 (air discharge permit) *Condition 32*	*The mobile real-time dust management monitors can be equivalent to that used for the permanently located dust monitor, or else be a lower cost method, on the basis that this can be effectively calibrated against the permanent dust monitor.*
RM20.360.03 (air discharge permit) *Condition 33*	*The two mobile dust monitors shall be positioned at different site boundary locations, such that real-time dust monitoring is undertaken at locations which are between active excavation and central processing areas and downwind sensitive receptor locations, when the latter are within 250 m of the dust source.*
RM20.360.03 (air discharge permit) *Condition 34(a)*	*All three dust monitors shall:* *(a) Be sited in general accordance with AS/NZS 3580.1.1:2016 Methods for sampling and analysis of air – Guide to siting air monitoring equipment;…*

9.2 Given the above requirements relating to the placement of dust monitors and the fact that there will be long periods when excavations are undertaken below groundwater level (during which time dust emissions will be much reduced), I have amended the annual report conditions (Condition 61 of the CODC land use consent and Condition 43 of RM20.360.03 (the air discharge permit)) to require that the applicant's Annual Report details the work plan for the next 12 months, including review and approval by a SQEP of the location of PM10 monitors during this period.

9.3 Therefore in my view, the existing conditions coupled with the proposed amendment to the annual report conditions provide an

appropriate process to confirm that the PM10 monitors are located correctly, on an annual basis.

10 CONDITIONS AND PLANS

10.1 Paragraph 18 of the Commissioner's Fourth Minute states that "*it is considered appropriate that any consent granted would refer to specific plans submitted, as per condition 1 of RC2003473 recommended by Mr Whyte. The applicant is invited to update any plans as necessary to confirm consistency with the current proposal".*

10.2 The plans referenced by Mr Whyte in his Condition 1 are as follows:

(a) Site Plan prepared by Landpro, Revision F dated 9 December 2021;

(b) Mine Plan (Maps 1 to 4) received as further information 10 November 2021;

(c) Landscape and Impact Assessment Indicative Bund Cross Section prepared by Mr David Compton-Moen included in his statement of evidence, dated November 2021;

(d) Temporary Diversion and Bund Extension received as further information 10 November 2021; and

(e) Amisfield Quarry Rehabilitation Plan, February 2021.

10.3 In terms of these plans, the Site Plan, Mine Plans and Temporary Diversion and Bund Extension do not appear to me to require updating. The Quarry Rehabilitation Plan has been updated so as to only refer to one lake post closure, and is attached to my evidence as Appendix 2. That plan is still in draft form and I have amended Condition 1 of the CODC land use consent accordingly.

10.4 In terms of the Indicative Bund Cross Section identified by Mr Whyte, this plan/diagram was included in Mr Compton-Moen's evidence to demonstrate the revised approach to forming bunds in the expansion area i.e. the 'original bund mitigation' vs the 'proposed bund mitigation'. Mr Compton-Moen has recommended (and the applicant's proposed conditions require) a bund which varies in gradient between 1:3 and 1:5 (Condition 20(a) of the CODC land use consent). I

therefore consider that the Indicative Bund Cross Section Plan is no longer representative of what is proposed but does not need updating given the bund requirements are detailed in the conditions of consent.

Matthew Curran
28 March 2022

Appendix 1: Applicant's Proposed Conditions (Deepening and Expansion)

Track changes show amendments to Mr Whyte's recommended conditions. Yellow highlighted text shows amendments made in response to Commissioner's Fourth Minute.

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

RC200343: Land Use Consent

General

1. The activities authorised by this consent shall ~~only~~ be undertaken ~~on Lot 3, Lot 5 (access), and Lot 8 DP 301379~~ generally in accordance with the information and plans submitted with the application dated 23 October 2020, further information provided on 9 March 2021 and 10 November 2021, and with the evidence submitted by the Consent Holder at the hearing, including the following specific plans:

   a. Site Plan prepared by Landpro, Revision F dated 9 December 2021;

   b. Mine Plan (Maps 1 to 4) received as further information 10 November 2021;

   c. Temporary Diversion and Bund Extension received as further information 10 November 2021; and

   ~~d. Landscape and Impact Assessment Indicative Bund Cross Section prepared by Mr David Compton-Moen included in his statement of evidence, dated November 2021;~~

   ~~e.~~ Draft Amisfield Quarry Rehabilitation Plan, February 2021.

   Should there be any inconsistencies between those documents and consent conditions, the consent conditions shall prevail.

2. Prior to the exercise of this land use consent the Consent Holder shall surrender land use consent RC1500052 ~~and any other land use consents issued for quarrying and ancillary activities~~ issued by Central Otago District Council ~~and relating to this site~~.

   ~~*Advice note:*~~

   ~~*RC980019 expired on 12 September 2015, and 28421137 issued on 21 October 1994 also expired with the mining permit.*~~

3. The lapse date for the purpose of Section 125 shall be 5 years from the date of granting the consent.

4. The annual volume of aggregate material extracted from the Quarry shall not exceed 200,000 m^3. ~~and the active working area of the quarry (excluding crushing and screening operations) shall be no more than 2 ha at any one time.~~

5. ~~The Consent Holder shall maintain all stockpiles so that their maximum height is below natural ground level at all times~~. The maximum area of unconsolidated land comprising of the excavation area, backfilling areas and rehabilitation area shall not exceed 2 ha.

   Advice Note: The maximum area of unconsolidated land does not include the haul roads within the existing quarry, land covered by the conveyor, the processing area, stockpiles, areas which are covered with 50mm (or more) of washed gravels or stabilised with a dust suppressant, portacoms or workshops, or the conveyor and its associated service area.

6. The height of aggregate stockpiles shall be maintained below the height of existing ground level at the point immediately due northeast of stockpile.

~~4.~~7. Activities authorised by this consent shall not give rise to dust or the deposition of particulate matter that causes a noxious, dangerous, objectionable or offensive effect beyond the boundary of the site.

Enabling Works

~~5.~~8. Prior to the commencement of the consented activity, a right turn bay shall be constructed within State Highway 6 at the access to the site.

Commented [MC1]: The Site Plan and Mine Plan (Maps 1-4) are the key plans to be referenced.

All other relevant plans submitted are captured by the requirement to undertake activities in general accordance with information and plans submitted with the application.

Commented [MC2R1]: The 'Temporary Diversion and Bund Extension' and 'Amisfield Quarry Rehabilitation Plan' are now both proposed to be included, noting that the Rehabilitation Plan is in draft form.

Commented [MC3]: The applicant has updated the Draft Rehabilitation Plan so as to remove the lake originally proposed to be retained within the existing quarry. The draft Plan can therefore be included in the plans referenced in Condition 1.

In my view, the plan (d) (Temporary Diversion and Bund Extension Plan) should not be referenced in Condition 1 for the reasons set out in my supplementary evidence in reply.

Commented [MC4]: Proposed wording recognises that the height of bunds along the southwest boundary of the existing quarry is lower than ground level along the northeast boundary.

~~6.~~9. Prior to the right turn bay formation works occurring, the Consent Holder shall submit to Central Otago District Council a copy of Waka Kotahi NZ Transport Agency's approval to undertake works on the State Highway (as detailed in advice notes a to c).

Advice Note:

a. It is a requirement of the Government Roading Powers Act 1989 that any person wanting to carry out works on a state highway first gain the approval of Waka Kotahi New Zealand Transport Agency for the works and that a Corridor Access Request (CAR) is applied for before any works commence. A CAR will be required for the right turn bay formation works within State Highway 6.

b. Detailed design approval from Waka Kotahi NZ Transport Agency shall be gained by the Consent Holder prior to applying for a CAR. The detailed design shall be prepared by a suitably qualified professional who has been certified by Waka Kotahi. In developing the detailed design, the Consent Holder will need to consult with the Waka Kotahi appointed state highway maintenance contractor for Central Otago (Aspiring Highways) and a Waka Kotahi Safety Engineer.

c. A Corridor Access Request is made online via www.submitica.co.nz. The CAR needs to be submitted at least 21 working days before the planned start of works. A copy should also be sent to the Waka Kotahi NZ Transport Agency System Design and Delivery Planning Team at EnvironmentalPlanning@nzta.govt.nz. The Corridor Access Request will need to include:

(i) The detailed final design for the right turn bay, including both layout and pavement design.

(ii) A Construction Traffic Management Plan that has attained approval from the Waka Kotahi NZ Transport Agency appointed state highway maintenance contractor for Central Otago (Aspiring Highways).

~~7.~~10. Prior to the commencement of the consented activity, the Consent Holder shall provide to Central Otago District Council correspondence from Waka Kotahi NZ Transport Agency confirming that works to the State Highway, including the construction of the right turn bay, have been constructed to Waka Kotahi NZ Transport Agency standards.

Bunds – Lot 8 DP 301379

~~8.~~11. Within 12 months of the exercise of this consent, the Consent Holder shall plant or stabilise by other means the inward and outward faces of the existing bunds within Lot 8 DP 301379. ~~and shall plant the new section of bund to be formed within Lot 8 DP 301379 along its boundary with Lot 2 DP 508108 shown in 'Site Plan Rev F' attached as Appendix 1 to this consent. Following the construction of the new section of bund, it shall be immediately stabilised using mulch or another suitable product. As soon as practicable following construction, it shall be planted with native plant species and thereafter watered to ensure 90% cover is established and maintained. All faces of the bunds (inward and outward faces) and the crest of the bunds shall be stabilised and planted. Dust control measures shall be put in place during formation of the bund to ensure compliance with Condition 4 of this consent.~~

12. Within 12 months of the exercise of this consent, the consent holder shall construct a new section of bund within Lot 8 DP 301379 along its boundary with Lot 2 DP 508108 (shown in 'Site Plan Rev F' attached as Appendix 1 to this consent). Following construction, the new section of bund shall be immediately stabilised using mulch or another suitable product. As soon as practicable following construction, it shall be planted with native plant species and thereafter watered to ensure 90% cover is established and maintained. Dust control measures shall be put in place during formation of the bund to ensure compliance with Condition 7 of this consent.

Commented [MC5]: Reference to groundcover removed as per Mr Whyte's recommendation. However, I note that the species will be selected based on advice from DoC and iwi who have indicated that groundcover species should be planted.

Removing 'groundcover' does not effect DoC and iwi's ability to select groundcovers species, according the applicant does not oppose it being deleted.

Commented [MC6]: Requirement to maintain 90% vegetation cover adopted for new bunds.

Commented [MC7]: Separate conditions have been proposed to capture the planting and stabilisation of existing bunds and the construction and planting of a new section of bund within Lot 8 DP 301379.

13. The height of the new section of bund to be formed within Lot 8 DP 301379 along its boundary with Lot 2 DP 508108 shown in 'Site Plan Rev F' attached as Appendix 1 to this consent shall be the same height (within 200 mm) of existing bund immediately to the west and east of the new section.

Advice note: Bund refers to mounded land above ground level that surrounds the active quarry area.

Bunds – Lot 3 DP 301379

~~9.~~14. Prior to extraction of Lot 3 DP 301379, perimeter bunding, landscape planting and associated irrigation shall be established on that parcel of land in accordance with the information and plans submitted with the application. All ~~faces of the bunds (inward and~~ outward faces~~)~~ and the crest of the bunds shall be stabilised and planted. All inward faces of the bunds shall be stabilised.

~~10.~~15. The bunds shall be constructed during winter months (1st May to 31st August) for dust mitigation reasons and so as to avoid bird nesting season which is from 1 September to 1 January. ~~Construction of the bunds shall not be undertaken between 1 September and 1 January in any year (bird nesting season).~~

16. The consent holder shall submit a Bund Landscaping Plan for certification by the Consent Authority at least 20 working days prior to commencing planting.

17. In preparing the Bund Landscaping Plan the Consent Holder shall engage with both the Department of Conservation and Kāi Tahu regarding the selection of locally sourced native plant species, eco-typed to the area.

18. If 30 working days have elapsed and no advice has been provided by either the Department of Conservation or Kāi Tahu as to the plant species to be used for planting of the bund, the Consent Holder shall choose appropriate local native plants and submit the Bund Landscaping Plan for certification by the Consent Authority at least 20 working days prior to commencing planting.

19. Planting the bund in Lot 3 DP 301379 shall not commence until the Consent Holder has received written certification of the Bund Landscape Plan. Notwithstanding this, the works may proceed if the Consent Holder has not received a response from the Consent Authority within 20 working days of the date of the submission of the Bund Landscape Plan.

~~11.~~20. The perimeter bunding shall include:

a. Establishment of 3 m high earth bunds around the perimeter of that parcel of land, with the exception of site accessways. Where topography varies, a uniform top bund elevation shall be maintained. The outer face of the bund shall have a gradient of ~~1:5 or 1:6~~1:3 – 1:5 with an irregular slope profile.

b. Following the construction of the bunds, they shall be immediately stabilised using mulch or another suitable product.

c. As soon as practicable following construction of the bunds, they shall be planted with native plant species (90% cover) selected in accordance with ~~Conditions 10 or 11~~the Bund Landscape Plan and Condition 19 and thereafter watered to ensure 90% cover is established and maintained. ~~All faces (inward and outward faces) and the crest of the bunds shall be stabilised and planted.~~ Dead or diseased plants shall be replaced in the next planting season.

~~c.~~d. Control of weed species shall be undertaken.

~~**All Bunds**~~

Commented [MC8]: New condition to ensure the new bund on Lot 8 DP 301379 is constructed to an appropriate height.

Commented [MC9]: Included to clarify that the inward face of the quarry (below ground level) is not captured by conditions relating to bunds.

Commented [MC10]: Provision has been made for the submission and certification of a Bund Landscape Plan.

Commented [MC11]: As per Mr Compton-Moen's expert landscape advice

~~12. Prior to any physical construction works of the bunds specified in Condition 10 and 11, the Consent Holder shall engage with both the Department of Conservation and Kāi Tahu regarding the selection of locally sourced native plant species, eco-typed to the area, when preparing a landscaping plan for the bunds.~~

~~1. If 30 working days have elapsed and no advice has been provided by either the Department of Conservation or Kāi Tahu as to the plant species to be used for planting of the bunds, the Consent Holder shall choose appropriate local native plants and submit the details of this to the Central Otago District Council.~~

~~2. The Consent Holder shall submit the landscaping plan relating to the bunds for certification by the Consent Authority at least 20 working days prior to commencing planting.~~

Fences, Security and Signage

21. The consent holder shall install a deer fence or similar in Lot 3 DP 301379 between the parcel boundary and the bund to a height of 2 m.

22. The gates at the entrance to the site shall be locked outside of operating hours and signage that complies with Standard 12.7.5 of the Central Otago District Plan shall be erected at the entrance which is able to be read from a distance of five metres stating as a minimum:

    a. The name of the site;

    b. The name of the owner of the operation and a day time and out of hours contact telephone number for the Quarry Manager;

    c. That groundwater is vulnerable to contamination;

    d. That no materials may be discharged or disposed of within the site perimeter without express written permission from the Quarry Manager.

Commented [MC12]: New condition proposed to prevent unauthorised discharges by third parties.

~~13.~~23. The Consent Holder shall rabbit proof all fences around the boundary of the site.

Management Plans

~~14.~~24. At least one month prior to exercising this resource consent, the Consent Holder must prepare a Quarry Management Plan (QMP) and submit it for certification by the Consent Authority.

