



# TOWNPLANNING GROUP

10 February 2023

Our Ref: 2753

Central Otago District Council  
C/- Olivia Stirling  
Planning Officer – Consents

**VIA EMAIL:** [Olivia.Stirling@codc.govt.nz](mailto:Olivia.Stirling@codc.govt.nz)

Dear Olivia,

## **RESPONSE TO FURTHER INFORMATION REQUEST RMA/2022/220350 – TEVIOT ROAD, ROXBURGH**

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This letter is in response to your email dated 2nd November 2022 in which further information was requested (RFI) in relation to RC 220350.

Prior to addressing the RFI matters, please note that a number of modifications to the proposal have been made. These modifications include:

- Total area of open mine pit and unvegetated stockpiles limited to approximately 2ha.
- Requested duration reduced to 5 years.
- Maximum stockpile height limited to 4m.

These matters are reflected in the amended AEE included as **Attachment [A]**.

We respond to the various points raised in turn and have repeated each information request below for clarity.

***Subject site***

1. *The site maps show that SEC 49 BLK VIII BENDER SD and SEC 50 BLK VIII BENDER SD form part of the mined area, although these sites are not listed in the site description. Please advise if these parcels of land are included as part of the subject site.*

The parcels do not form part of the mined area and have been removed from the Assessment of Environment Affects (“**AEE**”) accordingly. An updated AEE has been appended with this RFI response **Attachment [A]**.

**Cycle Trail**

2. *A plan demonstrating the likely diversion of the cycle trail.*

The Applicant has provided a site plan demonstrating the likely cycle trail diversion outcome, appended as **Attachment [B]**. Mining will be undertaken such that either the existing or amended routes will be able to be used. The cycle trail will not be closed to the public by the proposed work.

**Traffic**

3. *A traffic management assessment undertaken by a suitably qualified and experienced person, which addresses any traffic safety effects associated with the proposal in relation to Teviot Road and the standard of the existing access.*

A traffic management assessment as requested has been undertaken by a suitably qualified and experienced consultant. The traffic assessment is appended as **Attachment [C]**.

The transport assessment concludes that that the proposal is supportable in terms of transport effects, with specified mitigation relating to sealing the first 5 metres of the vehicle accesses. The Applicant agrees to adopt this mitigation.

**Servicing**

4. *The application states that potable water will be obtained from an existing private scheme. No other details of this scheme are provided. Please provide evidence of agreement between the applicant and the scheme operator and the volume of water available.*

The Applicant has provided the agreement documentation between themselves and the scheme operator, illustrating the volume of water available. This documentation is appended as **Attachment [D]**. The water supply agreement is with Jacks Ridge Limited, an associated company to the Applicant.

5. *Provide details of how wastewater will be managed, i.e, if portaloos are proposed, advise the number of portaloos and frequency for servicing.*

Two portaloos will be provided on site, to be serviced weekly.

**Landscape and visual effects**

6. *A landscape and visual assessment from a suitably qualified and experienced person to support the landscape conclusions made in the application. This is required as the activity*



*has the potential to be visible from public places, including the cycle trail, Teviot Road, the State Highway and Ettrick.*

A landscape and visual assessment has been commissioned from a suitably qualified and experienced consultant, supportive of the landscape conclusions made in the application. The landscape assessment is appended as **Attachment [E]**.

The landscape report concludes that the effects of the proposal on landscape values will be minor from Teviot Road and the Clutha Cycle Trail, and less than minor from other viewpoints.

***Draft Closure and Rehabilitation Plan***

7. *Provide a draft Closure and Rehabilitation Plan for when works are completed. Such plan is required to understand the scope of works required and anticipated environmental outcomes at the cessation of mining activities on the site. Please note that, should consent be granted, it is anticipated that a bond will be required to provide for a reasonable degree of certainty that the rehabilitation works will be completed in the event of an unexpected or sudden closure of the mine. Council anticipates that the draft Closure and Rehabilitation Plan will provide sufficient detail to form an understanding of the scope of work required and costs involved with site rehabilitation work. Council further notes that bonds can be imposed as static (fixed amount) or can be imposed on the basis that they are periodically reviewed over time or when works progress through various defined stages. Council acknowledges that a fixed fee bond is likely to impose significant costs on the applicant and anticipate that the option of a reviewable bond will be the preferred option. It is anticipated that some level of co-operation will be required between the parties to ensure that such a bond is imposed on a basis that is both fair and provides suitable degree of certainty regarding environmental outcomes.*

The application site will be returned to pasture on completion of the works. Noting that the scale of the operation has been substantially reduced, we consider that closure and rehabilitation can be managed by way of conditions. We propose the following matters to form part of the consent conditions:

- The site will be rehabilitated to pasture, contoured to align with adjacent land and provide drainage in accordance with pre-mining drainage patterns.
- Topsoil will be stripped and stockpiled separately.
- Rehabilitation will occur progressively, as the mine cell moves the overburden will be utilised as backfill.
- Rehabilitated land will be sown with pasture grass and irrigated as necessary.
- Agricultural advice will be sought with respect to seeding, cultivation, fertiliser and stock management on rehabilitated land.

The Applicant is able to create a draft closure and rehabilitation plan, should Council deem it necessary, and this plan could be required by conditions and provided after the grant of consent. However, given the rehabilitation to pasture, predominantly flat nature of the site and



reduced scale of the operation, it is the Applicant's preference to manage rehabilitation and closure by conditions encompassing the above matters.

Additionally, we note that rehabilitation of the land to a condition acceptable to the landowner forms part of the access agreement contracts.

***Vibration***

8. *No assessment is provided with the application that specifically addresses the potential effects of vibration on adjoining properties. Please provide further information addressing potential adverse effects associated with vibration.*

A vibration assessment as requested has been undertaken by a suitably qualified and experienced consultant. The vibration assessment is appended as **Attachment [F]**.

The vibration report concludes that vibration effects will be well within a reasonable level, and therefore effects will be less than minor.

***Noise and Dust***

9. *A dust assessment completed by a suitably qualified and experienced person. This is required given the close proximity of the site to existing residential activities and the Rural Residential Resource Area. Residential activity is sensitive to the amenity effects of vibration, noise and dust.*

The Applicant has provided a Dust Management Plan. This document is appended as **Attachment [G]**. An assessment of the effects of dust is provided in the AEE. Noting that:

- (a) Amendments have been made to the application, as outlined above, that substantially reduce the scale of potential dust effects, in particular the reduction in exposed area, stockpile height and consent duration.
- (b) The Applicant accepts a condition of consent that dust should not be objectionable or offensive outside the property boundary.
- (c) Many proximate neighbours have provided their written approval as set out in section 5.2 of the AEE, and effects on these must be disregarded when making a decision under section 95E RMA; and
- (d) In respect of parties that have not provided their written approval, we note;
  - 1. There is substantial separation between the proposed work area and nearby residences, which is shown in **Figure 1** below (**Attachment [H]**). The nearest residence where written approval has not been obtained is 1334 Teviot Road (reference 1 below), approximately 154m from the work area. The next closest residence is over 200m distant from the work area.
  - 2. Additionally, the presences of bunds and vegetation along the river, will provide a degree of mitigation for any dust that exceeds dust management measures on site.





