

Report on a Limited Notified Resource Consent Application

(Section 42A)

Application Reference:	RMA/2017/2111
Applicant:	Road Metals Company Limited
Site address:	350 & 394 West Coast Road and 581, 619 & 635 Buchanans Road
Legal Description:	Lot 9 DP 26999, Lot 2 DP 345731, Lot 2 DP 36161, Lot 1 DP 25055, Lot 1 DP 23053, Lot 2 DP 319126
Proposal:	Extend quarry operation onto additional sites and operate an aggregate processing activity
Zoning:	Rural Quarry (394 West Coast Road), Rural Urban Fringe (remainder of site)
Overlays and map notations:	Christchurch International Airport Protection Surfaces, 66kV National Grid
Activity status:	Discretionary
Submissions:	13 in opposition 1 in partial opposition (11 of these submitters seek to be heard)
Date of Hearing:	3 – 6 April 2018
Recommendation:	Grant subject to conditions

Preamble

1. My name is Emma Chapman. I am employed as a Senior Planner and based in the Civic Offices of the Christchurch City Council. I have been employed by the Christchurch City Council since October 2006. I hold the qualifications of Master of Environmental Policy (Honours) from Lincoln University and a Bachelor of Science degree in Geography from the University of Canterbury. I am an intermediate member of the New Zealand Planning Institute and have nine years experience working as a local authority planner.
2. This report has been prepared with advice from the Council staff and external consultants detailed below. A copy of their reports has been attached in the appendices.

Officer	Position	Appendix
William Reeve	Acoustic Engineer, Acoustic Engineering Services	3
Mike Calvert	Transport Network Planner	4
Jennifer Dray	Senior Landscape Architect	5

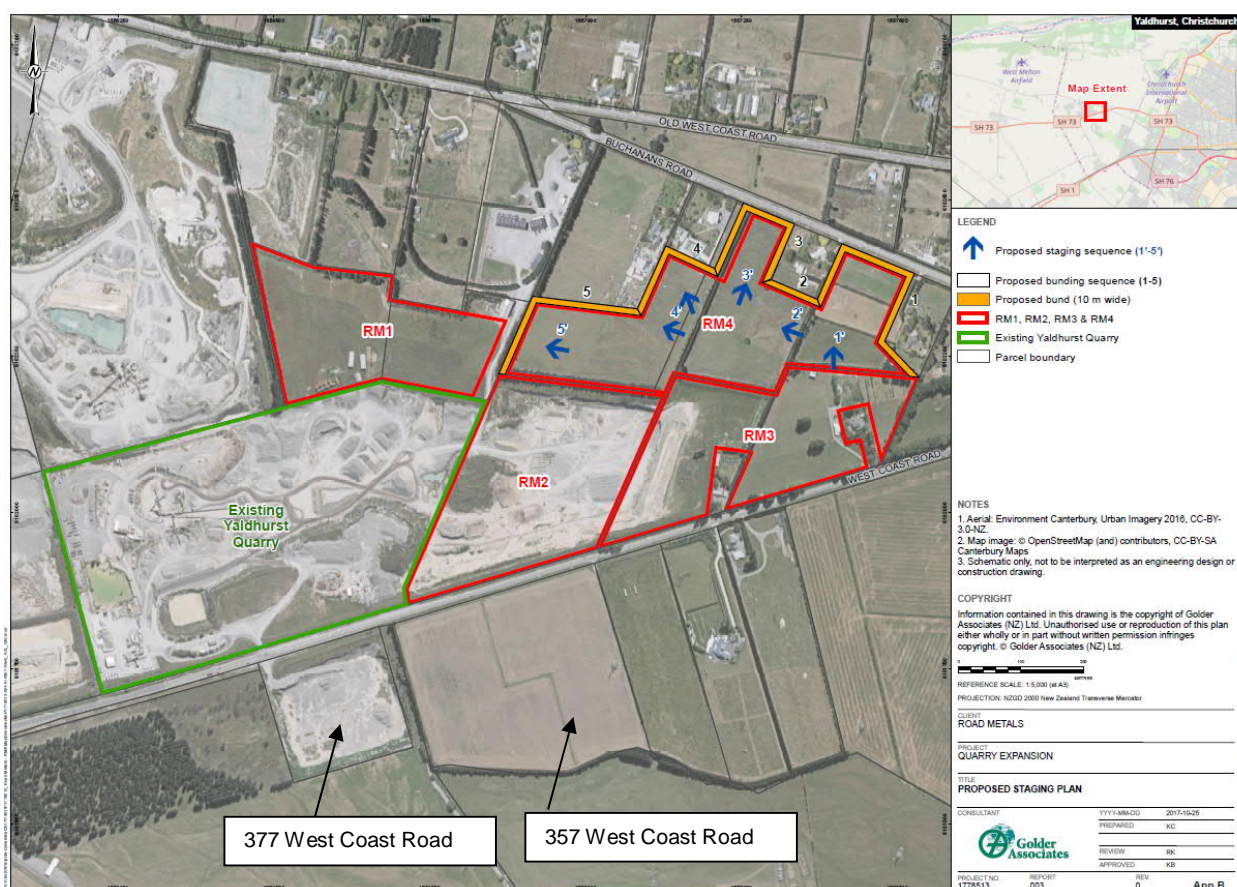
Environment Canterbury (ECan) have commissioned a peer review of the applicant's air quality assessment from Jenny Simpson and Jason Pene, air quality experts at Tonkin & Taylor. I have also reviewed a draft version of Tonkin & Taylor's assessment (dated 28 February 2018) and the draft s42A report prepared by ECan consents planner, Mr Matthew Harrison, in the preparation of this report.

3. This report reviews the application for resource consent and addresses the relevant information and issues raised. It should be emphasised that any conclusions reached or recommendations made in this report are not binding on the Hearings Panel. It should not be assumed that the Hearings Panel will reach the same conclusion or decision having considered all the evidence to be brought before it by the applicant and submitters.

The Application

4. Golder Associates have applied for land use consent on behalf of Road Metals Company Limited to extract aggregate from land at 581, 619 & 635 Buchanans Road and to transport that aggregate via an internal haul road back to its current main quarry site at 394 West Coast Road for processing. The proposed extraction area is labelled 'RM4' on the site plan shown in Figure 1 below and the existing quarry site is outlined in green. The total area of RM4 including the extraction area and proposed screen bunding is approximately 11 hectares.

Figure 1: Application site and surrounds (source: Golder Associates AEE)

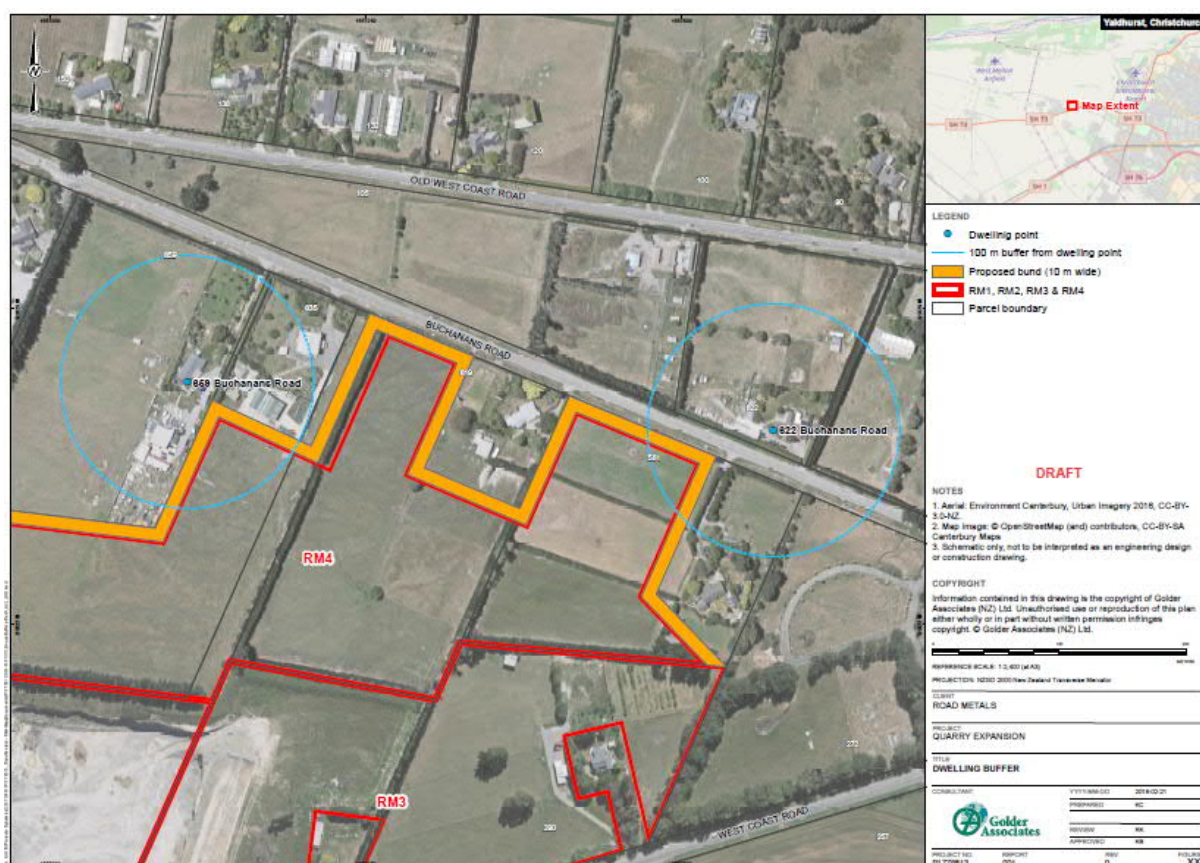


5. The proposal is described and depicted in detail on pages 11-15 of the applicant's Assessment of Effects on the Environment (AEE). In brief, the key aspects are:
- Quarrying of the site in five stages comprising 1 to 2 hectares, as shown on Figure 1 above (Staging Plan submitted with the s92 response)
 - Screen bunding to be progressively constructed along the northern site boundary, a minimum of 100m ahead of excavation.
 - Bunds to have a height of 3m and a width of 10m at the base, giving a gradient of 1v:1.5h on each side.
 - Existing mature vegetation along the Buchanans Road boundary, being cedar and macrocarpa shelterbelts and poplar trees, to be retained.
 - Existing bunding and screening along the southern boundary or around the houses located at 290-316 West Coast Road (authorised by resource consents for 'RM3') will be retained to continue to provide screening throughout the duration of the proposed extraction activity.
 - Extraction of the aggregate resource with standard quarry machinery, such as excavators, loaders, dump trucks, road truck and trailer units.
 - Transportation of aggregate to the main quarry site and processing plant via an internal haul road.
 - Average extraction depth of approximately 10m, with at least 1m of gravel being left between the pit floor and the highest recorded groundwater level at the site (11m below ground level).

- Hours of operation for the activity will be between 0700 to 1800, Monday to Friday and 0700 to 1300 on Saturday.
- Existing dwellings located on the site will continue to be occupied by the landowners and their families for the duration of the quarrying operation.
- Progressive rehabilitation of the site involving re-spreading and contouring of stored overburden materials, stabilisation of quarry faces and grassing of completed and restored extraction areas to create a free draining and stable landform. The batter slope on completion of rehabilitation will be no steeper than 1 vertical (v):3 horizontal (h).
- Duration of extraction is anticipated to be five years. A total consent duration of eight years is sought.

6. In addition to the extraction of aggregate from the Buchanans Road sites, the applicant also seeks consent to process the aggregate at their existing processing site at 394 West Coast Road. As more than 50% of the aggregate being processed is being imported from another property or properties, the activity falls under the definition of an 'aggregates-processing activity' which attracts a restricted discretionary activity status when specific criteria are met or a full discretionary status where they are not.

Figure 2: Proposed 100m setback from closest dwellings



7. Following the close of submissions and prior to the circulation of officers' reports the applicant offered an amendment to the proposal, stating that the setback distance for excavation would be 100m from the closest point of the dwellings at 622 and 659 Buchanans Road, unless written approval is obtained from the owners and occupiers of those dwellings to quarry closer. The screen bunding is proposed to

be on the outside of that 100m setback (ie a 10m wide bund 90m from the closest point of the dwellings). The proposed setback is illustrated in Figure 2 above. The applicant also provided their draft set of proposed conditions and I have used these as a starting point for the conditions recommended in this report but changes where necessary to incorporate CCC reporting officers' recommendations.

8. The applicant has also concurrently applied for four consents from the Canterbury Regional Council (ECan) as follows:
- CRC181273 – a landuse consent for deposition of material over an unconfined or semi-confined aquifer.
 - CRC181274 – a discharge permit for discharge of dust to air from the handling bulk solid materials from quarrying operations.
 - CRC183137 – a discharge permit for the discharge of a contaminant to land (cleanfill)
 - CRC183420 – an application to change the conditions of an existing consent to take and use groundwater.

Background

9. The Commissioner appointed by Christchurch City Council (CCC), Sarah Dawson, made a notification decision on the application to the territorial authority under Sections 95A and 95B of the Resource Management Act on 8 December 2017. Commissioner Dawson determined that the application did not need to be publicly notified, but that a number of persons may be adversely affected by the proposal.
10. As some of these persons had not given their written approval to the application, it was determined that the application needed to be processed on a limited notified basis. A copy of the application was served on those persons and they had an opportunity to make submissions on the proposal. No other persons had a right to make submissions on the application. (Note: The purpose of this hearing is to consider whether or not consent should be granted to this application. In making this decision, the Hearings Panel is required to consider Section 104(3)(d), which states that the consent authority must not grant a resource consent if the application should have been notified and was not. Other than this, the Panel has no jurisdiction to consider the matter of notification at the current proceedings. The only way the notification decision itself can be challenged is by seeking a judicial review through the High Court.)
11. This application for resource consent was received on 1 September 2017 and notice was served on the affected persons on 13 December 2017. ECan notified the affected landowners and occupiers on behalf of both councils and CCC also notified one additional party, the New Zealand Transport Agency (NZTA). The ECan submission period closed on 5 February 2018 and the CCC submission period for NZTA closed on 1 February 2018. A total of 14 submissions were received – 13 in opposition and one in partial opposition. Refer to **Appendix 1** for a list of submitters and their location in the immediate area.

12. The New Zealand Transport Agency submission was received after the closing date for submissions. Commissioner Dawson reviewed a report on this late submission and made a decision on 13 February 2018 to waive the requirement to comply with the timeframe and accept the late submission.

Existing environment

13. The application site and surrounding environment are described in detail on pages 5 – 11 of the assessment of environmental effects submitted with the application. I adopt the applicant's description of the existing environment with the exception of the final sentence pertaining to dust effects which states "*the rural land surrounding the site is of a low to moderate sensitivity to dust impacts*".
14. Having had involvement with a number of quarry related consent applications, I am aware that the adjoining rural-residential neighbours in this locality do raise concerns relating to the effects of dust from quarry sites. So while I agree that in general the rural environment experiences a higher level of naturally occurring dust from the Waimakariri River, from agricultural activities and from historical quarry operations than urban areas of Christchurch, in this instance the proximity of rural-residential neighbours to the quarry zone has led to a somewhat heightened sensitivity to quarry dust amongst these residents. I note that the applicant's air quality assessment which is appended to the AEE states "*residential dwellings are expected to have a moderate to high sensitivity to dust impacts*".
15. I further note that the Council reserve at 545 Buchanans Road is operated as Rimu Park Scout Camp. The site contains a large hall and associated facilities and offers camping accommodation.

Existing Road Metals resource consents

16. The Road Metals Company landholdings in this locality have been the subject of a number of resource consent applications for quarry expansions as follows:

Application number	Address	Date	Activity	Progress
RMA20017806 (Environment Court Ref NZEnvC 163/2006)	394 West Coast Road	December 2006	Extend existing quarry onto 'Sites A & B' (labelled as 'RM1' on Figure 1 above) in the Rural 2 zone. Consent duration - five years for excavation and one for rehabilitation.	Extraction has been carried out and Sites A & B have been rehabilitated (slopes battered and grass cover re-established).
RMA92010173	377 West Coast Road	October 2008	Extraction of aggregate and processing using a mobile crushing and screening plant. Site within the Rural Quarry zone. Consent duration – ten years.	Extraction has been completed. Subsequent consent for backfilling granted.

RMA92015328	350 West Coast Road	July 2010	Extend existing quarry onto site within the Rural 2 zone (labelled as 'RM2' on Figure 1 above). Consent duration – eight years or one year after the completion of extraction.	Extraction has been carried out and the site has been partially rehabilitated.
RMA92027835	290 & 316 West Coast Road	June 2015	Extend existing quarry onto site within the Rural 2 zone (labelled as 'RM3' on Figure 1 above). Consent duration – eight years for extraction and one year after the completion of extraction for rehabilitation.	Extraction is currently underway.
RMA/2016/1462	377 West Coast Road	September 2016	Backfill and rehabilitate quarry site. Consent duration – ten years.	Backfilling currently underway.

17. In addition to these applications, the main quarry site at 394 West Coast Road has several other consent applications, including a weighbridge in 1995 and various consents relating to the concrete batching plant which operates on this site in addition to the aggregate processing equipment. The most recent of these consents for concrete batching is RMA92020379 which was granted in September 2012, and which had conditions relating to consent duration as follows:

9. The concrete batching plant shall only be located on-site for a maximum of 10 years or while native aggregate continues to be extracted from the wider Road Metals site, whichever is the lesser. For the purposes of this condition the wider Road Metals site shall be taken to comprise 350, 377 and 394 West Coast Road and 205 Old West Coast Road (Lot 2 DP 36161, Res 2530 District Canterbury, Lot 2 DP 345731, Lot 9 DP 26999 and Lot 1 DP 80658).

10. Only aggregate material sourced from the site (as defined in Condition 9 above) shall be used in the production of the concrete at the concrete batching plant.

18. The sites referred to in condition 9 comprise the main Road Metals site, RM1, RM2 and the site across the road at 350 West Coast Road. A plan provided by the applicant to Council compliance staff showing areas which the applicant states '*continue to be extracted*' in accordance with condition 9 is attached as **Appendix 2**. I note that further information provided with the quarry rehabilitation plan states that no extraction is currently underway on these sites.

Operative Christchurch District Plan

19. The main quarry site is zoned Rural Quarry in the operative District Plan. This zone is intended to enable access to, and processing of, locally sourced aggregate resources to provide for the recovery, development, ongoing maintenance and growth needs of the district by providing for the continuation of quarrying activity in the Rural Quarry Zone.
20. The areas of proposed aggregate extraction at 581, 619 & 635 Buchanans Road are zoned Rural Urban Fringe. This zone provides for a number of activities which have a direct connection to rural resources or otherwise require extensive land areas, such as farming, rural produce manufacturing, conservation, rural tourism and recreation activities.
21. Extraction of aggregate on the Buchanans Road properties falls under the District Plan definition of 'quarrying activity'. I note that the definition of quarrying activity includes 'ancillary aggregates-processing activity' which is defined as:

"the processing, and associated storage, sale and transportation of natural sand, gravel, clay, silt and rock and/or recycled/recovered aggregates brought in from other properties provided that at least 50% of the total volume of aggregates processed on the property originates from that property."
22. 'Property' in this context is defined as:

"in relation to quarrying activity, means any contiguous area of land, including land separated by a road, railway, drain, water race, river or stream held in one or more than one ownership, that is utilised as a single site or operating unit, and may include one or more certificates of title."
23. A further related definition is that for 'aggregates-processing activity':

'in relation to the Rural Quarry Zone, means the processing, and associated storage, sale and transportation, of natural sand, gravel, clay, silt and rock and/or recycled/recovered aggregates brought in from other properties where 50% or more of the total volume of aggregates processed on the property is imported from another property or properties.'
24. The applicant has applied for the processing activity on the main quarry site as an aggregates-processing activity, rather than an ancillary aggregates-processing activity as more than 50% of the aggregate processed on the site will be from the Buchanans Road properties. I agree with this interpretation and note that the main Road Metals processing site and the RM4 are not physically 'contiguous' to the extent that they are separated by the RM2 site and the rehabilitated former quarry land (RM1).

25. While it could be open for the applicant to argue that the activity is an ancillary aggregates-processing activity, I also note that it is not clear whether the site will be '*utilised as a single site or operating unit*'. For the avoidance of doubt I have accepted the applicant's conservative approach and assessed the processing activity as an aggregates-processing activity.
26. The applicant has further advised that the activity is not covered by aggregates-processing activity under RD8 of Rule 17.8.1.3 as the activity does not operate in accordance with a quarry site rehabilitation plan prepared in accordance with Rule 17.6.4.15¹.
27. The proposal is therefore a **discretionary activity** under the operative Christchurch District Plan under the following rules:
- *Rule 17.5.1.4 Discretionary activities (D3)* – In the Rural Urban Fringe Zone quarrying activity located more than 250m from a residential or school zone is a discretionary activity.
 - *Rule 17.8.1.4 Discretionary activities (D1)* – In the Rural Quarry Zone, any aggregates-processing activity which is not provided for by Rule 17.8.1.3 RD8 is a discretionary activity. The activity does not qualify as a restricted discretionary activity under Rule 17.8.1.3 as the activity does not operate in accordance with a quarry site rehabilitation plan prepared in accordance with Rule 17.6.4.15
28. Note – parking requirements for quarrying and ancillary aggregates-processing activities are calculated on the basis of gross floor area. I consider it is appropriate to apply the parking requirements for ancillary aggregates-processing activities to aggregates-processing activities². As the proposed quarrying activity and aggregates-processing activity do not involve any additional buildings, no additional parking is required.
29. The relevant rural objectives and policies of the District Plan generally seek to enable rural land to be used for rural productive activities, subject to adverse effects on rural character and amenity values being avoided, remedied or mitigated and, in the case of quarries, to the implementation of best practice mitigation measures to internalise environmental effects as far as practicable. Key objectives and policies are listed and discussed in **Appendix 6** and in a later section of this report.

National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES)

30. These standards became operative on 1 January 2012 and seek to ensure that land affected by contaminants in soil is appropriately identified and assessed before it is developed and if necessary the land is remediated or contaminants contained to make the land safe for human use.

¹ I note that reference to Rule 17.6.4.15 is an error in the Rural chapter decision. At the time of the decision, the Quarry zone rules were in section 17.6 of the Plan, but the correct reference would have been to Rule 17.6.4.14 rather than 15. Subsequent renumbering of Plan chapters has resulted in the Quarry zone rules being moved to section 17.8 but this error was not corrected at that stage. I consider it appropriate in this instance to take a purposive approach and read the reference as being to Rule 17.8.3.14 as there is no Rule 17.6.4.15 in the Plan and the intention is clearly to refer to the quarry site rehabilitation standard.

² As per Appendix 7.5.1(a)(iv) which states "*Where an activity does not fall within a particular category, the activity which is closest in definition shall apply.*" The closest category to aggregates-processing activity would be ancillary aggregates-processing activity.

31. The NES controls soil disturbance on land where an activity on the Hazardous Activities and Industries List (HAIL) is being carried out, has been carried out, or is more likely than not to have been carried out. The existing quarry site at 394 West Coast Road has been identified as HAIL land therefore the NES is relevant, however the proposal does not involve any disturbance of soil on this site. Resource consent under the NES is therefore not required.

Other relevant statutory documents

32. The Canterbury Regional Policy Statement 2013 is of relevance to the proposal, however as the Christchurch District Plan has been recently reviewed in full, I consider that the provisions of the Plan, including the strategic directions, give effect to the objectives and policies of the Regional Policy Statement. As such no further direct assessment against the Regional Policy Statement is carried out in this report.
33. The National Environmental Standards for Air Quality, the Canterbury Land and Water Regional Plan and the Canterbury Air Regional Plan are all also of relevance to the application. The proposal is assessed against the relevant objectives and policies of these documents by the Canterbury Regional Council reporting planner, Mr Matthew Harrison in his s42A report.

Submissions

34. A total of 14 submissions were received on this application (13 in opposition and one in partial opposition). One submission was received after the closing date for lodgement, however this late submission has subsequently been accepted. A list of submitters and a map of their location is attached in Appendix 1.
35. Copies of all submissions have been provided to the Hearings Panel.
36. The reasons for the submissions in opposition are summarised as follows:

Access and traffic:

- Issues with the existing access including the design of the access, tracking of gravel on to the State Highway and damage to the edge of the roadway. Gravel on the Highway has resulted in damage to vehicles, particularly broken windscreens.
- Traffic will use Old West Coast Road or Buchanans Road to get to Miners Road.
- Extra heavy traffic going up and down both Buchanans Road and Old West Coast Road poses a significant additional risk to families living on both these roads.

Noise:

- Substantial increase in truck movements on the sites.
- Noise effects of quarrying activity in closer proximity to houses.
- Substantial impact on neighbours from the additional noise of heavy machinery on the site.
- Crusher currently starts at 7am.
- Existing traffic noise levels are minimal and existing ambient noise levels in the weekend are very low.