~~15.~~25. The QMP ~~must~~ shall include, but not be limited to:

~~a.~~e. A plan showing the areas of extraction, the location of the screening and crushing plant, and the locations of the aggregate stockpiles;

~~b.~~f. The setbacks in the expansion area required by RM.20.360.03 (granted by the Otago Regional Council);

~~c.~~g. Names and ~~The~~ contact details of ~~the quarry manager (and the person~~ staff responsible for implementing the QMP (during and after~~-~~ hours) and reviewing the QMP in order to achieve the requirements of this consent~~ complaints if different from the quarry manager)~~;

~~d.~~h. A description of the proposed methods of any enabling works including overburden removal operations, stripping and placement of material;

~~e.~~i. A description of all relevant site operations and procedures including mobile re-fuelling procedures ~~within a bunded refuelling area,~~ and spill responses;

~~f.~~j. A description of all environmental effects, including (but not limited to) noise, dust and visual effects;

~~g.~~k. All operational traffic aspects;

~~h.~~l. All consent conditions and any other mitigation measures to be employed to minimise environmental effects and/or adhere to best practice;

m. Relevant monitoring and reporting requirements;~~.~~

~~i.~~n. A plan showing areas that will be subject to progressive rehabilitation.

~~The QMP may be reviewed in accordance with update site operations, to address reviews of conditions of consent, changes to access, and progressive rehabilitation of the quarry.~~The Consent Holder may review and update the QMP where it is to modify SOPs, respond to complaints and monitoring data, implement technological or process improvements, providing revisions are certified by the Consent Authority.

~~16.~~26. At least one month prior to exercising this resource consent, the Consent Holder shall prepare a Dust Management Plan (DMP) and submit it for certification by the Consent Authority.

~~17.~~27. The DMP ~~must~~ shall include, but not be limited to:

a. A description of the purpose of the DMP;

b. A description of the dust sources on site;

c. A description of the receiving environment and identification of sensitive receptors within 250 m of site boundaries (sensitive receptors being any dwelling and the land within 20 m of the façade of an occupied dwelling's notional boundary, and sensitive commercial crops);

d. The methods (including dust reduction through design methodologies) which will be employed ~~as necessary~~ to ensure compliance with the conditions of this consent;

e. A description of site rehabilitation methodology and associated dust control measures. Rehabilitation shall be undertaken progressively where practicable;

f. A description of particulate matter and wind monitoring requirements required by RM360.60.03 (granted by the Regional Council);

g. A description of procedures for responding to dust and wind condition-based trigger levels set by RM360.60.03 and associated follow up investigations, actions and recording of findings;

h. A system for training employees and contractors to make them aware of the requirements of the DMP;

i. Names and contact details of staff responsible for implementing and reviewing the DMP in order to achieve the requirements of this consent, and procedures, processes and methods for managing dust outside of standard operating hours;

j. A method for recording and responding to complaints from the public;

k. A maintenance and calibration schedule for meteorological and particulate matter monitoring instruments;

l. Contingency measures for responding to dust suppression equipment malfunction or failures, including wind and particulate matter monitoring instruments;

m. A procedure for completing an end-of-day dust control checklist;

n. Separate Standard Operating Procedures (SOPs) dedicated to the management of potential dust discharges from specific sources, including but not limited to:

(i) Stockpiles;
(ii) Site roads – sealed and unsealed;

(iii) The conveyor used to convey aggregate from Lot 3 DP 301379 to the processing plant located within Lot 8 DP 301379;
(iv) Triggers for the use of water for dust suppression;
(v) The use of dust suppressants other than water;
(vi) Aggregate excavation and backfilling areas;
(vii) Topsoil and overburden stripping and stockpiling;
(viii) Bund construction, maintenance and the recontouring of slopes during rehabilitation;
(ix) Any automated dust suppression for dust prone areas that can be activated outside of working hours;
(x) Location ~~and calibration~~ of particulate matter and meteorological monitoring equipment for the first 12 months of operation, and calibration of that equipment;

o. Environmental information management for recording, quality assurance, archiving and reporting all data required for dust management on the site.

Advice note: The location of the PM10 monitoring equipment will be reviewed on an annual basis as part of the annual report required by Condition 61 of this consent.

~~18.~~28. The Consent Holder may review and update the DMP where it is to modify SOPs, respond to complaints and monitoring data, implement technological or process improvements ~~when~~ provided revisions are ~~is~~ certified by an independent Suitably Qualified and Experienced Practitioner (SQEP) and the updated plan is provided to the Consent Authority.

~~19.~~29. The Consent Holder shall carry out its activities in accordance with the QMP and DMP at all times.

~~20.~~30. Works authorised by this consent shall not commence until the Consent Holder has received written certification of the QMP and DMP. Notwithstanding this, the works may proceed if the Consent Holder has not received a response from the Central Otago District Council within 20 working days of the date of the submission of the QMP and DMP.

Hours of Operation

~~21.~~31. The hours of operation for quarry activities other than monitoring and dust suppression are limited to:

Monday to Saturday (excluding public holidays):

a. Arrival and departure of staff: 0600 to 2000 hours;

b. Site excavation, processing, dump truck, loader and purchasing truck movements: 0700 to 1900 hours except that no more than twice per week, up to 4 purchasing trucks may enter the site, be loaded and depart the site between 0600 to 0700 hours Monday to Friday and between 1900 to 2000 hours Monday to Friday provided that:

(i) no more than 1 truck shall be loaded in any 15 minute period between 0600 to 0700 hours; and
(ii) between the hours of 0600 to 0700 hours, no truck shall be loaded with any product larger than 22 mm concrete aggregate.

Sundays and public holidays: Dust management activities only.

Noise

~~22.~~32. There shall be no stockpiling or processing of aggregate in the quarry expansion area.

~~23.~~33. Operation of processing plant shall be restricted to the hours of 0700 to 1900 hours, Monday to Saturday.

Commented [MC13]: Condition amended in recognition that the location of monitors may change subject to approval from a SQEP as works progress as part of the annual report/plan process.

Commented [MC14]: Advice note included to specify the process by which the mobile PM10 monitoring equipment may move.

~~24.~~34. Noise from the operation of the quarry shall comply with the following noise limits as assessed at the notional boundary of any dwelling when measured in accordance with NZS 6801:2008 Acoustics – Measurement of environmental sound and assessed in accordance with NZS 6802:2008 Acoustics – Environmental noise. Due to the nature of the proposed activity, no duration adjustment in accordance with NZS 6802:2008 shall be permitted.

Day	Time period	Noise limit
Monday to Saturday	0700 to 2000 hours	55 dB $L_{Aeq\ (15\ min)}$
At all other times		40 dB $L_{Aeq\ (15\ min)}$ and 70 dB L_{Amax}

~~25.~~35. All vehicle reversing alarms on quarry-based equipment or trucks, shall only be broadband reversing alarms.

~~26.~~36. Construction activities shall be managed in accordance with the requirements of NZS 6803:1999 Acoustics – Construction Noise and any noise generated shall comply with the limits given in Table 2 of that standard.

For the purposes of this consent "construction activities" means activities associated with the establishment, or rehabilitation of the quarry, such as: site establishment; the construction and removal of bunds, topsoil stripping, creation and removal of the underpass to the expansion area, constructing slope batters and contouring the final land. If ongoing backfilling activity associated with the construction of slope batters occurs at the same time as the quarry is operational, this is not considered to be construction noise and shall comply with the operational noise limits for the site.

~~27.~~37. Compliance monitoring of the daytime noise generated by quarrying activities shall be measured and assessed by a suitably qualified and experienced acoustic consultant as follows:

a. once within the first 12 months following the commencement of quarrying within Lot 3 DP 301379; and

b. once when quarrying within Lot 3 DP 301379 initially advances to within 200 m of the dwelling at 1308 Luggate-Cromwell Road.

The measurements required by this condition shall be undertaken when excavation is occurring at the highest ground elevation and shall include day time noise readings taken at a time when processing machinery is operating simultaneously with quarrying activity within Lot 3 DP 301379.

~~28.~~38. Within 10 working days of each round of monitoring in accordance with Condition ~~38~~37, a report describing the measurement results and compliance or otherwise with the noise limits in Condition 34 shall be submitted to the Consent Authority. That report shall also address whether compliance with the noise limits in Condition 34 of this consent will be maintained at closer distances to the dwelling at 1308 Luggate-Cromwell Road and a dwelling (if existing) on Lot 1 DP 508108. If the report identifies that noise levels are higher than authorised by Condition 34, it shall recommend mitigation measures to be adopted by the consent holder to achieve compliance with Condition 34. A copy of the report shall be provided to the Consent Authority.

Commented [MC15]: Text inserted to identify measures that can be undertaken to address compliance by the consent holder and to inform any response by the consent authority.

Traffic

~~29.~~39. The activity shall be limited to a maximum of 150 heavy vehicle movements per day.

~~30.~~40. Vehicle and heavy machinery speeds within the site shall not exceed 30 km/h.

Commented [MC16]: Speed limit agreed in JWS provided by Air Quality Experts.

Hazardous Substances

~~31.~~41. To minimise the risk posed from Hazardous Substance spills:

a. The Consent Holder shall take all practicable measures to avoid spills of fuel or any other contaminant within the site.

b. Permanent storage of fuel and lubricants shall only occur within the workshop area identified on 'Site Plan Rev F' attached as Appendix 1 to this consent. Lubricant shall be stored in a bunded area capable of containing 125% of the volume being stored. Fuel shall be stored in a double skinned tank certified in accordance with the manufacturers specifications and capable of containing a spill at maximum capacity;

c. Refuelling and maintenance of all vehicles or machinery except for the excavator shall be undertaken within the workshop area identified on 'Site Plan Rev F' attached as Appendix 1 to this consent ;

d. Mobile refuelling of the excavator shall be undertaken at least 10 m from any waterbody, water flow channel or stormwater system using a nozzle that incorporates a shut off valve and sensor system to avoid fuel leaks or overfilling of the excavator fuel tank;

~~c. No machinery shall be cleaned, or stored or refuelled within 10 m metres of any waterbody, water flow channel or stormwater system.~~

~~d. The Consent Holder shall designate one area of the site that is to be used for storage of fuel and refuelling, and this area shall be bunded to contain 125% of the volume of fuel being supplied and be located a minimum of 20 m from waterbodies, exposed groundwater, or the settlement ponds.~~

e. A spill kit of suitable capacity shall be kept on site at all times.

~~32.~~42. In the event of a spill of fuel or any other contaminants to land, the Consent Holder shall clean up the spill as soon as practicable and take measures to prevent a recurrence.

~~33.~~43. The Consent Holder shall inform the ~~Central Otago District Council~~Consent Authority and the Amisfield Estate Society Incorporated within 24 hours of any spill event to land greater than 4 litres and shall provide the following information:

a. The date, time, location and estimated volume of the spill;

b. The cause of the spill;

c. The type of contaminant(s) spilled;

d. Clean up procedures undertaken;

e. Details of the steps taken to control and remediate the effects of the spill on the receiving environment and an assessment of the risks to the Amisfield Estate Water Supply Bore; and

f. An assessment of any potential effects of the spill and measures to be undertaken to prevent a recurrence.

Ecology

~~34.~~44. No quarrying shall be undertaken, or heavy machinery be used within 50 metres of the Mahaka Katia Scientific Reserve between 1 September and 1 January in any year (bird nesting season).

Commented [MC17]: This condition has been amended to further reduce the risk of spills of fuel and lubricants.

Commented [MC18]: The Workshop Area is located 20 m from waterbodies, exposed groundwater and the settlement ponds.

Commented [MC19]: The quarry relies on the ability to re-fuel the mobile excavator with a mobile tanker, rather than requiring it to return to the workshop area as described in Mr Allison's supplementary evidence.

~~35.~~45. Any planting required as part of mitigation for the proposed works shall be accompanied by a pest management plan identifying the control of pest plant and animal species including rabbits that may impact on the viability of the mitigation proposed.

~~36.~~46. Control of weed species identified in the 2019 Otago Regional Pest Management Strategy (RPMS) shall be undertaken within the 25 m buffer between the boundary of the Mahaka Katia Scientific Reserve and proposed expansion area identified on 'Site Plan Rev F' attached as Appendix 1 to this consent. Weed species of concern are, exotic broom, gorse, Russell lupin, ragwort, nodding thistle, wilding pine sp. (see RPMS for full list of unwanted organisms).

~~37.~~47. Water used in the quarry for dust mitigation shall not directly enter Mahaka Katia Scientific Reserve.

Accidental Discovery Protocol

~~38.~~48. In the event of any discovery of archaeological material:

a. The Consent Holder shall immediately:

   (i) Cease extraction operations in the affected area and mark off the affected area;
   (ii) Advise the Central Otago District Council of the disturbance; and
   (iii) Advise Heritage New Zealand Pouhere Taonga of the disturbance.

b. If the archaeological material is determined to be Koiwi Tangata (human bones) or taonga (treasured artefacts) by Heritage New Zealand Pouhere Taonga, the Consent Holder shall immediately advise the office of Kāi Tahu of the discovery.

c. If the archaeological material is determined to be Koiwi Tangata (human bones) by Heritage New Zealand Pouhere Taonga, the Consent Holder shall immediately advise the New Zealand Police of the disturbance.

d. Work may recommence once Heritage New Zealand Pouhere Taonga (following consultation with Kāi Tahu if the site is of Maori origin) confirms to Central Otago District Council that appropriate action has been undertaken.

Rehabilitation

~~39.~~49. Within five years ~~At least one year from the commencement~~ of exercising this resource consent, the Consent Holder shall submit to the Central Otago District Council a Rehabilitation and Closure Plan for the site. The Rehabilitation and Closure Plan shall provide for:

a. Progressive rehabilitation of ~~the site where there is no further~~areas that will not be subject to future quarrying activities;

b. Removal of all buildings, other structures and plant from the site;

c. Recontouring of the land to provide a stable profile;

d. Management of dust to avoid nuisance beyond the site;

e. Record keeping requirements of any material to be brought to the site as part of the rehabilitation process, including cleanfill material;

f. Re-establishment of topsoil and~~,~~ grass, plants or~~, and~~ trees utilising best practice;

g. Appropriate drainage of the site, to avoid uncontrolled runoff into any water body; and

h. Leaving the site in a clean and tidy state.

The Rehabilitation Plan shall be prepared in consultation with adjoining landowners and Kāi Tahu. Feedback received from those persons shall be included for the information of Central Otago District Council.

Commented [MC20]: The applicant has proposed to submit to Council a Rehabilitation and Closure Plan within 5 years of consent being exercised, previously it was proposed that the plan would be submitted least two years prior to ceasing the extraction activities.

Commented [MC21]: Following extraction it is proposed to progressively rehabilitate areas of the quarry that will not be subject to future quarrying activities.

Commented [MC22]: Reference to cleanfill added as per AES request.

~~40.~~50. Implementation of the Rehabilitation and Closure Plan shall not commence until the Consent Holder has received written certification of that Plan from the Central Otago District Council. Notwithstanding this, the works may proceed if the Consent Holder has not received a response from the Central Otago District Council within 20 working days of the date of the submission of the Plan.

51. ~~The~~ Implementation of the Rehabilitation and Closure Plan shall be ~~implemented~~ completed within 3 years of quarrying activities ceasing, noting that no construction or earthworks be undertaken within 50 m of the Mahaka Katia Scientific Reserve between 1 September and 1 January in any year (bird nesting season).

52. Any material used to backfill areas where groundwater has been exposed shall originate from within the site and shall only consist of virgin excavated natural materials.

~~41.~~53. The final rehabilitated landform shall not include lakes/ponds within Lots 8 DP 301379.

Cleanfill

54. The consent holder shall ensure that if cleanfill is imported into the site under any relevant regional permitted activity rules:

a) The origin and location of deposition within the site of any externally sourced cleanfill shall be recorded; and

~~a)~~b) Externally sourced cleanfill shall not be placed within 10 metres of any waterbody, water flow channel or stormwater system and shall be located above the level of groundwater.

Advice note: This consent does not authorise the importation of cleanfill for use on the site. At the time of granting this consent, the use of cleanfill on the site for rehabilitation purposes is not controlled by the Central Otago District Plan, and the discharge of any contaminants into or onto land when occurring as the result of cleanfill landfills is a permitted activity under Rule 7.6.3 of the Otago Regional Waste Plan provided that no sediments enter into any water body. However the use of cleanfill may not remain a permitted activity in the future and may require a resource consent under the relevant regional planning documents.