**Figure 1** Plan showing distance between nearby residences and the application site (larger version in Attachment [I])

It is considered that sufficient control of dust on site will be maintained in accordance with the dust management plan, with the proposed condition of consent referenced above providing an appropriate performance standard. Given the reduced scale of activity and provision of written approvals from all parties within 150m of the work area, it is considered that the assessment provided within this document and the AEE, and the provision of a dust management plan is sufficient to give Council confidence that the effects of dust will be less than minor.

10. *The application includes a technical noise report, and CODC does not currently have the in-house technical expertise to undertake a proper evaluation of this report. As such, Council intends to engage a third party to provide an independent review of this technical report. It is noted that such evaluations fall within s92(2) of the Act and do not technically constitute a request for 'further information'. Quotes are currently being sought and you will be advised of anticipated costs prior to Council confirming any third-party engagements.*

The Applicant has accepted the Council's quote for peer review of the noise report by way of return email.

We trust this additional information will afford you further clarity with respect to the proposal. Please contact the undersigned on [anita@townplanning.co.nz](mailto:anita@townplanning.co.nz) or 021 568 335 should you have any queries.

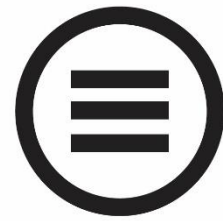
Yours sincerely,

**Town Planning Group**



Anita Collie  
**Principal Planner**

- [A] Revised AEE
- [B] Cycle Trail rout plan
- [C] Transport Report
- [D] Water supply agreement
- [E] Landscape report and Graphic Supplement
- [F] Vibration report
- [G] Dust Management Plan
- [H] Plan of nearby residences



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## Application for Resource Consent to the Central Otago District Council:

Hawkeswood Mining Limited

*Land use consent to establish and operate a gold  
mining activity at 1346-1536 Teviot Road, Millers  
Flat.*

8 February 2023

Document prepared by:

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## Supporting Information

- [A] Application Form 9
- [B] Record of Titles
- [C] Mineral Exploration Permit
- [D] Site Plan
- [E] Noise Report – Hegley Acoustic Consultants
- [F] PSI Report – EC Otago
- [G] Written approvals



# 1 Executive summary

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Hawkeswood Mining Limited (“**the Applicant**”) applies for land use consent to establish and operate an alluvial gold mining operation at 1346 - 1536 Teviot Road, Millers Flat “**the site**”). A 5-year duration is sought.

The Applicant has undertaken exploration of the site in accordance with Exploration Permit 60712 and has applied for a mining permit, which is currently in process.

The site is rurally located and currently in use for pastoral farming activities. Land mined will be rehabilitated back to pastoral farmland on completion of the project. The Applicant has access arrangements in place all but one landowner within the proposed mine footprint. The remaining landowner access arrangement is still under negotiation but is close to resolution.

A fundamental premise of this application is that adverse effects on significant environmental values and risks will be avoided or appropriately mitigated by design of the mining activity. To this end, the mine footprint avoids waterways and HAIL sites, with appropriate setbacks from key features, along with a suite of operational controls to mitigate adverse effects.

The site is zoned partly Rural Resource Area and partly Rural Residential under the Central Otago District Plan (“**District Plan**”). Overall, resource consent is required for a **Discretionary Activity** under the District Plan.

This Assessment of Environmental Effects (“**AEE**”) report, supported by technical assessments, has considered the adverse effects of the proposal on the environment and concluded that these will be less than minor for a number of reasons. The proposed mine will be suitably distanced and screened from nearby residential units, Teviot Road, and Clutha Gold Cycle Trail. Strategically placed bunds mitigate noise effects and effects on visual amenity and landscape values from public places and residential activities. The proposed mine will add up to 20 jobs and economic value to the district.

For the reasons outlined in this AEE, the proposal is consistent with the relevant objectives and policies of the District Plan. Further, the proposal achieves the purpose and principles of the Resource Management Act (“**RMA**”) and accords with the definition of sustainable management under Part 2.



## 2 Site and surrounds

### 2.1 Site details and description

The site is located at 1346 – 1536 Teviot Road, Millers Flat. **Table 1** details the site legal descriptions and Record of Titles. The Record of Titles and relevant Instruments are appended as **Attachment [B]**. There are no relevant instruments that impede the proposed land use. The location of the site is shown in **Figure 1** and **Figure 2** below.

**Table 1** Site legal descriptions

Site Address	Legal Description	Record of Title	Ownership	Written Approval? <sup>1</sup>
	Section 3 SO 24438	OT18C/235	Alan Thomas Parker	Yes
1426D Teviot Road, Millers Flat	Section 102 Block VIII Benger SD	OT380/99	Jacks Ridge Limited	Yes
1426C Teviot Road, Millers Flat	Section 84 Block VIII Benger SD	OT360/183	Jacks Ridge Limited	Yes
1484 Teviot Road, Millers Flat	Section 110, 118 Block VIII Benger Survey District	241193	Alan Thomas Parker	Yes
1534 Teviot Road, Millers Flat	Part Section 96 Block VIII Benger Survey District	OT12C/430	Matthew Ross Hunter, Georgia Rose Parker	Yes
	Section 92 Block VIII Benger Survey District	OT230/94	Central Otago District Council	No - Awaiting outcome
	Section 90 Block VIII Benger Survey District	OT374/110	Jacks Ridge Limited	Yes
1426A Teviot Road, Millers Flat	Section 91 Block VIII Benger Survey District	OT360/184	Jacks Ridge Limited	Yes
1426E Teviot Road, Millers Flat	Section 106 Block VIII Benger Survey District	OT12C/572	Donna May Parker, Joanne Helen Parker	Yes
	Lot 2-3 Deposited Plan 375668	304420	Gabrielle Claire Campbell-Lloyd, Gareth David Wilson	Yes
1406 Teviot Road, Millers Flat	Lot 4 Deposited Plan 375668	04421	Gabrielle Claire Campbell-Lloyd, Gareth David Wilson	Yes
	Section 93 Block VIII Benger SD	OT374/111	Laurie Allan Crawford, Pamela Fay Crawford	Yes
	Section 97 Block VIII Benger Survey District	OT270/85	Laurie Allan Crawford, Pamela Fay Crawford	Yes
	Section 40 Block VIII Benger Survey District	OT117/72	Laurie Allan Crawford, Pamela Fay Crawford	Yes
1346 Teviot Road, Millers Flat	Part Section 89 Block VIII Benger Survey District	OTB1/707	Laurie Allan Crawford, Pamela Fay Crawford	Yes

<sup>1</sup> Refer Attachment [G]