Dust:

- Quarry traffic creates excessive dust on unsealed roads.
- Health effects of dust, particularly respirable crystalline silica, including on existing health conditions.
- Crystalline silica dust is not visible to the naked eye so visual monitoring ineffective.
- Ceasing activities if visible dust leaves the site is a reactive measure. Proactive solutions should be put in place to keep all dust away from boundaries.
- Reduction in quality of life due to dust.
- Proposal to quarry within the recommended setback distance of 250m from residential boundaries as recommended by the Victorian EPA. Separation distance should be 500m.
- Dust impacts on pasture growth, stock, pets and crops.
- Nuisance effects of dust.

Other emissions:

- Noxious gases from heavy vehicles. Fumes from diesel engines are carcinogenic.

Groundwater:

- Major concerns regarding pollution/contamination of groundwater, local water supply wells.
- Water table would be permanently polluted.
- Effects of the Central Plains Water irrigation scheme, groundwater levels could easily increase.
- Pollution of land/groundwater from backfill, ie treated wood, asbestos, oil, paint.
- Other quarries in the area have repeatedly excavated below waterlines and nothing can or will prevent this from happening in the future.
- Uncertainty as to groundwater depth.
- Rehabilitated land will have less depth to groundwater and less filtering shingle.

Rural character /amenity

- Concerned about the proliferation of quarrying in their rural location. Rural lifestyle is being slowly eroded by quarrying activities.
- Already a lot of quarries in the area, with existing noise, traffic, dust issues.
- Proximity of quarrying to housing/dwellings.
- Visual impacts of the proposal, quarrying creates an unattractive environment.
- Submitters moved to the area for rural fresh air.

Other:

- Duration - residents who moved here after the quarries were operational also knew the quarries had a limited lifespan and that lifespan is almost up.
- Surface water – impact on stock water race.
- Impacts of noise and dust when paying their respects at the Yaldhurst Cemetery.
- Setting a dangerous precedent.
- Concerns regarding enforcement.

37. Several other matters raised in submissions are either not relevant considerations or not able to be addressed via this current hearing and decision process:

- Effects on property values – any impact on property values is considered to be a secondary effect resulting from other adverse effects. Assessing the adverse effects of an activity and effects on property values is essentially 'double-counting the effects.
- Submitter would prefer Road Metals to operate from their Rolleston quarry site – outside the scope of this process.
- Some submitters objected that only neighbours within 250m of the site were notified – apart from the discretion under s104(3)(b), the notification decision is outside the scope of this process.

Resource Management Act 1991

38. *Note: The application was lodged prior to the Resource Management Act amendments on 18 October 2017 and is subject to the provisions that existed at the time of lodgement.*
39. When considering an application for resource consent and any submissions received, the consent authority must have regard to the matters listed in Sections 104 and 104B of the Resource Management Act 1991. Subject to Part II of the Act, which contains the Act's purpose and principles, including matters of national importance, the consent authority shall have regard to:
- a) *Any actual and potential effects on the environment of allowing the activity.*
 - b) *Any relevant provisions of a plan or proposed plan, national environment standard and regional policy statement.*
 - c) *Any other matter the consent authority considers relevant and reasonably necessary to determine the application.*
40. It should be noted that other than giving pre-eminence to Part II, Section 104 gives no priority to other matters. They are all matters to have regard to and the consent authority must exercise its discretion as to the weight that it gives certain matters, depending on the circumstances of the case.
41. Under Section 104B, when considering an application for resource consent for a discretionary activity, a consent authority may grant or refuse the resource consent, and (if granted) may impose conditions under section 108.
42. Section 104(3)(a)(ii) states that a consent authority must not have regard to any effect on a person who has given written approval to the application (unless that approval is withdrawn in a written notice before the date of the hearing). The applicant has obtained the written approval of the following parties:
- Sites forming part of the application site:
 - 581 Buchanans Road – John & Susan Clark (owner/occupiers)
 - 619 Buchanans Road – Kate Scott (owner/occupier)
 - 635 Buchanans Road – Terence Birchfield (owner/occupier)
 - 316 West Coast Road – occupier (owned by the applicant)
 - Surrounding sites:
 - 661 Buchanans Road – Faulks Investments Limited
 - Other parties not deemed affected:
 - 233 Old West Coast Road – Winstone Aggregates (owner/occupier)
43. As noted previously, Section 104(3)(d) states that a consent authority must not grant a resource consent if the application should have been notified and was not. The application was limited notified to those persons identified as being affected by the proposed activity. I do not consider that any

additional information has become available that is relevant to the decision that was made under Sections 95A and 95B of the Resource Management Act.

Greater Christchurch Regeneration Act 2016

44. Section 60(2) of the Greater Christchurch Regeneration Act 2016 requires that decisions and recommendations on resource consent applications are not inconsistent with Recovery Plans and Regeneration Plans.
45. A number of Recovery Plans have been developed in accordance with Section 7 of the Recovery Strategy:
- Christchurch Central Recovery Plan (operative 31 July 2012)
 - Transport chapter of the Christchurch Central Recovery Plan entitled “An Accessible City” (operative 31 October 2013)
 - Land Use Recovery Plan (operative 6 December 2013).
46. The Land Use Recovery Plan (LURP) is somewhat relevant to this proposal as is focused primarily on the recovery of the built environment of the Greater Christchurch metropolitan urban area. It sets out a framework for recovery with the over-arching goal of developing resilient, cost-effective, accessible and integrated infrastructure, buildings, housing and transport networks. It seeks to provide for housing needs, promote affordable housing, make available areas for greenfield subdivision and industrial activities and deliver well-functioning new and repaired infrastructure and services.
47. These recovery actions outlined in the LURP are of relevance to this current proposal as they require access to an adequate supply of aggregate for repair and rebuild of infrastructure and for the development of new urban areas. However I note that the new District Plan provisions against which the activity must be assessed align with the LURP and accordingly no specific further consideration of this higher order document is considered necessary.
48. There are no Regeneration Plans of relevance to this application.

Actual and Potential Effects on the Environment (S.104 (1)(a))

49. As a discretionary activity the Council’s assessment is unrestricted and all actual and potential effects of this proposal must be considered. Relevant guidance is contained in the reasons for the rules breached and the relevant assessment matters as to the effects that require consideration. I have considered the relevant issues and it is my view that they fall broadly into the following categories:
- Noise and vibration;
 - Traffic & access;
 - Dust effects;
 - Visual and landscape effects;
 - Rural amenity;

- Impacts on groundwater and surface water;
- Ecological and cultural values;
- Effects on soil resources;
- Quarry site rehabilitation;
- Effects on Christchurch International Airport;
- Constraints on the use of neighbouring sites;
- Extending the life of the processing site; and
- Positive effects.

Section 104(2)

50. Prior to undertaking an assessment of the effects of this proposal it is useful to consider discretion available under Section 104(2) of the Act (referred to as the “permitted baseline”) whereby a consent authority may disregard an adverse effect of an activity on the environment if the Plan or national environmental standard permits an activity with that effect. Case law has established that this relates to the effects of non-fanciful hypothetical activities which could be carried out as of right under the Plan.
51. Permitted activities in the Rural Urban Fringe Zone include farming and farm buildings, small scale rural produce retail or rural produce manufacturing, residential activity, conservation, recreation or rural tourism activities with buildings and impervious surfaces of up to 100m² in area, poultry hatcheries and veterinary care facilities of up to 100m² in area. Rural sites are permitted to generate up to 100 vehicle trips per day without requiring consent, although this limit does not apply to farming. Permitted earthworks in rural zones are limited to 100m³ per hectare and a maximum depth of 0.6m. These volume and depth controls do not apply to quarrying and the 0.6m depth does not apply to farming.
52. I do not consider that any of the activities that would be permitted on the Rural Urban Fringe part of the site are sufficiently similar in character, scale or effects to the proposed quarry to warrant applying a permitted baseline in this instance.
53. The main Road Metals quarry site at 394 West Coast Road is located in the Rural Quarry zone. Permitted activities in this zone include farming and farm buildings, small scale rural produce retail or rural produce manufacturing, conservation and recreation activities with buildings up to 100m² in area and golf courses and driving range facilities. Quarrying and ancillary aggregates-processing activities are also permitted, subject to a number of activity specific standards including hours of operation, depth of extraction, setbacks, screening and rehabilitation. These activities are contingent on being able to source at least 50% of the total volume of aggregates processed on the site from that site. Once the available aggregate has been extracted from a site, quarrying and/or ancillary aggregates-processing is unable to be carried out.
54. The applicant has provided information in the rehabilitation plan that a small amount of aggregate exists in the main quarry site however accessing this would require the shifting of existing

infrastructure which is not currently viable at this time. I note therefore that a permitted quarry activity can not currently be carried out on the site due to commercial constraints, but if the applicant did choose to extract the remaining aggregate the activity would be of short duration due to the relatively small sections to be extracted. Therefore an ongoing quarry activity does not form part of the relevant permitted baseline in the medium or long term.

55. With respect to the Rural Quarry zoned land, given the limited duration of permitted quarry activities and the dissimilarity between the proposal and other permitted activities, applying a permitted baseline comparison is also of limited benefit for activities proposed on this part of the site.

Noise and vibration

56. Activities associated with quarrying, including bund formation, site preparation, aggregate extraction and transportation have the potential to have adverse noise and vibration effects on neighbouring properties. The applicant has provided an acoustic assessment undertaken by Marshall Day Acoustics (MDA) and this assessment has been peer reviewed on behalf of the Council by Mr William Reeve of Acoustic Engineering Services (AES). Mr Reeve's memo is attached as **Appendix 3**.
57. Noise mitigation measures proposed for the area of aggregate extraction comprise screen bunding which is to be progressively constructed along the application site boundaries with 581, 619, 635 and 659 Buchanans Road. It is proposed to construct the bunds a minimum of 100m ahead of the quarry face and the bunds will have a height of 3m and a width of 10m at the base. Other mitigation measures such as limiting machinery on the extraction site to one loader and one digger, with up to two dump trucks at any one time will also assist to reduce noise effects.
58. No processing will occur on the expanded quarry site and as a result operational noise from the extraction area will consist of noise associated with the loader working the face filling trucks and trucks moving around the site. Construction associated with site preparation and establishment of bunds will be a source of noise from the site. Progressive rehabilitation of the site will also generate noise.
59. Mr Reeve has reviewed the MDA assessment and further information response and agrees with the MDA conclusion that noise levels at the notional boundaries of the closest dwellings which are not on the application site at 659 and 622 Buchanans Road will comply with the District Plan noise limit of 50 dB L_{Aeq} . Mr Reeve also agrees that the activity will comply with the maximum noise level at the site boundary of 55 dB L_{Aeq} and that bund construction will comply with the construction noise standard NZS 6803:1999 at the closest dwelling, providing construction hours of operation are limited to between 0730 and 1800 hours. I consider it appropriate to impose a condition of consent limiting the hours for the stripping of topsoil and formation of bunds to 0730 to 1800 weekdays and 0730 to 1300 Saturdays.
60. Notwithstanding the ability of the activity to comply with District Plan daytime noise limits, Mr Reeve noted that, particularly at the closest dwellings, noise from the quarry will be audible and distinct in

character from passing traffic. I consider the operational noise will be noticeable, particularly for 622 and 659 Buchanans Road, labelled on the applicant's "Setbacks: Extraction Areas – Dwellings" plan submitted with the application as being set back 55m and 10m respectively from the excavation area. With respect to dwellings further afield (105, 120 and 132 Old West Coast Road, set back 130m, 150m and 165m respectively) the District Plan noise levels will be complied with and noise effects are unlikely to be noticeable.

61. Mr Reeve recommended a condition requiring noise monitoring to be undertaken prior to operational works coming within 100m of the dwellings at 622 and 659 Buchanans Road³ to confirm that the 50 dB L_{Aeq} level will be achieved at the notional boundary of these sites. Since Mr Reeve prepared his report however the applicant has suggested an increased excavation setback distance of 100m from the closest point of these dwellings, in order to address the effects on these nearest residents. I note that such an increased setback would render the suggested noise monitoring unnecessary.
62. Mr Reeve agreed with MDA that compliance with District Plan noise limits will be appropriate to ensure noise effects are acceptable at adjoining rural sites. He commented that in addition to complying with District Plan standards, the activity would also comply with national and international guidance for the protection of daytime amenity. In an overall sense, Mr Reeve concurred with the MDA conclusion that noise effects would be minimal at all existing dwellings.
63. With respect to vibration, Mr Reeve noted that guidance on appropriate levels is not contained in the District Plan but that British Standard BS2558-2:2009 would be an appropriate standard. While vibration levels have not been specifically measured at the Road Metals site, based on measurements taken of excavators working on rock quarries, Mr Reeve considered that vibration from the loader dumping a load of gravel at the closest point to the dwelling at 659 Buchanans Road would comply with the British Standard. Vibration from truck movements or excavation at greater distances from dwellings would be even lower.
64. With regard to the existing processing site, Mr Reeve notes that cumulative noise from the processing plant in conjunction with noise from extraction activities has not been assessed by MDA. Mr Reeve undertook his own calculations based on previous measurements taken of crushing and screening equipment operating in other aggregate quarries and extrapolating over the distance to the closest two dwellings at 175 Old West Coast Road and 335 West Coast Road. He concluded that at the notional boundary of the dwellings noise received from processing plant would be in the order of 46 and 44 dB L_{Aeq} respectively. Mr Reeve noted that these calculations were conservative. Based on his calculations Mr Reeve concluded that cumulative effects from both the processing plant and extraction would comply with the District Plan noise standards at the notional boundary of the closest dwellings.
65. I accept the advice of the acoustic consultants. Given the conclusions that the activity can comply with the District Plan noise standards and relevant international guidance on vibration at the closest

³ 622 and 659 Buchanans Road are the closest dwellings to the proposed extraction area, aside from those dwellings on the application site itself from whom written approval has been obtained.

dwelling (659 Buchanans Road), I consider any noise and vibration effects to be less than minor when considered in isolation.

Traffic and access

66. Heavy vehicles travelling to and from the proposed quarry site will not directly access the road network but instead utilise an internal haul road to access the Road Metals processing site at 394 West Coast Road. No quarry traffic will access Buchanans Road; trucks will instead use the existing Road Metals access on to West Coast Road (State Highway 73).
67. Traffic volumes using the existing West Coast Road access will remain the same as current volumes. Information supplied by the applicant suggests an average daily traffic volume in the three month period to the end of November 2017 of 190 vehicle trips per day which would comply with the high trip generator thresholds in the District Plan. The applicant advises *“this will remain consistent through the summer months (perhaps Dec/Jan excluded where they may be reduced due to Christmas and new year period) and reduce over the winter months”*⁴.
68. Due to the fact that all vehicles will be travelling internally on haul roads and no vehicle traffic will access Buchanans Road, I consider that any adverse effects from quarry traffic on those rural-residential neighbours on Buchanans Road and Old West Coast Road to the north, west and east of RM4 will be confined to noise and dust effects of quarry trucks moving around the working area. These effects are discussed in separate sections of this report.
69. A further matter to be considered is extension of the life of the main Road Metals site and continuation of existing effects from heavy vehicles using the accessway and West Coast Road. The New Zealand Transport Agency (NZTA) is the road controlling authority for State Highway 73 / West Coast Road and lodged a submission on the application.
70. The NZTA submission raised concerns with the existing site accessway including the design of the access, tracking of gravel on to the State Highway and damage to the edge of the roadway, stating that gravel on the highway in this location has resulted in damage to vehicles, particularly broken windscreens. NZTA seeks a review of the vehicle crossing undertaken by a roading engineer including specific recommendations as to potential repairs or improvements of the access area. They further request that additional measures be determined that will assist in minimising the risk of material tracking or dropping to the State Highway.
71. Advice on transport and access matters has been sought from Council Transport Network Planner, Mike Calvert, whose memo is attached as **Appendix 4**. Mr Calvert has reviewed the application and NZTA submission. He notes that Council compliance staff have identified similar issues with the operation of the access to those identified by NZTA. These include problems with edge break on the

⁴ Email from Geoff England, Golder Associates to Emma Chapman, Christchurch City Council – 30 November 2017.

road in the vicinity of the access and dust and debris being carried onto SH73 from the site creating potential safety issues. Mr Calvert considers these matters need to be addressed in order for the access to operate in a safe and efficient manner going forward.

72. Photographs are appended to Mr Calvert's memo showing dust and loose gravel being deposited on the roadway outside the quarry access. Mr Calvert noted that Road Metals sweep the road in front of the site but that using a road sweeper on a high volume road with high vehicle operating speeds can be unsafe. Mr Calvert therefore recommended that Road Metals implements further measures to help reduce gravel tracking out onto the road and that this could include sealing the access further into the site or the installation of judder bars or similar mechanical method for dislodging gravel and silt before trucks leave the site. I note that the accessway is already sealed for at least 150m or more back into the site including the weighbridge through which the majority of vehicles leaving the site will pass. There are currently no judder bars, rumble strips or shaker mat installed within the site and the installation of such a measure could be secured by way of a consent condition.
73. Mr Calvert noted that the installation of judder bars or a rumble strip may have noise implications for nearby rural residential neighbours. This matter was addressed by Mr Reeve in his noise memo. He identified that the dwelling at 335 West Coast Road appears to be the closest dwelling, located in excess of 700m from the site access. Mr Reeve stated:
- "At these distances, and with trucks travelling at low speeds (i.e. at 20 km/hr as proposed by Road Metals in the application during dry conditions), we expect that the additional of judder bars would make negligible difference to the absolute noise level received at these locations. Generally, the existing noise levels from traffic on the State Highway travelling at high speed are expected to be dominant at these locations."*
74. With regard to the issue of breaking up of the edge of the seal on the highway adjacent to the access, Mr Calvert identified the current access layout is not designed to the minimum standard that would normally be required under either the District Plan (Appendix 7.5.10 Design of Rural Vehicle Crossings, Figure 14) or by NZTA. This can lead to pot-holing, undermining of the integrity of the road, deposition of loose chip on the road and consequently the requirement to undertake additional maintenance of the road. Mr Calvert advised that widening of the carriageway on the opposite side of the road and some alterations to the corner radii of the access and taper to the edge of seal would be required in order to achieve compliance. Again I consider that this can be secured by way of a condition requiring the access be upgraded in accordance with Appendix 7.5.10, Figure 14.
75. With respect to traffic matters raised in other submissions, Mr Calvert has also addressed the point raised in one submission which states that the activity will result in greatly increased heavy vehicle traffic on Old West Coast Road and Buchanans Road. This submitter appears to be under the impression that vehicle access to the site is from Miners Road. Mr Calvert notes that given the location of the existing access on to West Coast Road, the volumes of heavy vehicle traffic on Buchanans Road and Old West Coast Road are unlikely to change as a result of this proposal.

76. Extension of the life of the main quarry site also extends the effects of heavy vehicle traffic passing rural residential properties on West Coast Road. The majority of the quarry traffic originates from the urban area of Christchurch and therefore primarily accesses the site from the east and returns again into the city. Traffic leaving the site initially passes rural sites at 357, 341, 335, 315 and 257 West Coast Road. At 357 West Coast Road a resource consent (RMA/2016/2827) has recently been granted to quarry the land to a depth of 4m and to subsequently use the site for a contractors yard. Council records indicate that the consent holder has begun to give effect to the consent through the preparation of a site management plan in accordance with consent conditions. I do not consider that additional quarry traffic from the Road Metals site will have adverse effects on the owners and occupiers of this site.
77. The next property at 341 West Coast Road is a vacant rural site. I do not consider this site to be particularly sensitive to quarry vehicle traffic on the state highway and I consider any adverse effects of prolonging quarry traffic to be negligible for this property. Similarly I do not consider the additional traffic generation will have adverse effects on the Department of Correction land located to the south of the Road Metals site. The correctional facility is located some 700m away from the site access and West Coast Road. The rural land which forms part of the wider Corrections landholding is not sensitive to the effects of heavy vehicle traffic.
78. Two rural dwellings are located further to the east at 335 and 315 West Coast Road. The owners of 335 West Coast Road lodged a submission against the proposal and cited rural amenity type issues as one of their concerns. Rural amenity can be affected by levels of heavy vehicle traffic which are out of character with the surrounding area, In this instance however I note that State Highway 73 carries a high volume of traffic and a significant proportion of these will be heavy vehicles, whether or not consent is granted to this current proposal. At some point traffic from any one site simply becomes part of the flow of traffic along the highway, rather than being identifiable as generated by a particular activity.
79. I consider that this is likely to be the case for 335 and 315 West Coast Road and for other rural sites further to the east. The property at 335 West Coast Road is some 660m from the Road Metals access, with the dwelling set back a further 170m from the road. Given these separation distances and taking into account the level of existing heavy vehicle traffic on the State Highway, I consider any adverse effects resulting from prolonging heavy vehicle trips from the Road Metals site will be less than minor and objectively acceptable for these rural sites, and negligible for those further afield.
80. For these reasons I consider any adverse traffic effects resulting from the extended use of the current access are able to be mitigated by imposing conditions relating to the formation of the access and to the installation of judder bars or similar, to the extent that they will be less than minor and acceptable. Effects from prolonging the heavy vehicle traffic to and from the site on West Coast Road / State Highway 73 are likewise considered acceptable.

Dust effects

81. Quarrying of aggregate can give rise to dust from activities such as the stripping of top-soil, vehicles driving on unsealed areas and the handling and processing of materials. Dust generating activities on quarry sites, if not adequately controlled, can give rise to significant dust effects with a consequent impact on rural amenity.
82. Dust effects are one of the most obvious effects of quarrying and associated activities and a matter which is often raised by adjoining neighbours. A number of submissions on this application have raised concerns regarding the health and nuisance effects of dust from the activity as well as effects on pasture growth, stock, pets and crops. Some submitters feel that a greater setback distance from dwellings is required in order to adequately mitigate dust effects.
83. The District Plan does not contain specific rules relating to the control of dust as these effects are primarily managed by the Canterbury Regional Council through the Canterbury Air Regional Plan. However, quarrying does attract a discretionary activity status under the District Plan in the Rural Urban Fringe zone and the Plan seeks to ensure that rural amenity values are maintained and, where appropriate, enhanced. All adverse effects must therefore be considered and the Plan therefore requires consideration of the amenity effects of dust.
84. A number of dust mitigation measures are proposed in the air quality assessment from Golder Associates supplied with the application. These include:
- the use of water carts for dust suppression as required (more frequently in dry and/or windy conditions);
 - no material, other than material to be retained for rehabilitation, to be stockpiled on the RM4 site;
 - no processing carried out on RM4;
 - limit vehicle speeds to 15 km per hour on the site during dry conditions⁵;
 - form haul roads from an aggregate base which is mostly free from fine material;
 - limiting the number of vehicles and machinery operating in the RM4 site;
 - minimising drop heights;
 - pre-dampening overburden prior to removal;
 - avoiding bund formation works when windy weather is forecast or ground surface is particularly dry;
 - minimising the total area of exposed surfaces;
 - implementation of a Dust Management Plan which identifies actions required to ensure proposed management and mitigation measures are carried out;
 - targeted monitoring of dust through continuous dust monitoring equipment fitted with an alarm system that activates at set trigger levels; and

⁵ 20km per hour was the speed limit originally proposed by the applicant but a reduced speed of 15km per hour was subsequently offered in the applicant's proposed conditions.

- monitoring of wind speed and directions using the existing on-site meteorological equipment, with trigger levels to cease quarry operations.

85. An excavation setback of at least 10m to sensitive receptors on adjoining sites was initially proposed by the applicant, meaning that the setback of extraction was to be 10m from the notional boundary⁶ of the dwelling at 659 Buchanans Road or approximately 30m from the dwelling itself. As outlined previously, the applicant more recently offered to increase the setback distance to 100m from the closest points of the dwellings at 622 and 659 Buchanans Road, giving a set back of approximately 80m to the notional boundary of these dwellings (refer to Figure 2 above). This increased setback distance would apply if the applicant is not able to obtain written approval from the owners and occupiers of these dwellings. If written approval is obtained, the original setback distances would apply.
86. The application, further information response and dust management plan have been reviewed by Environment Canterbury consents planner Mr Matthew Harrison and ECan have also commissioned an independent peer review of the Golder Associates air discharge assessment. This review was carried out by Jenny Simpson and Jason Pene of Tonkin & Taylor (T&T), who have taken into account the increased setback distance now proposed.
87. T&T agree with the applicant's air discharge assessment that the properties at 659 Buchanans Road (R1), 105 Old West Coast Road (R5) and 622 Buchanans Road (R6) are those most at risk of nuisance dust effects and that measures which adequately mitigate effects on these properties will ensure that sensitive receptors further afield are adequately protected from dust effects.
88. T&T noted that a key dust control measure is the requirement to cease dust generating activities when strong dry winds are blowing towards receptors R5 and R6 (winds from the south to the west west-southwest, or approximately 170°N to 275°N), however that the same restriction is not in place for the closest dwelling, R1 at 659 Buchanans Road. They consider that this requirement should be implemented for R1 and therefore recommend this as an additional mitigation measure. I consider this measure should be imposed as an additional condition of consent. I note that T&T have not stated the wind direction which should be specified to protect R1 and therefore further comment on this from the air quality experts at the hearing would be helpful. T&T consider the increased setback distance of 100m to the nearest dwellings, coupled with the dust mitigation measures proposed by the applicant and the additional requirement they have recommended will be adequate to ensure that the effects of nuisance dust are less than minor.
89. With respect to the health impacts of dust generated by the activity, including those related to PM₁₀ and respirable crystalline silica, T&T concluded:

⁶ A line 20m from the wall of a residential unit. This is consistent with the Canterbury Air Regional Plan definition of "sensitive activity" which means an activity undertaken within 20m of the façade of a dwelling.