Complaints Register

~~42.~~55. The Consent Holder shall maintain and keep a register for complaints regarding all aspects of operations at the site related to the exercise of this consent, received by the Consent Holder. The register shall record:

a. the date, time and duration of the event/incident that has resulted in a complaint;

b. the location of the complainant when the event/incident (if possible, specify nature of incident e.g. dust nuisance) was detected;

c. the possible cause of the event/incident;

d. the weather conditions and wind direction at the site when the event/incident allegedly occurred;

e. any corrective action is undertaken by the Consent Holder in response to the complaint;

f. any other relevant information.

~~43.~~56. The complaints register shall be available to the Central Otago District Council on request.

57. Complaints received by the Consent Holder that may indicate non-compliance with the conditions of this resource consent shall be forwarded to the Central Otago District Council within 5 days of the complaint being received.

Commented [MC23]: New condition proposed to provide for the backfilling of the pit where groundwater has been exposed (bore).

I do not consider tha backfilling the pit where groundwater has been exposed with material excavated from within the quarry to constitute the operation of a cleanfill landfill i.e. backfilling the pit where groundwater is exposed does not breach permitted activity Rule 7.6.3 in the Regional Plan: Waste for Otago (the Waste Plan).

Backfilling the pit where groundwater has been exposed is considered to constitute decommissioning a bore which can be captured as a component of its construction.

Commented [MC24]: Noting the Rehabilitation and Closure Plan will remain in draft form until it is submitted to council within five years of consent being exercised, the applicant has proposed a condition to provide certainty regarding the location of ponds/lakes within the final rehabilitated land form.

As advised by Mr Allison only one lake will be left in Lot 3, this condition is proposed to reflect that.

Commented [MC25]: Condition amended and advice note added to make it clear that cleanfill rules may change in future.

Community Liaison Group

58. Within 12 months of the commencement of this consent, the Consent Holder shall, at its own cost, facilitate community liaison meetings with invitations sent by letter or email to the various organisations and the owners/occupiers of properties listed in Appendix 2 of this Consent. Meetings shall be held at not less than 12 monthly intervals.

59. The purpose of the meetings shall be for the Consent Holder to report to those attending on the activities undertaken in the past 12 months and the works planned in the next 12 months, as well as the results of monitoring undertaken during the preceding 12 months.

~~44.~~60. The Consent Holder shall keep minutes of the meetings and shall provide them to the Consent Authorities within two weeks of a meeting.

Annual Report

~~45.~~61. The Consent Holder shall submit an Annual Report before the end of February each year which addresses the following:

a. The volume of material removed from the site in the preceding 12 months;~~.~~

b. Complaints Records for the preceding 12 months;~~.~~

c. Any amendments made to the QMP or DMP;~~.~~

~~c.~~d. The volume of aggregate extracted in the preceding 12 months; and

e. Records of any cleanfill material brought to ~~the~~ site (if any)~~.~~;

f. Details of the work plan for the next 12 months, including specification by a SQEP of the locations of the mobile PM10 monitors during that period so as to comply with the relevant requirements of RM20.360.03.

Bond

~~46.~~62.

~~Within three months of the commencement of this consent, the Consent Holder shall enter into an enforceable agreement and bond with the Central Otago District Council for a sum of $200,000.00 (and this shall be adjusted annually on the anniversary of the land use consent to increase the bond amount based on the consumer price index (CPI) or to be reduced on a pro rata basis if areas of rehabilitation have been completed that year). If following the closure of the quarry the Consent Holder defaults on implementing the Rehabilitation Plan, this bond is to meet the cost of:~~

~~a. removal of any plant or buildings;~~

~~b. recontouring of the quarry area, respreading of subsoils and topsoil, re-establishing grass, undertaking additional planting, and establishment of drainage sufficient to meet the post quarrying land use; and~~

~~c. leaving the land in a clean and tidy state.~~

Within three months of the commencement of this consent, the Consent Holder shall enter into an enforceable written agreement acceptable to the Consent Authority that provides for a $200,000 bond in favour of the Consent Authority pursuant to sections 108(2)(b) and 108A of the Resource Management Act 1991. The purpose of the bond is to secure the costs of the following works, in the event of default by the Consent Holder in relation to those works:

a. removal of any plant or buildings;

Commented [MC26]: Conditions added to require a Community Liaison Group.

Commented [MC27]: A requirement for annual review of the location of the PM10 monitors is now included as part of the annual report. I recommend that this is provided for here, rather than by annual review of the DMP, given that there will be long periods when excavations are undertaken below groundwater level and dust emissions during that time will be much reduced.

Commented [MC28]: The estimated cost of the works secured by the bond has been provided to Mr Whyte and I understand he has had this figure reviewed and is comfortable with it.

Commented [MC29R28]: I now understand the bond amount has not been reviewed. A new condition could be included following condition 62 to provide for a review of the bond amount by a SQEP.

Commented [MC30]: More prescriptive bond conditions have been included as per Ms Hill's recommendation.

b. recontouring of the quarry area, respreading of subsoils and topsoil, re-establishing grass, undertaking additional planting, and establishment of drainage sufficient to meet the post quarrying land use; and

c. leaving the land in a clean and tidy state.

63. Prior to entering into the bond referred to in Condition 62 of this consent, the Consent Holder shall engage a SQEP to review the bond amount required by Condition 62 and provide a report with their findings and recommendations (Bond Review Report). The Consent Holder shall submit the Bond Review Report to the Consent Authority at least 20 working days before entering into the bond. If the Bond Review Report recommends a higher amount than the amount specified in Condition 62, the Consent Holder shall provide a bond for the higher amount.

~~47.~~64. The bond must be a cash bond or bank bond provided by a registered trading bank of New Zealand acceptable to the Consent Authority. The guarantor shall bind itself to pay up to the bond quantum for the carrying out and completion of all obligations of the Consent Holder under the bond. The bond amount must be sufficient to cover the costs of undertaking the works specified in Condition 62.

65. The bond amount shall be adjusted annually on the anniversary of the land use consent to increase the bond based on the consumer price index (CPI) or to be reduced on a pro rata basis if areas of rehabilitation have been completed that year.

66. If the Consent Holder and the Otago Regional Council cannot agree on the terms of the bond, the dispute must be resolved through an agreed disputes resolution process or referred to arbitration.

67. The costs of and incidental to the preparation of all bond documentation, including the Consent Authority's costs, must be met by the Consent Holder.

68. The Consent Authority shall release the bond upon:

a. The Consent Holder providing verification that the Site has been rehabilitated in accordance with Condition ~~49~~62; or

b. The replacement of the bond with a new bond acceptable to the Consent Authority, including if the consent is transferred to another party.

Review

~~48.~~69. In accordance with section 128 of the Resource Management Act 1991, the conditions of this consent may be reviewed on each anniversary of the date of this consent coming into force if:

a. there is or is likely to be an adverse environmental effect that is greater than minor that results from the exercise of this consent, which was unforeseen when the consent was granted;

b. monitoring the exercise of this consent has revealed that there is likely to be an adverse effect on the environment that is greater than minor;

c. there has been a change of circumstances such that the conditions of the consent are no longer appropriate in terms of the purpose of the Act.

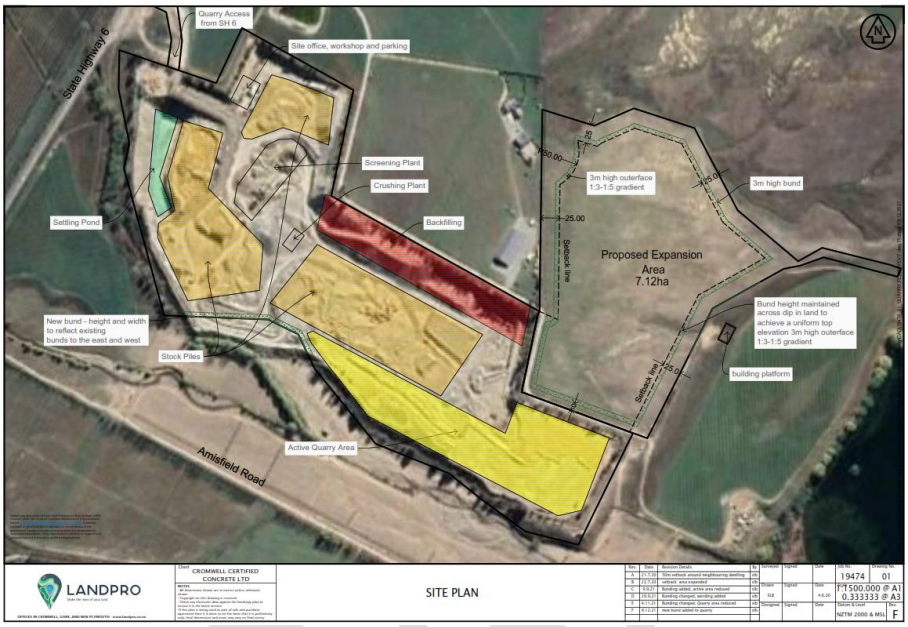
Commented [MC31]: The purpose of the proposed bond is set out here, and relates to rehabilitation of the site. If the bond is to cover any other purposes, these will also need to be included here. For the reasons set out in my supplementary evidence, I recommend that the bond cover rehabilitation costs only, and not operational costs.

Commented [MC32]: Possible new condition added to require review of bond amount before consents are exercised and the bond is put in place.

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

Appendix 1: Approved Plans

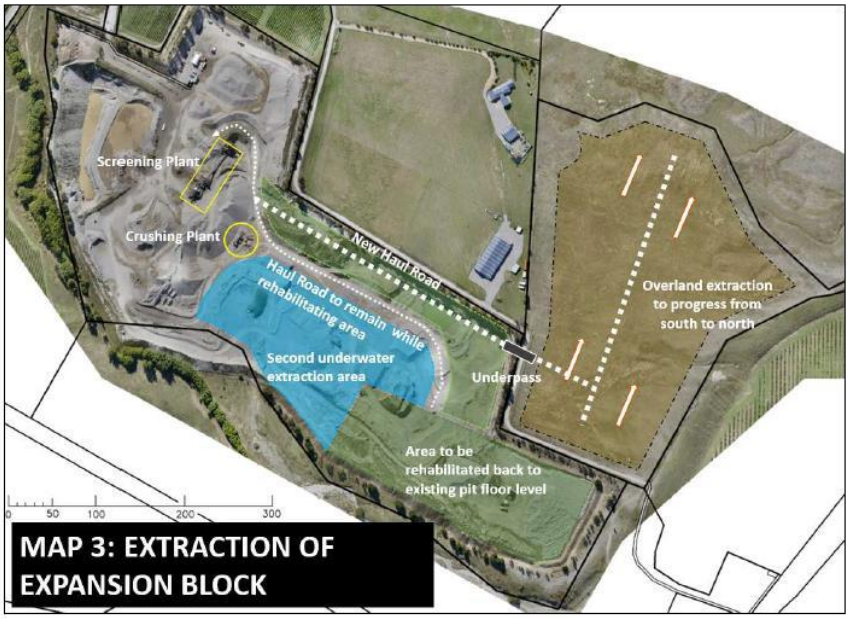
Site Plan

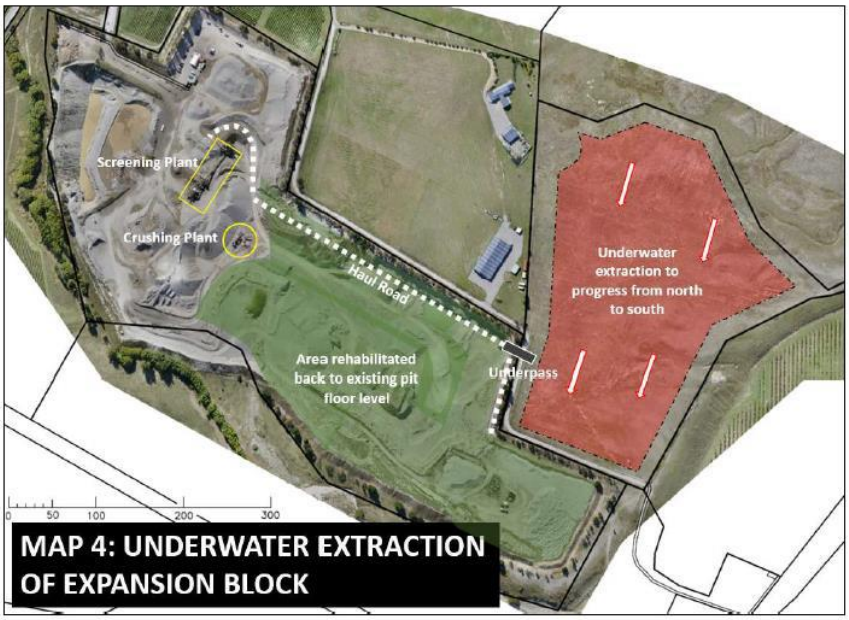


Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

Mine Plan (Maps 1 to 4)

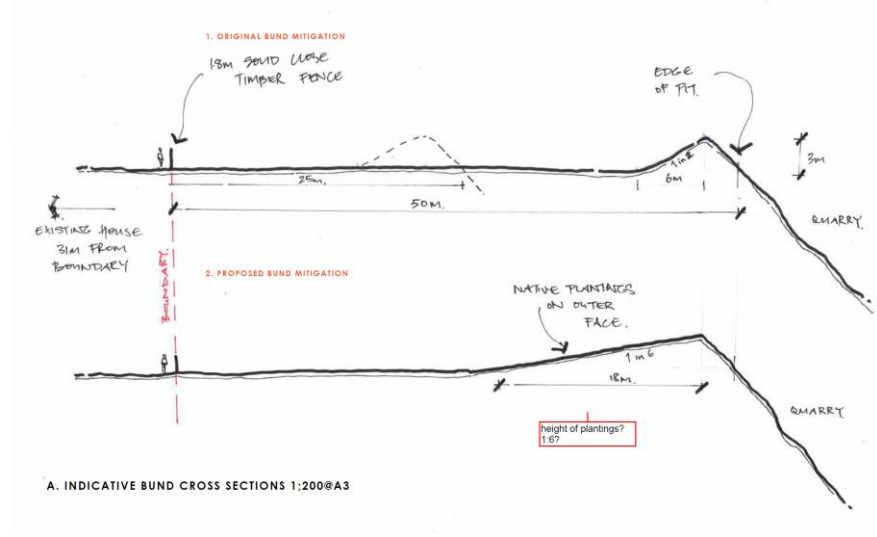
Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)





Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

~~Landscape and Visual Impact Assessment (Indicative Bund Cross Sections)~~



LANDSCAPE AND VISUAL IMPACT ASSESSMENT
1 INDICATIVE BUND CROSS SECTION
PROPOSED AMISFIELD QUARRY EXPANSION- CROMWELL

Temporary Diversion and Bund Extension

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

Appendix 2: People/Organisations to be invited to Community Liaison Group meetings

- Owners/occupiers of the following properties:
  - Lot 2 DP 300388 [Department of Conservation]
  - Lot 1 DP 508108 [Amisfield Orchard Limited]
  - Lot 2 DP 508108 [Hayden Sinclair Little, Tessa Leanne Nyhon]
  - Lot 6 DP 301379, Lot 1 DP 301379 & Lot 10 DP 301379 [Manukau Fifty Limited]
  - Lot 2 DP 301379 [Bryson David Clark, Nicola Jane Clark]
  - Lot 2 DP 518956 [Justine Kate Davis, Philip John Davis, GCA Legal Trustee 2018 Limited]
  - Lot 7 DP 518513 [Lowburn Land Holdings LP]

Holders of the following ground-water permits:

- 2003.363 [Lowburn Land Holdings Limited Partnership]
- 2010.152.V1/G41/0220 [Wanaka Road Wine Holdings Ltd]
- 2001.831/G41/0238 [Manukau Fifty Limited]
- 2004.853/G41/0326 [Jane Marie Miscisco]
- 2006.036/G41/034 [Felton Park Limited]
- RM14.211.02/G41/032 [Irrigation and Maintenance Limited]

Organisations

- Aukaha
- Amisfield Estate Society, which takes water from Bore G41/0111
- Otago Regional Council
- Central Otago District Council

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

RM20.360.02: Discharge Consent

DISCHARGE ~~PERMIT~~CONSENT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Cromwell Certified Concrete Limited

Address: 810 Great South Road, Penrose, Auckland 1061

Activity: To discharge contaminants to land for the purpose of gravel washing and dust suppression

Term: ~~14.5~~25 years ~~(expiring 21 July 2036)~~

Location of consent activity: 1248 Luggate-Cromwell Road (State Highway 6)

Legal description of consent location: Lots 3, 5, and 8 DP 301379

Conditions:

1. This permit shall be exercised ~~is granted~~ in general accordance with the plans and information provided with the application ~~with the discharge of contaminants being sediment in the existing settlement pond in the north-western corner of the site~~.
2. This permit shall not commence until discharge permit RM16.108.02 has been surrendered or expired.
3. This consent shall be exercised in conjunction with water permits RM16.108.01 and RM20.360.01 (or any permits granted which replace those permits) which authorise the abstraction of water from bores G41/0456 and G41/0127.
4. The volume of water discharged shall not exceed:
   a. 3,024 cubic metres per day;
   b. 93,744 cubic metres per month; and
   c. 846,720 cubic metres per year.
5. No contaminants other than silt and sediment shall be discharged into the Pisa Groundwater Management Zone.