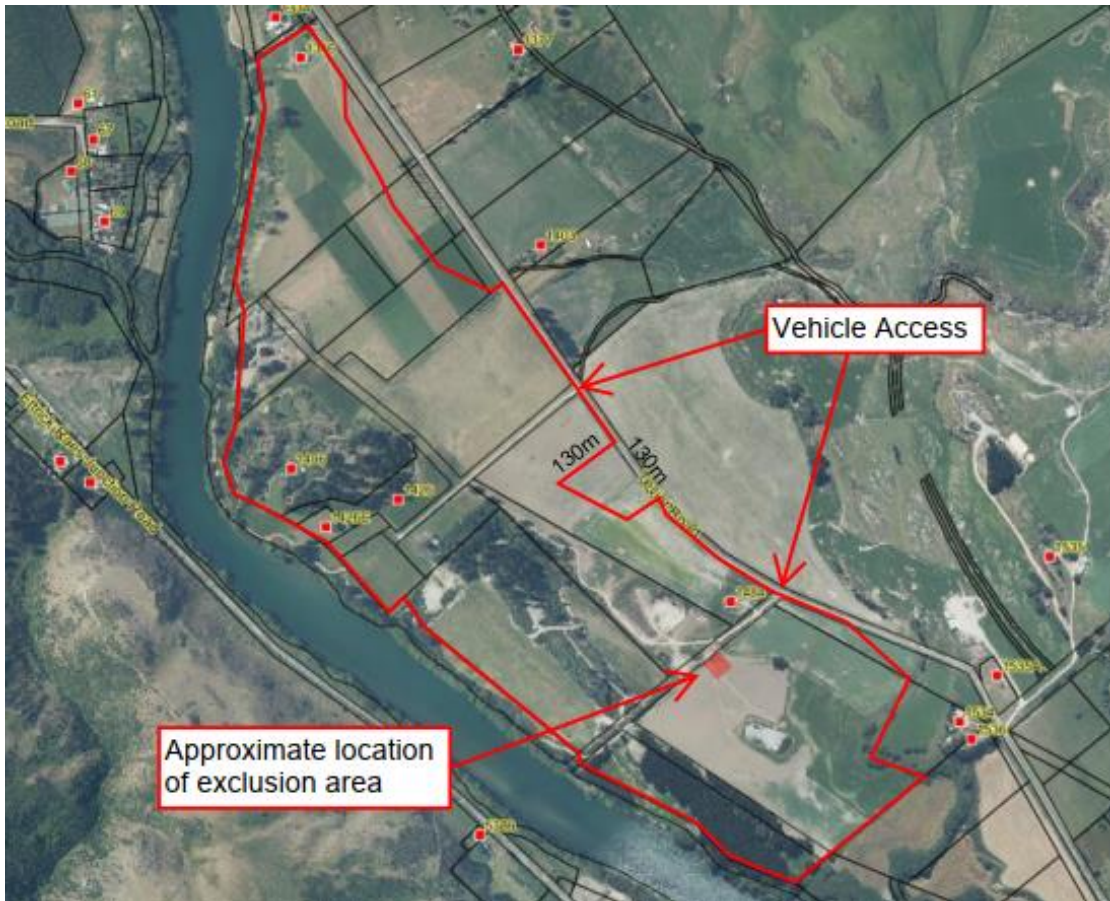
The site extent also includes road reserve within the boundary indicated in **Figure 2** below. The site extent does not intrude on the Clutha River / Mata-Au marginal strip.



**Figure 1** Site location (CODC GIS)

The site is located on gently rolling terrain, on a plateau above the Clutha River / Mata-Au to the South and West. Teviot Road forms the north-eastern site boundary, and is a rural road used predominantly by local traffic with most through traffic using State Highway 8 on the opposite side of the Clutha River / Mata-Au.

Most of the site is currently used for pastoral farming activities. The Tima Burn intersects the site near the eastern end.



**Figure 2** Extent of application site area generally indicated in red outline (CODC GIS) For details of exclusion area, refer to **Figure 7**

We understand that part of the site (Sec 92 Blk VIII Benger SD) indicated in **Figure 3** below, is a former gravel pit used by the local community as a greenwaste disposal area (the “**greenwaste pit**”). We understand that the Council own this land, and tipping at this site is authorised but not controlled by the Council.



**Figure 3** Gravel / greenwaste pit location visible on aerial photograph, eastern part of landparcel indicated by yellow and black outline (CODC GIS)

Vehicle access to the site is via two existing formed gravel vehicle access ways, indicated on **Figure 2** above. The northern vehicle access is on private property and an agreement with the property owner is in place. This agreement also covers relocation of power and telephone infrastructure located along this access.

The southern-most vehicle access is Council owned paper road, only providing formed vehicle access from Teviot Road to the green-waste pit indicated in **Figure 3** above. This paper road also provides pedestrian and cyclist access to the Clutha River / Mata-Au and facilitates the Clutha Gold Cycle Trail.

The Applicant advises that the site has a history of mining, though there are no recorded Heritage or Archaeological sites in either the District Plan or Heritage New Zealand Pouhere Taonga List.

## 2.2 Existing authorisations

The following permits have been granted for the site.

- Minerals Exploration Permit 60712 granted by New Zealand Petroleum & Minerals on 19 October 2021 approving exclusive right to explore for gold on the site until 19 October 2024. 60712 is appended as **Attachment [C]**.

## 2.3 Surrounding Environment

The surrounding area is rural with land predominantly used for pastoral farming activities.

The township of Millers Flat is located approximately 700m to the southeast at the closest point. The township of Ettrick is located approximately 800m northwest of the site at the closest point.

The Clutha River / Mata-Au is located to the west and southwest of the site. The river is a Statutory Acknowledgement Area and has a range of intrinsic, cultural, recreational and aesthetic values, and is used by the general public for fishing, boating and other recreational uses.

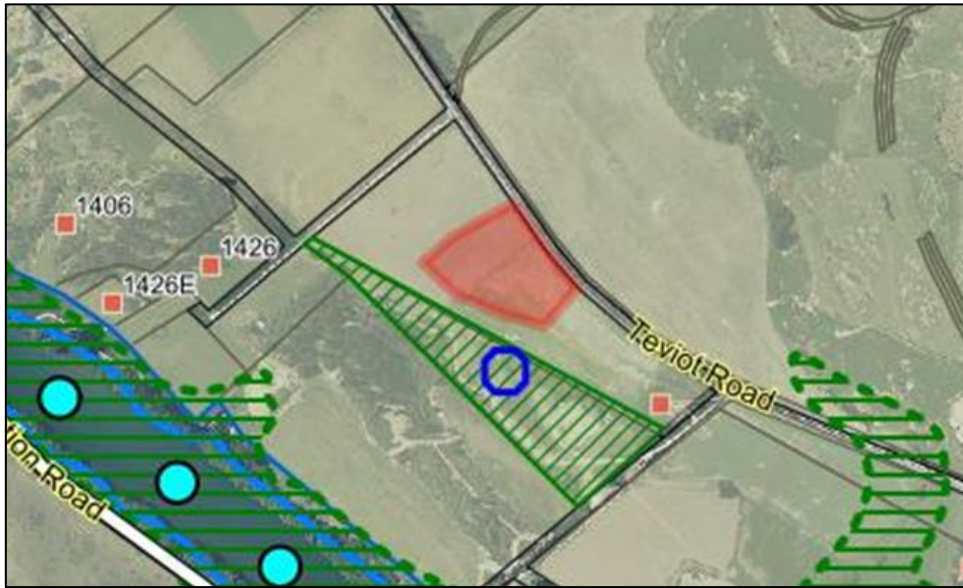
The Clutha Gold Cycle Trail (the “**cycle trail**”) is a compacted gravel track, running between Roxburgh and Lawrence, and linking to other cycle trails in Central Otago. The cycle trail runs along the Clutha River / Mata-Au to the west and south-west of the site, before cutting through the site via the paper road, to then travel along Teviot Road toward Millers Flat.



**Figure 4** Approximate path of Clutha Gold Cycle Trail indicated in yellow. Extent of application site area indicated in red outline (CODC GIS)

An area adjacent to the site is known as a former landfill, located as shown in **Figure 5** below. This area is excluded from the application site area. Definition of this area has been undertaken by EC Otago in their Preliminary Site Investigation Report (“PSI”), included as **Attachment [F]**. The EC Otago report sets out a conservative boundary to the old landfill, verified by site investigations, to ensure that the mine site does not intersect with the former landfill.