“The nature of proposed activities means that emissions of PM₁₀ and RCS (which is a component of PM₁₀) will be relatively low compared to the corresponding emissions from other quarrying activities in the area. Given the local predominant wind directions, PM₁₀ and RCS emissions from the site are unlikely to have cumulative effects with emissions from other quarrying activities. For these reasons, I consider it unlikely that discharges from the site would contribute to an exceedance of the ambient air quality guidelines and standards for PM₁₀ or the assessment criterion for RCS.”

90. T&T also discussed the other dust related effects raised by submitters, including effects on the cemetery, animals such as pets and livestock, and dust deposition on pasture and crops. Overall T&T considered the likelihood of these effects to be low, noting that these effects would generally occur where levels of dust generation and deposition are high. I accept this advice and consider that, given that the mitigation measures outlined above are sufficient to mitigate dust effects for the closest dwellings, these same measures will be sufficient to ensure that any adverse dust effects on the cemetery, animals and vegetation will be less than minor.
91. T&T also recommended some minor changes to conditions such as the requirement to maintain and resurface the haul road and around the use of dust suppressants. Whilst a number of the dust mitigation measures can be imposed on the CCC land use consent, I note that the more detailed and/or technical conditions, including those such as the requirement to install equipment to monitor total suspended particulate, would generally be imposed as conditions of the ECan air discharge permit, should it be granted. This is appropriate as it avoids duplication to a certain extent and leaves monitoring of more technical consent conditions to the regional council, who have the expertise in enforcement of such conditions.
92. I do consider one of the dust mitigation measures proffered in the applicant’s draft conditions relating to water carts needs to be more specific. The condition as proposed one of the mitigation measures to be “maintaining a portable water and sprinkler cart on the adjacent Road Metals’ site”. I do not consider this condition to be adequate and have recommended an alternative condition wording specifying that water should be applied by water cart for the suppression of dust as and when required on the working areas of the RM4 excavation area and on the haul road, and on any other areas as required and that the cart should be available at all times for the purpose of dust control.
93. Taking into account the additional setback from the closest dwellings, the mitigation measures proposed and subject to the recommended amendments to conditions, I rely on the advice of Tonkin & Taylor to conclude that the adverse dust effects of the proposed extraction can be mitigated to the extent that they will be less than minor and objectively acceptable.

Visual and landscape effects

94. Measures proposed in the applicant’s AEE to mitigate the visual effects of the proposed quarry are:

- to maintain a 10m setback from adjoining sites and those parts of 581, 619 & 635 Buchanans Road which are not to be quarried;
- construction of 3m high, 10m wide screen bunding in the locations as shown on the Staging Plan in Figure 1 above, with bunding to be constructed progressively 100m ahead of the quarry pit face;
- retention of existing shelterbelt type screening along the sections of Buchanans Road where the quarry extends through to the road boundary (refer to Figures 3, 4 and 5 below); and
- establishment of fast growing planting along this boundary in any gaps in the existing planting.

95. As outlined above, prior to the circulation of officer reports the applicant additionally offered an increased setback distance for excavation of 100m to the two closest dwellings at 622 and 659 Buchanans Road.

Figures 3 & 4: Existing planting between dwellings at 581 and 619 Buchanans Road



Figure 5: Existing shelterbelt between dwellings at 619 and 635 Buchanans Road



96. The application has been reviewed by Jennifer Dray, Council Senior Landscape Architect and her memo is attached as Appendix 5 to this report.
97. Ms Dray has some concerns relating to visual effects of the proposal. She noted in her memo that the proposed bunds will have a gradient of 1v:1.5h on each side which is steep, making it difficult to establish and maintain grass cover. Steep bunds such as these are more visually dominant than more gentle bunds, with lower profile bunds having a more natural appearance and integrating more easily into the landscape.
98. Ms Dray recommends that where bunds will be visible from public places or from sites where the owners have not given written approval, the gradient of the bund on the outer slope facing the road or shared boundary should be reduced to 1 vertical:3 horizontal. On this basis of a 1:3 gradient on the outside and a 1:1.5 gradient on the inside of the bund, Ms Dray calculated an approximate bund width of 15m. I note that the applicant's draft set of conditions now stipulates a 1:3 bund gradient on the road side of the bunds and a 1:1 gradient on the inside of the bunds. I consider a 1:1 gradient is acceptable on the quarry side of the bund. This will require a 13m wide bund, including a 1m flat top.
99. In addition, Ms Dray noted that some bunds are proposed to be located in behind existing shelterbelts or established trees along site boundaries. In order to ensure the survival of this existing planting, bunds should not be constructed at the base of the trees or over the root plates. It is therefore necessary to allow an additional 5m setback from road boundaries to allow for these shelterbelts. As a result, where a less steep bund is required and an offset from the existing trees, an 18m setback of excavation will be required instead of the applicant's originally proposed 10m.
100. Ms Dray also recommended that, where the bund is proposed on the western side of the shelterbelt to be retained on the western boundary of 619 Buchanans Road, the bund should be offset a minimum of 1m from the western edge of the shelterbelt. I note from Council aerial photos that the shelterbelt appears to be approximately 8m wide in the photo, but also note that shelterbelts can be trimmed to reduce their width. I consider both the bund on the western side and the quarry pit face on the eastern side should be set back a minimum of 1m from the closest part of the shelterbelt or at least 4m from the tree trunks, whichever is the furthest, in order to avoid undermining the shelterbelt or damaging its roots.
101. Ms Dray reviewed the screening proposed and views available into the site from various publicly accessible vantage points and recommends a number of changes as follows:
- Bund and screening along 581 Buchanans Road frontage – as the existing planting is deciduous and doesn't form a continuous hedge, the bund will be visible along this boundary. A reduced bund gradient (giving a 15m wide bund) and an additional 5m offset from the boundary will be required along this section. The setback of excavation from this boundary will therefore need to be 20m.

- Bund and screening along 619 Buchanans Road frontage – the existing shelterbelt along the front of the proposed extraction area will screen the bund and therefore a steeper bund is acceptable. However the bund will be visible along the side boundaries particularly where there is an existing access gate into the property at the eastern end of the extraction area. At the western end of this section there is an existing access leg into the Road Metals site (proposed not to be used as part of this activity) at which the bund will also be visible. Infill planting should be undertaken across these two areas to reach a mature height of at least 3m. The bund should be set back from the existing shelterbelts and infill planting and therefore a 15m setback of excavation will be required along the 619 Buchanans Rd road boundary.
- Cemetery boundary with 581 Buchanans Road – Ms Dray considers additional tree planting should be undertaken along the bund running south-east to north-west behind the dwelling at 581 Buchanans Road to screen the site and the bund as there are places where the site will be visible from the cemetery. I consider it likely that families visiting the cemetery will expect a relatively high level of visual amenity at the site and consider it important that this is maintained. I note however that the same level of screening could be achieved by undertaking infill planting in any gaps along the approximately 30m long section of boundary at the southern end of the internal boundary between 581 Buchanans Road and the cemetery, rather than undertaking planting along the bund itself.

102. With respect to the visual impacts of the quarry on the property at 659 Buchanans Road, Ms Dray noted that the applicant initially proposed a steep bund along the entire shared boundary with the quarry face set back 10m from the adjoining site. If excavation is to be adjacent to the shared property boundaries in this location, Ms Dray considers the bund gradient should be reduced facing the neighbouring site and a 5m wide planting strip be established between the bund and the boundary. Planting in the landscape strip should be shrubs or trees capable of growing to 3m at maturity, to be 1.2m in height at time of planting and at minimum 1m spacings. This would give an excavation setback of 20m from the boundary.
103. Ms Dray considered that if excavation was to be set back 100m from the dwelling at 659 Buchanans Road and the bund followed this alignment, then a steeper bund with a 90m setback from the dwelling could be acceptable. However this would still require planting along the remainder of the boundary (southern and part of the eastern boundary of 659 Buchanans Road) where the bund would continue to be adjacent the site boundary.
104. It is not possible to know if the applicant will obtain written approval from the owners and occupiers of this site at some time in the future. Written approval may be given but if it is not, it will be too late to attempt to establish a planting strip just prior to the quarry reaching this site. Should consent be granted, any new planting required would need to be established immediately to have time to grow. Given the uncertainties involved and the lag time to establish planting, I consider the 5m wide landscape strip recommended by Ms Dray along the eastern and southern boundaries of 659

Buchanans Road should be established at the outset, regardless of whether of written approval is or is not obtained at a later stage.

105. Regarding the 100m setback proposed from 622 Buchanans Road, Ms Dray considered the bund (as described above, with a reduced gradient on the road side) should remain in the location originally proposed, in behind the existing trees, regardless of whether the excavation setback is 20m from the road boundary or 100m from the dwelling at 622 Buchanans Road. I concur with this assessment.
106. In terms of visual effects on other parties, I note that the applicant has stated that the existing bunding on the southern boundary and around the existing residential units 290 and 316 West Coast Road will be retained for the duration of this resource consent. This will effectively screen the site from the view of these two dwellings located on the Road Metals owned land. These bunds, in combination with the setback distance will effectively mitigate any adverse visual effects on sites to the south of West Coast Road.
107. I accept Ms Dray's advice on the visual effects of the proposal and consider the changes to the proposed visual screening outlined above should be required through conditions on the consent, should it be granted. Subject to these requirements being implemented, I consider the visual effects of the proposal will be mitigated to the extent that they are not more than minor.
108. Ms Dray also discussed the cumulative visual effects of multiple quarries in the same locality on landscape character, noting that submitters had raised concerns about the proliferation of quarrying in the area. While Ms Dray considers that, subject to the changes outlined above, the visual impacts of the quarrying activity can be adequately mitigated, she also stated:
- "... the existing landform of the Canterbury Plains is being permanently altered, as it is unlikely that the site will ever be returned to its original levels. The concentration of quarries in the immediate area is eroding the sense of place of the Canterbury Plains as an open, rural landscape."*
109. I acknowledge the comments of Ms Dray in this regard however I must also view them in light of the objectives of the District Plan which seek to enable rural productive activities, including quarrying, subject to their adverse effects on rural amenity being mitigated to an acceptable level. The current proposal is located adjacent to the existing quarry zone where quarrying activities are permitted over nearly 350 hectares. Quarrying and quarry pits are a long established feature of this particular part of the District. The proposal involves an extension further out of an existing pit, rather than the establishment of a new quarry. It utilises the existing Road Metals quarry infrastructure located within the Rural Quarry zone such as the processing plant and vehicle access onto the State Highway.
110. I agree that a series of grassed engineered depressions interspersed with sections at original ground level results in an unnatural landform, albeit one that the District Plan considers to be acceptable within the Rural Quarry zone. Following rehabilitation of the sites however, the activity will result in an expansion and extension further north of the grassed depression created by RM2 and RM3, rather

than its own separate quarry pit. Taking this into account I consider any adverse effects in this regard would be no more than minor.

111. I further note that this quarry expansion would effectively utilise the last remaining area of this triangular Buchanans/West Coast/Old West Coast Road block and no further expansion of the Road Metals operations eastwards would be possible.
112. For these reasons I consider that the adverse visual and landscape effects of the proposal are able to be mitigated to the extent that they are no more than minor.

Rural amenity effects

113. As noted above submitters are opposed to the proliferation of quarries in this area and consider that their rural lifestyle is being slowly eroded by quarrying activities. These issues are essentially concerns about the impact of the activity and quarries in general on the submitters' rural amenity.
114. "Amenity values" are defined by the Act as being 'those natural or physical qualities and characteristics of an area that contribute to people's appreciation of its pleasantness, aesthetic coherence and cultural and recreational attributes'. The District Plan adopts this definition.
115. Visual factors are a significant aspect of amenity values. Rural amenity in particular derives from not only landscape features but also from the proliferation of rural land uses. Rural areas are characterised by openness and vegetation including pastoral grass cover, with a low density of built form. Rural areas, as distinct from natural or wilderness areas, are generally modified by productive land use activities such as agriculture, horticulture and forestry.
116. This is the case for the sites at 581, 619 and 635 Buchanans Road, which have a predominance of exotic pasture grass and other exotic vegetation such as shelterbelts, along with structures such as fences and farm accessory buildings. All three each contain a dwelling with associated lawn areas and garden planting and one property incorporates a grass tennis court.
117. The objectives and policies of the rural chapter (Chapter 17) provide guidance as to the rural character and amenity values which are anticipated by the District Plan for the rural land surrounding the City. These provisions are attached in Appendix 6. In particular, policy 17.1.1.3 identifies that rural character and associated amenity stems from the following:
- i. a landscape dominated by openness and vegetation;*
 - ii. significant visual separation between residential buildings on neighbouring properties;*
 - iii. where appropriate, buildings integrated into a predominantly natural setting; and*
 - iv. natural character elements of waterways, water bodies, indigenous vegetation and natural landforms, including the coastal environment where relevant.*

118. Policy 17.1.1.3 also identifies that rural character and amenity values vary across the district and are influenced by the location and extent of established and permitted activities. The final part of the policy states that “rural productive activities” in rural areas can produce noise, odour, dust and traffic consistent with a rural working environment, that may be noticeable to residents and visitors in rural areas.
119. The District Plan includes quarrying in the definition of “rural productive activity”. Other rural objectives and policies seek to support and enable the ability to carry out rural productive activities in rural zones, as long the adverse effects can be adequately avoided, remedied or mitigated.
120. Thus the character sought by the Plan for rural areas is of open space and vegetation with a low density of built form, characterised by the use of land primarily for rural productive activities. Intended rural amenity is therefore that associated with a rural working environment, and necessarily includes the effects created by rural productive activities, which can include odour, dust, noise and traffic.
121. The proposed extraction activity will impact upon existing rural amenity by way of visual effects, and the generation of noise and dust which is likely to be noticeable to the closest rural residents, in particular on 622, 659 Buchanans Road and 105 West Coast Road. In my opinion, based on the preceding sections of this report, each of these effects can be adequately avoided, remedied or mitigated to the extent that they are acceptable and minor or less than minor, subject to the increased setback distance of excavation from the closest dwellings .
122. However it is also important to view these effects together and there may be situations where, despite each individual effect being deemed to be minor, the overall effects on amenity from noise, dust, traffic and visual effects may collectively be more than minor.
123. In this instance I note that the traffic effects of the proposal are directed away from the adjoining neighbours on Buchanans Road and that the activity will also be well screened from this road. The two properties which face the site (105 Old West Coast Road and 622 Buchanans) will therefore not see coming and going of heavy vehicles to and from the site or into a vehicle access as would usually be the case with a quarry activity. They will view some of the screen bunding but not the actual activity on site. Noise levels will be compliant with District Plan standards and dust effects adequately mitigated. I further note that both these properties have a good level of screening around the existing dwellings, with large established shelterbelts on the Buchanans Road frontage. Whilst that screening cannot be relied upon as part of this consent application, there is a reasonable likelihood that these shelterbelts will remain for the duration of this proposed activity.
124. Given these factors and the proposed setback of excavation from these dwellings of 130m and 100m respectively, I consider any adverse amenity effects for the owners and occupiers of these two properties to be less than minor.

125. With respect to 659 Buchanans Road, I note that this property does not have the benefit of the other two properties of being separated from the site by a road, nor does it have the large shelterbelts for screening purposes. The extraction site will directly adjoin this property on two sides and additional visual mitigation in the form of a planting strip has been recommended. Noise effects will be noticeable for this property, particularly during bund formation and when extraction is close to the property boundary. Prior to the applicant volunteering a 100m setback of excavation from this dwelling, I was of the opinion that collectively the noise, dust and visual effects of the activity in such close proximity would have a more than minor adverse effect on rural amenity for the owners and occupiers of this property. However, taking into account this additional setback and the T&T conclusion that dust effects will be acceptable if dust mitigation measures are diligently implemented at all times, I consider the proposal to now just be at a level where amenity effects for this property could be considered minor and, on balance, acceptable.
126. I consider any adverse effects of the expanded extraction area on rural amenity for properties further afield than these three sites, including those properties at 79 and 175 Old West Coast Road, the cemetery site, sites on the northern side of Old West Coast Road and sites accessed from West Coast Road, will be less than minor. Effects on those properties on West Coast Road from prolonging the use of the main quarry site at 394 West Coast Road are discussed in a subsequent section.
127. In an overall sense I consider that, subject to recommended conditions attached to this report, the adverse effects on rural amenity are able to be avoided, remedied or mitigated to the extent that they are minor. I consider that the effects of the activity are consistent with what could be anticipated in the rural working environment, particularly with respect to the emphasis given in the District Plan to enabling rural productive activities on rural land.

Impacts on groundwater and surface water

128. Extraction of the RM4 site will occur over the unconfined aquifers located in this part of the district and as such careful regard must be had to the protection of groundwater quality. In general, aggregate extraction poses a relatively low risk to groundwater but potential for contamination can arise from fuel spills, leakages from machinery or from the placement of unsuitable backfill materials with the potential to leach contaminants into groundwater.
129. Maintaining a buffer of untouched material between excavation and the highest groundwater level for the site ensures that there is at least some intervening gravel in place to allow time for spill response measures to be carried out. This buffer also ensures that no work occurs or machinery operates in direct contact with groundwater.
130. The District Plan limits the maximum depth of quarrying in the Rural Quarry Zone to 1m above the highest recorded groundwater level and I consider it appropriate to impose the same limitation on quarries which are proposed outside the quarry zone. An additional control which seeks to protect groundwater quality is the requirement that material to be placed into quarry sites must be cleanfill.

131. Notwithstanding these quarry provisions, effects on groundwater quality are primarily managed through the ECan Land and Water Regional Plan (LWRP). Excavation of material over an unconfined or semi-confined aquifer is a permitted activity under this plan provided that there is more than 1 m of undisturbed material between the deepest part of the excavation and the seasonal high water table level⁷. The deposition of material onto land which is excavated to a depth in excess of 5m below the natural land surface and is located over an unconfined or semi-confined aquifer, where the seasonal high water table is less than 5m below the deepest point in the excavation is a controlled activity under the LWRP. The applicant has applied for a landuse consent from the regional council for a controlled activity for the deposition of material (for site rehabilitation) and a discharge permit for the discharge of a contaminant to land from cleanfill (as a discretionary activity).

132. Section 4.3 of the AEE states:

“Taking into account the areas to be retained around the existing dwellings and the retention of a 10m setback from the road boundary and the eastern site boundary, extraction of approximately 750,000 bank cubic metres (BCM) of gravel will be available to be quarried from the site.

This volume has been determined by assuming an average extraction depth of up to 10 m across the site, allowing for up to 500 mm of topsoil to be removed and at least a 1 m freeboard to be retained between the quarry pit floor and the highest recorded groundwater level at the site (11 m bgl) [below ground level].”

133. However I note that Section 3.5 of the AEE states:

“This correlates to the groundwater table reaching a minimum distance of 15.10 m bgl. The proposed quarry can be excavated to a maximum depth of 14.10 m bgl, or 38 amsl {above mean sea level}, to maintain the required distance of 1 m above the maximum expected groundwater table.”

134. Determination of the high water level for the site is a key factor in ensuring adequate separation distance is from groundwater is maintained. ECan’s senior groundwater quality scientist Marta Scott has estimated a likely depth to groundwater of between 12.5m and 11.1m below ground level and has therefore recommended a maximum excavation depth of 10.1m below ground level⁸. This ties in more closely with the figure quoted in section 4.3 of the AEE rather than the figure of 14.1m in section 3.5.

135. Further clarification has subsequently been provided from the applicant’s planner Kevin Bligh of Golder Associates, on this matter⁹. Mr Bligh has confirmed that the applicant will ensure that the maximum

⁷ Seasonal High Water Table is defined in the LWRP as meaning “...at the time the activity is established, the highest elevation that the water table has reached between the months of June and August inclusive”.

⁸ Groundwater Quality Assessment Memo from Marta Scott, Senior Groundwater Quality Scientist to Matthew Harrison, Consents Planner – dated 27 November 2017.

⁹ Email from Kevin Bligh, Golder Associates to Emma Chapman, Christchurch City Council , dated 5 December 2017.

depth of extraction is no deeper than 1m above the seasonal high water table level and that the activity operates in accordance with the LWRP permitted activity rule for excavation over an unconfined or semi-confined aquifer. Mr Bligh further advises that the applicant will comply with the maximum depth of excavation as determined by ECan hydrogeological staff in order to operate as a permitted activity.

136. In her memo Marta Scott estimated the depth to groundwater using the seasonal high water table level as required under the LWRP. Further clarification was sought from Environment Canterbury regarding whether the seasonal high water table on the application site would be the same as the highest recorded groundwater level (the level specified in the District Plan). Confirmation was provided from Lisa Scott, a senior groundwater scientist at ECan who advises that given the highest recorded level at the relevant bore (M35/1080) was obtained in the month of July 1978, the seasonal high water table and highest recorded groundwater level would be the same. A maximum depth of excavation of 10.1m should therefore be a condition of any consent granted.
137. Further mitigation measures to protect groundwater are specified in the AEE. No storage of hazardous substances will occur on the RM4 site and all refuelling of machinery will take place on the main Road Metals quarry site. The applicant states that in the event of a hydraulic oil or fuel leak, appropriate contingency measures including spill kits, a Spill Management Plan and staff training will be in place to manage such an event. All spill events will be recorded, including the volume of spill and the clean-up action taken. Any contaminated soil will be appropriately disposed of to an authorised off site facility.
138. Subject to these mitigation measures and to the excavation at all times maintaining a one metre separation distance between the pit floor and the highest recorded groundwater level, I consider any adverse effects on groundwater quality to be less than minor.
139. I adopt the applicant's assessment in section 6.3 of the AEE relating to the effects of the proposal on surface water and concur that any adverse effects in this regard will be insignificant.

Ecological and cultural values

140. The land parcels which make up the proposed RM4 site are currently used for rural residential dwellings and grazing and contain no significant biodiversity. I accept the applicant's assertion that due to the modified nature of the site and its history of agricultural landuse, any effects on terrestrial ecology will be limited. I consider that the proposed quarry will have insignificant adverse effects on ecology and biodiversity within the proposed application site boundaries and upon the wider environment. Once the quarry activity has been completed and the site is rehabilitated it is intended to return the site to pastoral landuse or other permitted use.
141. The Environment Canterbury draft s42A report has examined the potential for cultural sites of significance within the area. The report states that the site is not located within a silent file area and notes that there are no Heritage New Zealand sites on the application site. Similarly the District Plan does not identify any sites of ecological significance, protected heritage sites or sites of Ngai Tahu

cultural significance on the application site. Notwithstanding this I consider it appropriate to impose a condition relating to accidental discovery of Koiwi Tangata (human remains) or artefacts and note that the applicant has included this condition in their draft conditions.

142. Overall I consider that the effects on ecological and cultural values would be insignificant.

Effects on soil resources

143. The applicant has provided an assessment of the effects of the proposal on soil resources in section 6.4 of the AEE. I generally concur with this assessment, although note that soils on the rehabilitated site are unlikely to be able to be restored to the same quality and level of versatility as presently exist. However the applicant has demonstrated on the RM1 site that pasture grass is able to be re-established on quarried land in this vicinity. The land is unlikely to be suitable for more intensive agriculture such as dairying due to the reduced distance to groundwater but less intensive landuses may be appropriate.
144. The removal of the land from productive use will be temporary and relatively short-term, with progressive rehabilitation being undertaken as extraction progresses. Subject to appropriate rehabilitation of the site, I consider any adverse effects on soil resources will be less than minor. Proposed rehabilitation is discussed further below.

Quarry site rehabilitation

145. Rehabilitation of site utilised for quarrying and aggregate processing is required under the District Plan, through Policy 17.2.2.13 which seeks to:
- “Ensure sites of quarrying activities, and sites of aggregates-processing activities, are rehabilitated to enable subsequent use of the land for another permitted or consented activity; and require proposals for new quarrying activities, aggregates-processing activities and changes of use on existing quarry sites to demonstrate through a quarry site rehabilitation plan the objectives, methodology and timescales for achieving site rehabilitation and appropriate end use”.*
146. Rule 17.8.3.14 (copied below) in the Rural Quarry zone outlines the information which should be included in a quarry site rehabilitation plan. Although this rule does not apply in the Rural Urban Fringe, it provides useful guidance for assessing rehabilitation plans for new full discretionary out of zone quarries.