   Advice note: for the purpose of this consent, silt and sediment is the natural fine material that results from the crushing and washing aggregate.
6. The discharge treatment system shall be located at approximate map reference NZTM (NZDG2000) E1305493 N5017426 and shall include a primary settlement pond with minimum dimensions of 40 m long, 5 m wide and 1 m depth with an overflow to a larger infiltration/settlement pond. These ponds shall be maintained by the Consent Holder in effective operating condition at all times, including at least:
   a. Three monthly inspections; and
   b. Pond desludging at least 6 monthly or more frequently if required.
7. The Consent Holder shall ensure that there is no direct discharge from the ponds to any surface watercourse.
8. Within three months ~~At least one month prior to the exercise~~ of this consent being exercised, a water quality monitoring network shall be established for the quarry ~~works~~ which shall include:

Commented [MC33]: The applicant maintains that a 25 year consent term is appropriate to adopt for the discharge of contaminants to land. Although RM16.108.01 expires in approximately 14.5 years on 21 July 2036, the applicant is likely to replace their water permits under the new regional planning framework when it is adopted at which point they can be aligned with the 25 year term proposed for the discharge permit.

Commented [MC34]: The consent holder requires some time to allow controlled activity resource consent to be obtained for the monitoring bores and for the bores to be installed.

a. three new groundwater monitoring locations (MW1, MW2 and MW3 within 25 m of the marked locations illustrated in Appendix 1 to this consent) with the following specifications:

   (i) A well with a 2 m screen across the water table at each site.

   (ii) A second piezometer nested with the water table well screened at 8 to 10 m below the water table at MW2 and MW3. The nested piezometers shall be installed to provide for separation, via grouting, of the screened intervals of the two piezometers to enable depth specific groundwater quality monitoring.

b. the settling pond and the exposed area of groundwater (to assess discharge water quality).

c. ~~sensitive~~ Target monitoring bores (G41/0321, G41/0220, G41/0111), and

d. G41/0319 to represent an upgradient (control) bore.

~~Note~~*Advice note: All monitoring locations should be surveyed and the final locations confirmed in conjunction with the Consent Authority. If upon inspection it is apparent that the headworks of an existing bore do not allow sampling, it will not form part of the water quality monitoring network.*

9. The bore drilling and installation of the piezometers required by Condition 8 shall be overseen by a suitably qualified person. A report that demonstrates compliance with the requirements of Condition 8 shall be submitted to the Consent Authority within one month of the installation of the bore.

10. The consent holder shall take quarterly representative water samples from the water quality monitoring network established in Condition 8 commencing ~~at least one month prior to the exercise of this consent~~ within three months of this consent being exercised. During each monitoring event:

a. Water levels shall be measured and recorded at the time of sampling.

b. Field parameters (temperature, pH, Dissolved Oxygen, Electrical Conductivity and Oxidation Reduction Potential) should be measured and recorded at the time of sampling using a calibrated water quality meter in a flow cell. Samples should be collected after field parameters have stabilised to within 5% of the previous three measurements. Field filtering of samples ~~must~~ shall be completed for dissolved metals analysis.

c. Samples should be analysed by a laboratory with IANZ accreditation or equivalent for Total petroleum hydrocarbons, total suspended solids, turbidity, major ions (sodium, potassium, calcium, magnesium, alkalinity, chloride, sulphate, nitrate), copper, chromium, zinc, Arsenic and E-coli, iron and manganese. Samples should be analysed for both total and dissolved metals.

d. The sampling shall be undertaken by a suitably qualified person in general accordance with the National Environmental Monitoring Standards Water Quality Part 1 of 4: Discrete Sampling, ~~-~~Measuring, Processing and ~~-~~Archiving of Discrete Groundwater Quality Data.

e. If 20 consecutive sampling results show no statistically significant difference in water quality monitoring determinants then the frequency of groundwater testing required shall reduce to annually for all monitoring locations, except G41/0111 and G41/0321, which shall continue to be monitored quarterly until the expiry or surrender of this consent, whichever occurs first.

~~d.~~

Commented [MC35]: Council officers suggested that this may not be necessary at MW1, the applicant agrees.

Commented [MC36]: As noted in relation to Condition 8, the applicant requires some time to allow monitoring bores to be consented and installed.

In place of commencing monitoring prior to consent be exercised as proposed by Council officers, the applicant has proposed a new condition that requires baseline monitoring in the target monitoring bores to occur within two weeks of consent being granted.

Commented [MC37]: Based on the applicant's expert groundwater advice the frequency of groundwater monitoring proposed is considered appropriate.

As per Mr Allison's evidence full production will be achieved in a relatively short time.

The applicant has proposed that quarterly monitoring of G41/0111 and G41/0321 would continue even if 20 consecutive sampling results show no statistically significant difference in water quality monitoring, sampling at the other monitoring locations would reduce to annually.

If permission to sample any of the private bores is not granted, the remaining water quality network will still be sampled.

11. Prior to consent being exercised the consent holder shall take representative water samples from the target monitoring bores, the settling pond and G41/0319 in accordance with Condition 10 a. – 10 d.

If permission to take baseline samples from any of the private bores is not granted, the remaining water quality network will still be sampled.

~~11.~~12. The Consent Holder shall submit an Annual Groundwater Report before the end of February to the Consent Authority (customerservices@orc.govt.nz) and owners of sampled bores. The report shall:

a. Be undertaken by a suitably qualified and experienced water quality expert who has reviewed all the available water quality and level data.
b. Include a conceptual groundwater for the site based on the collected data.
c. Include an assessment of whether the data indicates activities on the Consent Holder's site are adversely impacting groundwater quality, and in particular, sensitive receptors.
d. The identity, expertise and sampling methodology of the person(s) who collected water samples in accordance with this resource consent;
e. Identification of any measures required under Condition 13 or 14;
f. Copies of the complaints record for any complaints in relation to groundwater quality for the preceding 12 months.

~~12.~~13. Should the measured value of any of the determinants (except for turbidity) in a sample from monitoring bores exceed a NZ Drinking Water Standard Maximum Acceptable Value or Guideline Value (as specified in the New Zealand Drinking Water Standards), then the consent holder shall:

a. Advise the Consent Authority (customerservices@orc.govt.nz) and bore owners within 48 hours of receipt of the results;
b. Within one week from the receipt of the results, begin an investigation into the cause of the elevated sample results. The investigation is to be carried out by a suitably qualified water quality expert and is to include, but is not limited to;
    (i) activities at Amisfield Quarry,
    (ii) -activities at the neighbouring property,
    (iii) rainfall in the past 48 hours, and
    (iv) and any additional water quality monitoring that may be required to assess the potential cause of contamination.
c. Within one month of receipt of the elevated sample results, submit a report signed by a suitably qualified water quality expert to the Consent Authority and the bore owner on the investigation undertaken, any potential sources of contamination identified, the likely cause(s) of the contamination and recommend any remedial measures to prevent or mitigate the contamination.
d. In the event that the report concludes that it is highly likely that the contamination was caused by the consent holder; and
    (i) the contamination was in potable drinking water supply, the Consent Holder shall, within 72 hours of receipt of the report, provide the bore owner with an alternative supply of potable drinking water sufficient to provide 2,000 litres per day to each household provided by the supply until such time as monitoring

Commented [MC38]: Condition insert to provide for baseline monitoring prior to consent being exercised.

Field Code Changed

Commented [MC39]: Condition has been amended as per advice from Dr Freeman to address baseline turbidity results.

Field Code Changed

demonstrates compliance with the relevant MAV or Guideline values. All costs associated with this shall be borne by the consent holder.

(ii) the contamination was in a monitoring bore, sampling frequency at the closest downgradient sensitive bore identified in Condition 8 (c) shall increase to 1 per week until the issue has been rectified.

For turbidity, instead of the NZDWS aesthetic guideline of 2.5 NTU, a guideline of 4.0 NTU shall apply. Should the measured value of turbidity of samples taken from the monitoring bores exceed 4.0 NTU, conditions (a) – (d) above shall apply.

Advice Note:

1. The Guideline Values and Maximum Acceptable Values (MAV) are specified in the publication 'Drinking-water Standards for New Zealand 2005 (Revised 2018)', Ministry of Health or its replacement. The Guideline Values are the limits for aesthetic determinants that, if exceeded, may render the water unattractive to consumers. These standards are primarily aimed at water supply authorities who generally treat water to ensure that these standards are met.

2. Shallow groundwater in this area is vulnerable to increases in turbidity and other contaminants such as nitrate nitrogen, following heavy rainfall. It is likely that if groundwater quality monitoring is undertaken within days or weeks of heavy rainfall that there will be increases in these contaminants in groundwater.

Commented [MC40]: Advice note included to address amendments to condition.

~~13.~~14. If a report required under Condition ~~12~~ 13 concludes that the discharge is causing a significant adverse water quality effects at a ~~sensitive~~ target monitoring bore, the Consent Holder shall within three months of receiving that report implement additional or alternative sediment treatment/ management measures to reduce the concentration of suspended solids entering the infiltration/settling pond:

a. The Consent Holder shall report to the Consent Authority as soon as practicable on the completion of any such works; and
b. Within 12 months of completion of any additional sediment treatment/management measures, the Consent Holder shall provide a report to the Consent Authority written by a suitably qualified person on the effectiveness of those measures.

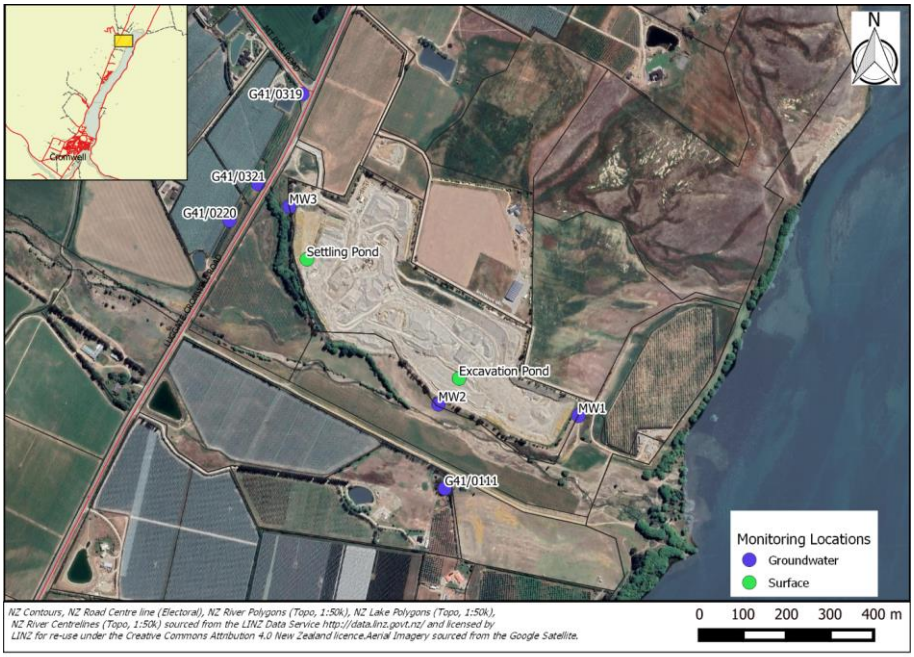
~~14.~~15. The Consent Holder shall ensure that the discharge authorised by this consent does not cause any flooding, erosion, scouring, land instability or damage to any adjacent property.

~~15.~~16. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:

a. Adjusting the consented rate of discharge under C~~c~~ondition 4, should the consented amounts or rates of water take approved under Water Permits RM16.108.01 and RM20.360.01 (or any replacement consents) be reduced; or
b. Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage (including any adverse effects of the discharge to the ponds on groundwater quality in bore G41/0321 or G41/0220); or
c. Ensuring the conditions of this consent are consistent with any National Environmental Standards.

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

Appendix 1: Water Quality Monitoring Network ~~(Condition 8 of this consent)~~



Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

RM20.360.04: Bore Consent

LAND USE CONSENT

Pursuant to Section 104A of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Cromwell Certified Concrete Limited

Address: 810 Great South Road, Penrose, Auckland 1061

Activity: To construct a bore for the purpose of excavating gravel below groundwater and to decommission the bore following completion of excavations

Term: For an unlimited term

Location of consent activity: 1248 Luggate-Cromwell Road (State Highway 6)

Legal description of consent location: Lots 3~~,~~ and 8 DP 301379

Commented [MC41]: Reference to Lot 5 DP 301379 removed.

Conditions:

1. ~~The bore must be an open excavation on Lot 3 or Lot 8 DP 301379~~ This permit shall be exercised in general accordance with the plans and information provided with the application.
2. If this consent is not given effect to within a period of five years from the date of commencement of this consent, this consent shall lapse under Section 125 of the Resource Management Act 1991. The consent shall attach to the land to which it relates.
3. ~~At least one month prior to the exercise of this consent, t~~The Consent Holder shall undertake water quality sampling and reporting as per the requirements of RM20.360.02: Discharge Permit, which are considered to provide an integrated water quality monitoring programme for the site (refer to Appendix 1 for the monitoring locations).
4. A ~~Quarry~~ Groundwater Management Plan (~~Q~~GMP) shall be submitted to the Otago Regional Council at least 1 month prior to the exercise of this consent for certification that it documents, as a minimum:
   a. A plan showing the areas of groundwater extraction and the water quality monitoring network;
   b. A description of the groundwater quality monitoring required by the conditions of this consent and RM20.360.02;
   c. Names and ~~The~~ contact details of staff responsible for implementing and reviewing the GMP in order to achieve the requirements of this consent~~quarry manager~~;
   d. A description of the proposed methods of excavating aggregate within groundwater;
   e. A description of all relevant site operations and procedures, including mobile refuelling procedures and spill responses;
   f. A description of all environmental effects, including (but not limited to) discharges to water;
   g. All consent conditions and any other mitigation measures to be employed to minimise environmental effects and/or adhere to best practice;
   h. The minimum maintenance frequency for all machinery operated by the Consent Holder and working on the site;
   i. Relevant monitoring and reporting requirements.
5. Activities authorised by this consent ~~must~~ shall not commence until the Consent Holder has received written certification of the ~~QMP~~GMP. Notwithstanding this, the works may proceed

Commented [MC42]: Previously this was named the Quarry Management. Given this consent authorises groundwater interception, it has been renamed a Groundwater Management Plan.

if the Consent Holder has not received a response from the ~~Otago Regional Council~~Consent Authority within 20 working days of the date of the submission of the ~~QMP~~GMP.