**Figure 5** Former landfilling site approximate location indicated by red polygon in centre of image (Provided by CODC staff by email 14-4-2022)

Additionally, an historic stockyard has been identified by EC Otago's aerial photograph review. **Figure 6** below shows the stockyards, which EC Otago advised are visible in 1973-74, but not in 1983. **Figure 7** shows the stockyard extent identified by the red circle in **Figure 6** transposed onto a current aerial photograph. The Applicant also proposes to exclude the stockyard area from the proposed mine area, as defined by a polygon defined by map coordinates, shown in **Figure 7** below.



**Figure 6** Historic aerial imagery from 1973 showing likely stockyards identified within the red circle on Part Section 96 Block VIII Bengier SD. Teviot Road is along the top of the image. (Source: EC Otago)



**Figure 7** Current aerial imagery with location of historic stockyards transposed. Paper road is to the left of the green polygon in the image. Corners of the polygon are defined by NZMG coordinates:

North corner E:1319064 N:4938520; West corner E:1319046 N:4938504; South corner E:1319085 N:4938500; East corner E:1319100 N:4938516 (Source: EC Otago)

## 3 Description of the proposal

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### 3.1 Overview

The Applicant proposes to establish an alluvial gold mine on the site, including on-site processing and stockpiling of overburden, which will operate Monday to Friday 7am – 7pm and Saturday 7am – 1pm with no work occurring on Sundays or public holidays.

Overburden will be removed with excavators and dump trucks and stockpiled on site. Some overburden will be used to construct bunds as detailed below. At least 80,000m<sup>3</sup> of overburden is expected to be stockpiled within bunds at any one time during the operational phase of mining. The maximum height of bunds along the site boundaries will be 4m and will be vegetated with grass. Soil stockpiles internal to the site may be up to 4m above ground level and may not be vegetated due to their temporary and transient nature. Topsoil will be stockpiled separately for rehabilitation purposes and grassed to prevent erosion.

Up to 20 staff will be employed on the project, including machinery operators, mechanics and engineers.

The depth of excavation varies across the site, with the base of the gold bearing wash layer being located approximately 8m to 15m below ground level. At the northern end of the site, the Applicant proposes to maintain a dry working area, above natural ground level. As the mine pit moves southward, the Applicant expects to encounter groundwater and proposes to establish a floating dredge.

The gold bearing wash will be processed on site. The Gold Recovery Plant (“**GRP**”) will be located on land near the active mine pit, or on the floating dredge, depending on the stage of the mine pit and groundwater levels. The estimated processing rate will be approximately 55m<sup>3</sup>/hour.

Gold will be processed on site using gravity separation methods. Tailings comprising non-gold bearing on-site material (e.g. rock, silts etc.) will be replaced in the mine pit.

Areas where the gold bearing wash has been removed will be backfilled with overburden from progressive stages. As such, the maximum area of mine pit open at a time is expected to be approximately 2 hectares. A small terminal void may remain at the completion of the project, though all overburden removed will be placed back in the mine pit and any bunds will be deconstructed on completion of the project.

An accidental discovery protocol condition will be followed in case of unexpected accidental discovery of archaeological or cultural material.

Access will continue to be provided for users of the Clutha Gold cycle trail, albeit it will be diverted around the work site along Teviot Road as necessary.

The Site Plan is appended as **Attachment [D]**.



### 3.2 Noise and dust mitigation

Bunds will be constructed as recommended by Hegley Acoustics as detailed within their Noise Report appended as **Attachment [E]**.

- A 4m high bund will be constructed across the northern side of the mining and nominally 300m down the western side of the site and 700m down the eastern side of the site.
- A 3m high bund, 300m long, will be constructed opposite the dwelling at 5386 Ettrick-Raes Junction Road.

Dust will be controlled on site in accordance with good industry practise, including use of water carts and establishing vegetation on the bunds so as to minimise any dust nuisance to surrounding properties.

### 3.3 Servicing, lighting and access

Temporary on-site services will be provided appropriate to staffing levels at each stage of the operation. Drinking water will be sourced from an existing on-site private scheme and wastewater will be removed from site by a contractor.

Lighting will be required around the processing and site office areas, and at the active work area within the mine pit, particularly in winter. These lights will be directed at the work areas, and are sufficiently distanced from roads and residential dwellings such that lighting can be installed so as to comply with the lightspill standards in the District Plan. This is proposed to be measured and verified by a lighting specialist.

During the mobilisation phase of the project, machinery will be brought to the site. Subsequently, an average of two heavy vehicle movements per day are expected, such as fuel trucks and deliveries. Staff vehicles will also travel to the site.

Up to 10,000L of diesel storage will occur on site to fuel the machinery. Diesel will be stored on the site in a containment facility compliant with Health and Safety at Work (Hazardous Substances) Regulations 2017.

No amendments are proposed to the existing compacted gravel vehicles accesses, which are a minimum of 6m wide. Vehicles will travel at slow speeds and dust control measures will be used on the access roads as necessary.

A parking area for staff and visiting vehicles will be provided, though the exact location is yet to be determined. The surface of the parking area will be compacted gravel and managed so as not to create a dust nuisance. There will be sufficient manoeuvring space in the parking area such that vehicles do not need to reverse off site. A minimum 6m queuing space will be provided between the car parking area and the road boundary.



Public access to the paper roads and gravel access roads will be temporarily prevented when mining is occurring in proximity. Separate permission from Council is being sought for works affecting legal road within the project area.

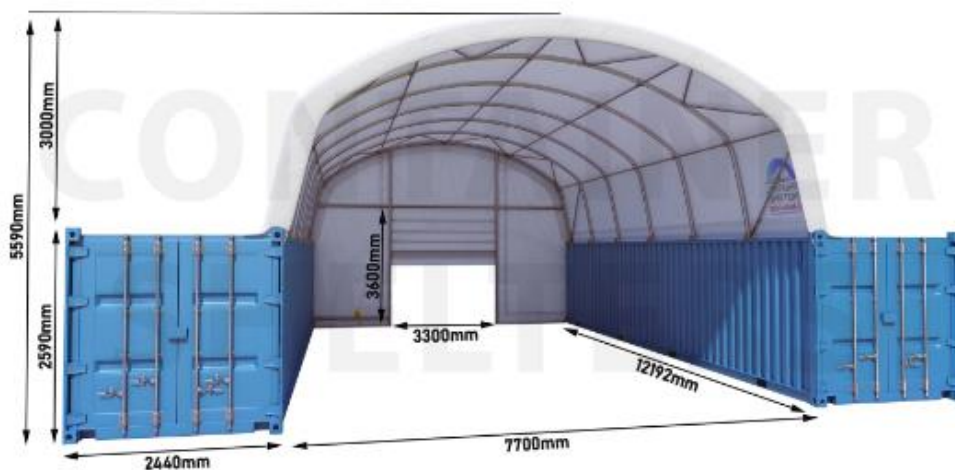
The site will be fenced so as to prevent public access for health and safety reasons.

### 3.4 Temporary buildings

A number of temporary buildings will be required for the duration of the project to provide a site office, storage and a machinery workshop area.

A portacom will be used as a temporary site office. While the exact building has not yet been selected, the Applicant anticipates the size to be approximately 15m long x 4m wide x 3m high. The portacom will be a neutral, light brown / cream colour.