17.8.3.14 Quarry site rehabilitation - Quarrying activity

- a. Quarry site rehabilitation shall be undertaken for all quarry sites in accordance with the following:

Applicable to	Standard
<u>All quarry sites</u>	<ul style="list-style-type: none">a. A <u>quarry site rehabilitation plan</u> shall be:<ul style="list-style-type: none">i. prepared by a suitably qualified or adequately experienced person(s);ii. certified by <u>Council</u> as containing methods and processes capable of achieving full <u>quarry site rehabilitation</u> and containing the matters listed under clause iii.; andiii. implemented by <u>quarry operators</u>; andb. The <u>quarry site rehabilitation plan</u> shall be submitted to <u>Council</u> for certification within 2 years of 12 August 2016, or for new quarries prior to commencement of <u>quarrying activity</u>; andc. The <u>quarry site rehabilitation plan</u> shall include:<ul style="list-style-type: none">i. The <u>quarry rehabilitation objectives for the site</u>;ii. A description of the proposed rehabilitation works including:<ul style="list-style-type: none">A. The proposed final landform;B. Whether <u>clean fill</u> or other material will be used in the rehabilitation;C. The type of land uses that the rehabilitated <u>quarry</u> could support following rehabilitation;D. The patterns of surface drainage and subsoil drains; andE. Any <u>landscaping</u> and planting.d. A program and reasonable timescales for progressive rehabilitation.e. Measures to mitigate any potential effects arising from undertaking rehabilitation other than those already addressed through <u>quarry site mitigation</u>.f. Measures to mitigate potential ongoing adverse effects on the stability of <u>adjoining land</u> and its susceptibility to subsidence and erosion.g. A process for review of the <u>quarry site rehabilitation plan</u>.

147. The applicant supplied a quarry rehabilitation plan (QRP) with the further information response. I did not consider that version of the plan to be adequate in terms of the requirements of Rule 17.8.3.15 and Policy 17.2.2.13 as it did not adequately cover a number of matters such as a programme and timescales for rehabilitation or provide any evidence that the proposed final landform would be appropriate taking into account the proposed post-quarry landuses.
148. Following feedback from Council staff the applicant has submitted an updated version of the QRP which provided more detail on some of these matters. In terms of the main processing site, the plan provides further information about the areas required to be retained going forward for a future processing site (acknowledging that this would require a further resource consent after the eight year duration of this current consent), the timeframe for rehabilitation of unneeded areas and the options for future land use on the main site and the RM4 site, taking into account reduced separation distance to groundwater.
149. Clause 17.11.2.16 contains matters of discretion which apply when assessing a restricted discretionary aggregates-processing activity. I consider these matters are directly relevant to the current proposal, including the new extraction activity which is a discretionary activity in the Rural Urban Fringe zone.

17.11.2.16 Rehabilitation and end use

- a. *The extent to which the property will be rehabilitated in accordance with a quarry site rehabilitation plan, prepared by a suitably qualified or adequately experienced person, having regard to the requirements of Rule 17.8.3.15¹⁰.*
- b. *The extent to which the quarry site rehabilitation plan will:*

¹⁰ I note that reference to Rule 17.8.3.15 is an error in the Plan; this reference should read 17.8.3.14.

- i. enable the land to be returned to a state suitable for use by other permitted activities having regard to the nature of fill material and degree of compaction.*
 - ii. require the rehabilitation of those parts of the property which are not required for processing to be completed within 5 years of the activity commencing.*
 - iii. require the rehabilitation of those parts of the property used for processing to be completed within a reasonable timeframe, being no more than 3 years after the processing ceases.*
 - iv. result in an improved environmental outcome for the quarry and processing site and the surrounding community, including measures to mitigate any consequential environmental (including amenity) effects of the rehabilitation.*
- c. The extent to which the rehabilitation timescale would prolong any adverse effects on surrounding land uses including as a result of traffic, noise and dust.*
- d. The extent and duration of any adverse visual impacts of exposed worked out areas of the quarry as seen from rural properties, roads or other public vantage points, including any mitigation.*

150. With respect to the first matter of discretion, as per the requirements of 17.8.3.14, the QRP outlines the rehabilitation objectives as being:
- *Progressive rehabilitation of the site throughout the stages of extraction.*
 - *Stabilisation of quarry faces and grassing of completed and restored extraction areas to create a free draining and stable landform.*
 - *Ensure any areas where works have been completed are left in a safe and stable condition.*
 - *Provide an outline of areas which are proposed to be retained for future operational purposes and reduce the footprint of open area as far as practicable.*
151. I consider that a further objective of the QRP should be to ensure the Road Metal sites are rehabilitated in way which enables subsequent use of the land for an appropriate activity or activities, in accordance with Policy 17.2.2.13. The QRP then goes on to describe the rehabilitation procedure, proposed final landform, including indicative cross-sections, the rehabilitation materials required and comments on drainage and proposed planting.
152. In terms of the rehabilitation procedure in section 5.1, the applicant has described this section as the rehabilitation “principles” however I consider that this section should describe the methodology of rehabilitation in more detail as required under the policy. I note that the procedure does not specify the minimum depth of topsoil which Ms Dray considers should be 350mm for a minimum compacted or settled depth of 300mm. The requirement to reshape and batter the quarry walls to a more gentle slope should also be included in this section. I note that the applicant goes on to provide further description of the final landform in section 5.2.
153. With respect to future proposed land uses, the QRP lists the permitted landuses on the RM4 site but goes on to note that because of the different ownership of the three lots forming RM4, it is unlikely that a productive farming activity would be undertaken across these sites. The sites will be handed back to their current landowners and the end land use is likely to be for rural-residential lifestyle blocks with light grazing as is currently the case. I concur with this assessment and consider that the proposed site rehabilitation will allow the land to be utilised for grazing of animals such as sheep, noting that the

reduced grounds levels mean that more intensive agriculture such as dairying would not be appropriate.

154. In terms of future land use for the main site, the QRP again lists permitted land uses in the zone. It also specifies that the final ground levels for the main site will be between original ground level and 4m below original ground level due to ongoing cleanfilling at the site. The District Plan provides a definition of “quarry site rehabilitation” which specifically applies to activities in the Rural Quarry zone. This requires “*returning the land to a stable and free-draining landform capable of supporting light pastoral farming or an alternative permitted or consented activity*”. I consider the rehabilitation proposed will be sufficient to re-establish pasture grass cover on the site, as evidenced by the rehabilitation undertaken to date on RM1. Evidence has not been supplied as part of this current application as to whether that pasture grass cover would support a farming activity and I understand the applicant may provide further evidence on this matter at the hearing.
155. In a recent decision of the Environment Court¹¹ the Court stated:
- “...we received no expert evidence to demonstrate that the proposed rehabilitation will allow use of the land for pastoral use. More particularly, whether 300-350mm of topsoil over clean-fill can be returned to pastoral use. As the decision-makers we are not in a position to ensure the sites will be rehabilitated to enable subsequent use of the land permitted or consented activities (policy 17.2.2.13). To achieve objective 17.2.1.1(a)(i) – support and maintain the potential contribution of rural productive activities - the policy contemplates something more than growing grass. We give these findings significant weight.”¹²*
156. I note that this Environment Court decision is currently under appeal, including the Court's findings on the proposed rehabilitation. In relation to this current site, the lack of evidence in this regard may be of a lesser concern to the Panel given the applicant's stated intention that the main site be retained for ongoing processing into the future. They acknowledge a further consent would be required as a restricted discretionary activity. A further or an updated QRP would be required at that time and the ultimate final land form and future land use is a matter which could be addressed at stage.
157. A plan has been supplied which identifies the location and size of the area the applicant considers necessary for the aggregates-processing activity. The QRP provides a breakdown of the areas which make up the 16 hectares required on the main quarry site for on-going aggregate processing.
158. The QRP also outlines the proposed timescales for rehabilitation. With respect to RM4 the applicant states that rehabilitation will be undertaken progressively and each stage of the extraction will be rehabilitated within six months of the completion of extraction of the stage and that the entire site would be completed within 12 months of the completion of all extraction activities on site. The QRP goes on to state “*and/or within 12 months after the cessation of the consent term*”. I do not agree with

¹¹ Environment Court Decision (NZEVC 165) - Yaldhurst Quarries Joint Action Group v CCC and Harewood Gravels Ltd

¹² Environment Court Decision (NZEVC 165), para 302

this last statement and consider all excavation and rehabilitation on RM4 should be programmed so as to be completed within the eight years as specified in the application (noting that the application estimates that extraction of RM4 will take five years). Subject to this amendment, I consider the rehabilitation timeframe for RM4 to be appropriate.

159. With regard to the proposed timeframe for the main quarry site, the applicant has shown on the plan labelled 'Yaldhurst Quarry Rehabilitation Plan' that the 2.6 hectares of land not required for ongoing processing will be rehabilitated by 2025. I consider it would be preferable if this timeframe was shorter given that this area is not required for the processing activity and I note that the assessment matters above (specifically 17.11.2.16(b)(ii)) suggest that unused areas should be rehabilitated within five years of the aggregates-processing activity commencing. However in this instance I acknowledge that the applicant's 'Yaldhurst Quarry Rehabilitation Plan' does not show the other areas of rehabilitation being carried out on RM2 and RM3, and which would also be occurring on RM4 on a progressive basis during this time if this consent is granted. RMA92015328 for RM2 was granted in 2010 for a period of eight years and RMA92027835 for RM3 was granted in 2015 for a total of nine years for excavation and rehabilitation, although I understand that excavation and consequently rehabilitation on RM3 is progressing more rapidly than originally anticipated.
160. A further amendment I consider to be necessary is to specify in the QRP that the area labelled "Retained operational area (16.0 Ha)" on the 'Yaldhurst Quarry Rehabilitation Plan' is to be rehabilitated fully within 12 months of the cessation of this consent, unless a further resource consent has been obtained for an ongoing aggregates-processing activity or some other activity on the site. I understand the applicant intends to apply for such a consent however I note that this is not guaranteed – the applicant's plans for the site may change or alternatively resource consent may not be granted. The addition of the 12 month clause is a backup measure to ensure the main site does not remain in an unrehabilitated state in perpetuity.
161. In an overall sense I consider that Road Metals are making progress with site rehabilitation in a progressive manner and that, subject to the amendment I have noted above, the timeframes as proposed are generally appropriate. If consent is to be granted for this current proposal, implementation of the quarry rehabilitation plan should be a condition of consent. Subject to the changes to the QRP I have discussed above, and considering the particularities of these sites, I consider the rehabilitation plan to be sufficient to achieve the outcomes sought by Policy 17.2.2.13.
162. I consider that, should consent be granted, the proposed changes to the QRP should be made and the amended plan submitted to the Council for certification prior to the commencement of the activity. I have recommended a condition to that effect. Alternatively the applicant may wish to submit an amended version of the QRP with their evidence which may render the certification condition unnecessary.

Effects on Christchurch International Airport

163. Activities which seek to locate in the north or west of the city have the potential to have adverse effects on the operation of the Christchurch International Airport. These effects can arise through the creation of water bodies or large areas of vegetation which may attract birds, increasing the risk of birdstrike, and also potentially via the discharge of dust to the extent that it could be a hazard to aviation.
164. Ponded water within the base of the quarry pit either as a result of stormwater or from breaching the groundwater table has the potential to attract birds. As discussed above, a breach of groundwater is unlikely given the buffer distance to be maintained of one metre above seasonal highest water level. Due to the well drained soil in this locality, it is unlikely there will be ponding of stormwater within the base of the quarry pit and therefore the likelihood of any increase in birdstrike risk as a result of this proposal is remote.
165. As discussed above, dust effects of the proposal on properties further than 250m from the site have been assessed as being less than minor. Given the separation distance of over 4km to the southern end of the main airport runway, any dust discharged from the application site will have dispersed long before it reaches the airport.
166. Overall I consider that the effects on Christchurch International Airport would be insignificant.

Constraints on the use of neighbouring sites

167. The District Plan contains a rule in the Rural Urban Fringe zone which requires any new residential unit or minor residential unit to be located a minimum of 250m from the boundary of a Rural Quarry Zone or a legally established quarrying activity.
168. Should consent be granted, this would place additional restrictions on land within 250m of the site, meaning that some adjoining sites may no longer be able accommodate a minor residential unit as a permitted activity or alternatively owners may become unable to construct a replacement dwelling in a different location on their site (acknowledging this latter option is a less likely scenario).
169. This scenario would only apply to rural residential sites of at least four hectares which are wholly or partially within 250m of the proposed quarry extension and to areas of those sites which are not precluded by required setbacks from existing quarries and road and internal boundary setback requirements. As such the additional constraint would only apply to the site on the opposite side of Buchanans Road at 105 Old West Coast Road and to the northern part of 659 Buchanans Road, north of the dwelling. The owners of these two sites have submitted in opposition, giving reasons for opposing the application which include noise, air quality, separation distance, property values and potential for groundwater contamination.

170. In this case, I note that the duration of the activity is eight years, after which the additional restriction on this site will be removed. In the meantime, should the owners of these properties decide to erect a minor residential unit, they would be required to apply for resource consent as a restricted discretionary activity and would possibly require the written approval of Road Metals as part of that process. Depending on the level of effects from the quarry and the stage that the excavation was up to at the time of any consent application, additional mitigation could potentially be required in the form of acoustic insulation of the residential building or the installation of mechanical ventilation for example. This would also depend on the proposed location of the building on the site.
171. The activity would result in the removal of a development right which currently exists on these properties, however given that this restriction would be temporary in nature, and would not completely prohibit the construction of a minor residential unit throughout the duration of the quarry consent (as each new unit would be considered on its merits against the matters of discretion via the resource consent process) I consider the adverse effects on these properties to be no more than minor.
172. Both submitters have indicated that they wish to be heard at the hearing and may wish to provide further information about this matter at that time. I note that this issue does highlight further the need for the adverse effects of the quarrying activity to be internalised as far as possible.

Extending the life of the processing site

173. Granting consent to the proposed extraction activity will have the effect of extending the life of the existing Road Metals processing site at 394 West Coast Road, in the Rural Quarry zone. While this aspect of the proposal is discretionary due to not operating in accordance with a quarry site rehabilitation plan, I note that the Plan contains a number of matters of discretion which are to be considered when assessing an aggregates-processing activity as a restricted discretionary activity. I consider that these matters are of direct relevance to the current proposal and I therefore assess the proposal against those matters below.

17.11.2.1 Scale of activity

- a. The extent to which the scale of the operation and building/s is compatible with, and maintain, rural character and amenity values of the surrounding area, including any relevant built form and noise standards.*
- b. The extent to which the scale of the proposed activity will remain accessory to the predominant activity on the site and remain connected to or dependent upon the rural environment.*
- c. Whether the proposed hours of operation are compatible with the local rural environment.*
- d. The extent to which the site layout and building design will mitigate effects including noise, lighting and traffic.*
- e. n/a*
- f. The extent to which the scale of the activity will cause demands for the uneconomic or premature upgrading or extension of public services, including roading, which are not in the interests of Christchurch District or the locality.*
- g. Whether the activity will protect, restore or enhance any natural feature, indigenous vegetation or landscapes and the need for any legal instruments or management plans to protect such values.*
- h. The extent to which monitoring would assist with management of potential adverse environmental (including amenity) effects, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.*

174. With respect to the scale of the operation, the effects on rural character and amenity and the hours of operation I note that the processing site is surrounded to the west and north-west by existing quarry sites and to the south by quarry land, a contractors yard and Department of Corrections land. I do not consider that these existing quarry sites and other non-rural activities will be adversely affected by the extension of the processing activity for a period of eight years. Noise and traffic effects have been discussed separately above. The prolonging of heavy vehicle trips from the site is considered to have less than minor effects on those closest rural-residential properties on West Coast Road and the noise levels from operation of the on-site plant comply with District Plan standards at the rural-residential properties on Buchanans Road, Old West Coast Road and West Coast Road. The processing activity will remain dependent upon the local rural environment, being the aggregate sourced from RM4.
175. With respect to the other matters, I do not consider the extension of the processing activity will require upgrading or extension of any Council controlled public services. No additional demand on reticulated water or waste water services or stormwater facilities are generated by the activity. With respect to roading I note that the activity is accessed from the State Highway which is already formed to a high standard to accommodate high traffic volumes. Effects on the State Highway from the existing site access are discussed in a previous section of this report.
176. No natural features, indigenous vegetation or landscape values are present on the site due to the long-term operation of the quarry activity on the site.

17.11.2.10 Stockpile height and setbacks

a. The extent of any visual effects resulting from the location and height of stockpiles with particular regard to:

- i. the visibility of the stockpile from residential units, roads or other public vantage points such as walking tracks and parks;*
- ii. the quality and effectiveness of any existing or proposed screening (e.g. planting or mounding) on the zone or site boundary;*
- iii. the collective extent and appearance of all on-site stockpiling; and*
- v. the proposed duration of stockpiling in the proposed location(s).*

177. The existing quarry site is well screened by grassed earth bunds with the exception of the vehicle access point. Stockpiles of material are stored within the quarry pit, below existing ground level. As such little if any of the stockpiled material is visible when travelling along West Coast Road. The stockpiled material is not visible from the residential units on the southern side of West Coast Road (at 315 and 335 West Coast Road). The stockpiles are not visible from walking tracks, parks or other public vantage points. The duration of the stockpiling would be the eight year duration of the consent.

17.11.2.12 Visual screening and maintenance

a. The extent to which the site is screened by planting or other satisfactory means to mitigate the adverse visual impacts of lower areas of the quarry, or any aggregates processing activity, concrete batching or asphalt manufacturing, as viewed from public roads.

b. Whether alternative methods of screening, or a lack thereof, is sufficient to maintain rural amenity and character having particular regard to:

- i. the type, scale and appearance of vegetation proposed for screening;*
 - ii. the visibility of the quarry, buildings, plant and machinery from properties in the adjoining rural zone or from external roads; and*
 - iii. the likely visual impacts of reduced screening or mounding, and its implications for increasing actual or perceived noise from quarrying activity, aggregates processing activity, concrete batching or asphalt manufacturing activities.*
- c. Whether any rural land use has been established on the site since restoration, making screen planting or mounding unnecessary.*
- d. Whether any proposed planting (type and location) would pose a risk to highway safety from shading during winter months.*

178. As above, the quarry site is well screened from West Coast Road, with the exception of at the vehicle access. The processing equipment itself is located below ground within the quarry pit as are the stockpiles. As outlined above, the processing site is not directly adjoined by any rural-residential sites. The closest rural-residential site is the southern end of 175 Old West Coast Road which is separated from the processing site by the rehabilitated RM1 area. I note that the submitter has listed visual impacts as a concern but has not provided any more detail on that matter. I further note that the Road Metals site is well screened along the common boundary between RM1 and 175 Old West Coast Road by several rows of established trees located on the application site as shown in Figure 6 below. Given the separation distance from the main quarry site to the dwelling, the location of the processing plant and machinery in the quarry pit and that fact that the neighbouring site is separated from the processing site by the rehabilitated RM1 site and existing established vegetation, I consider any adverse visual effects on this property from extending the life of the processing site to be less than minor.

Figure 6: Existing planting on northern boundary with 175 Old West Coast Road



179. The property to the west of 175 Old West Coast Road, at 187 Old West Coast Road is owned by the applicant and the property to the east at 661 Buchanans Road contains the Faulks Contracting depot. Neither of these sites is considered sensitive to visual effects from the processing site.
180. With respect to matter (c) above, I note that the RM1 site has been rehabilitated however no rural land use has been established on it. The site is currently used as a temporary storage area for relocated dwellings, a use approved under the temporary activity provisions put in place following the Canterbury earthquakes. Regarding matter (d) above, no additional planting is proposed and no existing planting along the site frontage to the highway would pose a risk to highway safety from shading during winter

17.11.2.13 Hours of operation

a. The extent of any amenity impacts (including cumulative with other activities) on residents in adjoining zones which may result from:

i. the intensity, frequency and duration of operating hours; and

ii. the likely additional or prolonged adverse effects associated with quarrying activity, aggregates processing activity, concrete batching or asphalt manufacturing activities, including lighting, noise and traffic generation that are incompatible with surrounding activities.

b. The duration of any extended hours, or of hours of operation associated with aggregates processing activity, concrete batching or asphalt manufacturing, including whether any hours of operation are temporary.

c. Any positive effects associated with the hours of operation including in relation to earthquake recovery and avoidance of adverse effects (such as efficiency of the transport network).

d. The extent to which monitoring would assist with management of potential amenity impacts, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.

181. The applicant has proposed hours of operation from 0700 to 1800, Monday to Friday and 0700 to 1300 on Saturday. I note that these hours are more restrictive than the activity specific standards for quarry activity in the Rural Q zone. The hours of operation are therefore not extended or increasing in intensity, frequency or duration to the extent that they will be incompatible with surrounding activities. I again note that all sites surrounding the processing site (including the sites opposite on West Coast Road) contain quarries or similar activities, such as contracting depots.

17.11.2.15 Activities associated with quarrying activity

a. The degree of association with a quarrying activity on site.

b. Whether the activity is of a scale, function, intensity or character typical of those in rural areas.

c. The extent and duration of any additional or more intensive adverse environmental (including amenity) effects resulting from the activity.

d. The extent of any benefits such as infrastructure efficiencies which result from close or co-location with a principal quarrying activity and support for earthquake recovery.

e. The extent to which monitoring would assist with management of potential adverse environmental (including amenity) effects, and the extent to which this can be done remotely and provide readily accessible information for residents in the surrounding area.

182. The proposed aggregates-processing activity is associated with the quarrying activity currently on the site in that it is undertaken by the same company, involves the same type of day to day activities, levels of traffic generation, use of machinery and existing processing plant and generates effectively

identical adverse effects. It is of a scale, function, intensity and character typically found in the Rural Quarry zone. Infrastructure efficiencies are gained for the applicant through extended use of the existing plant. The activity will not generate more intensive adverse effects but it will extend the duration of existing effects for a further eight years.

183. With respect to monitoring, in terms of dust effects the processing activity operates under an existing air discharge permit from ECan. It does not require any monitoring as such, although it does stipulate that *“the discharge shall not cause the deposition of particulate matter, which is determined to be objectionable or offensive by an enforcement officer of the Canterbury Regional Council, beyond the property boundary...”*. I understand that Road Metals currently operate a meteorological monitoring system measuring wind speed and direction, allowing them to implement additional dust mitigation measures or cease work when wind is blowing strongly toward sensitive receptors. Noise monitoring could be required to ensure that the activity complies with District Plan noise standards, however given the advice of Mr Reeve above and the separation distances to rural dwellings I do not consider this to be necessary.
184. The Plan also directs consideration of the matters in Clause 17.11.2.16 (Rehabilitation and end use) for aggregates-processing activities. These matters have been discussed in the preceding section on site rehabilitation.
185. For the reasons outlined above, and given the location of the processing site surrounded by existing quarrying activities or sites owned by the applicant, the access to the State Highway, the existing level of screening and the separation distances to the nearest rural-residential neighbours, I consider any adverse effects from prolonging the use of the processing site for a further eight years will be less than minor. I consider the proposal makes efficient use of existing quarrying infrastructure and investment on the application site. The rehabilitation of some of the current open area throughout the duration of this consent will result in an overall reduction in the size of the 394 West Coast Road site.

Positive effects

186. The applicant has provided an assessment of the positive effects of the proposal in section 6.11 of the AEE. I accept that the activity will make some contribution to sustaining the supply of aggregate for construction and maintenance of buildings, roads, new subdivisions and infrastructure and that this is a benefit of the proposal. The activity will also generate employment for Road Metals quarry staff. I concur with the applicant's assessment of the positive effects of the proposal and adopt it for the purposes of this report.

Conclusion with respect to effects on the environment

187. A number of amendments to mitigation measures or proposed conditions have been outlined in the previous sections. The amendments I have recommended relate to:

- Visual screening (steepness and location of bunds, the requirement for some additional screen planting);
- Hours of operation for construction activities (change start time from 0700 to 0730 hours);
- Specifying a maximum depth of excavation in metres;
- Upgrading the existing access onto West Coast Road in accordance with Appendix 7.5.10;
- Installation of judder bars, rumble strip or shaker mat;
- Requirement to cease activities when wind speeds exceed 7m/s in the direction of 659 Buchanans Road, as recommended by T&T; and
- Some minor amendments to the QRP
 - Add a further objective to ensure the Road Metal sites are rehabilitated in way which enables subsequent use of the land for an appropriate permitted activity or activities;
 - Add in minimum compacted depth of topsoil and the requirements to batter the quarry walls to a maximum 1:3 gradient to the Rehabilitation Procedure section (section 5.1)
 - Remove the words “*and/or within 12 months after the cessation of the consent term*” from section 6.1 as this does not reflect the consent timeframe applied for.
 - Add a further statement to specify that the area labelled “Retained operational area (16.0 Ha)” on the ‘Yaldhurst Quarry Rehabilitation Plan’ is to be rehabilitated fully within 12 months of the cessation of this consent, unless a further resource consent has been obtained for an ongoing aggregates-processing activity or other activity on the site.