6. Any erosion, scour or instability of the bed or banks of the pit or formed waterbody that exceeds the extent shown in the consent application shall be reinstated or remedied by the Consent Holder. When such reinstatement or remediation is necessary, the Consent Holder shall record the following information and include it in the Annual Groundwater Report required by Condition 10 of this consent:
   a. The location of the reinstatement or remediation works identified on a site plan;
   b. A description of the nature of the damage that occurred, including photographs;
   c. An assessment of the likely causes of the damage, including reference to preceding weather conditions, activities taking place in the area, the angle of the pit slopes etc.
   d. A description of the nature of the reinstatement or remediation works required and when these were carried out;
   e. Any changes to be made to site management measures to reduce the likelihood of similar issues arising in future.

7. In the event of a discharge of unauthorised contaminant(s) to water or to land in a manner that may enter water, including but not limited to fuel, hydraulic fluid, overspray of weed killer, contaminated soil or leachate, the Consent Holder shall:
   a. Undertake all practicable measures as soon as possible to contain the contaminant;
   b. Ensure that the contaminants and any material used to contain it are removed from the site and disposed of at an authorised landfill;
   c. Immediately notify the Consent Authority and Amisfield Estate Society Incorporated of the spill or contamination and of the actions taken and to be taken to remediate and mitigate any adverse environmental effects;
   d. Immediately have a suitably qualified water quality expert assess the risk of the spill to bore G41/0111 (the Amisfield Estate Society Incorporated drinking water supply) and provide recommendations on the measures to be taken to address any identified risk;
   e. Provide a copy of the risk assessment carried out under Condition 7(d) above to the Consent Authority and Amisfield Estate Society Incorporated within 1 week and implement all recommendations in the risk assessment;
   f. If requested by the Consent Authority, undertake additional water quality sampling and any other actions necessary to remediate or mitigate any adverse effects on the environment, to the satisfaction of the Consent Authority.

8. The Consent Holder shall ensure that:
   a. All machinery to be operated within exposed groundwater on the site is thoroughly cleaned of vegetation (e.g. weeds), seeds or contaminants at least 10 metres away from any waterbody, water flow channel or stormwater system, prior to entering the site;
   b. All machinery shall be regularly maintained to ensure that no contaminants (including but not limited to oil, petrol, diesel, hydraulic fluid) shall be released into water, or to land where it may enter water, from equipment being used for the works;
   c. All contaminant storage or re-fuelling areas (other than areas where mobile re-fuelling occurs) are bunded or contained in such a manner so as to prevent the discharge of contaminants to water or to land where it may enter water;

d. No machinery shall be maintained, cleaned, stored or refuelled within 10 metres of any waterbody, water flow channel or stormwater system;

e. Permanent storage of fuel and lubricants shall only occur within the workshop area identified on 'Site Plan Rev F' attached as Appendix 1 to this consent~~(dated 4.11.21)~~.; Lubricant shall be stored in a bunded area capable of containing 125% of the volume being stored. Fuel shall be stored in a double skinned tank certified in accordance with the manufacturers specifications and capable of containing a spill at maximum capacity;

f. Refuelling and maintenance of all vehicles or machinery except for the excavator shall be undertaken within the workshop area identified on 'Site Plan Rev F' attached as Appendix 1 to this consent.;

~~e.~~g. Mobile refuelling of the excavator shall only be undertaken using a nozzle that incorporates a shut off valve and sensor system to avoid fuel leaks or overfilling of the excavator fuel tank;

~~f. The Consent Holder shall designate one area of the site that is to be used for the permanent storage of fuel and refuelling, and this area shall be bunded to contain 125% of the volume of fuel being supplied and be located a minimum of 20 m from waterbodies, exposed groundwater, or the settlement ponds;~~

h. Mobile refuelling occurs in accordance with best practice and spill kits are available at the mobile refuelling locations.;

~~g.~~i. The origin and location of deposition within the site of any externally sourced cleanfill ~~placed within the quarry~~ shall be recorded;

~~Cleanfill shall not be placed within 10 metres of any waterbody, water flow channel or stormwater system and shall be located above the level of groundwater; and.~~

~~h.a. Mobile refuelling occurs in accordance with best practice and spill kits are available at the mobile refuelling locations.~~

9. Externally sourced cleanfill shall not be placed within 10 metres of any waterbody, water flow channel or stormwater system and shall be located above the level of groundwater.

~~9.~~10. The Consent Holder shall maintain a permanent record of any complaints received alleging adverse effects from or related to the works authorised by this consent. This record shall include:

a. The name and address of the complainant (if provided);

b. The date and time that the complaint was received;

c. Details of the alleged event;

d. Weather conditions at the time of the complaint; and

e. Any measures taken to mitigate/remedy the cause of the complaint.

This record shall be made available to the Consent Authority on request.

~~10.~~11. The Consent Holder shall submit an Annual Groundwater Report before the end of February each year which includes the following:

a. Results of the water quality monitoring carried out in accordance with Condition 3;

b. The identity and expertise of the person(s) who collected water samples in accordance with this resource consent;

c. Identification of any measures required under Condition 9~~-~~(e);

Commented [MC43]: All vehicles and machinery other than the excavator can be re-fuelled at the workshop area. The excavator will need to be mobile re-fuelled for the reasons described in Mr Allison's supplementary evidence.

Commented [MC44]: Additional conditions adopted to prevent discharges of fuel and lubricants to land or water.

Commented [MC45]: Adopted wording proposed by AES.

Commented [MC46]: Amended and inserted as a standalone condition.

d. Records kept in accordance with Condition 9 and 8(f); and

e. Copies of the complaints record for any complaints in relation to groundwater quality for the preceding 12 months.

~~11.~~12. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:

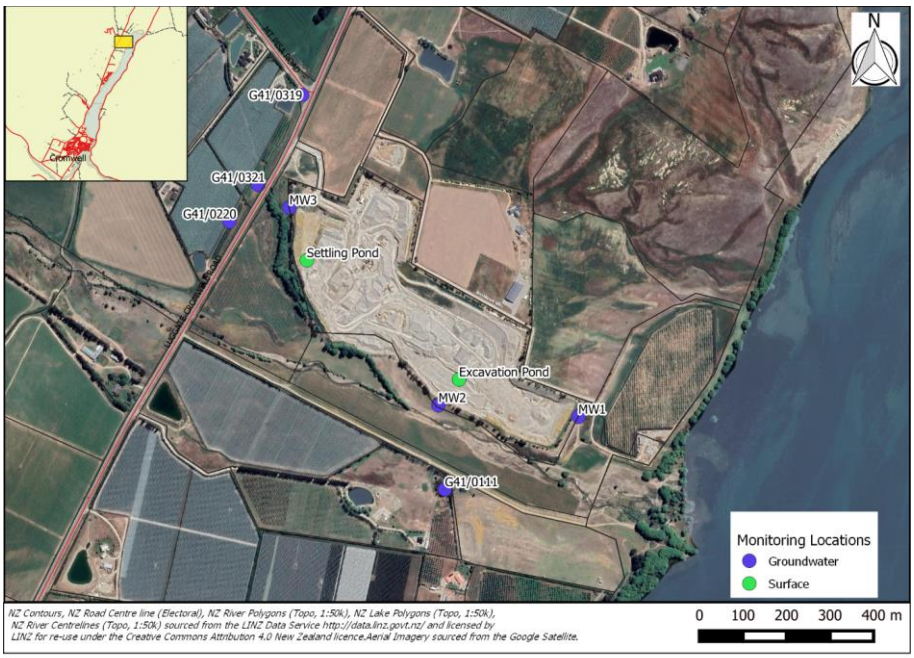
a. Adjusting the variables or frequency of the sampling requirements under Condition 3; or

b. Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

c. Ensuring the conditions of this consent are consistent with any National Environmental Standard or National Planning Standard.

Appendix A to Matthew Curran's Supplementary Evidence Dated 28 March 2022 (in Response to Commissioner's Fourth Minute)

Appendix 1: Water Quality Monitoring Network



Deepening and Expansion

RM20.360.01: Water Take

WATER PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Cromwell Certified Concrete Limited

Address: 810 Great South Road, Penrose, Auckland 1061

Activity: To take and use ground water for the purpose of gravel washing, irrigation, potable and sanitary use~~,~~ and dust suppression

Commented [MC47]: Domestic has been replaced with potable and sanitary.

Term: 6 years

Location of consent activity: 1248 Luggate-Cromwell Road (State Highway 6)

Legal Description of land at point of abstraction: Lot 8 DP 301379

Legal Description of land where water is to be used: Lots 3, 5, and 8 DP 301379

Map Reference at point of abstraction: Bore G41/0127 - NZTM 2000 E1305397 N5017068
Bore G41/0456 - NZTM 2000 E1305502 N5017223

Conditions:

1. This permit shall be exercised in conjunction with Water Permit RM16.108.01, Discharge Permit RM20.360.02, and any consents granted in replacement of those permits.
2. If this consent is not given effect to within a period of five years from the date of commencement of this consent, this consent shall lapse under Section 125 of the Resource Management Act 1991. The consent shall attach to the land to which it relates.
3. The combined rate of abstraction from bore G41/0127 and bore G41/0456 shall not exceed 24 litres per second.
4. The rate of abstraction when combined with Water Permit RM16.108.01 shall not exceed 25 litres per second from bore G41/0127 and 45 litres per second from bore G41/456, and the quantity of water abstracted shall not exceed:
    a. 3,024 cubic metres per day;
    b. 93,744 cubic metres per month; and
    c. 846,720 cubic metres per year.
5. The consent holder shall:
    a. Maintain water meter(s) to record the water take, within an error accuracy range of +/- 5% over the meter(s) nominal flow range, and a telemetry compatible datalogger with at least 24 months data storage and a telemetry unit to record the rate and volume of take, and the date and time this water was taken.
    b. The datalogger shall record the date, time and flow in litres per second.
    c. Data shall be provided once daily to the Consent Authority by means of telemetry. The consent holder shall ensure data compatibility with the Consent Authority's time-series database.

d. The consent holder shall ensure the full operation of the water meter(s), datalogger and telemetry unit at all times during the exercise of this consent. All malfunctions of the water meter and/or datalogger and/or telemetry unit during the exercise of this consent shall be reported to the Consent Authority within 5 working days of observation and appropriate repairs shall be performed within 5 working days. Once the malfunction has been remedied, a Water Measuring Device Verification Form completed with photographic evidence ~~must~~ shall be submitted to the Consent Authority within 5 working days of the completion of repairs.

e. The water meter(s), datalogger and telemetry unit shall be verified for accuracy within one month from the first exercise of this consent.

f. Any electromagnetic or ultrasonic flow meter shall be verified for accuracy every five years from the first exercise of this consent.

g. Each verification shall be undertaken by a Consent Authority approved operator and a Water Measuring Device Verification Form shall be completed and submitted to the Consent Authority with receipts of service within 5 working days of the verification being performed, and at any time upon request.

6. The consent holder shall take all practicable steps to ensure that:

a. There is no leakage from pipes and structures;~~.~~

b. There is no runoff of irrigation water either on site or off site;~~.~~

c. A back flow preventer device is fitted to prevent any contaminants from being drawn into the source of the water.

7. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent for the purpose of imposing aquifer restriction levels, if and when an operative regional plan sets aquifer restriction levels.

8. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the consent holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:

a. Determining whether the conditions of this consent are adequate to deal with any adverse effect on the environment which may arise from the exercise of the consent and which it is appropriate to deal with at a later stage; or

b. Ensuring the conditions of this consent are consistent with any National Environmental Standard or National Planning Standard.

DISCHARGE PERMIT

Pursuant to Section 104B of the Resource Management Act 1991, the Otago Regional Council grants consent to:

Name: Cromwell Certified Concrete Limited

Address: 810 Great South Road, Penrose, Auckland 1061

Activity: To discharge contaminants to air for the purpose of operating an alluvial quarry

Term: ~~14.5~~25 years ~~(expiring 21 July 2036)~~

Location of consent activity: 1248 Luggate-Cromwell Road (State Highway 6)

Legal Description of consent location: Lots 3, 5, and 8 DP 301379

Commented [MC48]: The applicant maintains that a 25 year consent term is appropriate to adopt for the discharge of contaminants to air. Although RM16.108.01 expires in approximately 14.5 years on 21 July 2036, the applicant is likely to replace their water permits under the new regional planning framework when it is adopted at which point they can be aligned with the 25 year term proposed for the discharge to air permit.

General Conditions

1. The activity shall be carried out in general accordance with information and plans submitted with the application dated 23 October 2020 for resource consent RM20.360.03 and with evidence submitted by the Consent Holder at the hearing. Should there be any inconsistencies between those documents and consent conditions, the consent conditions shall prevail.
2. If this consent is not given effect to within a period of five years from the date of commencement of this consent, this consent shall lapse under Section 125 of the Resource Management Act 1991. The consent shall attach to the land to which it relates.
3. Aggregate extracted from the site ~~must~~ shall not exceed 200,000 ~~m~~ m^3 in any 12-month period.
4. The discharge shall not give rise to dust or the deposition of particulate matter that causes a noxious, dangerous, objectionable or offensive effect beyond the boundary of the site.
5. The Quarry Manager or another nominated person ~~must~~ shall be available at all times (including outside quarry operation hours) to respond to dust emission complaints and trigger level alerts in accordance with measures described in the Dust Management Plan (DMP).
6. The maximum area of unconsolidated land comprising of the excavation area, backfilling areas and rehabilitation area shall not exceed 2 ha.

   Advice Note: The maximum area of unconsolidated land does not include the haul roads, processing area, stockpiles, areas which are covered with 50 mm (or more) of washed gravels or stabilised with a dust suppressant, portacoms or workshops, or the conveyor and its associated service area.

Dust Management Plan (DMP)

7. At least one month prior to exercising this resource consent, the Consent Holder ~~must~~ shall prepare a Dust Management Plan (DMP) and submit it for certification by the Consent Authority.
8. Works ~~must~~ shall not commence until the Consent Holder has received written certification from the Consent Authority of the DMP. Notwithstanding this, the works may proceed if the Consent Holder has not received a response from the Consent Authority within 20 working days of the date of the submission of the DMP.
9. The DMP ~~must~~ shall include, but not be limited to:

a. A description of the purpose of the DMP;

b. A description of the dust sources on site;

c. A description of the receiving environment and identification of sensitive receptors within 250 m of site boundaries (sensitive receptors being any dwelling and the land within 20 m of the façade of an occupied dwelling's notional boundary, and sensitive commercial crops);

d. The methods (including dust reduction through design methodologies) which will be employed to ensure compliance with the conditions of this consent;

e. A description of site rehabilitation methodology and associated dust control measures;

f. A description of particulate matter and wind monitoring requirements including:

   (i) The location of the wind monitoring equipment;
   (ii) The location of particulate matter monitors between active work areas and sensitive off-site activities;
   (iii) Details of wind speed trigger levels as set out in Condition ~~11~~12(a) and associated alarm system. This shall also include the wind direction to be used in fulfilment of Condition ~~11~~12(b);
   (iv) Details of the particulate matter trigger levels as set out in Conditions ~~13~~ 14 and ~~14~~ 15 and associated alarm system; and
   (v) Monitoring instrumentation methodology, setup requirements, maintenance and calibration procedures;

g. A description of procedures for responding to dust and wind condition-based trigger levels and associated follow up investigations, actions and recording of findings;

h. A system for training employees and contractors to make them aware of the requirements of the DMP;

i. Names and contact details of staff responsible for implementing and reviewing the DMP in order to achieve the requirements of this consent, and procedures, processes and methods for managing dust outside of standard operating hours;

j. A method for recording and responding to complaints from the public in accordance with Condition 38;

k. A maintenance and calibration schedule for meteorological and particulate matter monitoring instruments;

l. Contingency measures for responding to dust suppression equipment malfunction or failures, including wind and particulate matter monitoring instruments;

m. A procedure for completing an end-of-day dust control checklist;

n. Separate Standard Operating Procedures (SOPs) dedicated to the management of potential dust discharges from specific sources, including but not limited to:

   (i) Stockpiles;
   (ii) Site roads – sealed and unsealed;
   (iii) The conveyor used to convey aggregate from Lot 3 DP 301379 to the processing plant located within Lot DP 301379;
   (iv) Triggers for the use of water for dust suppression;
   (v) The use of dust suppressants other than water;
   (vi) Aggregate excavation and backfilling areas;
   (vii) Topsoil and overburden stripping and stockpiling;

(viii) Bund construction, maintenance and the recontouring of slopes during rehabilitation;
(ix) Any automated dust suppression for dust prone areas that can be activated outside of working hours;
(x) Location and calibration of particulate matter and meteorological monitoring equipment;

o. Environmental information management for recording, quality assurance, archiving and reporting all data required for dust management on the site.