Six 40ft containers will be required on site for storage, with these measuring approximately 12.2m long x 2.4m wide x 2.6m high. These are dark blue painted steel. A container shelter will be installed over two of the containers to form the workshop area, formed of white PVC and up to 6 metres high. An indication of the container shelter appearance is shown in **Figure 8** below.



**Figure 8** Representation of container shelter (Source: <https://www.containershelters.co.nz>)

### 3.5 Rehabilitation

The site will be rehabilitated in accordance with landowner agreements, to the same or better standard of farmland as currently exists. The Applicant will remove all bunds, restore the land contour to the pre-existing as closely as possible (with the exception of a terminal void) and establish grass over the disturbed land. Rehabilitation will be undertaken progressively as overburden from the next stage is used to fill in the mine pit from the previous stage.

### 3.6 Duration

A 5-year consent duration is requested for the required suite of consents.



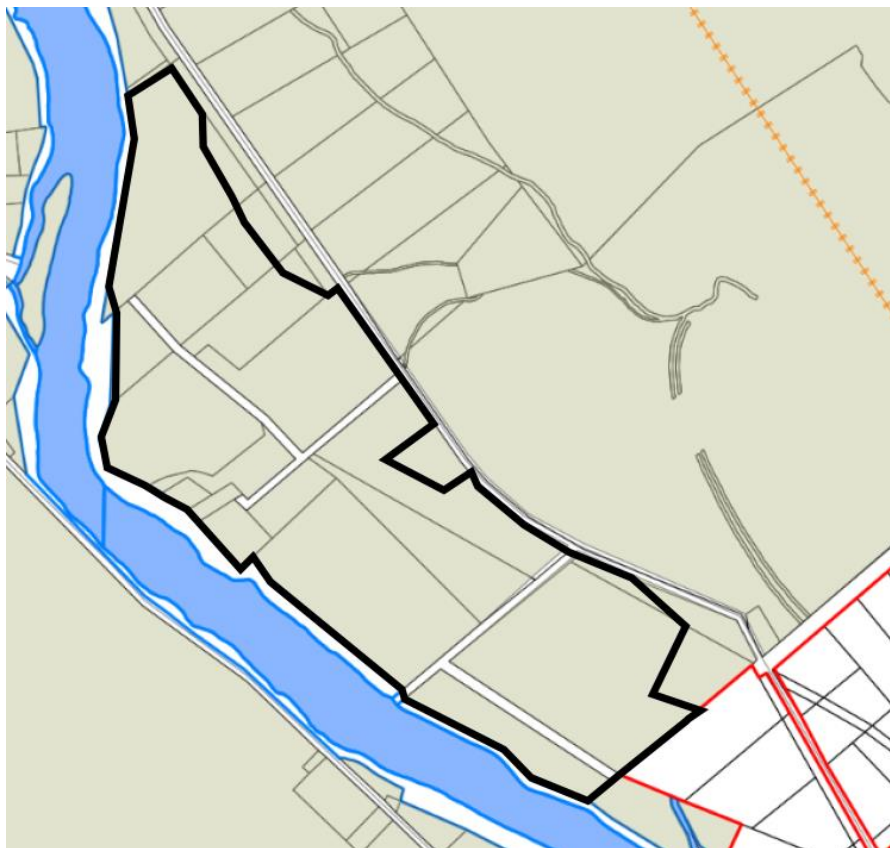
## 4 Statutory provisions

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### 4.1 Central Otago District Plan

The site is located within the **Rural Resource Area Zone** under the District Plan as shown in **Figure 9** below, and is subject to a number of notations as follows:

- Designation 236 – The designation purpose is “Greenwaste Refuse Management Purposes” and the requiring authority is Central Otago District Council. Land affected is Section 92 Block VIII Benger SD.
- Scheduled Activity 75 - Gravel Pit - Millers Flat Landfill (Sec 92 Blk VIII Benger SD)
- Flood prone land – applicable to parts of the application site near the Clutha River / Mata-Au and Tima Burn.
- Teviot Road is identified in Schedule 19.7 as an Arterial Road.



**Figure 9** Excerpt from District Plan Map 63 with part of application site area in black outline (CODC)

There are no District Plan overlays identifying specific landscape or ecological values within the site.

#### 4.1.1 Compliances

The proposal will comply with the following District Plan provisions:

- Standard 4.7.6A – buildings, storage areas and stockpiles shall be set back a minimum of 20 metres from waterbodies (limb (c)), shall not exceed 10m height (limb (f)), nor be located within 15m of a legal road intersection (limb (h)).
- Standard 4.7.6D – Given the position of the temporary buildings set back from the edge of the terrace and screened by bunds and vegetation, it is considered that the buildings will not protrude onto a skyline or above a terrace edge when viewed from public spaces, in compliance with part (c) of the standard.
- Standard 4.7.6E – the activity will comply with the noise standard, as assessed by the Hegley Acoustics report (**Attachment [E]**).
- Standard 4.7.6G – the Applicant will provide sufficient temporary services on site to meet staff requirements. Parking, access and manoeuvring will be provided in accordance with the District Plan Chapter 12 requirements, except where noted below.
- Standard 4.7.6H – a sign not exceeding 3m<sup>2</sup> at the site access will comply with the provisions of this standard.
- Standard 4.7.6I – no works will be undertaken within 10m of the Tima Burn or Clutha River / Mata-Au .
- Rule 12.7.1 (Access Standards from Roads) – the existing accesses comply with the provisions in part (i) (Construction and Maintenance) and part (ii) (Sight Distances).
- Standard 12.7.2 – vehicle parking will be provided on site and in accordance with this rule.
- Standard 12.7.6 – lighting will be installed so as to comply with this standard.
- For clarity, the activity will comply with all other relevant provisions of section 12.7, including those relating to loading spaces, noise, signage

#### 4.1.2 Non-compliances

Resource consent is required under the District Plan for the following:

- **Restricted Discretionary Activity** under Rule 4.7.3(iii) – the portacom (site office), containers and workshop ancillary to the proposed mining operation will not comply with the finish and colour requirements of Standard 4.7.6D.
- **Restricted Discretionary Activity** under Rule 4.7.3(i) – storage areas and stockpiles will only be partially screened from all public viewpoints, and may be visible from Teviot Road, the paper road and/or the Clutha River / Mata-Au at





various stages of the proposed operation (non-compliance with Standard 4.7.6F).

- **Restricted Discretionary Activity** under Rule 4.7.3(vi) - the proposed tracks may not comply with Rule 4.7.6J as the tracks are intended to be only temporary and for limited vehicle access. As such, cut or fill batters on ramps within the mine pit may exceed 2m in height.
- **Discretionary Activity** under Rule 4.7.4(i) – the proposed operation will involve more than three persons and will not comply with Standard 4.7.6B(b), both parts (i) and (ii) (Traffic Generation and Characteristics of Activities).
- **Discretionary Activity** under Rule 4.7.4(i) – the proposal will involve greater than 2000m<sup>2</sup> and 3000m<sup>3</sup> of earthworks and will not comply with Standard 4.7.6J(b) (Earthworks for Access Tracks and Extraction Activities).
- **Restricted Discretionary Activity** under Rule 12.7.1 (iii) – the existing accesses to Teviot Road are not sealed. Discretion is restricted to the matters in 12.7.1(viii).

Overall, the proposal is to be treated as a **Discretionary Activity** under the District Plan.