188. I do not consider any of the changes recommended are such that they would take the activity outside the scope of what has been applied for.
189. It is my opinion that, subject to the additional or amended conditions I have recommended above, the adverse effects of the proposal are able to be mitigated to the extent that they are minor and objectively acceptable. I consider the effects of the activity are consistent with what could be anticipated in a rural working environment, particularly when taking into account the emphasis in the District Plan on enabling rural productive activities. I note however my conclusion as to the acceptability of effects is reasonably finely balanced with respect to the closest neighbour at 659 Buchanans Road. Effects of PM₁₀ and RCS have been assessed as being at levels which will not exceed ambient air quality guidelines.

Relevant Objectives, Policies, and other Provisions of a Plan or a Proposed Plan (S.104 (1)(b))
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Christchurch District Plan

190. Regard must be had to the relevant objectives and policies in the operative District Plan. Overarching guidance for the development and interpretation of the District Plan is set by the high level Strategic Objectives found in Chapter 3 (Strategic Directions). These objectives are intended to guide the recovery and future development of the City. A detailed assessment of the proposal against the relevant Strategic Objectives and the objectives and policies of the relevant subsequent Plan Chapters is attached as **Appendix 6** to this report.

191. The activity is considered to be consistent with the relevant objectives and policies of Chapter 6.1 (Noise) and Chapter 7 (Transport).
192. With regard to the rural objectives and policies in Chapter 17 of the Plan in my discussion in Appendix 6 I conclude that, while the applicant has not demonstrated that the proposed mitigation measures constitute industry best practice, the measures recommended in the attached conditions are considered to adequately mitigate and internalise the effects of the activity.
193. The Plan seeks (under Strategic Objective 3.3.14) that conflicts between incompatible activities are avoided where there may be significant adverse effects on the health, safety and amenity of people and communities. In order to ensure this is achieved, Policy 17.2.2.10 states that adequate separation distances must be maintained between quarrying activities and incompatible activities, which I interpret in this instance to refer to residential units. As outlined in Appendix 6, I consider the increased setback distance of 100m to the closest dwellings, coupled with the other recommended conditions of consent including amendments to the proposed screening, is now just at a level which can be considered adequate to minimise effects on adjoining land owners to an acceptable level.
194. Rural amenity will therefore be protected to a level consistent with that expected in the rural working environment where the Plan seeks to enable rural productive activities. The proposed aggregates-processing activity makes efficient use of existing quarry infrastructure while confining adverse effects of processing to within the quarry zone itself. In an overall sense I consider the activity to be generally consistent with the outcomes sought by the District Plan for the rural environment.
195. After considering the relevant objectives and policies it is my conclusion that in an overall sense, the application is consistent with the objectives and policies of the District Plan which seek to enable rural land to be used for rural productive activities provided that conflicts between incompatible activities can be avoided and adverse effects on rural amenity values can be avoided, remedied or mitigated.

Other relevant Statutory Documents (S.104 (1)(b))

196. As previously mentioned, I consider that the provisions of the Plan, including the strategic directions, give effect to the objectives and policies of the Regional Policy Statement. As such no further direct assessment against the Regional Policy Statement is considered to be necessary.

Relevant Other Matters (S.104 (1)(c))

Precedent effect/Plan integrity

197. The proposal is for a discretionary activity. Discretionary activities are generally not considered to create precedent effects however irrespective of this, I note that I do not consider the activity to be contrary to the objectives and policies of the District Plan. The rural provisions generally seek to

enable rural land to be used for rural productive activities, including quarries, provided that adverse effects can be internalised as far as practicable, conflicts between incompatible activities are avoided and that effects on rural amenity can be adequately avoided, remedied or mitigated.

198. I do not consider the proposal to challenge the integrity of the District Plan nor will granting consent set a precedent for quarrying in the Rural Urban Fringe zone. Any future applications will need to also be assessed on their merits and on the extent to which the adverse effects of the activity are avoided, remedied or mitigated.

Part II of the Act

199. As outlined above, the Christchurch District Plan has been recently reviewed in full. The new Plan was prepared in accordance with the requirements of the Resource Management Act 1991 and I consider that the provisions of the Plan, including the Strategic Objectives, give effect to Part II of the Act. I do not consider the District Plan to be uncertain or incomplete in relation to this application and therefore consider that no further recourse to Part II is necessary.

Conclusion

200. After considering the actual and potential effects on the environment of allowing the application, it is my conclusion that, subject to recommended conditions and to the increased setback distance of excavation from nearby dwellings put forward by the applicant, the adverse effects of the proposal are able to be mitigated to the extent that they are minor and objectively acceptable.
201. In my opinion this proposal is generally consistent with the objectives and policies of the District Plan which seek to enable rural land to be used for rural productive activities, including quarries, provided that adverse effects can be internalised as far as practicable and that effects on rural amenity can be adequately avoided, remedied or mitigated.
202. Having considered all of the relevant matters under Sections 104 and 104B, it is my opinion that consent should be granted subject to conditions.

Recommendation

203. I have assessed this application to operate a quarry at 581, 619 and 365 Buchanans Road and an aggregates-processing activity at 350 and 394 West Coast Road. Having considered all the matters relevant to this application, I recommend that this application be **granted** pursuant to Sections 104, 104A, 104B and 108 of the Resource Management Act 1991 subject to the following conditions:

General

1. Except as required by subsequent conditions the development shall proceed in accordance with the information and plans submitted with the application and subsequent further information submitted on

10 November 2017. The Approved Consent Documentation has been entered into Council records as RMA/2017/2111 (207 pages).

2. The duration of this consent shall be limited to eight years from the date of granting of the consent. The applicant is to notify the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit via email to rcmon@ccc.govt.nz upon commencement of excavation on site.
3. The lapsing date for the purposes of section 125 shall be five years from the date of granting of the consent.
4. The Christchurch City Council may, once per year, on any of the last five working days of May or November, serve notice of its intention to review the conditions of this consent for the purpose of:
 - a. Dealing with any adverse effect on the environment which may arise from the exercise of this consent; or
 - b. Requiring the adoption of the best practicable option to remove or reduce any adverse effect on the environment.

Site Preparation and Bunds

5. Prior to any other site preparation works or the extraction of aggregate commencing at the site the following shall occur:
 - a. A 5 metre wide planting strip shall be established along the full length of the shared boundary between the extraction area and 659 Buchanans Road. Planting in this strip shall be shrubs or trees capable of growing to at least 3 metres at maturity to be a minimum of 1.2 metres in height at time of planting and planted at a maximum spacing of 1 metre.
 - b. Infill tree planting shall be undertaken in any gaps in the existing planting along the 30m long section of boundary at the southern end of the internal boundary between 581 Buchanans Road and the Yaldhurst Cemetery (272 West Coast Road) in order to screen views of the quarry activity from the cemetery site. Trees shall be planted on 581 Buchanans Road and shall be trees which are to be capable of growing to 8.0m at maturity, and shall be a minimum of 2.5m in height at time of planting. These trees shall have minimum spacings of 5.0m.
6. Prior to the excavation of aggregate commencing on site for each stage, the following shall occur:
 - a. The 3 metre high earth bunds with a 1 metre wide flat top shall be constructed 100 m in advance of the extraction areas, occurring progressively in five stages, in correlation with the staged extraction areas, as demonstrated on the Proposed Staging Plan prepared by Golder Associates, dated 25 October 2017 and submitted with the application, except as provided for in condition 14 below.
 - b. The bunds shall have a slope of at least 1:3 (one vertical to three horizontal) on the outer side and at least 1:1 on the internal quarry side (one vertical to one horizontal), giving a total bund width of 13m.

- c. The base of the bunds to be constructed along the road boundaries of 518 and 619 Buchanans Road shall be set back at least 5m from the road boundaries of the site to allow for the retention of the existing tree planting along the road boundary in these locations, giving a total screening width and setback of excavation of 18m from the road boundary.
 - d. The bund on the western side of the shelterbelt to be retained on the western boundary of 619 Buchanans Road and the quarry pit face on the eastern side of this same shelterbelt should be set back a minimum of 1m from the closest part of the shelterbelt or at least 4m from the tree trunks, whichever is the furthest, in order to avoid undermining the shelterbelt and/or damaging its roots.
 - e. Immediately following construction, the bunds are to be sewn with grass or hydro-seeded to achieve swift grass cover and watered regularly to ensure grass cover is established immediately after construction.
 - f. To assist in achieving swift grass cover, construction of the bunds shall take place between the months of February to May or August to November to enable grassing of the bunds to occur in autumn or spring.
- 7. The grassed bunds shall be mown regularly or grazed to give a tidy appearance.
 - 8. The grassed bunds shall be watered (to suppress potential dust) until a grass cover has been established.
 - 9. An after-hours contact phone number for a site contact shall be provided to the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit, until grass has been established on the earth bunds.
 - 10. All landscaping required for this consent shall be maintained. Any dead, diseased, or damaged landscaping is to be replaced immediately with plants of a similar species.

Operational

- 11. The excavation of aggregate shall only be within the properties at 581, 619 and 635 Buchanans Road, on the property legally described as Lot 1 DP 25055, Lot 1 DP 23053 and Lot 2 DP 319126 contained within Certificates of Title CB6C/1499, CB3C/931 and 75178 and labelled 'RM4' on the Proposed Staging Plan prepared by Golder Associates, dated 25 October 2017 and submitted with the application.
- 12. The processing, crushing and screening of aggregate extracted from the area described in condition 11 shall only occur on the main Road Metals quarry site at 394 Old West Coast Road on the property legally described as Lot 9 DP 26999 and labelled 'Existing Yaldhurst Quarry' on the Proposed Staging Plan prepared by Golder Associates, dated 25 October 2017 and submitted with the application. No processing, crushing or screening of aggregate shall occur on the RM4 site.
- 13. The quarrying activity on the RM4 site and the aggregates-processing activity on the existing Yaldhurst Quarry site shall only operate between the hours of 0700 to 1800 Monday to Friday and 0700 to 1300

Saturday. No activities, other than dust mitigation measures, shall take place on Sundays or public holidays.

14. Unless written approval is obtained from the owners and occupiers, no excavation shall be undertaken within 100 metres of the nearest point of the principal dwellings located at 622 and 659 Buchanans Road, as they exist at the time of granting this resource consent. If excavation is to be excluded within a 100m radius from the dwelling at 659 Buchanans Road, the screen bunding shall be constructed to follow this 100 metre radius.
15. Aggregate shall be:
 - a. Extracted using only one loader and one digger with up to two dump trucks at the same time; and
 - b. Transported to the processing site via the haul road as shown on the Staging Plan prepared by Golder Associates, dated 30 August 2017 and submitted with the application.
16. The maximum depth of excavation shall be no deeper than 10.1 metres below ground level and the consent holder shall ensure that at all times at minimum of one metre of gravel is retained between the floor of the quarry and the actual groundwater level at the site.
17. All excavation shall occur with machinery on the pit floor.
18. There shall be no stockpiling of aggregate within the RM4 site.

Access

19. Prior to the commencement of any activities authorised by this resource consent, the existing Road Metals Yaldhurst Quarry vehicle access on to West Coast Road (State Highway 73) shall be upgraded so that the design and layout is in accordance with Figure 14, Appendix 7.5.10 of the District Plan.
20. Prior to the commencement of any activities authorised by this resource consent, judders bars, a rumble strip or similar method of dislodging loose material from trucks shall be installed on the Yaldhurst Quarry site between the weighbridge and the vehicle access point. The device shall be installed so that all laden trucks must pass over it immediately prior to exiting the site onto West Coast Road.
21. Vehicular access to the RM4 site shall be via the haul road only, with no access from Buchanans Road.

Noise

22. All construction activities on the subject site shall be designed and conducted to ensure that construction noise from the site is controlled so as to comply with NZS 6803:1999 – Acoustics: Construction Noise.
23. Hours of operation for construction activities shall be limited to 0730 to 1800 Monday to Friday and 0730 to 1300 Saturdays. No construction activities shall be undertaken on public holidays.
24. For the purpose of conditions 22 and 23, construction activities shall be defined as being any work required to prepare the site for excavation and rehabilitation works. In particular, activity associated

with the construction of earth mounds and stripping/reinstatement of topsoil shall be considered construction activities.

25. Operational noise from the quarrying activity on the RM4 site and the aggregates-processing activity on the existing Yaldhurst Quarry site shall comply with the following noise limits:
- a. 50dB LA_{eq} measured at the notional boundary of any dwelling not located on the application site; and
 - b. 55dB LA_{eq} measured at the boundary of the application site.
26. The loader and any dump trucks working on the RM4 site shall be fitted with broadband directional reversing beepers as opposed to tonal reversing beepers.

Dust

27. The Consent holder shall employ appropriate measures to ensure that any discharge of dust is not noxious, dangerous, offensive or objectionable beyond the site boundary. This shall include, but is not limited to, the measures in Condition 28.
28. The consent holder shall take all practicable measures to minimise the discharge of dust from the site. These measures shall include, but are not limited to:
- a. Minimising the areas of exposed ground. The consent holder shall ensure that the overburden of the next stage is only removed once quarrying of a stage is nearing completion.
 - b. Re-grassing bare areas such as bunds and rehabilitated areas as soon as practicable and in accordance with the requirements of condition 6.
 - c. Carrying out land stripping and land restoration during favourable weather conditions and at times of least vulnerability to neighbours.
 - d. Taking wind conditions into account in planning and carrying out work to minimise dust dispersion.
 - e. Using water and/or dust suppressants on all disturbed surfaces including roads when required.
 - f. Applying a speed restriction on all internal roads and within the bunded area to not more than 15 km/hr at all times and erecting a sign at the entrance to the site advising of this.
 - g. Minimising drop heights.
 - h. Cleaning of any sealed surfaces.
 - i. Retaining the established shelterbelts along the northern and eastern edge of the site.
29. Water shall be applied by water cart for the suppression of dust as and when required on the working areas of the RM4 excavation area and on the haul road, and on any other areas as required. The water cart shall be located on site (either the main Yaldhurst Quarry site at 394 West Coast Road or on the RM4 site) and shall be available 24 hours per day for the purpose of dust control.
30. Wind speed and direction shall be continuously monitored on the site or the adjoining Road Metals Quarry.

- a. If the monitoring indicates winds are greater than 7 metres per second (hourly average) from the XX to the west-southwest, XX°N to 275°N, during dry weather conditions then all operations on site other than for dust control shall cease.
- b. The wind speed and direction monitor shall be fitted with an alarm system so that when speeds exceed 7 metres per second hourly average in the direction of XX to the west-southwest, XX°N to 275°N; warnings are sent to the Quarry Manager or other nominated person(s).
- c. The Quarry Manager or other nominated person must be available at all times (including outside the operating hours) to take action as quickly as is practicable, if necessary, to reduce site dust emissions from the site, including ceasing all activities on site except those required for dust control.

31. All activities on the site shall cease other than for dust control when:

- a. The wind speed is greater than 7 metres per second (hourly average); and
- b. Wind direction is from the XX to the west-southwest, (approximately XX°N to 275°N); and
- c. During dry weather conditions.

[Note – these figures to be advised by air quality experts from Tonkin & Taylor]

Hazardous Substances

32. No hazardous substances shall be stored on the RM4 site and all refuelling of vehicles shall take place at the Road Metals Yaldhurst Quarry at 394 West Coast Road.
33. All practicable measures shall be undertaken to prevent oil and fuel leaks from vehicles and machinery, including:
 - a. There shall be no storage of fuel or lubricants within the site.
 - b. There shall be no re-fuelling of vehicles or machinery within the site.
 - c. A spill kit that is capable of absorbing the quantity of oil and petroleum products that may leak or be spilt shall be kept on the Road Metals Quarry site at all times.
34. In the event of a spill of fuel or any other contaminant, the consent holder shall clean up the spill as soon as practicable and take measures to prevent a recurrence.
35. The consent holder shall inform the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit within 24 hours of any spill event greater than 4 litres and shall provide the following information:
 - The date, time, location and estimated volume of the spill;
 - The cause of the spill;
 - The type of contaminant(s) spilled;
 - Clean up procedures undertaken;

- Details of the steps taken to control and remediate the effects of the spill on the receiving environment;
- As assessment of any potential effects of the spill and measures to be taken to prevent a recurrence.

36. A maximum of one loader shall excavate from the working face at any time.

37. Outside of working hours, the site shall be made secure, to ensure that no member of the public can gain access. Signage shall be erected stating that unauthorised access is prohibited.

Contaminated Material

38. In the event that soils are unexpectedly found that have visible staining, odours and/or other conditions that indicate soil contamination then work must cease and all workers shall vacate the immediate area, notify the site manager and ensure that the local authorities are informed (via Christchurch City Council at envresourcemonitoring@ccc.govt.nz and the Environment Canterbury pollution hotline on 0800 76 55 88). No excavation of such soil shall occur without advice from a Suitably Qualified and Experienced Practitioner (SQEP) on land contamination and the agreement of local authorities.

Rehabilitation and Cleanfilling

39. Prior to the commencement of any activities authorised by this resource consent, the applicant shall submit a Quarry Rehabilitation Plan via email to rcmon@ccc.govt.nz for certification by the Head of Resource Consents (or their nominee).

40. Rehabilitation of the main Road Metals Yaldhurst Quarry site at 394 West Coast Road and the RM4 site shall be undertaken in accordance with the certified Quarry Rehabilitation Plan.

41. The RM4 site shall be rehabilitated within one year of the completion of excavation.

42. Rehabilitation of the main Road Metals Yaldhurst Quarry site at 394 West Coast Road and the RM4 site shall be by means that include, but are not limited to:

- a. Re-shaping the quarry walls to a maximum gradient no steeper than 1 vertical:3 horizontal;
- b. Spreading a minimum depth of 350mm of topsoil, to allow for a minimum compacted depth of 300mm of topsoil across the base;
- c. Re-grassing to prevent erosion losses;
- d. All finished surfaces to be designed and constructed to be free draining;
- e. All practical measures shall be undertaken to prevent dust discharge from the rehabilitated area, including but not limited to:
 - i. Watering of exposed soil to prevent production of dust, and
 - ii. Re-grassing of the reshaped area within 60 days of placement of the final topsoil capping.

43. The rehabilitation of the RM4 site, in accordance with conditions 40 to 42 shall be undertaken so that a completed grass cover is achieved no later than 12 months upon completion of all excavation activities. Dust mitigation measures in accordance with this consent and CRC181274 shall continue to be employed on site until this completed grass cover is achieved.
44. The area labelled "Retained operational area (16.0 Ha)" on the 'Yaldhurst Quarry Rehabilitation Plan' prepared by Golder Associates and dated 5 March 2018, included as part of the draft Quarry Rehabilitation Plan submitted to the Council on 5 March 2018, shall be fully rehabilitated within 12 months of the cessation of this consent, unless a further resource consent has been obtained for an ongoing aggregates-processing activity or other activity on the site.
45. Where additional fill is required to be brought into site for rehabilitation purposes, the consent holder shall ensure that all material deposited in the excavated area is:
- Only material defined as 'Cleanfill' as set out in the advice note attached to this condition;
 - The material is not deposited into groundwater; and is at least one metre above the highest groundwater level expected at the site;
 - Material is deposited in accordance with a management plan has been prepared in accordance with Section 8.1 and Appendix B of "A Guide to the Management of Cleanfills", Ministry for the Environment, January 2002;
 - Checked by the site manager prior to deposition in the pit. If the material is not classified as Cleanfill, the consent holder shall immediately remove the material and arrange for the disposal of it at an appropriate location; and
 - Recorded in a log book by the site manager. The log book shall include a detailed record of all materials deposited into the Cleanfill site and shall provide to the CCC upon request.

Advice note: 'Cleanfill' is defined as:

Material that when buried will have no adverse effect on people or the environment. Cleanfill material includes virgin natural materials such as clay, soil and rock, and other inert materials such as concrete or brick that are free of:

- *combustible, putrescible, degradable or leachable components*
- *hazardous substances*
- *products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices*
- *materials that may present a risk to human or animal health such as medical and veterinary waste, asbestos or radioactive substances*
- *liquid waste.*

Other

46. The consent holder shall keep a record of any complaints relating to dust and shall include:
- The location where the dust was detected by the complainant;
 - The date and time when the dust was detected;
 - A description of the wind speed and wind direction when the dust was detected by the complainant;

- d. The most likely cause of the dust detected;
 - e. Any corrective action undertaken by the consent holder to avoid, remedy or mitigate the dust detected by the complainant; and
 - f. This record shall be provided to the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit, upon request.
47. In the event of any disturbance of Koiwi Tangata (human bones) or taonga (treasured artefacts), the consent holder shall:
- a. Immediately cease earthmoving operations in the affected area; and
 - i. Mark off the affected area until earthmoving operations recommence,
 - ii. Advise the Team Leader of the Resource Consents Team, Christchurch City Council, of the disturbance, and
 - iii. Advise the Upoko Runanga of Tuahuriri, or their representative (contact information can be obtained from the Christchurch City Council) and the New Zealand Historic Places Trust, of the disturbance.
 - b. Not recommence earthmoving operations until either:
 - i. The consent holder provides a certificate in writing to the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit, signed by Upoko Tunanga of Tuahuriri, or their representative(s), stating that appropriate action has been undertaken in relation to the discovered culturally sensitive material, or
 - ii. After five working days after advising Tuahuriri Runanga, a certificate signed by an archaeologist (i.e., a person with a post graduate degree in archaeology and who is a member of the New Zealand Archaeological Association) is provided to the Team Leader, Christchurch City Council Compliance and Investigations Team, Regulatory Compliance Unit, that states that in the archaeologist's professional opinion appropriate action has been undertaken in relation to the discovered culturally sensitive material. That certificate shall detail the action that has been undertaken by the consent holder. A copy of the archaeologist's qualifications shall also be provided with any such certificate.

Advice note: This condition is in addition to any agreements that are in place between the consent holder and the Upoko Runanga (Cultural Site Accidental Discovery Protocol) or Heritage New Zealand Pouhere Taonga. This condition does not replace other legal responsibilities, such as those under the Heritage New Zealand Pouhere Taonga Act 2014.

Advice notes:

- *Monitoring*

The Council will require payment of its administrative charges in relation to monitoring, as authorised by the provisions of section 36 of the Resource Management Act 1991. The current monitoring charges are:

- A monitoring fee of \$444 to cover the cost of setting up a monitoring programme and carrying out two site inspections to ensure compliance with the conditions of this consent; and
- Time charged at an hourly rate of \$118.50 incl. GST if additional monitoring is required, including non-compliance with conditions.

- *Development Contribution*

Please note that a development contribution may be required under the Development Contributions Policy 2015. The Council requires Development Contributions to be paid prior to the issue of a Code Compliance Certificate for a building consent, the commencement of the resource consent activity, the issue of a section 224 certificate for a subdivision consent, or authorisation of a service connection.

The contributions are defined in the Council's ***Development Contributions Policy 2015***, which has been established under the Local Government Act 2002 and is included in the Council's Christchurch City Three Year Plan. Full details of the Policy are available at www.ccc.govt.nz/consents-and-licences/development-contributions/. If you have any queries in relation to this matter, please contact our Development Contributions Assessors on phone (03) 941 8999.