10. The Consent Holder shall carry out its activities in accordance with the DMP at all times.

11. The Consent Holder may review and update the DMP where it is to modify SOPs, respond to complaints and monitoring data, implement technological or process improvements, providing revisions are certified by an independent Suitably Qualified and Experienced Practitioner (SQEP).

Trigger Levels and Dust Mitigation

Trigger Levels

~~10.~~12. Quarry activities (except dust suppression measures) within 250 metres of a sensitive receptor location (sensitive receptors being those defined in Condition 9(c)) ~~must~~ shall not be undertaken when:

a. Wind speed reaches or exceeds 7 m/s (10 minute scalar average); and

b. Quarry activities would be directly upwind of a sensitive receptor (10-minute average wind direction); and

c. Less than 1 mm of rain has fallen during the preceding 12 hours.

~~11.~~13. If at any time, including outside normal operating hours, visible dust is blowing beyond the site boundary or if the particulate matter monitoring trigger in Condition ~~13~~ 14 is breached the Consent Holder ~~must~~shall:

a. Cease all quarry activities (including loading of purchasing trucks), except dust suppression measures;

b. Continue all dust suppression activities including but not limited to the immediate watering of both active and inactive exposed surfaces;

c. Investigate possible sources of the dust;

d. Only resume quarry activities (other than dust suppression) once there is no longer visible dust blowing beyond the site boundaries and when the monitoring trigger in Condition ~~13~~ 14 is no longer being breached; and

e. Notify the Consent Authority ~~as soon as practicable~~within 24 hours, detailing its cause and the dust suppression actions undertaken.

~~12.~~14. The trigger concentration which indicates the potential for excessive quarry derived dust at or beyond the site boundary is a maximum real time PM_{10} concentration of ≥ 150 micrograms per cubic metre, as a rolling 1-hour average, which shall be updated every ten minutes.

~~13.~~15. A pre-trigger concentration alert level shall be specified in the DMP, the purpose of which is to provide an early warning that the trigger concentration in Condition ~~13~~ 14 may be reached. This shall be a maximum PM_{10} concentration value of ≥ 150 micrograms per cubic metre, as a rolling 10-minute average, which shall be updated every 1 minute.

~~14.~~16. If the investigation required under Condition ~~12~~13(c) determines the source of dust is localised to the excavation area only and is only impacting on areas downwind of this source, then activities within the central processing area, including sales of product, can continue. This is contingent on all activities within the existing processing and load out area not causing visible dust blowing beyond the site boundary and their downwind real time PM_{10} monitors not reaching or exceeding the trigger in Condition ~~13~~14.

~~15.~~17. The Consent Holder shall submit a report by an independent Suitably Qualified and Experienced Practitioner (SQEP) to the Consent Authority 2 years after the exercise of this consent and a further report 12 months after quarrying has commenced on Lot 3 DP 301379 to confirm that the PM_{10} trigger concentration levels set in Conditions ~~13~~ 14 and ~~14~~ 15 are not giving rise to a breach of Condition 4 of this consent or if they are set unnecessarily low for avoiding such effects. The report shall contain data on PM_{10} levels recorded by the monitors from two early summer/late autumn periods (1 October to end of May) and shall identify whether a change is needed to the trigger levels in Condition ~~13~~ 14 and ~~14~~ 15 to achieve routine compliance with Condition 4 of this consent.

~~16.~~18. If the report by an independent SQEP (as required under Condition ~~16~~17) determines the PM_{10} trigger concentration should be decreased in order to achieve routine compliance with Condition 4, then the revised value as recommended by the SQEP shall be specified within an updated DMP and alarm settings on monitoring equipment shall be adjusted to reflect this revised value within 15 working days of receipt of the SQEP's report.

Mitigation Measures

~~17.~~19. The Consent Holder ~~must~~ shall take all practicable measures to minimise the discharge of dust from quarry activities, including but not limited to:

a. Placing clean reject gravel over extraction areas if they are not being actively used by the Consent Holder. Areas where clean reject gravel cannot be placed will be stabilised using polymers;

b. Assessing weather and ground conditions (wind and dryness) at the start of each day and ensure that applicable dust mitigation measures and methods are ready for use prior to commencing quarry activities;

c. Taking wind direction and speed into account in planning quarry activities to minimise the risk of dust dispersion towards any residential dwellings and sensitive commercial crops that are within 250 metres of the site boundary;

d. Water suppression such as using water ~~-~~carts or fixed sprinklers will be applied as required to dampen down disturbed areas and stockpiles. This ~~must~~ shall occur during dry weather, irrespective of wind speed and a back up watercart shall be available in the event that the dedicated site watercart breaks down;

e. Pre-dampening topsoil and overburden with a water cart or sprinklers prior to its extraction and removal.

f. Constructing and maintaining unsealed internal haul roads so that their surfaces consist of a crushed clean aggregate layer that is free of potholes;

~~g. Using a field conveyor as the form of transporting aggregate from the active quarry face within Lot 3 DP 301379 to the processing plant within Lot 8 DP 301379;~~

~~h.~~g. Minimising drop heights when loading trucks, conveyor hoppers and when moving material;

Commented [MC49]: Refence to 'sensitive commercial crops' has been added to link to Condition 9(c).

Commented [MC50]: Wording added to address query raised by Mr Van Kekem relating to the potential for the watercart to breakdown.

~~i.~~h. Operating fixed and mobile crushing plant in conjunction with water dust suppression (either sprays or high-pressure fogging system) as necessary to avoid the dust trigger level, as specified in Condition ~~13~~ 14 and ~~14~~15, being reached or exceeded;

~~j.~~i. Undertaking routine onsite and offsite inspections of visible dust emissions and deposited dust throughout each day of quarry activities and electronically logging findings and any dust suppression actions, and making the results of the inspections available to the Consent Authority when requested;

~~k.~~j. Maintaining an adequate supply of water and equipment on site for the purpose of dust suppression at all times;

~~l.~~k. Application of water via watercart or fixed irrigation of dust suppression water onto any section of the external access road shall only be used as a contingency/back up measure;~~.~~

~~m.~~l. Fixed and mobile crushing and screening plant shall be located in the areas identified on Site Plan Rev F included in Appendix 1 to this consent.

20. Aggregate (once extracted from the quarry face) shall be placed on a field conveyor and transported from within Lot 3 DP 301379 to the processing plant within Lot 8 DP 301379. Haul tucks shall not be used for that purpose.

~~18.~~21. Land stripping and land rehabilitation shall be carried out during winter months (1 May to ~~1 September~~31 August) when ground conditions are damp (or the ground or material to be used for rehabilitation has been thoroughly wetted with a water cart) and winds are below 7 m/s (10 minute average).

~~19.~~22. The Consent Holder shall impose a speed restriction on all internal haul and access roads of 30 km/hr.

~~20.~~23. The Consent Holder shall maintain the existing seal along the length of the site access road contained within Lot 5 DP 301379.

~~21.~~24. The northeast-southwest aligned section of conveyor within the expansion area (Lot 3 DP 301379) shall be located at least 75 m from the shared boundaries with Lot 2 DP 301379 and Lot 1 DP 508108.

~~22.~~25. The height of aggregate stockpiles shall be maintained below the height of existing ground level at the point immediately due northeast of stockpile.

Meteorological Monitoring

~~23.~~26. Prior to exercising this consent, the Consent Holder shall install a meteorological monitoring station at the location described in the DMP. The meteorological monitoring station shall be capable of continuously monitoring:

a. Wind speed and direction at a minimum height of 6 m above the natural ground level;

b. Rainfall;

c. Relative humidity; and

d. Temperature.

~~24.~~27. The meteorological monitoring instruments shall:

a. Measure wind speed as 1-minute scalar averages with maximum resolution of 0.1 metres per second (m/s), have an accuracy of at least within +/-0.2 m/s, and a stall speed no greater than 0.5 m/s;

Commented [MC51]: This has been made a stand alone condition and the wording has been amended to clarify the purpose of the conveyor i.e. it will be used instead of a haul road.

Commented [MC52]: Text added to clarify that aggregate will not be transported in haul trucks from the expansion land to the processing plant.

Commented [MC53]: Speed limit was agreed in the JWS by technical experts.

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

c. Measure screened temperature with accuracy of +/- 0.5 degree;

d. Measure relative humidity with an accuracy of +/- 1%;

e. Measure rainfall with an accuracy of +/- 0.2mm;

f. Be located on the site in accordance with AS/NZS 3580:14-2014 (Methods for sampling and analysis of ambient air – Part 14 Meteorological monitoring for ambient air quality monitoring applications). If the monitoring station cannot be located in accordance with AS/NZS 3580:14-2014 an alternative location shall be agreed in writing with the Consent Authority;

g. Maintain a data and time stamped electronic record for at least 36 months of meteorological monitoring results, recorded as rolling 10-minute averages, which are up-dated every one-minute in real-time.

h. Send an alarm to the Quarry Manager (for example via mobile phone) if the wind speed trigger level in Condition ~~11~~12(a) is reached or exceeded while the rainfall criteria specified in Condition ~~11~~12(c) are being met.

i. Be maintained and calibrated in accordance with the manufacturer's specifications.

~~25.~~28. All meteorological monitoring data shall be made available to the Consent Authority on request.

Particulate Matter Monitoring

~~26.~~29. Prior to exercising of this consent, the Consent Holder shall operate and maintain one permanent real-time dust management monitor for continuous monitoring of ambient 10-minute average PM_{10} concentrations, which shall be installed and operated at a fixed location at the existing quarry's southwest boundary and in accordance with the DMP.

Advice Note: The permanently located real-time dust management monitor shall be an accepted method for general dust management/monitoring purposes, and does not need to be a certified USEPA, or National Environmental Standards for Air Quality (NESAQ) compliant method.

~~27.~~30. The permanent monitor shall be installed, operated, maintained and calibrated in accordance with the AS/NZS 3580.12.1:2015 *Methods for sampling and analysis of ambient air – Determination of light scattering – Integrating nephelometer method*, or else an equivalent or superior standard which is approved by the Consent Authority;

~~28.~~31. Prior to the exercising of this consent, the Consent Holder shall operate and maintain at least two mobile real-time dust management monitors for continuous monitoring of ambient ten-minute average PM_{10} concentrations, whose location changes for different stages of the quarry development. For the first 12 months of operations, the location of the mobile monitors shall be as identified in ~~and in accordance with~~ the DMP. The locations of the mobile monitors thereafter shall be reviewed by a SQEP and if the SQEP recommends that the locations of the monitors should be changed, this shall be identified in the annual report required by Condition 43 of this consent.

Commented [MC54]: Condition amended to support compliance with the requirements of conditions 31, 33 and 34(a) of this consent.

~~29.~~32. The mobile real-time dust management monitors can be equivalent to that used for the permanently located dust monitor, or else be a lower cost method, on the basis that this can be effectively calibrated against the permanent dust monitor.

~~30.~~33. The two mobile dust monitors shall be positioned at different site boundary locations, such that real-time dust monitoring is undertaken at locations which are between active excavation

and central processing areas and downwind sensitive receptor locations, when the latter are within 250 m of the dust source.

~~31.~~34. All three dust monitors shall:

a. Be sited in general accordance with AS/NZS 3580.1.1:2016 Methods for sampling and analysis of air – Guide to siting air monitoring equipment;

b. Have a GPS location service (or similar technology) which enables their locations to be remotely monitored and recorded;

c. Provide and record the results continuously using an electronic data logging system with an averaging time for each parameter of not more than one minute;

d. Record monitoring results in real-time as rolling 10-minute averages in an appropriate electronic format;

e. Be fitted with an alarm system that is able to send warnings and alerts to the Quarry Manager or other nominated person; and

f. Be maintained in accordance with the manufacturer's specifications.

Set backs

~~32.~~35. Active quarrying excavations within Lot 3 DP 301379 shall be set back:

a. At least 25 m from the boundary of that land apart from along the right of way between Lot 8 DP 301379 and Lot 3 DP 301379 where a 10 m setback is required; and

b. ~~100~~ 50 m from the boundary of Lot 3 DP 301379 in the vicinity of the existing main dwelling on Lot 2 D301379~~, unless a field conveyor is used for extraction when this distance may be reduced to 50 m~~;

c. ~~100~~ 50 m from a commercial crop sensitive to dust~~, unless a field conveyor is used for extraction when this distance may be reduced to 50 m~~ which existed at the time this consent was granted; ~~and~~

d. ~~100~~ 50 m from a dwelling authorised by RC210261 on Lot 1 DP 508108~~.~~, if ~~any~~ one exists at the time of extraction~~, unless a field conveyor is used for extraction when this distance may be reduced to 50 m~~.

As shown on Site Plan Rev F included in Appendix 1 to this consent.

Commented [MC55]: Text included to provide certainty regarding the set backs required in the future.

Video Monitoring

~~33.~~36. The Consent Holder shall install and maintain at least two video cameras at locations which provide a clear view of the site activities (i.e. on the boundary bunds looking in). Data collected by the video cameras shall be recorded and kept for a minimum period of six months and supplied to Otago Regional Council on request.

Bund Formation and Planting

~~34.~~37. When constructing the bunds, the following controls apply:

a. The bunds shall be constructed during winter months (1st May to 31~~1st~~ August~~September~~) for dust mitigation reasons and so as to avoid bird nesting season which is from 1 September to 1 January;

b. Maintain a buffer distance of 250 m when wind speeds are above 7 m/s (10 minute average) in a direction towards the nearest sensitive locations;

c. Material to be excavated ~~must~~ shall be thoroughly wetted using a water cart, if not already damp, ahead of excavation and wetted thoroughly thereafter;

d. Wind monitoring ~~must~~ shall be carried out and dust generating activities shall cease when the wind is blowing towards sensitive locations and the wind speeds exceed 7 m/s (10 minute average) in accordance with Condition ~~11~~12(a);

e. Following the construction of the bunds they shall be immediately stabilised using mulch or another suitable product.

f. Vegetated cover (90%) shall be established on all new bunds as soon as practicable and maintained to ensure healthy cover during dry months. ~~Bunds within Lot 8 DP 301379 existing as at the date this consent is granted shall be planted and maintained to ensure 90% vegetated cover, or stabilised by other means.~~

g. Within 12 months of the exercise of this consent, the Consent Holder shall plant or stabilise by other means the inward and outward faces of the existing bunds within Lot 8 DP 301379.

~~f.~~

Commented [MC56]: Approach to planting or stablishing by other means new and existing bunds reflects what is included in the draft land use consent.

Complaints Register

~~35.~~38. The Consent Holder shall maintain a Complaints Register for any complaints received. The Complaints Register ~~must~~ shall include:

a. The date and time the complaint was received;

b. The nature and location of where the complaint has originated, if provided;

c. A summary of the complaint;

d. Particulate matter and wind conditions at the time when the dust was observed by the complainant; and

e. Any corrective action undertaken by the Consent Holder to avoid, remedy or mitigate the issue raised.

f. Any amendments made to the DMP in response to the complaint(s).

39. The Complaints Register ~~must~~ shall be provided to the Consent Authority on request.

Community Liaison Group

40. Within 12 months of the commencement of this consent, the Consent Holder shall, at its own cost, facilitate community liaison meetings with invitations sent by letter or email to the various organisations and the owners/occupiers of properties listed in Appendix 2 of this Consent. Meetings shall be held at not less than 12 monthly intervals.