## 4.2 National Environmental Standards

In terms of compliance or otherwise with National Environmental Standards (“NES”), there are two NES’s that are of potential relevance to this proposal with these being:

- the NES for Assessing and Managing Contaminants in Soil to Protect Human Health (“**NESCS**”); and
- The NES for Freshwater (“**NESFW**”).

### 4.2.1 NES for Assessing and Managing Contaminants in Soil to Protect Human Health

As described in section 2 above, there is a known historic landfill near the site. The Applicant has engaged EC Otago to assist with defining the boundaries of the historic landfill, and determine an appropriate setback distance, so as to avoid any soil disturbance near the historic landfill. A set of historic stockyards were also identified in the property review by EC Otago and these have also been excluded from the mine area. Their report is attached as **Attachment [F]**.

The project area has been designed so as to avoid any potential HAIL sites. In consideration of the abovementioned, the regulations of the NESCS do not apply as the site is not defined as a ‘piece of land’ captured under clause (5) of the NESCS.

#### 4.2.2 NES for Freshwater

The NESFW applies to works within freshwater bodies inclusive of rivers and wetlands. The site is near to both the Tima Burn and the Clutha River / Mata-Au. However, no works are proposed within 10m of any permanently flowing watercourse and there are no known wetlands to consider. For these reasons, no requirements under the NPSFW will be triggered.

#### 4.3 Consents required from Otago Regional Council

The Applicant has identified that resource consent will also be required from Otago Regional Council. An application is currently being compiled and will be lodged in due course.

## 5 Assessment of effects

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### 5.1 Overview

In accordance with Section 88 and Schedule 4 of the RMA an assessment of any actual or potential effects on the environment that may arise from the proposal is required with any details of how any adverse effects may be avoided, remedied or mitigated. Accordingly, the below is an assessment of effects relative to the scale and significance of the proposed activity.

This assessment is addressed under the following headings:

- Written approvals
- Visual amenity and landscape character effects
- Effects of earthworks
  - Dust effects
  - Noise effects
  - Effects on land stability
  - Effects on waterbodies
- Effects of traffic generation
- Effects of scale of activity on rural character
- Effects on cultural values
- Effects on public access
- Positive effects

### 5.2 Written approvals

Written approvals have been obtained from the following with these appended as **Attachment [G]**.

- Jacks Ridge Limited - 1426A-D Teviot Road
- L.A. & P.F. Crawford – 1346 Teviot Road
- Donna May Parker – 1426E Teviot Road
- Georgia Parker – 1534 Teviot Road
- Alan Thomas Parker – 1534-1536 Teviot Road
- G.C. Campbell-Lloyd – 1406 Teviot Road



## 5.3 Visual amenity and landscape character effects

### 5.3.1 Mining Activity

The site is located on a terrace above the Clutha River / Mata-Au, between Teviot Road and the river. Public views of the site will be available from Teviot Road, the river and marginal strip, the Clutha Gold cycle trail, State Highway 8 and some public roads in Ettrick. Views of the site will also be available from some private properties in Ettrick and some rural residential properties on the northern end of Miller's Flat.

Bunding is proposed along the northern site boundary and part of the Teviot Road frontage as shown on the Site Plan. Temporary bunding is also proposed along the south-western part of the site located opposite 5386 Ettrick-Raes Junction Road as shown in the Hegley Noise Report<sup>2</sup>.

Much of the mining operation will be below ground level once the bunds and mine pit are established and will be difficult to see from public spaces and neighbouring properties.

As mentioned, the owners and / or occupiers of the residential properties located on the site have provided written approval for this proposal.

Users of the cycle trail will not be able to view the site from the north, as views are firstly restricted by the bunding, and then the cycle trail drops down closer to the Clutha River / Mata-Au, below the terrace on which the site will be located. The cycle trail then follows the paper road located between 1484 and 1534 Teviot Road, ascending from the riverside to the top of the terrace. Views of the site from this part of the trail will likely be possible for a stretch of the paper road and along Teviot Road until users of the trail round the bend in Teviot Road opposite 1535A Teviot Road, estimated to be approximately 400 metres. Once the mine is established and the cycle trail diverted around the site, views of the site from the cycle trail will be possible along Teviot Road, between the end of the bund and until users round the bend in Teviot Road, a stretch of approximately 450 metres.

Effects on users of the cycle trail are considered to be less than minor for several reasons. Firstly, the area has a rich history of gold exploration, and a working gold mine forms a modern part of that story. Secondly, the trail is approximately 73 kilometres<sup>3</sup>, and the site is visible from a very small stretch (<500m) in the overall context of the trail. In addition, the site operation will not impede users of the trail and will not remove the long range views of mountains that users of the trail may enjoy.

The bunding will restrict visibility of the site when viewed by southbound road users along Teviot Road. Northbound road users will have clear sight of the activity for a limited stretch of Teviot Road. Given the geometry of Teviot Road adjacent to the site,

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<sup>2</sup> Attachment [E], Figure 19, page 18

<sup>3</sup> Reference: <https://www.cluthagold.co.nz/clutha-gold-trail>



akin to a dog leg, northbound road users attention is highly likely to be focussed on the road ahead, with any views of the temporary buildings being fleeting.

Views of the site from State Highway 8 and public spaces in Ettrick are likely to be very restricted due to the presence of roadside and riverside vegetation, and separation distance.

Views of the site from the Clutha River / Mata-Au will be difficult due to the differing land levels, the site being on a terrace above the river.

Views of the site from surrounding residential properties will be limited due to the separation distance, topography, and bunding. Views from northern and north-eastern properties will be very limited due to the bunding. Properties on the southern side of the Clutha River / Mata-Au near Ettrick will have restricted views due to the screening effect of vegetation around the river, and distance. Land to the east of Teviot Road is primarily pastoral land use with residences set back from the road, and well-established, tall, trees planted along both sides of Teviot Road will also provide some screening of the site from neighbouring properties. Overall, views of the site from surrounding residential properties will be limited, but not completely restricted.

Once the mine is established, much of the activity will move underground and will be less visible. The initial mining activity is shallow or above ground, however the resource is shallowest at the northern end of the site where the mitigation afforded by the proposed bunds is most effective. Toward the southern end of the site, where no bunding is proposed, most of the activity will be underground. Given the position and scale of the proposed activities, the proposal will not impede long distance views of mountains, nor views of the Clutha River / Mata-Au (where available). The method of operation means that overall views of the surrounding landscape will be unaffected.

The Applicant proposes to operate the mine as a moving cell, meaning that as mining is completed over parts of the site, areas will be progressively rehabilitated. Full rehabilitation of the site will occur on completion of mining.

On the basis of the above assessment, and considering the working rural character of the existing landscape, any adverse effects on visual amenity and landscape values arising from the proposal will be less than minor.

### 5.3.2 Temporary buildings

The following assessment relates to the temporary buildings (site office, workshop and containers), which will not comply with the District Plan Standard 4.7.6D.

The site and locality comprises a number of working farms with a long history of human activity, with evidence of such activity visible across the existing landscape, inclusive of tracks, fences, dwellings, farm buildings, pastoral land use and physical evidence of previous mining of the land, such as tailings deposits. Buildings located on the site, at 1346 Teviot Road, and within the locality are depicted in **Figure 10** and **Figure 11** below.