X  

Emma Chapman
SENIOR PLANNER

Reviewed by:

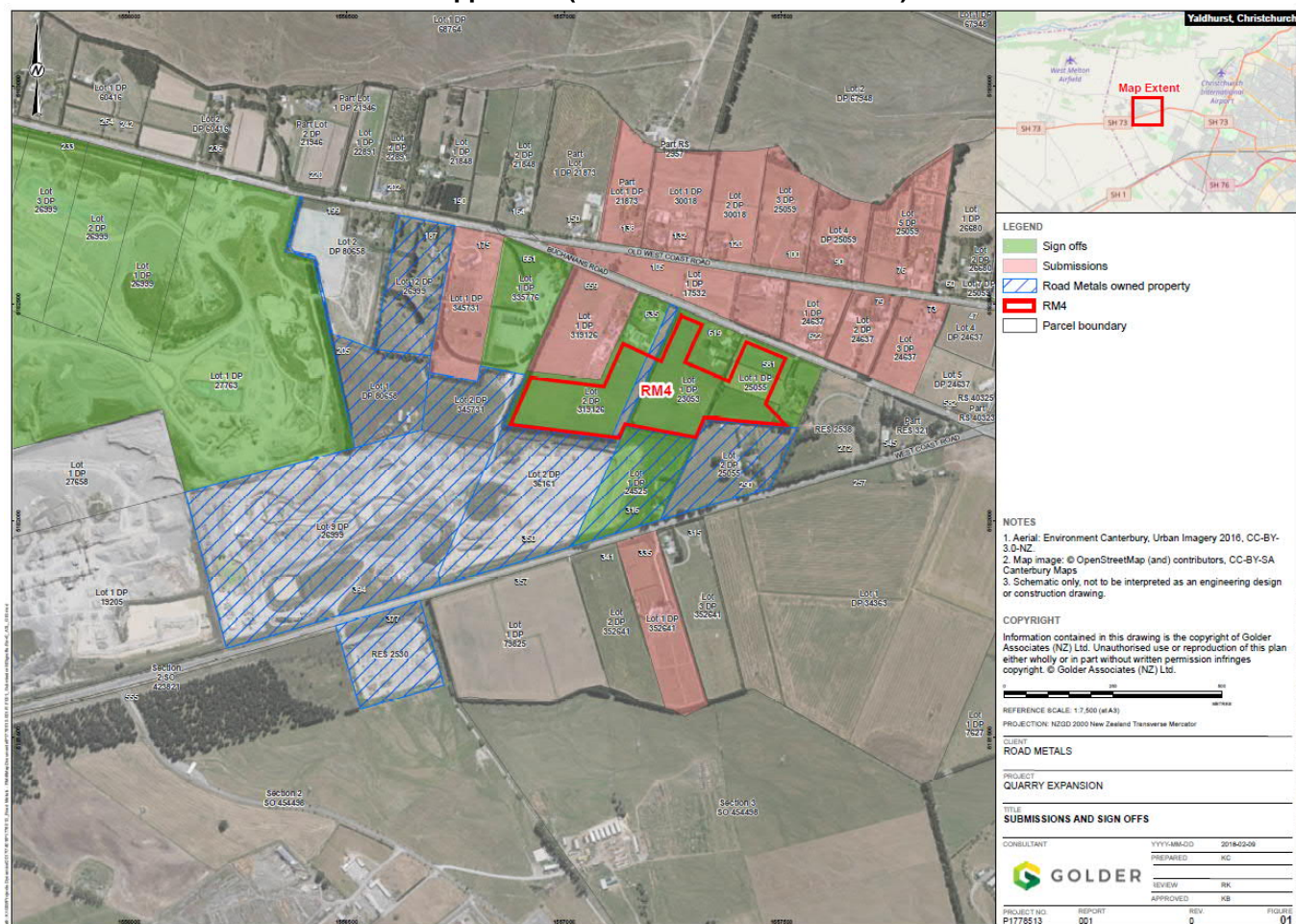
Paul Lowe
PRINCIPAL ADVISOR RESOURCE CONSENTS

6 March 2018

APPENDIX 1 – List of Submitters

Submitter	Address		
New Zealand Transport Agency	PO Box 1479		Christchurch
Kevin & Lynne Crew	120 Old West Coast Road	RD 6	Christchurch
Derek & Jessica Vallance	105 Old West Coast Road		Christchurch
Colleen & Gerard Martini	76 Old West Coast Road	RD 6	Christchurch
Ross & Julianne Blanks	90 Old West Coast Road	RD 6	Christchurch
David Morris & Nancy van Gosliga	98 Old West Coast Road		Christchurch
Mr & Mrs E H & A M Prain	132 Old West Coast Road	RD 6	Christchurch
Christopher & Malcolm Main	622 Buchanans Road		Christchurch
Nicholas & Maria Clarkson & Clarkson Family Trust	100 Old West Coast Road	Yaldhurst	Christchurch
Craig James & Annell Judith McDonagh	175 Old West Coast Road	RD 6	Christchurch
Tim Wenmoth	659 Buchanans Road	RD 6	Christchurch
Alison Merchant & Martin Toon	138 Old West Coast Road	RD 6	Christchurch
Gregory Beswick	79 Old West Coast Road	RD 6	Christchurch
Richard & Sherilee Benton	335 West Coast Road	RD 6	Christchurch

Location of submitters and written approvals (source: Golder Associates)



(Note: NZTA not shown)

APPENDIX 2

Plan provided to Council compliance staff by Road Metals Company indicating (with red hatching) areas where aggregate '*continues to be extracted*' for the purposes of RMA92020379 Condition 9.



APPENDIX 3 – Acoustic Assessment (William Reeve, Acoustic Engineering Services)

Memorandum

To:	Emma Chapman, CCC
From:	William Reeve, AES
File Reference:	AC17211– 02 – D2
Date:	Thursday, 1 March 2018
Project:	RMA/2017/2111 Road Metals RM4 Expansion Peer review of AENE, RFI response and submissions
Pages:	6

Meeting	<input type="checkbox"/>	Telephone	<input type="checkbox"/>	Memorandum	<input checked="" type="checkbox"/>	File Note	<input type="checkbox"/>
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Dear Emma,

As requested we have undertaken a peer review of the Noise Assessment prepared by Marshall Day Acoustics (MDA) for the Road Metals RM4 expansion.

Our review has been prepared based on the following documents:

- Resource Consent Application titled *Road Metals Company Limited, Quarry expansion* as prepared by Golder Associates and dated August 2017.
- Report titled *Road Metals RM4 Expansion* (Report No. Rp 001 20170504) as prepared by Gary Walton of MDA and dated the 28th of July 2017.
- Report titled *Road Metals Company Limited – Quarry expansion, Section 92 Request for Further information* as prepared by Golder Associates and dated November 2017.
- Memo with subject title *Noise Received at 659 Buchanans Road (RFI Response)* as prepared by Gary Walton of MDA and dated the 2nd of October.

We have also reviewed the fourteen submissions received in opposition and a draft traffic memorandum dated 21 February 2018 as prepared by Mike Calvert, CCC traffic engineer. Our overall conclusions are summarised in the following sections.

1.0 EXISTING NOISE ENVIRONMENT

In section 2 of the report, MDA have presented the results of attended sound monitoring undertaken in the vicinity of the site. These measurements were undertaken mid-afternoon on a Tuesday. Based on these measurements, MDA have concluded that background levels in the vicinity of the site are in excess of 50 dB L_{Aeq} without the influence of local traffic, or higher when traffic on Buchanans Road is included.

After reviewing CCC traffic count data for West Coast Road, Old West Coast Road and Buchanans Road, we agree that noise measurements undertaken at this time appear representative of typical noise levels which may be experienced at the dwellings in the vicinity of the site.

The measurements suggest that the area is not a particularly high amenity area during the daytime period.

2.0 ASSESSMENT CRITERIA

MDA have taken guidance from the District Plan along with the World Health Organisation (WHO) guidelines and NZS 6802:2008. MDA conclude that compliance with the District Plan daytime noise limits, which are generally more stringent than the other guidance will result in minimal noise effects for neighbours.

We agree that the District Plan noise limits of 50 dB L_{Aeq} at the notional boundary of nearby rural dwellings, and 55 dB L_{Aeq} at the boundary of the site will be appropriate to ensure noise effects are acceptable at adjoining rural sites.

We also agree with MDA that it is typical practice to assess enabling works such as removal of topsoil and formation of bunds in line with the noise limits outlined in the construction noise standard NZS 6803:1999. While the MDA assessment does not discuss appropriate limits, for short duration works (up to 14 days in one location) a limit of 80 dB L_{Aeq} at one metre from the façade would apply during the daytime period (0730 to 1800 hours). If these works occur before 0730 hours, then a more restrictive 65 dB L_{Aeq} limit would apply.

3.0 NOISE FROM THE ACTIVITY

3.1 Operational noise

We understand that there will be no processing undertaken in this expansion of the quarry, and material will be transported to other areas of the quarry internally via trucks (or potentially using a conveyor).

Operational noise from the quarry will generally consist of noise associated with loaders working the face and filling trucks. Construction associated with site preparation and establishment of bunds will also be a source of noise from the site. Progressive backfilling and rehabilitation of the site will also generate noise.

For operational noise from the quarry, the MDA predictions are based on noise measurements of similar activity for the RM3 expansion of the same quarry. The MDA RFI response clarifies some of the details of these measurements.

Measured levels at 20 metres back from a two metre high bund include contribution from a loader working a quarry face and transferring material into dump trucks. Noise associated with trucks driving out of the pit up a ramp also appears to have been captured.

We agree that these measurements appear representative of typical operational noise from the quarry, and that noise levels at 20 metres behind the bund will be less than 50 dB L_{Aeq} . In the RFI response, MDA have also provided further explanation that in closer proximity to the bund, the reduced distance from the pit is countered by increased screening from the bund and noise levels will generally remain below 50 dB L_{Aeq} .

With regard to the character of the noise, MDA write in section 6.0 of their report that the existing traffic noise will provide *'a degree of sound masking for the activity, not least because engine noise from mobile machinery on site will be similar in character to traffic'*. We note that for 622 Buchanans Road in particular, there is a reasonable difference between the background L_{A90} level (45 dB) and the equivalent average L_{Aeq} level (66 dB) presented in the existing ambient noise environment section in 2.2 of the report. This suggests (as noted by MDA), that as well as louder periods when traffic passes on Buchanans Road, there are also quiet periods where distant traffic on Old West Coast Road dominates. We expect that when the quarry is at a stage where equipment is operating close to the boundary, noise from quarry equipment will be audible and distinct in character from passing traffic.

3.2 Site preparation

During the site preparation phase, topsoil will be removed with an excavator and either dump trucks or road trucks, in combination with a loader. This material will be used to form the site bunds. We understand that a 10 metre wide bund will be formed around the boundary of the site in stages, 100 metres in advance of the extraction areas.

MDA note in their report that preparatory works and rehabilitation should be assessed in accordance with the construction noise standard NZS 6803:1999. No assessment of whether this is practical has been provided. As a worst case scenario, we have assessed the noise from an excavator forming bunds near the closest dwelling. Based on the sound level data outlined in NZS 6803:1999, a working tracked excavator may generate noise levels in the order of 68 – 88 dB L_{Aeq} at 10 metres. Based on these noise levels, at one metre from the façade of the closest dwelling at 659 Buchanans Road, approximately 25.5 metres from the edge of the site, noise levels would comply with a limit of 80 dB L_{Aeq} between 0730 and 1800 hours, even if the excavator was working for an extended period on the boundary of the site. However, if works occur near this dwelling prior to 0730, then there is the potential that the 65 dB L_{Aeq} construction noise limit could be exceeded. As the operational hours of the quarry are from 0700 hours, then a more detailed assessment, or a condition limiting construction works to after 0730 hours would be appropriate to ensure compliance.

3.3 Noise from judder bars installed at the site entry

We understand that the CCC traffic engineer has proposed judder bars to reduce loose gravel and dust being tracked onto the State Highway.

The closest existing dwelling to the site entry appears to be located at 335 West Coast Road (some 710 metres from the site entry). We also understand that a dwelling would be permitted on 341 West Coast Road, if the dwelling is setback is at least 250 metres from the Road Metals site (at least 600 metres from the site entrance).

At these distances, and with trucks travelling at low speeds (i.e. at 20 km/hr as proposed by Road Metals in the application during dry conditions), we expect that the additional of judder bars would make negligible difference to the absolute noise level received at these locations. Generally, the existing noise levels from traffic on the State Highway travelling at high speed are expected to be dominant at these locations.

3.4 Noise from processing in existing quarry areas

Cumulative noise from existing processing plant in the Road Metals quarry does not seem to have been assessed in the MDA report. Based on aerial photographs of the quarry site, this equipment appears to be located in the order of 690 metres from the notional boundary of the dwelling at 175 Old West Coast Road and 860 metres from the notional boundary of the dwelling at 335 West Coast Road. As this equipment is located in the quarry pit, there would be screening provided to the closest dwellings. We have assumed 5 dB of screening which is likely conservative given the layout of the site and screening from the existing and rehabilitated pit walls.

While we are not aware of the exact equipment installed at this quarry, AES have previously undertaken measurements of crushers and screens at similar aggregate quarries in Canterbury. These measurements indicate that crushers may generate noise levels in the order of 106-116 dB L_{WA} and screens in the order of 108 dB L_{WA} .

Based on a basic hemispherical radiation calculation, a crusher with the upper sound power discussed above would result in a level in the order of 46 dB L_{Aeq} at 175 Old West Coast Road, and 44 dB L_{Aeq} at 335 West Coast Road when operating. We expect this calculation to be conservative as it doesn't include ground and air absorption, and screening from the existing quarry pit will likely provide a greater reduction than assumed.

Based on these levels, and the MDA assessment, we expect that cumulative noise generated by crushing and screening equipment in the existing pit along with RM4 operations will comply with the District Plan limits at the notional boundary of the closest dwellings.

4.0 VIBRATION

Vibration has not been assessed by MDA, and no relevant criteria are provided in the District Plan.

The actual vibration levels received at nearby dwellings will be site specific and difficult to predict. Vibration levels are dependent on specific models of machinery used, soil attenuation and how the dwelling construction attenuates vibration.

In the absence of District Plan rules, or a relevant NZ Standard we typically take guidance from British Standard BS 5228 - 2:2009, *Code of practice for noise and vibration control on construction and open sites – Part 2 Vibration*. Where vibration levels are less than 0.14 mm/s PPV, this Standard states that vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction.

During the operational phases of the RM4 extension the closest distance that a loader could operate is around 36 metres from the dwelling at 659 Buchanans Road. While we have not specifically measured the vibration generated by a loader working a face at this distance, we have undertaken measurements of excavators working at 20 metres for mining activities. The measurements revealed that the only aspects of the activity capable of generating vibration levels exceeding the BS 5228-2:2009 criteria at 20 metres were when large rocks (> 300 mm) were dropped from large heights (> 3 m) or when the excavator occasionally manoeuvred using the bucket and boom to lift / swivel its tracks instead of normal smooth tracking.

Given the increased separation, the fact that a wheeled loader is working the face (not a tracked excavator), and that it is an aggregate quarry where large rocks will not be as common, we expect vibration will meet the BS 5228-2:2009 criteria. Vibration from dump truck movements, or excavation at greater distances would be even lower.

5.0 REVIEW OF SUBMISSIONS

Fourteen submissions have been received in opposition to the application. Seven of these submissions mention adverse effects from noise as a reason for their submission, however only the submissions from Vallance (105 Old West Coast Road), Main (622 Buchanans Road), and Martini (76 Old West Coast Road) mention the specific nature of these concerns. Comment regarding the issues raised is provided below.

- *Concern regarding the expected 20 truck movements in closer proximity to dwellings and additional traffic on public roads.*

We understand that there will be no change overall to the number of vehicles which leave the quarry as when the RM3 expansion is finished, the same equipment will move into the RM4 expansion. However, dump trucks (not road trucks) will be operating and travelling on the internal haul road in closer proximity to submitter's dwellings.

The application states that there may be up to 20 heavy vehicle movements in an hour. We assume this relates to up to 10 dump trucks arriving, being filled with a loader, and then departing to other areas of the quarry via the internal haul road.

The measurements that MDA have based their assessment on include dump truck movements. However, the MDA report does not state how many truck movements occurred during the measurement period, whether this was a worst case, or how this relates to what is proposed.

Based on the typical noise levels generated by a Volvo dump truck (a sound power in the order of 112 dB L_{WA}) and 20 movements in an hour, when also accounting for the screening provided by the pit walls and bund, we consider it to be realistic that noise from this number of truck movements would comply with 50 dB L_{Aeq} at the notional boundary as stated by MDA.

- *Doubts regarding the accuracy of predicted noise levels*

The MDA assessment is based on measurements of the actual scenario at the existing RM3 quarry expansion. Given the same equipment is proposed to be used for this expansion we consider the MDA assessment to be robust.

- *Submitters note that any substantial increase in noise levels should be unacceptable*

The MDA ambient noise measurements indicate that at the closest dwellings in the absence of traffic noise levels are in the order of 45 dB L_{A90} . During the phase of the quarry operation when equipment operates close to dwellings, noise from quarry operations at up to 50 dB L_{Aeq} will be audible and will increase background noise levels (potentially by 5-6 dB if this noise is continuous).

However, an increase in noise does not necessarily mean that the absolute noise levels are unacceptable. The predicted noise levels still comply with the District Plan standards, along with national and international guidance for the protection of daytime amenity. We also note that a permitted rural activity could generate a noise level of 50 dB L_{Aeq} at the notional boundary of a rural dwelling continuously as of right.

- *One submitter notes that the measurements in the MDA report are based on a loader extracting material from a pit 10 metres below ground level. The submitter has requested that an updated test at ground level is completed as this depth will not be reached immediately.*

We agree that the noise levels generated from equipment operating at ground level will be higher than when the equipment is screened by the pit. However, from the staging diagrams, and application we understand that the quarry will progress across from the existing RM3 quarry and won't start at ground level and excavate downward.

There will be equipment operating at ground level to strip topsoil and form bunds however this has been assessed in accordance with the Construction Noise Standard 6803:1999 in accordance with typical best practice.

- *A submitter notes that the MDA measurements would not have captured the crusher which currently operates from 7am. The submitter also expresses concern that the MDA testing was completed around 3-3:30pm which would traditionally be a quiet break time.*

The submitters comment appears to relate to the background noise testing discussed in section 2.2 of the MDA report. The purpose of this testing is to determine the noise levels in the area, without the operation of the quarry. If a low noise level is recorded, this would support a conclusion that the background noise levels in the area without quarry operation are low.

We are not aware of the location of the crusher operating on the Road Metals site, and the contribution that this would have to the overall noise levels at submitters dwellings when operating. This may be low given the likely setback, however the applicant should confirm this along with whether there are any existing operations in other parts of the quarry which will contribute to the overall noise levels received at submitter's dwellings.

- *A submitter located on Old West Coast Road notes that existing traffic noise levels are minimal and existing ambient noise levels in the weekend are low.*

We have reviewed CCC traffic count data for Old West Coast Road undertaken on the 9th and 10th of May 2016 (Monday/Tuesday) at the Old West Coast Road / West Coast Road intersection. Hourly test data is available for 1300, 1600, 1700, 0700 and 0800 hours. This data indicates that there are in the order of 187 – 361 hourly vehicles during these times on this section of Old West Coast Road.

Older traffic data (2012) for Old West Coast Road between Miners Road and Chartertons Road indicates that traffic levels are likely significantly lower on the weekend as stated by the submitter.

However, as noise levels comply with the District Plan noise standards, MDA have not placed significant reliance on the existing traffic noise levels to support the application. We do note that in section 6.0 of the MDA assessment there is some comment on existing traffic noise providing '*a degree of sound masking for the activity*' which we have discussed in section 3.0 above.

5.0 CONCLUSIONS

We consider the following matters to be of relevance:

- The predicted levels of operational noise associated with the quarry will not exceed 50 dB L_{Aeq} at the notional boundary of any existing dwellings, or 55 dB L_{Aeq} at the boundary of the site.
- It is practical for noise associated with site establishment and rehabilitation activities to comply with the NZ6803:1999 limits at the closest dwelling at 659 Buchanans Road.

Considering all of the above, we agree with MDA that the noise effects will be minimal at all existing dwellings. We do note however, that when the quarry is at a stage where equipment is operating close to the boundary, we expect that noise from quarry equipment will be audible and distinguishable from passing traffic.

6.0 RECOMMENDED CONDITIONS OF CONSENT

If Consent were to be granted, in order to appropriately control noise from the activity, we would support the following conditions of consent:

- Site preparation or rehabilitation works shall only occur between 0730 and 1800 hours unless an acoustic assessment has been provided by a suitably qualified professional to confirm that the noise limits in 6803:1999 will be achieved.
- If operational works are proposed within 100 metres of the dwellings at 659 and 622 Buchanans Road, noise monitoring shall be undertaken prior to this occurring to confirm that the 50 dB L_{Aeq} limit will be achieved at the notional boundary of these dwellings. This monitoring should be undertaken at a time when the processing plant (including the crusher) is operating.

Please do not hesitate to contact me to discuss further.

Kind Regards,



William Reeve
B.E., MASNZ

Acoustic Engineering Services

**Christchurch City Council
City Services Group
Asset Planning - Transport**

Memorandum

DATE : 21 February 2018

FROM : Mike Calvert

TO : Emma Chapman

SUBJECT : RMA/2017/2111 – Road Metals Ltd,

1. Introduction

The following memo assesses the traffic non-compliances identified for the resource consent application for the extension of the gravel quarry and the operation of an aggregates-processing activity located at 350 & 394 West Coast Road and 581, 619 & 635 Buchanans Road

In preparing this assessment have reviewed the consent application and the ITA for the development of a gravel quarry extension. I have also reviewed the further information provided by the applicant.

The proposal provides for the extension of the existing gravel quarry with processing to be carried out on the existing Road Metals processing site, but is not anticipated to generate more traffic than is generated by the current quarry operation.

My qualifications and experience relevant to this application are attached as Appendix A to this memo.

2. General Comments

The existing access to the Road Metals quarry is planned to be used to service the proposed extension to the land being quarried. Therefore I accept that the global effects of the traffic generated by the proposed extension will be similar to those for the existing operation. I am aware, however that there have been some issues identified by our compliance staff with the operation of the access. These include dust and debris being carried onto SH73 from the site creating potential safety issues and problems with edge break on the road in the vicinity of the access as illustrated in the photographs attached as Appendix B to this memo.

The same issues have also been identified by NZTA staff¹³ and their consulting engineers from Opus, which forms the basis of the submission received from NZTA. I understand that at the time of writing this memo NZTA were in discussions with the applicant regarding the issues raised around the design and operation of the existing access.

3. Non-compliances with the District Plan

The proposed quarry extension is a fully discretionary activity in the Rural Urban Fringe zone and the aggregates-processing activity is a fully discretionary activity in the Rural Quarry zone as it does not meet the criteria for assessment under Rule 17.8.1.3, RD8. All adverse effects must therefore be considered. However the matters of discretion listed for Rule 17.8.1.3, RD8 are relevant to the current proposal. The Matters of discretion include High Trip Generators 7.4.4.19 (1) & (5) and I have assessed the proposal with respect to those matters.

4. Evaluation of Effects Resulting from Non-Compliances

(1) Access and manoeuvring (safety and efficiency): Whether the provision of [access](#) and on-site [manoeuvring area](#) associated with the activity, including vehicle [loading](#) and servicing deliveries, affects the safety, efficiency, [accessibility](#) (including for people whose mobility is restricted) of the [site](#), and the transport network (including considering the [road](#) classification of the [frontage road](#)).

The proposed quarry will utilise the same access as the existing quarry operation and there will not be any more traffic generated. In discussions with Council compliance staff, however I have been made aware of issues with the existing access that I consider need to be addressed for it to operate in a safe and efficient manner. These concerns are similar to those raised NZTA staff and their consulting engineers from Opus.

Appendix B, Photograph 1 shows dust created on the state highway due to dirt and debris being carried onto the road from the site. The dust created can result in safety issues on high speed roads due to reduced visibility for drivers. Complaints have also been received by NZTA regarding broken windscreens due to loose chip on the road surface. I understand that Road Metals do try to keep the area swept, but that this can create an unsafe environment due to the sweeper operating on SH73 where vehicle speeds and volumes are high. Debris should not be entering the road from any land use activity as it can create an unsafe environment for drivers using the road. Therefore, I would recommend that the operator implement measures to ensure that the debris does not create a hazard, such as sealing haul roads further into the site and investigating judder bars¹⁴ to take loose material off trucks and tyres before they exit the site.

The design of the access is also creating some potential safety issues and also resulting in extra maintenance of the road as vehicles travel too close to the edge of the road creating edge break which can lead to significant pot-holing, undermining of the integrity of the road and the deposition of loose chip on the road (see Appendix B, Photographs 2 to 4).

¹³ West Coast Road is part of the State Highway network (SH73) and as such NZTA are the road controlling authority.

¹⁴ Subject to potential noise issues for neighbours

The access is not designed to the minimum standard that would normally be required by either the Christchurch City Council¹⁵, or NZTA as shown in Figure 1 below. Compliance would require widening of the carriageway on the opposite side of the road and some changes to the access itself in terms of the corner radii and taper to the edge of seal to achieve compliance.