41. The purpose of the meetings shall be for the Consent Holder to report to those attending on the activities undertaken in the past 12 months and the works planned in the next 12 months, as well as the results of all monitoring undertaken during the preceding 12 months.

42. The Consent Holder shall keep minutes of the meetings and shall provide them to the Consent Authorities within two weeks of a meeting.

Advice note: Community Liaison Group meetings are not restricted to matters relating to the discharge of contaminants to air, other matters relating to the operation of the quarry such as groundwater matters can also be discussed.

Annual Report

~~36.~~43. On the annual anniversary of this consent the Consent Holder shall provide a report to the Consent Authority to include the following:

a. The number of occasions that the particulate monitors recorded a breach of the trigger level in Condition ~~13~~14;

b. Complaints Records for the preceding 12 months;

c. Maintenance and calibration records for the particulate monitors;

d. The volume of aggregate extracted in the preceding 12 months; and

e. Any amendments made to the DMP.

~~e.~~f. Details of the work plan for the next 12 months, including specification by a SQEP of the locations of the mobile PM10 monitors during that period so as to comply with the requirements of conditions 31, 33 and 34(a) of this consent.

Review

~~37.~~44. The Consent Authority may, in accordance with Sections 128 and 129 of the Resource Management Act 1991, serve notice on the Consent Holder of its intention to review the conditions of this consent within 3 months of each anniversary of the commencement of this consent for the purpose of:

a. To deal with any adverse effect on the environment which may arise from the exercise of the consent that was not foreseen at the time of granting of the consent, and which is therefore more appropriate to deal with at a later stage; and/or

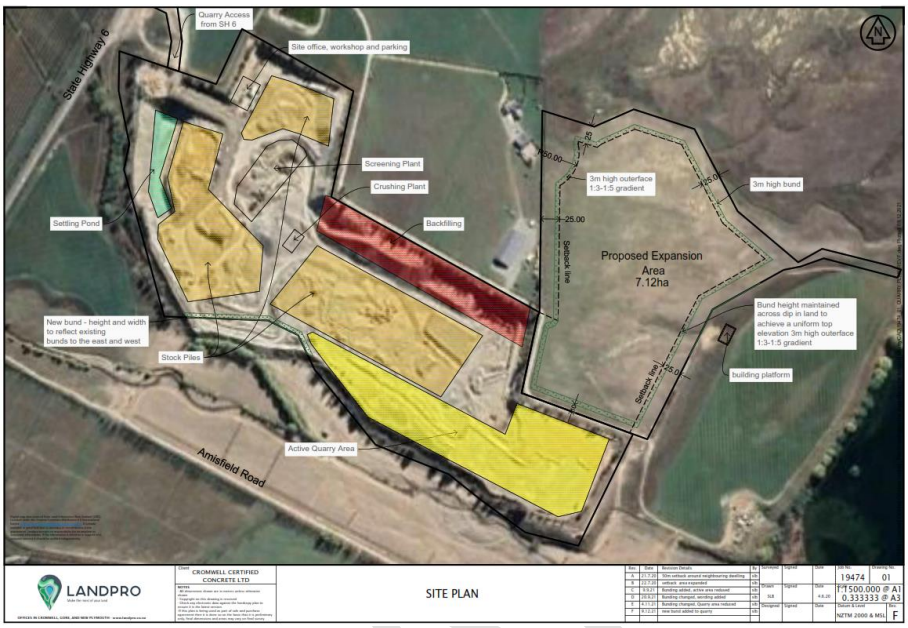
b. To require the Consent Holder to adopt the best practicable option to reduce any adverse effects on the environment resulting from the activity; and/or

c. Ensuring the conditions of this consent are consistent with any National Environmental Standard or National Planning Standard; and/or.

~~c.~~d. Implementing any changes required to adopt recommendations included in a report prepared and pursuant to Condition 17 of this consent.

Commented [MC57]: A requirement for annual review of the location of the PM10 monitors is now included as part of the annual report. I recommend that this is provided for here, rather than by annual review of the DMP, given that there will be long periods when excavations are undertaken below groundwater level and dust emissions during that time will be much reduced.

Appendix 1: Site Plan ~~referred to in Condition 18(m)~~



Appendix 2: People/Organisations to be invited to Community Liaison Group meetings

- Owners/occupiers of the following properties:
  - Lot 2 DP 300388 [Department of Conservation]
  - Lot 1 DP 508108 [Amisfield Orchard Limited]
  - Lot 2 DP 508108 [Hayden Sinclair Little, Tessa Leanne Nyhon]
  - Lot 6 DP 301379, Lot 1 DP 301379 & Lot 10 DP 301379 [Manukau Fifty Limited]
  - Lot 2 DP 301379 [Bryson David Clark, Nicola Jane Clark]
  - Lot 2 DP 518956 [Justine Kate Davis, Philip John Davis, GCA Legal Trustee 2018 Limited]
  - Lot 7 DP 518513 [Lowburn Land Holdings LP]

Holders of the following groundwater permits:

- 2003.363 [Lowburn Land Holdings Limited Partnership]
- 2010.152.V1/G41/0220 [Wanaka Road Wine Holdings Ltd]
- 2001.831/G41/0238 [Manukau Fifty Limited]
- 2004.853/G41/0326 [Jane Marie Miscisco]
- 2006.036/G41/034 [Felton Park Limited]
- RM14.211.02/G41/032 [Irrigation and Maintenance Limited]

Organisations

- Aukaha
- Amisfield Estate Society, which takes water from Bore G41/0111
- Otago Regional Council
- Central Otago District Council

Appendix 2: Updated Draft Quarry Rehabilitation Plan

AMISFIELD QUARRY
DRAFT REHABILITATION PLAN

FEB 2021

Table of Contents

Note: This Rehabilitation Plan is conceptual only and is subject to change due to unknown market conditions and the estimated closure date of 2051 being 30 years away. All drawings are indicative and are also subject to change. All changes that occur will require this plan to be updated and shall be submitted to Central Otago District Council for final approval.

1.0 INTRODUCTION

Cromwell Certified Concrete Limited (CCC) own and operate Amisfield Quarry and have done continuously since 1995. CCC is a joint venture between McNulty Transport and Firth Industries, is a major supplier of aggregate for Central Otago District and contributes to the local economy by providing employment, purchasing materials and utilising local contractors.

In January 2018, CCC purchased land that adjoins the quarry to the north as the available rock resource in the existing quarry will be exhausted within 5 years based on current demand. Part of the process for consenting this piece of land requires Council to consider the rehabilitation plan for the end of life of the quarry and the steps CCC propose to achieve this.

2.0 THE SITE

2.1 Site Location

Amisfield Quarry (the site) is located at 1248 Luggate-Cromwell Road, Mount Pisa and is screened by shelter belts and bunding along the main highway, blending neatly into the surrounding rural production landscape. The existing quarry is approximately 19 ha in area and the proposed expansion is approximately 8 ha in area and is accessed via a sealed access way.

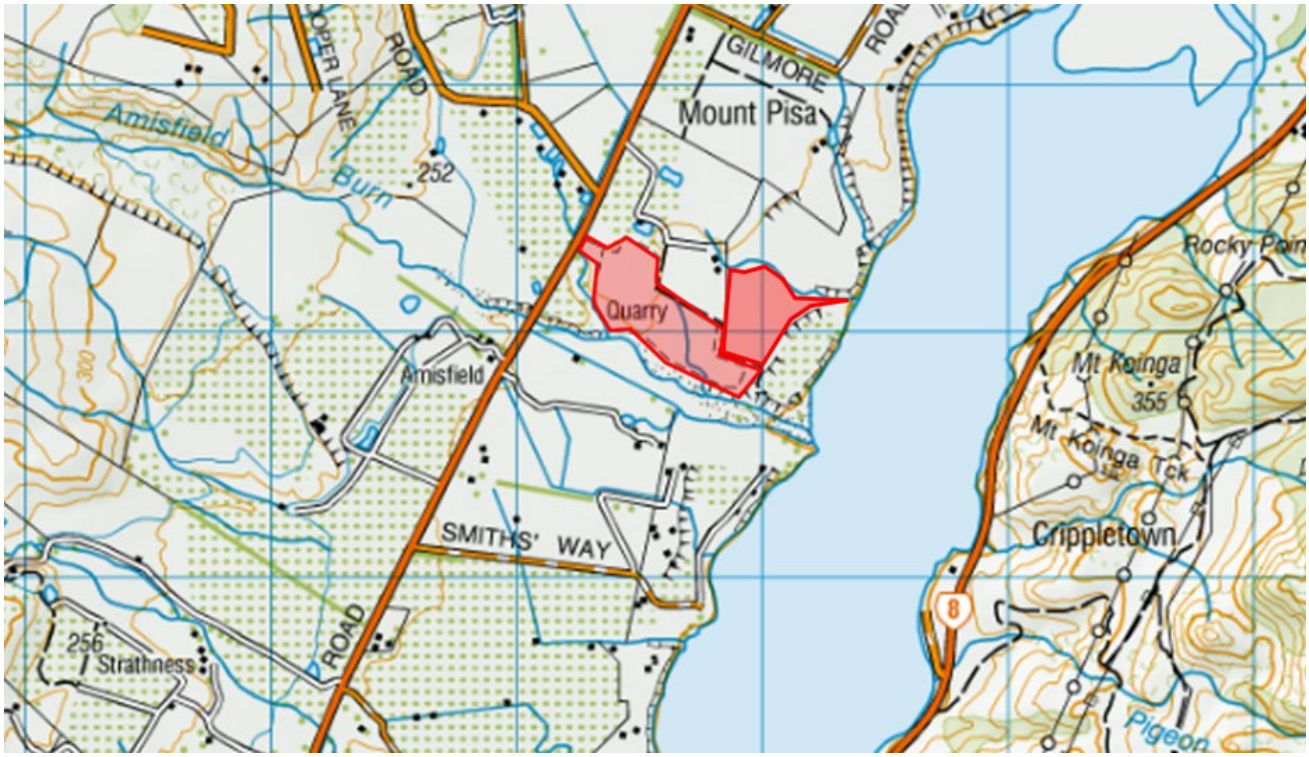


Figure 1: Amisfield Quarry location map.

2.2 Site Use

The site is consented to operate between 6.00am and 7.00pm, Monday to Saturday. Typical site activities include aggregate extraction using excavators and loaders, an aggregate processing plant, stockpiling yards, washwater pond, site offices and maintenance sheds.

While extraction is still occurring, in order to continue with effective and efficient site operations, approximately 15 ha within the existing quarry is required to be retained for activities such as - processing areas, stockpiling, haul roads, process and stormwater treatment, site offices, parking and loading areas, access ways and turning bays until such time as the remaining aggregate resource is exhausted. CCC has determined that this

is the minimum working space for the safety and efficient movement for operations. Given this, CCC will stabilise areas not required for site operations, as discussed further below.

Table 1: Breakdown of existing 15ha site area usage.

Site usage	Approximate area
Aggregate extraction/processing areas	6 ha
Stockpiling	4 ha
Haul roads	1.6 ha
Process and stormwater treatment	1.4 ha
Site service area (e.g. offices, access way, workshop and parking)	1 ha
Rehabilitated area	1 ha

2.3 Surrounding Land Uses

Land use surrounding the application site includes residential lifestyle properties, vineyards, unirrigated grazing land and the Mahaka Katia Scientific Reserve. The Amisfield Burn adjoins the existing quarry to the south and west.

Vineyards are located to the north, west and east of the application site. To the north of the existing quarry and west of the proposed expansion is a parcel of land that is occupied by three buildings, including a dwelling, a small shed and a storage facility. The Mahaka Katia Scientific Reserve is located to the north of the expansion land. Figure 3 sets out different land uses and notable features within the surrounding area.

The cherry orchard to the east is set down significantly compared to the surrounding landform, some 10+m below.

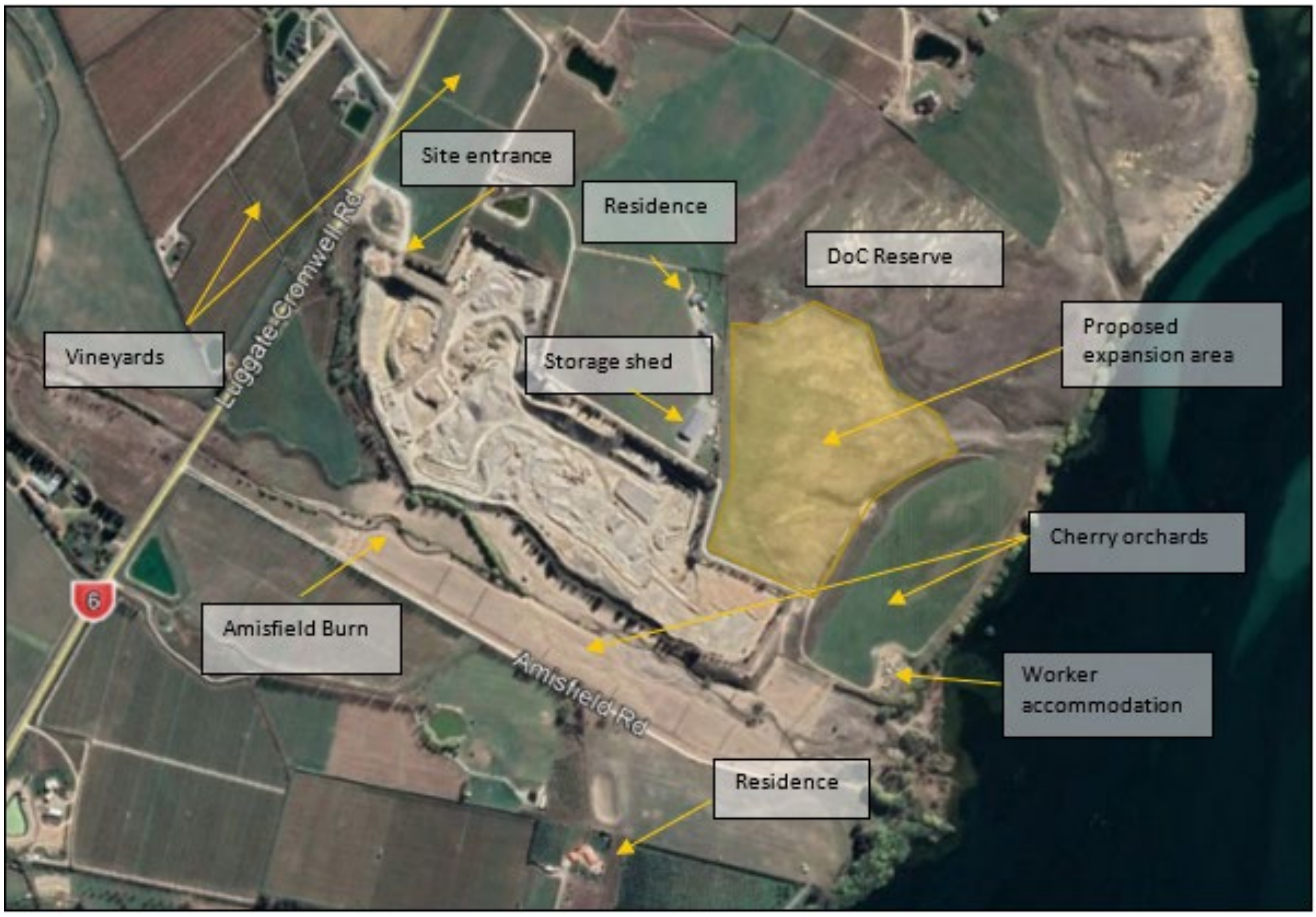


Figure 3: Land use and notable features surrounding the application site

3.0 SITE MANAGEMENT

The site is owned and operated by CCC. The day to day responsibility of the site lies with the Quarry Manager, who is responsible for achieving compliance with all relevant resource consents, regulations and acts that apply to the site at all times. The Quarry Manager will ensure all staff on site are familiar and comply with the conditions of any applicable resource consents, and any relevant District and Regional Plan provisions and this Rehabilitation Plan.