**Figure 10** Buildings 1346 Teviot Road when viewed from Teviot Road looking in a westerly direction (Google Maps)



**Figure 11** Buildings at 1333 Teviot Road, to the west of the site (Google Maps)

The temporary buildings will be located on the site for the duration of the mining and rehabilitation works and will be removed at the conclusion of the project. The location of the temporary buildings is depicted on the Site Plan appended as **Attachment [D]**, positioned near the bund along Teviot Road and the northern vehicle access.

Portacoms (site office) are commonly clad with EPS, corrugate iron, euroclad selecta, or similar and coloured from a brown palette. The cladding and colouring of the temporary portacom is likely to be consistent with the existing buildings on the site, and within the surrounding environment.

The containers will be a dark blue and will be recessive in the landscape given the colour is darker than many other elements in the landscape.

Both the portacom and containers will not be visually prominent in public view of any skyline due to the low height, position near to the bunds which are higher, and small scale in comparison to the vast natural features and scale of the local landscape. The portacom and containers are unlikely to be visible from Teviot Road, except as a fleeting glimpse through a break in the bund, such as for vehicle access.

The container shelter will be visible due to its 6m height and white colour. The container shelter is also located near to the 4m high bunds along Teviot Road, and so views of this from the east will be partially obscured by the bunds. Motorists travelling along Teviot Road will have a fleeting view of the container shelter above the bund as they drive past at open road speeds. Views of the container shelter from the Clutha River /



Mata-Au and its marginal strips will be limited by the position of the temporary building on the terrace above the river, established riverside vegetation and separation distance. The container shelter may be visible from locations to the west of the Clutha River / Mata-Au, however these views will also be limited by separation distance and established vegetation. The container shelter will not protrude above the skyline due to the mountainous topography in the background of views from these locations.

The temporary buildings will be partially visible in the undulating, green rural landscape background in which they are set. However, this is not expected to create any more than minor adverse effects due to the limited visibility of the buildings as outlined above and considering the buildings will not appear out of character due to the presence of other buildings in the locality of similar colour and scale.

### 5.3.3 Unscreened storage areas and stockpiles

Any storage area or stockpiles are required to be screened from the view of any public road, reserve, other public land or any other adjacent site boundary or resource area boundary. Such screening should be erected or planted to a suitable height and density so as to mitigate adverse visual effects and dust effects and shall not impede visibility on adjacent roads.

Unscreened views of stockpiles and storage areas will be available during the establishment phase of the mining activity, until the bunds are established.

As previously mentioned, the site comprises a number of working farms with a long history of human activity with physical evidence of previous mining of the land, such as tailings deposits.

Approximately 80,000m<sup>3</sup> of stockpiling will occur on the site for the duration of the mining and rehabilitation work with the location depicted on the Site Plan appended as **Attachment [D]**. Most of this material will be used to form bunds, however some temporary stockpiles may be required. Storage areas for materials and machinery will also be located on site for the duration of the works. Prior to the establishment of the bunding, some stockpiles and storage areas will likely be visible from public spaces and roads. The stockpiles and storage areas will be partially screened from all public viewpoints by the bunding, once established, and may be visible from Teviot Road, the paper road and/or the Clutha River / Mata-Au at various stages of the proposed operation.

Visibility of the stockpiles and storage areas due to the separation distance, topography, and bunding, in accordance with the assessment in the section above. Bunds and any long term stockpiles will be vegetated with grass.

Overall, public views of the stockpiles and storage areas will be limited, and the Applicant proposes full rehabilitation of the site on completion of mining. For these reasons, and considering the working rural character of the existing landscape, any adverse effects of unscreened stockpiles and storage areas on amenity values and landscape character will be less than minor.



## 5.4 Effects of earthworks

Standard 4.7.6J(b) states that the extraction of material from any site shall not exceed a 2,000m<sup>2</sup> area and 3,000m<sup>3</sup> volume. The reason for these requires is that earthworks for mining and the formation of tracks can have significant adverse effects on landscape values, water quality, soil structure and quality, and land stability. This proposal will involve earthworks greater than 2000m<sup>2</sup> in area and 3000m<sup>3</sup> in volume. An assessment is provided below regarding the matters usually considered in associated with consents for earthworks.

### 5.4.1 Dust effects

The adverse dust effects of this proposal on the surrounding environment will be mitigated to be less than minor through the measures proposed as detailed within section 3 above. Specifically, dust will be controlled on site in accordance with good industry practise, including use of water carts as necessary, slow vehicle speeds on unsealed roads and establishing vegetation on the bunds. A moving mine cell method of operation will ensure progressive rehabilitation of the site and limit the open mine pit area to approximately 2ha at a time.

### 5.4.2 Noise effects

The Hegley Acoustic Consultants have assessed the noise effects of this proposal with their recommendations and conclusions detailed within the Noise Report appended as **Attachment [E]**. Their key conclusion is that the bunds will ensure that sound from the mining activities will comply with the District Plan daytime noise provisions, provided bunds as specified are constructed. The Applicant agrees to construct the bunds recommended in the noise report. Noise effects will be less than minor.

### 5.4.3 Effects on land stability

The earthworks design will focus on avoiding steep slopes and areas of instability which will enable works to occur with minimal disruption at all times of year and little impact on slope stability. No earthworks will occur during high rainfall events and any areas that suffer damage from storm events will be restabilised so as to avoid further damage. Mine pit detailed design will be undertaken informed by geotechnical expertise as necessary to maintain pit stability.

### 5.4.4 Effects on waterbodies

No earthworks will be undertaken within 10m of flowing watercourses to protect water quality. As such, any adverse effects on water quality and freshwater ecological values will be avoided.





## 5.5 Effects of traffic generation

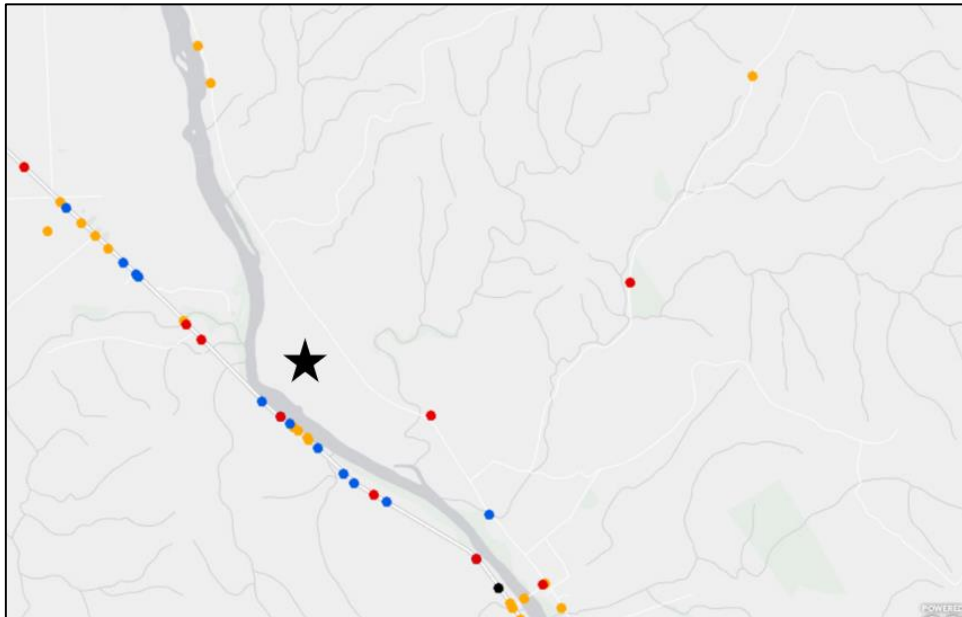
The site has frontage to Teviot Road, two un-named public gravel access roads and paper road as indicated in **Figure 2**. Vehicle access to the site will be provided from Teviot Road only, via an existing formed gravel access road.