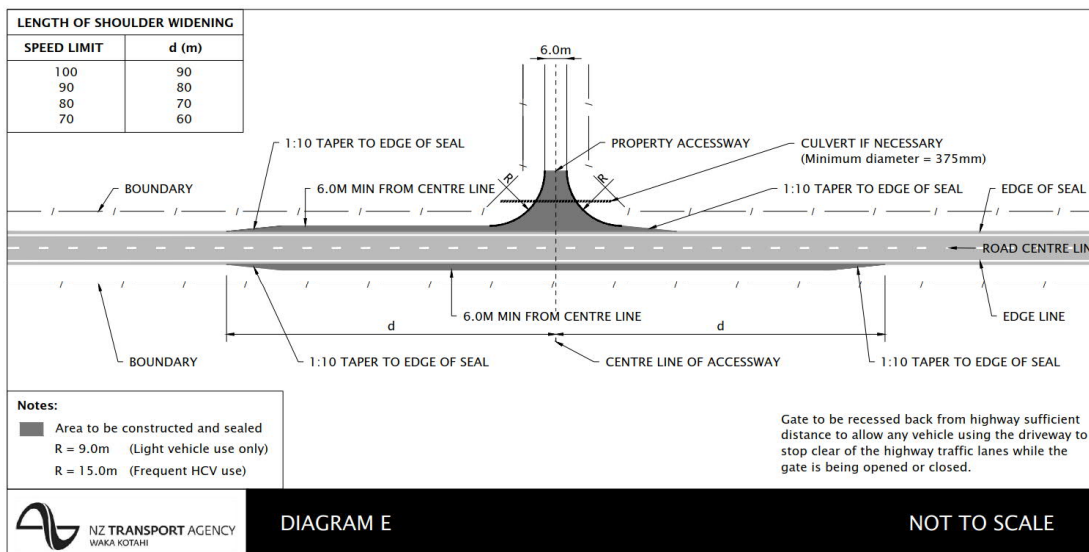


Figure 1 - Transit Planning and Policy Manual, Appendix 5B - Accessway standards and guidelines, Diagram E

(5) Network effects: Having particular regard to the level of additional traffic generated by the activity and whether the activity is permitted by the zone in which it is located, whether measures are proposed to adequately mitigate the actual or potential effects on the transport network arising from the anticipated trip generation (for all transport modes) from the proposed activity, including consideration of cumulative effects with other activities in the vicinity, proposed infrastructure, and construction work associated with the activity.

The applicant has stated that the changes to the area proposed to be quarried will not result in any changes to the number of traffic movements on the road network, as all access to the land will be internalised and the trips will occur within the site. I have discussed the existing operation of the quarry with NZTA staff who have not raised any issues regarding wider network effects on the frontage road which is part of the state highway network.

I am aware that there has been some discussion between the quarry operators Council compliance staff and NZTA regarding the lowering of the speed limit to 70kph in the vicinity of the entrance to the quarry and also at the Miners Road intersection with SH73. I understand however that there have been no crashes at these sites due to the speed of vehicles and that NZTA are not proposing to change the speed limit at this time.

Therefore, in my opinion the effects of the proposed changes to the quarry on the wider road network will be less than minor.

¹⁵ Christchurch District Plan, Appendix 7.5.10 – Design of rural vehicle crossings

5. Submissions

Two submissions have been received regarding the effects of traffic on the road network and in particular the main access onto the West Coast Road (SH73).

1. *New Zealand Transport Agency (NZTA)*

The NZTA have expressed concerns regarding the form and maintenance of the existing access and seek that the design be reviewed and upgraded as necessary to operate safely.

Specifically:

- Issues with the existing access including the design of the access, tracking of gravel on to the State Highway and damage to the edge of the roadway. Gravel on the Highway has resulted in damage to vehicles, particularly broken windscreens.
- Issues with the vehicle access should be further considered and suitably addressed as part of the resource consent application process. It is therefore sought that the current access arrangement is reviewed and any identified improvements made within a specific time period. In addition it is sought that procedures are established to minimise the dropping/ tracking of material on to the State Highway as vehicles depart the quarry.
- NZTA would like to see a review of the vehicle crossing undertaken by a roading engineer including specific recommendations as to potential repairs or improvements of the access area. In addition measures should be determined that will assist in minimising the risk of material tracking or dropping to the State Highway.

Comments regarding the issues raised have been addressed in the body of my report.

2. *Derek & Jess Vallance, 105 Old West Coast Road RD6, Christchurch*

The Vallances have raised concerns regarding the increase in traffic movements along Buchanans Road and Old West Coast Road

- Traffic will use Old West Coast Road or Buchanans Road to get to Miners Road.
- Extra heavy traffic going up and down both Buchanans Road and Old West Coast Road pose a significant additional risk to families living on both these roads.

It appears from the wording of the submission that the Vallances are under the impression that the quarry access will be on Miners Road. This is not the case and as the proposed extension to the quarry will be serviced by the existing access on SH73 I do not consider that this is likely to change traffic patterns that would increase heavy vehicles travelling on Buchanans Road or Old West Coast Road.

6. Conclusions and Recommendations

In my opinion, the proposed extension to the gravel quarry will not result in adverse effects on the wider transport network that will be more than minor. There are, however existing safety issues with the Road Metals access that need addressing. Therefore, should consent be granted for the quarry extension, either in part or as a whole, I would recommend that conditions are imposed to address the adverse safety effects created by debris being carried onto the road and the carriageway damage currently occurring.

1. Seal the haul road into the site by a minimum of 100 metres and investigate the use of judder bars; and
2. Provide access in compliance with requirements of NZTA which would (as a minimum) require the widening of the road opposite the site access as shown in the Christchurch District Plan, Appendix 7.5.10 – Design of rural vehicle crossings, Figure 14 (Transit Planning and Policy Manual, Appendix 5B - Accessway standards and guidelines, Diagram E).

Appendix A – Qualifications and Experience of Michael Grant Calvert

- Bachelor of Engineering (Civil) from University of Canterbury.
- Member of the Institution of Professional Engineers New Zealand (IPENZ).
- Thirty years' experience in traffic engineering and transport planning in both New Zealand and England
- Experience relevant to this matter includes:
 - Preparing Integrated Transport Assessments for the Christchurch City Council;
 - Evidence for the Independent Hearings Panel on the transport implications of rezoning of rural land for commercial and industrial zones in the city;
 - Providing expert transport evidence and assessment of the traffic and transportation effects of resource consent applications for Christchurch City Council.
 - Of particular relevance are five quarry applications, two of which are on Roberts Road, one located on Savills Road and two on Conservators Road. One of the latter consents was appealed to the Environment Court where I provided expert evidence for the Council on transport matters.

Appendix B – Photographs of Site Entrance



Photograph 1 - Dust on SH73 - Council Compliance Unit 16/05/2017



Photograph 2 - Road Metals access surface damage & loose chip - Council Compliance Unit 29/08/2017



Photograph 3 - Pseudo acceleration lane with edge break - Council Compliance Unit 29/08/2017



Photograph 4 - Road edge opposite Main West Coast Road access - Council Compliance Unit 29/08/2017

Christchurch City Council
TSD - Parks & Landscapes Team

Memorandum

To: Emma Chapman, Senior Planner, Resource Consents Unit, Christchurch City Council

From: Jennifer Dray, Senior Landscape Architect, Technical Services and Design Team

Date: 1 March 2018

Re: RMA/2017/2111 at 581-635 BUCHANANS ROAD – LANDSCAPE COMMENTS

Introduction and Scope

1. My name is Jennifer Geraldine Dray and I am a Senior Landscape Architect employed by the Christchurch City Council. I have been practicing as a Landscape Architect for 19 years. My qualifications are a Bachelor of Landscape Architecture and a Bachelor of Science (Geography). I am a registered member of the New Zealand Institute of Landscape Architects. I have had experience in the assessment of effects of quarrying on the character and amenity of the landscape in the receiving environment within which this application site is located.
2. I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses, contained within the Environment Court Practice Note 2014, and that I agree to comply with it. I confirm that I have considered all material facts that I am aware of that might alter or detract from the opinions that I express and that this evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.
3. These comments are in relation to the application from Road Metals to expand their existing Yaldhurst quarry, this will involve extraction of aggregate material to a depth of 1m above the highest recorded ground water level on three adjacent land parcels at Buchanans

Road, Yaldhurst. Access to the site will be directly from the existing Road Metals Quarry, at 394 West Coast Road and across existing quarry expansions to the application site. Processing of aggregates will not occur at the proposed site as all material is to be processed at the existing adjacent quarry. The requested duration period is 8 years.

4. The previous quarry expansions into neighbouring blocks (RM3 at 290 – 350 West Coast Road) was approved in June 2015, and provided for earth bunds along the West Coast Road boundary and the boundary shared with the council cemetery at 272 West Coast Road. The applicant is proposing to retain some of these bunds, as part of this proposal.
5. A land use consent is sought for a gravel extraction and processing operation within the Rural Urban Fringe zone. Resource consent is required for the following rule infringements of the Christchurch District Plan:
 - a. Rule 17.8.4.1 (D1) as a discretionary activity because the aggregate processing within the Rural Quarry zone does not meet condition (d) of Rule 17.8.1.3 (RD8) regarding hours of operation.
 - b. Rule 17.5.1.4 (D3) within the Rural Urban Fringe Zone, quarrying is a discretionary activity where it is located 250m or more from a residential zone or Specific Purpose (School) Zone boundary. The proposed quarrying activity at the site will be located within 250m from these specified zone boundaries, therefore land use consent is sought as a discretionary activity.
6. These landscape comments are in relation to the potential adverse effects on the landscape character and visual amenity of the site and its surroundings, in particular the visual amenity and landscape character on the resident at the property situated at 659 Buchanans Road . These comments are also in relation to the submitted Quarry Rehabilitation Plan (QRP).
7. Documents referred to in the preparation of these comments include the following:
 - a. The Land Use Consent Application prepared for the Road Metals (Golder Associates August 2017).
 - b. Section 92 Request for Further Information (Golder Associates November 2017).
 - c. The Quarry Rehabilitation Plan (Golder Associates November 2017).
 - d. Submissions from local residents and stakeholders.
8. I visited the site on 20th September 2017 and again on 22nd February 2018, and am familiar with the area.

Description of the Site and Surrounding Area

9. The proposed extraction site is located at 581, 619 and 635 Buchanans Road, Yaldhurst. This application site adjoins the existing Road Metals Yaldhurst Quarry located at 394 West Coast Road with the additional consented extraction sites, RM2 and RM3 located between 290 and 350 West Coast Road, Christchurch.
10. The site is contained between Buchanans Road and West Coast Road, and adjacent to the Rural Quarry Zone to the south and to the west. The properties to the north on both Buchanans Road and Old West Coast Road are also zoned Rural Urban Fringe. They contain a number of smaller rural land holdings and are characterised by residential dwellings, mature tree and garden plantings, and productive rural activities. The site located to the east at 272 West Coast Road is a Council owned cemetery.
11. Each lot included within the application site is currently occupied by a residential dwelling, accessory buildings, pasture and scattered trees. Existing shelter belt and tree planting on the Buchanans Road boundary currently mostly screens the application site as follows;
 - a. 581 Buchanans Road – The boundary is lined by a row of trimmed, deciduous Poplar trees which are approximately 6-8m in height. This will be visually permeable in winter months when the trees are bare of foliage. A double row of Poplars also lines the driveway.
 - b. 619 Buchanans Road – A 4-5m high Cedar shelter belt lines the western most portion of this boundary, and the eastern portion contains mixed tree planting comprised of a large Golden Elm, some conifer trees and some shrubs which have grown to 1.5-2.0m high. There is an approximately 30m long section of Photinia hedge to the front of a tennis court, which is approximately 2.0m high,.
 - c. 635 Buchanans Road – A 4-5m high Macrocarpa shelter belt provides good visual screening.
12. The property at 659 Buchanans Road sits immediately to the west of 635 Buchanans Road, and has a clipped Macrocarpa hedge on its front boundary. It is separated from 635 Buchanans Road by an approximately 5m high shelter belt for the northern most portion.
13. The Council owned cemetery at 272 West Coast Road sits immediately to the west of 581 Buchanans Road. The two properties are separated by mixed plantings of some larger Oak trees, some smaller shrubs and low growing ground covers, which are planted on Council owned land. There are several gaps where views of the RM4 site are possible across the southern portion of 581 Buchanans Road.

Description of the Proposal

14. The applicant has provided a full description of the proposed activities as follows;

- a. Prior to quarrying commencing, topsoil and subsoil overburden material will be removed from each stage of the quarry. Topsoil will be used to progressively develop on-site bunds, where topsoil will be stored for future use in rehabilitation of the site.
- b. Quarry areas will be opened up in five stages of approximately 1 to 2ha at a time, generally working in a south to north direction.
- c. Bunds will be approximately 3.0m high and will be grassed following establishment. Some existing bunds on the adjoining block located at 290-250 West Coast Road will be retained.
- d. The newly formed bunds are to be 10m wide at their base which gives a gradient of approximately 1:1.5 on both sides.
- e. A minimum 10.0m setback will be provided for bund establishment along site boundaries other than those which are common with Road Metals' existing operations, and around the residential dwellings to be retained on the site.
- f. Along the Buchanans Road (northern) boundary, the existing mature trees will be retained and in addition a 3m high bund will also be erected behind these rows of trees.
- g. Where gaps exist in rows of plantings to be retained, prior to gravel extraction commencing, fast growing plantings will be established.
- h. Where internal plantings and/or bunding occur along the southern boundary, they will be removed to enable an open area connecting to the existing extraction sites.
- i. Where bunding and screening occurs along the southern boundary or around the houses located at 290-316 West Coast Road, these will be retained to continue to provide screening throughout the duration of the proposed extraction activity. These bunds will be removed following the cessation of this proposed activity.
- j. Further information received from the applicant has confirmed that earth bunding will be formed a minimum of 100m ahead of the quarry face.

15. Proposed visual mitigation on the boundary shared with 659 Buchanans Road comprises a 3.0m high and 10.0m wide grassed earth bund on the southern portion of the shared boundary for the duration of the extraction activities, or at least until the quarry face is 250m away from the boundary. The applicant had intended to seek the written approval of the owner of the property at 659 Buchanans Road. If approval is not obtained, the applicant would consider suggestions from the Council to increase the level of visual mitigation on this shared boundary. Written approval has not been obtained from this resident, who has in fact submitted in opposition of the proposal.

16. The applicant has also offered a 100m setback of the quarry face from the two nearest residential dwellings which are at 659 Buchanans Road and 622 Old West Coast Road. The proposed visual mitigation earth bunding would be immediately to the outside of the quarry face (i.e. not on the property boundary).
17. Written approvals have been obtained from the following owners and occupiers of several properties and therefore we are not able to take into account any adverse effects on the following properties in our assessment:
- a. Sites forming part of the application site:
 - 581 Buchanans Road – John & Susan Clark (owner/occupiers)
 - 619 Buchanans Road – Kate Scott (owner/occupier)
 - 635 Buchanans Road – Terence Birchfield (owner/occupier)
 - 316 West Coast Road – occupier (owned by Road Metals)
 - b. Surrounding sites:
 - 661 Buchanans Road – Faulks Investments Limited
 - c. Other parties not deemed affected:
 - 223 Old West Coast Road – Winstone Aggregates (owner/occupier)

Submissions

18. A total of 14 submissions were received in opposition to the proposal as follows;
- a. 76 to 138 Old West Coast Road – northern side of road.
 - b. 73 to 105 Old West Coast Road – southern side of road.
 - c. 659 Buchanans Road – adjoining western boundary of the application site.
 - d. 175 Buchanans Road – adjoin Faulks Contracting Yard.
19. Matters raised in submission that relate to the effects of the proposal on landscape character and visual amenity include;
- a. Concern about the proliferation of quarrying in the rural location, with rural lifestyle being slowly eroded by quarrying activities.
 - b. The effects of a lot of quarries in the area, with existing noise, traffic, dust issues.
 - c. The proximity of quarrying to housing/dwellings.
 - d. The visual impacts of the proposal.
 - e. The fact that it was not a quarrying area when properties were purchased, and the area should not become a quarrying area.
20. As a summary of submitters concerns, it appears they centre around adverse effects on the landscape character (enjoyment of their surroundings) as well as the visual effects of the proximity of the quarry. There also appears to be some concern around the cumulative

effects of multiple quarries in the area, and the incremental creep of the quarries eroding the rural lifestyle.

The Quarry Rehabilitation Plan (QRP)

21. The submitted QRP describes rehabilitation as follows:

- a. Rehabilitation of the site will occur progressively over the site once areas of extraction have been completed and will primarily involve re-spreading and contouring of stored overburden materials, stabilisation of quarry faces and grassing of completed and restored extraction areas to create a free draining and stable landform. The batter slope on completion of rehabilitation will be no steeper than 1:3.
- b. Topsoil and subsoil materials which have been stored following site preparation will be used in the site rehabilitation by providing a final topsoil layer.
- c. Rehabilitation will be based on the following principles:
 - i. Development of a free draining landform.
 - ii. Re-grassing by spreading stored topsoil and subsoil and replanting with suitable grass species as soon as practicable.
 - iii. Ensure any areas where works have been completed are left in a safe and stable condition.
 - iv. Establish stable grassed areas to a slope of no more than 1v:3h to reduce erosion.
 - v. Control weeds.
 - vi. Monitor and maintain rehabilitated areas to ensure they are functioning appropriately post-closure for a period of 12 months and/or until 80% groundcover is established.
- d. The applicant expects that the entire RM4 site would be rehabilitated 12 months after the final extraction of resource has occurred.
- e. Where the site ad joins other excavated areas, the ground contours will be graded to blend in with these. Otherwise the 1:3 batter slope will adjoin neighbouring properties still at ground level.
- f. Excavated pit depths will guide the final landform of the rehabilitated site. The pit depth at RM4 is expected to be 10-11m below ground level (bgl). Rehabilitation will build upon these levels but will be largely dependent on available volumes of cleanfill.
- g. The applicant expects (Para 5.1 of the QRP) that while rehabilitation will be progressive for the RM4 site, some rehabilitation works can only take place once all the quarrying operations have ceased.

- h. The applicant has undertaken where necessary to expedite the early stages of rehabilitation of RM4 by bringing additional topsoil to the site prior to the site bunding being disestablished, or where further topsoil is required. Road Metals will also bring in clean topsoil from off site for the purpose of rehabilitation.

Assessment of the QRP

22. Assessment as follows;

- a. Depth of top-soil and overburden re-spread. This has not been specified over the site. This is normally 350mm which equates to a 300mm settled depth.
- b. Finished rehabilitated levels. These have not been indicated at all, and are to be determined by the available volume of fill (GRP 5.2.2). As a comparison, the adjacent Yaldhurst Quarry it is to be rehabilitated to between GL and 4.0m below GL.
- c. The grass seed variety had not been specified (GRP 5.6) We could expect more detail here in terms of type of grass seed which will manage drought conditions and is resistant to attracting birds. Prairie Grass will continue to grow in extreme heat in non-irrigated areas.
- d. Timing of spreading of topsoil and re-grassing. This should be undertaken during either spring (September to November) or autumn (March – May), when grass strike is optimal.
- e. Timeframe for rehabilitation. The QRP does not specify time frame for the rehabilitation of each of the five stages. I am of the understanding that two stages must remain open at any one time, with one being extracted while the other is being rehabilitated. It would be realistic to expect that each stage be rehabilitated within 6 months of extraction being completed within that stage, or within the first spring or autumn following completion of extraction activities.
- f. Impact of rehabilitation of RM2 and RM3. It is unclear how much the rehabilitation of RM4 is to be impacted by the completion of extraction activities for RM2 and RM3 and Yaldhurst Quarry (QRP 6.0). Better clarity around this would ensure that some rehabilitation works are not being held up unnecessarily by extraction or other activities within RM3 and RM2. However, the applicants have undertaken to retain existing bunding at the southern boundary of RM2 and RM3 to screen activities within RM4. The QRP appears to only cover the RM4 site, it would be useful to have more clarity around how the rehabilitation of RM4 is to be integrated with RM2 and RM3.
- g. End use of the quarry site. The QRP lacks clarity around the end use of the site post – rehabilitation.

23. My general assessment of the proposal is that the proposed 10m wide setback does not allow for a strip wide enough to accommodate more gently battered earth bunds, in addition to existing shelter belts and new mitigation planting.

24. In general, to ensure the adverse visual effects for road users, and adjacent and nearby residents are managed to a degree that is acceptable, I recommend the following;

- a. Currently the 3.0m high bunds on boundaries of RM4 are proposed to be only 10.0m wide at their base which gives a 1:1.5 gradient slope on each side. I consider this to be quite a steep gradient which is difficult to negotiate, and makes grass establishment and maintenance difficult to achieve. In my opinion, the bunds on all road boundaries where they are visible through gaps in trees or behind deciduous trees, should be widened so that a gradient of 1:3 can be achieved on the outer slope of the bund. This will require a 15m wide bund at the base. These lower profile bunds also integrate better into the flat Canterbury Plains landscape, as they look more natural, and the eye can easily move over these features.
- b. A further offset of 5m from the boundaries is also required to allow for the retention of existing shelter belts (which are 4-5.0m in width) and a 1.0m maintenance strip. Additionally, no soil should be piled at the base of the existing trees. This is to ensure the health and survival of these trees, and to allow room for the maintenance of the grass cover on the bunds, and the pruning of the trees and shelter belts.
- c. To achieve a and b above, a setback of 20m will be required.

25. An assessment of the proposed visual mitigation on individually affected boundaries is as follows;

- a. 581 Buchanans Road and the cemetery boundary
 - i. The road boundary is lined by a row of trimmed, deciduous Poplar trees which are approximately 6-8m in height and planted at spacings of approximately 1.5 - 2.0m. This will be visually permeable in winter months when the trees are bare of foliage. A 3.0m earth bund is proposed to be located immediately behind the row of trees on the road boundary (portion of site not occupied by dwelling) and the eastern and southern boundaries. The southern boundary intersects with the cemetery boundary and will be visible from the cemetery.
 - ii. The width of the bund located on the road boundary should be extended to 15.0m to ensure a gradient of 1:3 on the outer slope.

- iii. Additional tree planting should take place to the front of the bund which intersects with the cemetery boundary. These trees are to be capable of growing to 8.0m at maturity, and to be planted at 2.5m in height at time of planting. These trees should have minimum spacings of 5.0m.

b. 619 Buchanans Road

- i. A 4-5.0m high trimmed Cedar shelter-belt provides good visual screening for the western most portion of this boundary. Earth bunding along this portion of the boundary will be screened from the road. In this instance, the steeper 10m wide bund will be adequate for screening.
- ii. The eastern portion of the property (containing the dwelling) contains mixed tree planting comprised of a large Golden Elm, conifer trees and shrubs. A 30m long Photinia hedge, approximately 2.0m in height, sits on the road boundary adjacent to a tennis court. Earth bunding will extend around all three boundaries of the portion of the lot containing the dwelling and the tennis court. The rear, southern-most bund, will be set back approximately 100m from the road boundary.
- iii. Some portions of the bunds along the side boundaries will be visible from the road. Infill planting to act as a visual screen should occur along this boundary to reach a mature height of a minimum of 3.0m.

c. 635 Buchanans Road

- i. A 4-5.0m high trimmed macrocarpa shelter belt provides good visual screening on the road boundary. Existing macrocarpa shelter belts on the western and eastern boundaries are also proposed to be retained. The western boundary is shared with 659 Buchanans Road. An earth bund is proposed to be added to the eastern boundary of 635 Buchanans Road, shared with 619 Buchanans Road. This bund should be located with a 1.0m offset from the existing shelter belt.

d. 659 Buchanans Road

- i. The RM4 area extends the full length of the shared southern boundary, and for a portion of the shared internal boundary to the east of the 659 Buchanans Road property. The original proposal for landscape mitigation included the provision of a 3.0m high and 10.0m wide grassed earth bund on the boundary for the duration of the extraction activities, or at least until the quarry face is 250m away from the boundary. The applicant more recently has offered a 100m setback of the quarry face from the dwelling at 659 Buchanans Road with the proposed visual mitigation earth bunding to be

immediately to the outside of the quarry face (i.e. not on the property boundary).

- ii. I consider that where the bund is to be located adjacent to the quarry face (with 100m setback), it will effectively have an approximately 90m setback from the dwelling. In this case, a steeper 10m wide bund would be adequate.
- iii. However, in the instances where the bund is to be located on the property boundary, the bund should be widened to 15.0m to achieve a 1:3 gradient slope on the side shared with 659 Buchanans Road. In addition, a 5.0m planting strip should be established in front of the bund, which will combine to provide a 20m setback from the quarry face. Planting in the landscape strip to be shrubs or trees capable of growing to 3.0m at maturity to be planted at 1.2m at time of planting and minimum 1.0m spacings. All establishment and maintenance of these trees and shrubs to be carried out by the applicant.

e. 622 Buchanans Road

- i. The applicant more recently has offered a 100m setback of the quarry face from the dwelling at 622 Buchanans Road, with the proposed visual mitigation earth bunding to be immediately to the outside of the quarry face (i.e. not on the property boundary).
- ii. In my opinion, the visual mitigation bund would be more appropriate remaining on the road boundary of 581 Buchanans Road, rather than following the edge of the quarry face.

f. Southern Boundaries

- i. Bunding and screening along the southern boundary or around the houses located at 290-316 West Coast Road are to be retained throughout the duration of the proposed extraction activity. The existing bunds and screen planting, combined with the offset of the quarry face from the West Coast Road boundary, will adequately mitigate visual effects from the West Coast Road.

Assessment of Cumulative Effects

26. Submissions in opposition indicate that there appears to be some concern around the cumulative effects of multiple quarries in the area, and the incremental creep of the quarrying activity eroding the rural lifestyle.