The Quarry Manager's contact details are:

Contact:	Travis Allison
Phone:	+64 27 2480 192
Email:	info@amisfieldquarry.co.nz

3.1 Regulatory Compliance

It is the responsibility of CCC to ensure compliance with all relevant consents, regulations and acts that apply to the works and the works site at all times. This responsibility applies equally to employees and other sub-contractors using the site, and also extends across health, safety, quality and environmental elements of all activities undertaken within the site.

3.2 Existing Consents

CCC is a major supplier of aggregate for Central Otago district and contributes to the local economy by providing employment, purchasing materials and utilising local contractors. The construction of the Clyde Dam and the creation of lake Dunstan in 1992 - 93 flooded extensive areas of land, including the site of the metal quarry operated by Cromwell Certified Concrete near Cromwell. After extensive investigations a new site

above the proposed lake level was located. Resource consent was subsequently obtained to enable subdivision of the site, together with the establishment and operation of a metal quarry in 1995.

Landuse consent RC150052 was granted in 2015 for the continued operation of a metal quarry and crushing plant. Condition 9 of this consent relates to rehabilitation and states –

9. *At least two years prior to ceasing the extraction of material for processing from the quarry the consent holder shall submit to the Council for the approval of the Chief Executive of the Central Otago District Council a Closure and Rehabilitation Plan for the site.*

   The Closure and Rehabilitation Plan shall provide for:
   a) *Removal of all buildings, other structures and plant from the site*
   b) *Recontouring of the land to provide a stable profile.*
   c) *Management of dust to avoid nuisance beyond the site.*
   d) *Re-establishment of topsoil and grass utilising best practice, supplemented by appropriate irrigation and maintenance for a period of two years.*
   e) *Appropriate drainage of the site, so as to avoid ponding of water and uncontrolled runoff into any water body.*
   f) *Leaving the site in a clean and tidy state*

Based on the above condition, the quarry rehabilitation plan has been drafted to reflect the requirements outlined above and to factor in any changes since consent was granted.

4.0 QUARRY REHABILITATION OBJECTIVES

CCC aims to rehabilitate the land in a manner which minimises fugitive dust discharges and to eventually return the land to a reserve, featuring a lake within a rolling, contoured landscape that reflects the surrounding area. The rehabilitation objectives are as follows:

- Stabilisation of quarry faces and completed extraction areas, battered and grassed slopes which will create a reserve.
- The safe removal of fixed plant, workshops, buildings and any relevant underlying infrastructure as required.
- Ensure any areas where works have been completed have adequate grass cover, preventing nuisance dust from leaving the site.
- To contour the land to slope towards the lake, to avoid ponding and uncontrolled run-off.
- The site is rehabilitated in a way which provides positive benefit for the Cromwell community.

5.0 DESCRIPTION OF REHABILITATION WORKS

5.1 Rehabilitation Process

Rehabilitation of the site will occur in a manner that allows the quarry to function and where it has been determined that the area will not be required for future quarrying operational areas, such as stockpiling or haul roads.

The nature of the quarry layout requires the majority of the rehabilitation staging to take place once the quarry has exhausted the northernmost point of the expansion area (see Figure 4 below). This is due to the processing plant and stockpile area being located next to the entrance to the west.

Figure 4: Indicative rehab staging and timeline

5.2 Rehabilitation Timeline

The timeline indicated in Figure 4 above (start in 2046 and end 2051) is estimated based on constructing the slope batters, topsoiling and grassing, removing fixed plant, machinery, workshops and office buildings and bunds.

5.3 Rehabilitation Materials

Significant volumes of silt and unsaleable aggregate is produced during the operational life of a quarry and this will be utilised to form the batter slopes and contour the land. Topsoil and subsoil materials which have been stored following site preparation will predominantly be used in the final topsoil layer, enabling pasture growth.

The stockpiled soil should be similar in volume as what was initially removed. However, if there is a deficit, it might be necessary to expedite the final stages of rehabilitation by importing topsoil prior to the site being disestablished.

5.4 Proposed Finished Edges

Rehabilitation involves the preparation of the quarry batters to a slope of 3.5L:1H and topping with topsoil and silts stored on-site. The site estimates it will have approximately 180,000m3 of silts (from washing) that will be utilised, together with topsoil on the finished batters. The noise bunds will also be removed and provide additional material suitable for backfill.

The finished lake edge of the quarry will be approximately 15m below ground level, rising up to existing ground level as indicated in the cross-section Figure 5 below.

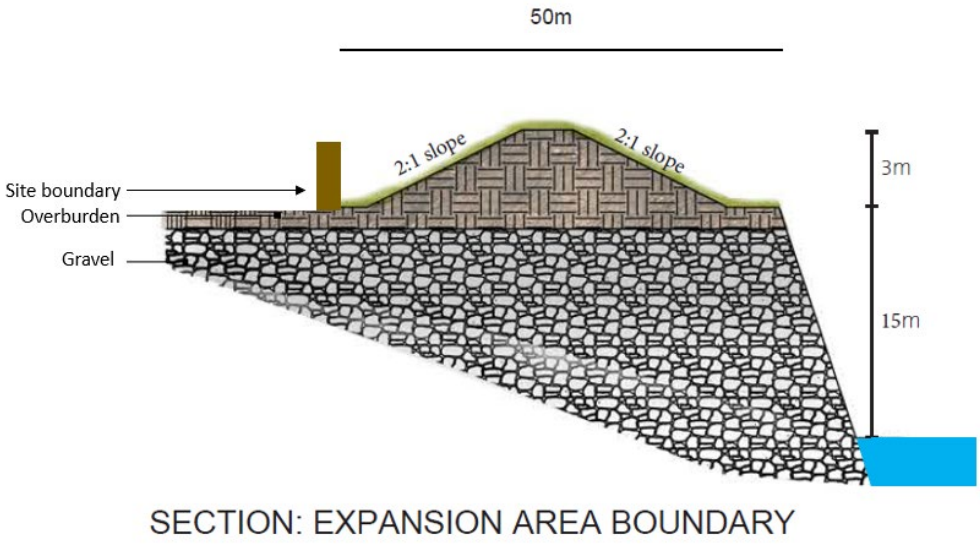


Figure 5: Finished extraction section

The cross-section of Figure 6 outlines the post extraction landform. Rehabilitation will build upon these levels and will be largely dependent on the available volume of material in order to accurately state the final rehabilitated levels.

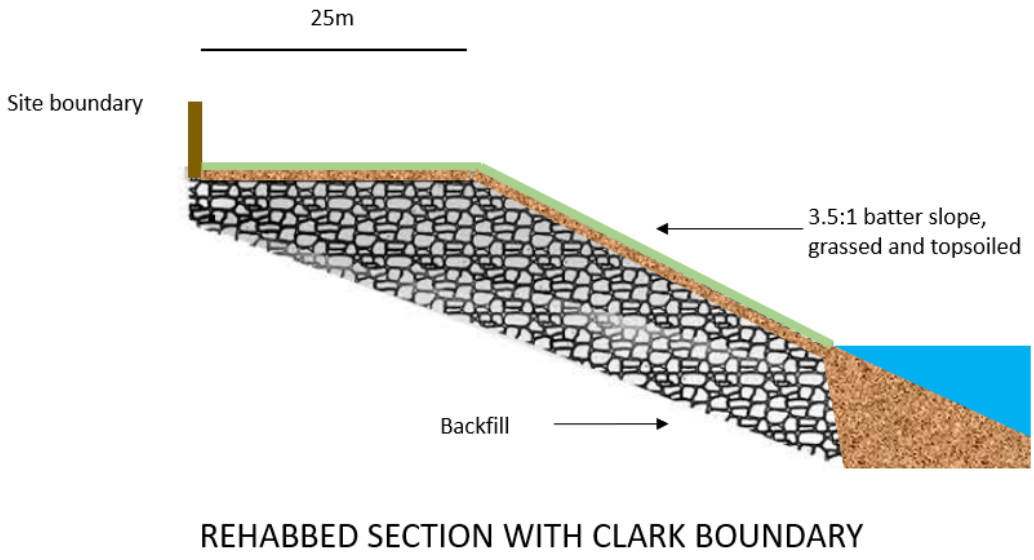


Figure 6: Indicative final rehab batter

5.5 Landscaping and Final Landform

Landscape planting and maintenance will likely consist of the following:

- Re-grassing by spreading stored topsoil and subsoil and replanting with grass mixes that are readily available on the market as soon as practicable.
- Maintaining and monitoring the progress of the plants and reseeding if necessary.
- Controlling weeds.
- Monitor and maintain rehabilitated areas to ensure they are functioning appropriately post-closure for a period of 12 months or until adequate groundcover is established.

Contouring of the site will take place to integrate the site into the surrounding landform, while a batter slope will be established from the finished ground level into the resulting lake (see Figure 7 below). Planting that has previously been undertaken around the site will be retained unless needed to be removed.

Figure 7: Indicative section through the site frontage

The final landform is indicated in Figure 8 below. It shows the proportion of the finished lake in context with the surrounding landscape and indicates the potential scale of benefits the rehabilitated quarry could bring, in terms of becoming a public reserve area, biodiversity and supporting the local fauna.

Figure 8: Indicate final rehab aerial

6.0 PROCESS FOR REVIEW

This management plan is a draft document prepared to achieve CCC's strategy of minimising fugitive dust discharges and eventually rehabilitating the land to a suitable future use, with positive gains for the environment and local community.

The management plan will be reviewed on a regular basis and any changes proposed will be discussed with Central Otago District Council.

Appendix 3: Revised Bond Calculation

AMISFIELD QUARRY – BOND ESTIMATION

The following steps have been undertaken to provide an approximate estimate of the costs involved in rehabilitating the site:

1. Model and calculate existing backfill on-site (bunds, discard product, silts) and the balance of backfill required for re-contour with finished, grassed batters of 3:1
2. Assess viability of different methods of backfilling
3. Select method of backfilling based on site practicality and experience of similar exercises
4. Evaluate workflow options to minimise machine use
5. Cost final proposed workflow
6. Calculate possible drinking water mitigation costs
7. Present final costings

1. Available Backfill –

Bunds: The existing quarry has extensive bunding along the majority of its perimeter (as outlined in the image below). The heights and widths vary considerably - between 2 to 5m high and 7 to 17m and therefore a conservative standard of 3m high x 12m in width has been used to estimate volume.

For the expansion land, bunds 3m high x 6m wide are proposed to be constructed around the entire perimeter, which is approximately 1015m, giving a total volume of **18,300m^3**.

The length of the existing site bunds is approximately 1977m. Therefore, 3m high x 12m wide by 1977m in length gives a total volume of backfill in the existing quarry of approximately **71,100m^3**.

As such, the total volume of the bunds will be **89,400m^3.** The bunds will be primarily constructed from topsoil when stripping the quarry.

Fig. 1: Existing and Proposed Bunds

Approximately 7.9ha in the existing quarry will require moderate contouring, topsoiling and hydroseeding. The full 7.4ha of the existing quarry shown above will need contouring, topsoiling and hydroseeding to return it back to productive land.

The expansion area is proposed to be rehabilitated to a minimum of battered slopes at 3:1 which will be topsoiled and hydroseeded down to water level, leaving a modest lake in the centre. However, should the cleanfill market provide suitable material to rehabilitate the remaining area back to ground level, the lake will be filled in and the land topsoiled and hydroseeded.

Fig. 2: Areas to be Rehabilitated

The volume of fill required to provide the minimum level of rehab (3:1 batters) has been calculated to be approximately **300,000m^3** (this was calculated using approximate dimensions of 200m W x 340m L x 15m D and then reverse calculating the volume of a trapezoidal footing).

The percentage of discard product for Amisfield Quarry ranges between 15-20%. This is rock that has no viable market at present and is kept onsite for rehabilitation purposes or future use if a sales opportunity presents itself. Based on extracting 7.12ha to approximately 25m deep, the approximate discard volume available for rehab would be no less than 267,000m^3. This is close to the 300,000m^3 required and the remaining 33,000m^3 can easily be sourced from within the existing quarry. As such, no additional fill will be required to be imported to rehab both the existing and proposed quarry land to a minimum standard.

2. Bulk Earthworks/Recontouring:

To complete the bulk earthworks/re-grading of slopes and site contouring, a CAT D11 bulldozer with a skilled and trained operator will be required. A CAT D11 bulldozer can achieve a productivity rate of approximately 750m^3 of spoil per hour. This is recommended for the bulk of the recontouring work.

For the minor earthworks and topsoiling, a CAT D9 bulldozer would be sufficient. However, it is recommended an excavator (Volvo E250) and a Volvo A40 articulated dump truck also be utilised on-site for any minor works as and when required (e.g. the site produces a large gabion stone product that could be loaded by the excavator into the ADT and sent to infill the sediment pond).

Rehabilitation would occur in two stages. Stage 1 works would involve -

- Infilling the existing sediment pond;
- Flattening all the remaining unsold stockpiles (est. 50,000m^3)
- General contouring
- Final topsoil (200mm) and re-grassing/hydroseeding.

Stage 2 works would involve –

- Removal of fixed plant
- Removal of site offices/portacoms and associated ancillary works
- Securing the two on-site bore wellheads and removal of associated pipework

3. Stage 1

The table below sets out the approximate costs and hours involved to push in the bunds, carry out general maintenance and tidying up works (estimated to take a week once the major works are completed and to then re-grass –

MAJOR WORKS	MATERIAL VOLUME M3	PRODUCTION RATE	HOURS	COST P/HR	TOTAL	ACTIVITY
Cat D11	89,500	750m3	120	$485.00	$58,200.00	Pushing in bunds
MINOR WORKS	**MATERIAL VOLUME M3**	**PRODUCTION RATE**	**HOURS**	**COST P/HR**	**TOTAL**	**ACTIVITY**
Cat D9	N/A	N/A	80	$265.00	$21,200.00	Moving material/topsoil
Volvo EC250	N/A	N/A	80	$195.00	$15,600.00	Gabion rock/loading A40
Volvo A40	N/A	N/A	80	$195.00	$15,600.00	Filling in sediment pond
METHOD	**AREA M2**	**PRODUCTION RATE**	**HOURS**	**COST P/M2**	**TOTAL**	**ACTIVITY**
Tractor mulching	170,000	N/A	N/A	$0.40	$68,000.00	Re-grass approx. 17ha.
TOTAL COST OF STAGE 2					**$178,600**	

4. Stage 2

The table below sets out the approximate costs and hours involved to disestablish the plant, removal of portacoms (both activities which is estimated to take 5 workers, 40hrs at a pay rate of $75hr/ea) and minor wellhead and pipework labour (estimated to take 2 workers, 16hrs @ $75hr/ea) –

STAGE 2 WORKS	LABOUR	HOURS	COST P/HR	TOTAL
Plant removal	5	60	$30.00	$9,000.00
Buildings	5	40	$30.00	$6,000.00
Other	2	16	$75.00	$2,400.00
TOTAL COST OF STAGE 2				**$17,400.00**

5. Drinking Water Mitigation

Should groundwater contamination occur, it is estimated that it could take up to two weeks to resolve. During this period, it is proposed that potable water be supplied to the Amisfield Estate Society at a rate of 25,000L/day.

Delivered water can cost on average $250 for 10,000L. Over two weeks, this will cost approximately $9,000.

It is also likely to involve several rounds of water quality sampling by a suitably qualified experienced person to ensure the extent of contamination and when it is safe to drink again. This is estimated to cost in the vicinity of $10,000. As such, the total mitigation is approximately $20,000.

6. Conclusion

The estimated total cost to rehabilitate the site to a reasonable level is calculated to be approximately $196,000. A further $20,000 is estimated to provide two weeks' worth of drinking water to the Amisfield Estate Society.