27. In terms of visual amenity, the visual effects of the quarry extension can be mitigated to an acceptable degree by bunding and planting.
28. However the extension of this quarry will exacerbate the existing effects of quarrying activity on the landscape character and rural amenity of the area. In addition, the existing landform of the Canterbury Plains is being permanently altered, as it is unlikely that the site will ever be returned to its original levels. The concentration of quarries in the immediate area is eroding the sense of place of the Canterbury Plains as an open, rural landscape.

Recommendations

29. A summary of my recommendations are as follows;

- a. The bunds on all road boundaries where they are visible through gaps in trees or behind deciduous trees should be widened so that a gradient of 1:3 can be achieved on the outer slope of the bund. This will require a 15m wide bund at the base.
- b. A further offset of 5.0m from the boundaries will allow for the retention of existing shelter belts (which are 4-5.0m in width) and a 1.0m maintenance strip.
- c. To achieve a and b above, a setback of 20.0m will be required.
- d. No soil should be piled at the base of the existing trees.
- e. Additional tree planting to take place at 581 Buchanans Road to the front of the bund which intersects with the cemetery boundary. Trees to be capable of growing 8.0m at maturity, and to be planted at 2.5m in height. These trees should have minimum spacings of 5.0m.
- f. Also at 581 Buchanans Road, the bund should remain located on the boundary. This would be a more appropriate treatment of the 100m setback of the quarry face from 622 Buchanans Road (as opposed to placing the bund immediately adjacent to the quarry face).
- g. Infill planting to act as a visual screen should occur along the road boundary of 619 Buchanans Road to reach a mature height of a minimum 3.0m.
- h. The earth bund on the eastern boundary of 659 Buchanans Road should be located with a 1.0m offset from the existing shelter-belt.
- i. Where the bund on the boundary shared with 659 Buchanans Road is to be located on the property boundary (as opposed to being adjacent to the 100m setback quarry face) I recommend the following;
 - i. Bund to be widened to 15m to achieve a 1:3 gradient slope on the side shared with 659 Buchanans Road.
 - ii. In addition, a 5.0m planting strip should be established in front of the bund, which will provide a 20m setback from the quarry face.

- iii. Planting in the landscape strip to be shrubs or trees capable of growing to 3.0m at maturity and to be planted at 1.2m at time of planting, with minimum 1.0m spacings.
- iv. All establishment and maintenance of these trees and shrubs to be carried out by the applicant.
- j. All grassed earth bunds must be regularly mown or grazed so that they are kept in a tidy condition.

30. With regards to the QRP, I have made the following recommendations;

- a. Depth of re-spread topsoil at rehabilitation should be 350mm which equates to a 300mm settled depth.
- b. Finished floor level of the rehabilitated pit should be equivalent to that which is required elsewhere across the site.
- c. Type of grass seed to be used for rehabilitation should be specified which is capable of establishing and growing on free draining soils, and in dry conditions. The specified grass seed mix should also be resistant to attracting birds.
- d. The spreading of topsoil and re-grassing should be undertaken during either spring or autumn, when grass strike is optimal.
- e. Each stage be rehabilitated within 6 months of extraction being completed within that stage, or within the first spring or autumn following completion of extraction activities within that stage.

Conclusion

It is my opinion that in terms of visual amenity, the visual effects of the quarry extension can be mitigated to an acceptable degree by bunding and planting. In terms of landscape character and the cumulative effects of the proposed quarry extension on landscape character, the concentration of quarries in the immediate area is eroding the sense of place of the Canterbury Plains as an open, rural landscape, and the existing landform is being permanently altered.

I hope these comments have been helpful,

Regards

Jennifer Dray

Senior Landscape Architect

Technical Services and Design Team

VERTICAL CAPITAL DELIVERY & PROFESSIONAL SERVICES

APPENDIX 6 – Relevant District Plan Objectives and Policies

Provision	Assessment
Chapter 3 Strategic Directions	
<p>Objective 3.3.1 - Enabling recovery and facilitating the future enhancement of the district</p> <p>a. The expedited recovery and future enhancement of Christchurch as a dynamic, prosperous and internationally competitive city, in a manner that:</p> <ul style="list-style-type: none"> i. Meets the community's immediate and longer term needs for housing, economic development, community facilities, infrastructure, transport, and social and cultural wellbeing; and ii. Fosters investment certainty; and iii. Sustains the important qualities and values of the natural environment. 	<p>Strategic Objective 3.3.1 (along with Strategic Objective 3.3.2 which relates to clarity of language and efficiency within the District Plan) has primacy over the other objectives in Chapter 3.</p> <p>The proposal assists the applicant to provide for its economic wellbeing and provides aggregate which is needed for recovery and future development within the greater Christchurch area. The mitigation measures proposed and recommended conditions will be sufficient to mitigate effects on the surrounding rural environment to an acceptable level. I therefore consider the proposal to be consistent with Objective 3.3.1.</p>
<p>Objective 3.3.5 - Business and economic prosperity</p> <p>a. The critical importance of business and economic prosperity to Christchurch's recovery and to community wellbeing and resilience is recognised and a range of opportunities provided for business activities to establish and prosper.</p>	<p>Allowing the quarry activity to proceed would allow the applicant to continue its business and make efficient use of existing investment in infrastructure which in turn contributes positively to the Christchurch economy. I consider the proposal supports this objective.</p>
<p>Objective 3.3.14 - Incompatible activities</p> <p>a. The location of activities is controlled, primarily by zoning, to minimise conflicts between incompatible activities; and</p> <p>b. Conflicts between incompatible activities are avoided where there may be significant adverse effects on the health, safety and amenity of people and communities.</p>	<p>In a general sense, quarrying is an activity which is not compatible with residentially zoned activity, however it is compatible with the amenity that the Plan envisages could arise from living among rural productive activities.</p> <p>Moreover, the discussion of the adverse effects of the activity has not identified any significant effects on health, safety or rural amenity, taking into account the increased separation distance to residential dwellings and the mitigation measures to be put in place. I therefore consider the activity is consistent with this objective.</p>
<p>Objective 3.3.16 - A productive and diverse rural environment</p> <p>a. A range of opportunities is enabled in the rural environment, primarily for rural productive activities, and also for other activities which use the rural resource efficiently and contribute positively to the economy.</p> <p>b. The contribution of rural land to maintaining the values of the natural and cultural environment, including Ngai Tahu values, is recognised.</p>	<p>Of most direct relevance to this activity, Strategic Objective 3.3.16 conveys the outcome sought for the rural land in the district – “a productive and diverse rural environment”.</p> <p>The objective places particular emphasis on enabling “rural productive activities” which are defined to include quarrying activities.</p> <p>The objective seeks the use of rural land for productive rural activities such as quarrying, provided that effects are being appropriately managed. I have concluded that the effects of the activity on the surrounding environment will be mitigated to a level which can be considered acceptable on balance and I</p>

	therefore consider the activity to be consistent with this objective.
Chapter 6.1 Noise	
<p>Objective 6.1.2.1 - Adverse noise effects</p> <p>a. Adverse noise effects on the amenity values and health of people and communities are managed to levels consistent with the anticipated outcomes for the receiving environment.</p>	<p>Guidance on the anticipated outcomes for the rural receiving environment can be found in Policy 17.1.1.3 in the Rural chapter of the District Plan and in the relevant noise standards. The rural policy makes reference to the fact that the traffic, noise, dust and odour effects from rural productive activities maybe apparent to rural residents.</p> <p>The Plan sets acceptable noise levels for the protection of amenity in different zones. The acoustic experts have assessed the activity as complying with the daytime noise limit for rural zones and the construction noise standard for site preparation, subject to this activity not being carried out before 0730 hours.</p> <p>I therefore consider the activities complies with noise levels deemed acceptable for the maintenance of amenity and the proposal is consistent with this objective and Policy 6.1.2.1.1.</p>
<p>Policy 6.1.2.1.1 - Managing noise effects</p> <p>a. Manage adverse noise effects by:</p> <ul style="list-style-type: none"> i. limitations on the sound level, location and duration of noisy activities; ii. requiring sound insulation for sensitive activities or limiting their location relative to activities with elevated noise levels. 	See above
Chapter 7 Transport	
<p>Objective 7.2.1 - Integrated transport system for Christchurch District</p> <p>a. An integrated transport system for Christchurch District:</p> <ul style="list-style-type: none"> i. that is safe for all transport modes; ii. that is responsive to the current recovery needs, future needs, and enables economic development; iii. that supports safe, healthy and liveable communities by maximising integration with land use; iv. that reduces dependency on private motor vehicles and promotes the use of public and active transport; v. that is managed using the one network approach. 	<p>Traffic experts concerns regarding the operation of the existing accessway onto State Highway 73 have been outlined in this report. Mr Calvert is of the opinion that these issues could be addressed by altering the accessway such that it is laid out in accordance with District Plan and NZTA requirements and be the installation of judder bars or similar to remove loose gravel prior to trucks accessing the highway.</p> <p>Implementing these conditions will result in an overall improvement in safety over the existing situation. The proposal is considered consistent with Objective 7.2.1.</p>

<p>Policy 7.2.1.2 - High trip generating activities</p> <p>a. Manage the adverse effects of high trip generating activities, except for permitted activities within the Central City, on the transport system by assessing their location and design with regard to the extent that they:</p> <p>...</p> <p>...</p>	<p>The District Plan states in Rule 7.4.3.10 that high trip generators are those activities which are controlled or restricted discretionary activities under Rule 7.4.2.2 C1 or Rule 7.4.2.3 RD1.</p> <p>The activity complies with the thresholds set out in the rule and is therefore not classed as a high trip generating activity.</p>
<p>Policy 7.2.1.3 - Vehicle access and manoeuvring</p> <p>a. Provide vehicle access and manoeuvring, including for emergency service vehicles, compatible with the road classification, which ensures safety, and the efficiency of the transport system.</p>	<p>As above, conditions have been recommended which will improve safety at the existing site access point on to West Coast Road. This will be beneficial in terms of the safety of the transport system.</p> <p>As such I consider the proposal consistent with this policy.</p>
<p>Chapter 17 Rural</p>	
<p>Objective 17.2.1.1 - The rural environment</p> <p>a. Subdivision, use and development of rural land that:</p> <ul style="list-style-type: none"> i. supports, maintains and, where appropriate, enhances the function, character and amenity values of the rural environment and, in particular, the potential contribution of rural productive activities to the economy and wellbeing of the Christchurch District; ii. avoids significant, and remedies or mitigates other reverse sensitivity effects on rural productive activities and natural hazard mitigation works; iii. maintains a contrast to the urban environment; and iv. maintains and enhances the distinctive character and amenity values of Banks Peninsula and the Port Hills, including indigenous biodiversity, Ngāi Tahu cultural values, open space, natural features and landscapes, and coastal environment values. 	<p>Specific emphasis and importance is given to rural productive activities, which include quarries. I understand from this emphasis that the function, character and amenity of the rural environment should be considered to include the operation of these productive rural activities.</p> <p>To a certain extent the impacts of these activities are anticipated by the District Plan to form part of the rural working environment, subject in the case of quarries to at least a discretionary activity consent process. As a result I consider the activity to be consistent with part (i) of the rural objective.</p> <p>The other parts of the rural objective (relating to reverse sensitivity effects, maintaining urban-rural contrast and the character of Banks Peninsula and the Port Hills) are not relevant to this activity.</p>
<p>Policy 17.2.2.1 - Range of activities on rural land</p> <p>a. Provide for the economic development potential of rural land by enabling a range of activities that:</p> <ul style="list-style-type: none"> i. have a direct relationship with, or are dependent on, the rural resource, rural productive activity or sea-based aquaculture; ii. have a functional, technical or operational necessity for a rural location; or iii. recognise the historic and contemporary relationship of Ngai Tahu with land and water resources; and iv. represent an efficient use of natural resources. 	<p>I consider the proposal is consistent with this policy as it enables an activity (quarrying) which has a direct connection with the rural resource (aggregate) and provides for the extraction of the resource.</p> <p>Currently the proposed extraction area is in pasture and it is intended that rehabilitation will re-establish pastoral grass cover. Extraction of the gravel resource will not therefore preclude the future use of the site for another rural purpose following completion.</p>

<p>Policy 17.2.2.2 - Effects of activities utilising the rural resource</p> <p>a. Ensure that activities utilising the rural resource avoid significant adverse effects on areas of important natural resources and avoid, remedy or mitigate other adverse effects on rural character and amenity values.</p>	<p>In terms of adverse effects on important natural resources, the site does not contain or adjoin any significant natural features, sites of ecological significance or waterways. The groundwater flowing beneath the site is an important natural resource however. Adverse effects on groundwater have been assessed as being less than minor. Significant effects are avoided.</p> <p>Effects on rural amenity have been assessed as being no more than minor for the closest neighbours and less than minor for those further afield. Rural character is discussed under Policy 17.2.2.3 below.</p> <p>I note that this conclusion is finely balanced with respect to the property at 659 Buchanans Road. On balance however I consider the proposal to be consistent with this objective.</p>
<p>Policy 17.2.2.3 - Contributing elements to rural character and amenity values</p> <p>a. Recognise that rural character and amenity values vary across the Christchurch District resulting from the combination of natural and physical resources present, including the location and extent of established and permitted activities.</p> <p>b. Recognise that the elements that characterise an area as rural, from which desired amenity is derived, include the predominance of:</p> <ul style="list-style-type: none"> i. a landscape dominated by openness and vegetation; ii. significant visual separation between residential buildings on neighbouring properties; iii. where appropriate, buildings integrated into a predominantly natural setting; and iv. natural character elements of waterways, water bodies, indigenous vegetation and natural landforms, including the coastal environment where relevant. <p>c. Recognise that rural productive activities in rural areas can produce noise, odour, dust and traffic consistent with a rural working environment, including farming, plantation forestry and quarrying activities, that may be noticeable to residents and visitors in rural areas.</p>	<p>This policy 17.2.2.3 specifically sets out the elements which in the Christchurch district contribute to the character and amenity of its rural areas.</p> <p>The first part of the policy outlines that rural character and amenity values are impacted by established and permitted activities. This is true for the main Road Metals processing site which is located within an established quarry zone. Amenity values within that area are generally correspondingly low, with visual, noise and traffic effects as would be expected in a quarry zone. Amenity for the areas surrounding the proposed extraction site is much higher, with rural residential dwellings on smaller sites generally set within pasture land characterised by small scale agricultural activities.</p> <p>In terms of the expected character under points (ii) to (iv), the proposed activity does not involve the construction of buildings, nor does it impact upon water bodies or any identified natural features.</p> <p>In terms of point (i), quarrying activity does not impact on the openness of the landscape, although it does result in the removal of vegetation and a significant and noticeable change to the land use activity.</p> <p>Notwithstanding this, I note that the provisions of the District Plan specifically identify quarrying as a rural productive activity and therefore one which can generally be anticipated to be located in rural areas. It is of relevance here that the policy also identifies that rural activities, such as quarries, have effects that may be noticeable to residents. In this way, the rural zones are identified as productive working environments with associated levels of traffic, noise and dust.</p> <p>The discussion of effects on rural amenity above has concluded that, subject to the recommended conditions of consent, the effects of the proposal will be minor and that the application site will be adequately screened to mitigate visual effects to an</p>

	<p>acceptable level. For this reason I consider the effects of the proposal have been avoided, remedied or mitigated to an acceptable level as sought by Policy 17.2.2.2 and that the proposal is generally consistent with Policy 17.2.2.3.</p>
<p>Policy 17.2.2.4 - Function of rural areas</p> <p>a. Ensure the nature, scale and intensity of subdivision, use and development recognise the different natural and physical resources, character and amenity values, conservation values and Ngāi Tahu values of rural land in the Christchurch District, including:</p> <ul style="list-style-type: none"> i. the rural productive activities, recreation activities, rural tourism activities and conservation activities on Banks Peninsula and their integrated management with maintaining and enhancing landscape, coastal and indigenous biodiversity values; ii. the rural productive activities and recreation activities in the rural flat land area surrounding the main Christchurch urban area; iii. the flood management and groundwater recharge functions adjoining the Waimakariri River; iv. the open character and natural appearance of the rural Port Hills which maintain distinct urban/rural boundaries v. the re-use of the site of the former Templeton Hospital; vi. the historic and contemporary cultural landscapes, sites of Ngāi Tahu cultural significance and the use of land and water resources for mahinga kai; and vii. the conservation activities undertaken within the Peacock Springs Conservation Area. 	<p>The policy identifies that rural flat land surrounding Christchurch on which the current proposal is to be carried out, is valued for rural productive activities and recreation activities. The nature of the extraction activity, as a rural productive activity, is therefore anticipated in the zone. I also consider that aggregates-processing activities are anticipated in the Rural Quarry.</p> <p>As identified above, quarrying is a rural activity which utilises a rural resource. The extraction activity will have impacts on local rural amenity values, however subject to the recommended conditions, these have been assessed as being minor and will be of a temporary duration (a maximum of eight years). Following that time the effects of the extraction activity on the land will be remedied and the sites will be returned to pastoral use.</p> <p>In terms of the main site, utilising the existing quarry infrastructure for processing of this additional material for a further eight years makes efficient use of the existing development within the quarry zone and helps to ensure that the effects of the processing activity are contained within that zone.</p> <p>For these reasons I consider the proposal to be generally consistent with this policy.</p>
<p>Policy 17.2.2.10 - Separation of incompatible activities</p> <p>a. Ensure the design and location of new habitable buildings achieve adequate separation distances or adopt other on-site mitigation methods, including acoustic insulation, to mitigate potential reverse sensitivity effects with lawfully established rural productive activities;</p> <p>b. Ensure adequate separation distances between new plantation forestry, intensive farming and quarrying activity and incompatible activities are maintained.</p> <p>c. Protect strategic infrastructure by avoiding adverse effects, including reverse sensitivity effects, from incompatible activities on rural land by:</p> <ul style="list-style-type: none"> i. avoiding noise sensitive activities and managing the density of residential units within the 50dB Ldn Air Noise Contour and the 50dB 	<p>Part (a) is not relevant to this application, although would be to a new minor residential unit on a site adjoining this proposed quarry area.</p> <p>Regarding (c), the proposal will not impact upon the National Grid or radio infrastructure or involve vegetation or buildings which will impact on the State Highway. Matters relating to access are considered under Chapter 7.</p> <p>Part (b) is of direct relevance to this application. As outlined above, in a general sense, quarrying is an activity which is not compatible with residentially zoned activity, however it is compatible with the amenity that the Plan envisages could arise from living among rural productive activities. The activity as originally proposed involved a set back distance of 30m from the pit face to the closest dwelling. This separation distance is not considered to provide an adequate buffer to allow for the implementation of dust mitigation measures. Noise at this distance would</p>

<p>Ldn Engine Testing Contour to take into account the impacts of the operation of Christchurch International Airport;</p> <p>ii. avoiding buildings, structures, new quarrying activity, and sensitive activities on rural land that may compromise the National Grid within an identified buffer corridor; and</p> <p>iii. avoiding vegetation that may result in shading of and buildings in close proximity to the strategic transport network.</p> <p>iv. avoiding new quarrying activity that would have adverse effects on established Radio New Zealand infrastructure</p>	<p>be particularly noticeable, notwithstanding compliance with District Plan noise standards. The visual screening as originally proposed for the boundary with the closest neighbour was in itself likely to have adverse visual effects at this distance.</p> <p>Subject to the applicant's amended setback distance of 100m to the closest dwellings and the other recommended conditions of consent including amendments to the proposed screening, I now consider that the setback distance is now just at a level which could be considered adequate to minimise effects on the dwelling at 659 Buchanans Road.</p> <p>I therefore consider that the proposal is not inconsistent with Policy 17.1.1.10.</p>
<p>Policy 17.2.2.12 - Location and management of quarrying activity and aggregates-processing activity</p> <p>a. Enable access to, and processing of, locally sourced aggregate resources to provide for the recovery, development, ongoing maintenance and growth needs of the district by:</p> <p>i. providing for the continuation of quarrying activity in the Rural Quarry Zone; and</p> <p>ii. providing for new quarrying activity in rural zones other than the Rural Quarry Zone only where the activity:</p> <p>A. avoids areas of outstanding or significant landscape, ecological, cultural or historic heritage value;</p> <p>B. avoids or mitigates effects on activities sensitive to quarrying activities, including residential activities and education activities;</p> <p>C. internalises adverse environmental effects as far as practicable using industry best practice and management plans, including monitoring and self-reporting;</p> <p>D. manages noise, vibration, access and lighting to maintain local rural amenity values;</p> <p>E. avoids or mitigates any effects on surface water bodies and their margins; and</p> <p>F. ensures the siting and scale of buildings and visual screening maintains local rural amenity values and character.</p> <p>iii. ...</p> <p>iv. providing for aggregates-processing activity in the Rural Quarry Zone where the activity:</p> <p>A. makes efficient use of established, large-scale processing infrastructure and facilities; and</p> <p>B. does not result in additional or more intensive adverse effects (beyond those associated with quarrying activity) for</p>	<p>Policy 17.2.2.12 is the most directly relevant of the rural policies. The proposal will enable access to, and processing of, locally source aggregate however for new quarrying activity, this comes with a number of important criteria, listed under (A) - (F). New quarrying activities can only be provided for under this policy where these criteria are achieved.</p> <p>In this case, the proposal is consistent with (A) as it does not impact on significant natural or cultural values.</p> <p>With respect to (B), the adverse effects on dwellings in the vicinity of the extraction site have been assessed as being mitigated to the extent that they are minor.</p> <p>Point (C) requires the use of industry best practice and management plans to internalise the adverse effects of the activity. Subject to the recommended conditions, the mitigation measures are considered to be sufficient to internalise the effects as far as practicable. However, I do not have any information in front of me to conclude as to whether the measures constitute industry best practice, aside from the applicant's assertion that they do.</p> <p>I have dealt with a number of quarry and quarry-related applications and the recommended mitigation measures are similar to those I have seen imposed on other sites. I have however seen more stringent dust control measures imposed on other sites, such as the requirement for automated sprinkler systems triggered when wind speeds reach certain levels and limitations on the maximum area of the site to be open (undergoing excavation and rehabilitation) at any one time. The air quality experts have not recommended these additional measures as being necessary in this instance.</p> <p>With respect to point (D) noise effects have been assessed as being in keeping with levels anticipated by the District Plan for the protection of amenity in rural zones. Vibration effects are negligible and vehicular access is provided through the existing</p>

<p>residents in adjoining zones, including from lighting, noise and traffic generation.</p>	<p>quarry zone. No lighting is proposed in the application. Effects on water bodies are avoided (E).</p> <p>Changes have been recommended to the visual screening proposed to reduce the steepness of the proposed bunds and to introduce additional planting on the 659 Buchanans Road boundary. Subject to these amendments, the visual screening proposed will maintain amenity values and character as required under (F).</p> <p>The activity is therefore considered generally consistent with Policy 17.2.2.12(a)(ii), with the exception of point (C) as no information has been provided to demonstrate that the mitigation measures constitute best practice. However given that the mitigation proposed in the recommended conditions has been assessed as being adequate in this instance, I do not consider the lack of information regarding best practice to render the activity contrary to the policy as a whole.</p> <p>The final part of this policy relates to the aggregate-processing activity. I consider the proposal to be consistent with part (A) as it utilises Road Metals existing processing equipment, weighbridge and vehicle access. The effects of the activity will be the same character and intensity as those associated with quarrying. The effects on nearby rural-residential neighbours from prolonging these effects are considered to be less than minor.</p> <p>The activity is considered consistent with Policy 17.2.2.12(a)(iv).</p>
<p>Policy 17.2.2.13 - Quarry site rehabilitation</p> <p>a. Ensure sites of quarrying activities, and sites of aggregates-processing activities, are rehabilitated to enable subsequent use of the land for another permitted or consented activity; and</p> <p>b. Require proposals for new quarrying activities, aggregates-processing activities and changes of use on existing quarry sites to demonstrate through a quarry site rehabilitation plan the objectives, methodology and timescales for achieving site rehabilitation and appropriate end use; and</p> <p>c. Ensure the final rehabilitated landform is appropriate having particular regard to:</p> <ul style="list-style-type: none"> i. the intended end use; ii. the location, gradient and depth of excavation; iii. the availability of clean fill material, including top soil, and consequent timeframes for rehabilitation; iv. the surrounding landform and drainage pattern; v. the ability to establish complete vegetation cover; 	<p>The proposed rehabilitation plan has been assessed against the requirements of Policy 17.2.2.13 and the relevant matters of discretion in a preceding section of this report.</p> <p>That discussion is not duplicated here, but I note the conclusion that subject to the changes discussed above, I consider that implementation of the proposed quarry rehabilitation plan will be sufficient to achieve the outcomes sought by Policy 17.2.2.13.</p>

vi. the outcomes of any consultation undertaken with mana whenua; and vii. any adverse effects associated with rehabilitation.	
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