Teviot Road is a two-way, two-lane, sealed road with a north-westerly to south-easterly alignment and is classified as an Arterial Road under the District Plan. Teviot Road is signposted with a 100km per hour speed limit with no cyclist or pedestrian infrastructure, and no on-road parking.

There are no traffic counts of Teviot Road identified on Abley Traffic Counts website (<http://www.trafficcounts.co.nz/>), although there are traffic counts available for Ettrick Raes Junction Road / SH8 which provides data to assist with understanding traffic volumes along Teviot Road. Notably, traffic volumes are highly likely to be greater along Ettrick Raes Junction Road / SH8 than Teviot Road, given through traffic is encouraged by signage to use the State Highway. Traffic counts of Ettrick Raes Junction Road / SH8, south of Millers Flat Bridge, were undertaken over a seven-day period annually between 2010 to 2015 with the data indicating that approximately 1,846 to 1,984 vehicles travel along this road per day. This data indicates that Ettrick Raes Junction Road / SH8 experiences a low volume of traffic. In light of this, traffic volumes along Teviot Road are likely to be very low with motorists anticipated to be local persons familiar with the road and traffic.

A search of the Waka Kotahi NZTA Crash Analysis System ("**CAS**") indicates that seven crashes have occurred on Teviot Road between 2004 to 2022 with the area analysed depicted in **Figure 12**. There have been two serious crashes, one minor crash, and four non-injury crashes. Of these seven crashes, only one occurred directly adjacent to the site with that being a serious crash in 2014 by a northbound motorcycle at a bend along Teviot Road, approximately 606m north of Oven Hill Road, during a bright sunny, fine day. No other vehicles were involved in this serious crash. While the reason for this serious crash is not detailed within CAS, there is no ongoing history of crashes which may suggest that Teviot Road has characteristics which make it an inherently hazardous section of road. The location of the vehicle access will be approximately 374 north-west of the bend at which this crash occurred.





**Figure 12** CAS analysis area with site location indicated by black star (Waka Kotahi NZTA CAS GIS)

As previously mentioned, the mine will operate on Monday to Friday 7am – 7pm and Saturday 7am – 1pm with up to 20 staff. The staff are anticipated to arrive in a steady manner during morning hours with departures at various times throughout the afternoon and early evening on weekday, and early afternoon on Saturdays. Staff will enter the site from Teviot Road, through the existing vehicle access, along the queuing space, and to the parking area and vice versa. The parking area will provide a sufficient number of bays on the site meaning that no staff will need to park along the road side, and sufficient manoeuvring room to ensure that vehicles can turn around on site and exit the site in a forward gear.

The vehicle accesses are gravel surfaced, and the Applicant will be responsible for maintaining these to a standard appropriate for the volume of traffic using them. Vehicles will be advised to drive at slow speeds along the vehicle accesses to avoid dust generation and excessive wear to the gravel access surfacing.

The geometry of Teviot Road in proximity to the existing vehicle access is straight approximately 170m in a westerly direction and 364m in an easterly direction. This means that vehicles entering / egressing will have sufficient time to sight road users and respond accordingly to avoid any conflict.

In light of the abovementioned, the additional up to 17 staff vehicle movements (beyond that permitted, three staff) and the timing of those vehicle movements, will be indiscernible to less than minor against the existing traffic volumes experienced along Teviot Road. In addition, the extra 17 staff vehicle movements will maintain the safe and efficient operation of the adjacent transport network due to the formation of Teviot Road, location of the existing vehicle access, and very low traffic volumes.

Overall, the effects of the proposal on traffic generation will be less than minor.

## 5.6 Effects of scale of activity on rural character

Standard 4.7.6B(b) states that no more than 3 persons shall be engaged in any activity of a commercial, industrial, or manufacturing nature within the Rural Resource Area, and no person shall be engaged in any activity of a commercial, industrial, or manufacturing nature within the Rural Residential Zone. A reason for these requirements is that commercial, industrial, or manufacturing natured activities have the potential to significantly compromise the character of the rural environment.

The mine will operate on Monday to Friday 7am – 7pm and Saturday 7am – 1pm with up to 20 staff. The staff activities will be spread across the large site with a focus of activity around the site office, workshop and storage areas which will be largely screened by the bunds or undertaken underground.

Vehicle movements will be concentrated at the start and finish of the day as staff arrive and depart the site in cars. Staff will be based in the surrounding towns, and it is likely that a car-pooling arrangement will be made for travel to the site. Even in a conservative assessment scenario where all staff travel to site in a car, the number of vehicle movements is not considered to be disruptive to the character of the rural environment.

The Applicant estimates an average of two heavy vehicle movements per day once the mine is established. The number of heavy vehicle movements is not considered to be noticeably greater than that which could normally occur in the surrounding environment, given stock trucks, machinery and other heavy vehicles are a normal part of the rural environment.

The existing rural character of the locality will be maintained with the activities undertaken on the site being largely screened or underground, bunding mitigating noise effects, appropriate hours of operation and the moving mine cell method of operation being of comparatively small scale within the context of the larger site.

Overall, the adverse effects on the rural character of the surrounding environment will be less than minor.

## 5.7 Effects on cultural values

The Kāi Tahu Ki Otago Natural Resource Management Plan 2005 (“**NRMP**”) Section 5.4.6 sets out considerations for mining applications, which are set out in further detail in **Section 6.3.1** below.

The Applicant has designed the mining operations to avoid any known features that may have significant cultural values, by including setbacks from the Tima Burn and Clutha River.

There are no known sites of cultural or archaeological significance within the project area, though the Applicant is open to an Accidental Discovery Protocol forming a condition of consent.

Mined land will be rehabilitated to the same or better standard, and the proposal avoids any known potentially contaminated sites to avoid any potential hazardous substances.

Overall, no adverse effects are anticipated in relation to cultural values.

## 5.8 Effects on public access

The proposal will have the effect of restricting public access to paper roads within the site, one of which provides access to the Clutha River / Mata-Au. The work will also impact the Clutha Gold cycle trail.

The northern paper road provides access to private properties, and the owners of these have all provided written approval to the application.

The southern paper road provides access to private properties, and the Clutha River / Mata-Au. The owners of the properties accessed from this paper road have also provided written approval to the application.

Various people use this southern paper road for access to the Clutha River / Mata-Au for recreational purposes, fishing access, and also the Clutha cycle trail traverses part of this paper road. The Applicant is separately seeking permission from Council's property section in order to allow the mining of the land under the paper road. It is the Applicant's intention to provide a separate temporary river access for the general public over a rehabilitated part of the work site to the north of the existing river access, or over unmined land to the south, when the mine reaches a stage of impacting on this paper road. The Applicant will erect signage to inform the public of the duration of the closure of the paper road, and the location of the alternative access.

The Applicant has discussed the proposal extensively with the Clutha Gold Charitable Trust, who are responsible for the operation of the Clutha Gold cycle trail. A temporary alternative alignment of the cycle trail has been agreed in principle with the Trust. The general public will remain able to use the cycle trail, albeit it will be diverted around the mine site along Teviot Road at certain times.

The Applicant has undertaken to operate the mine in a manner which will provide for a similar level of local public access, and this is reflected in the written approvals that have been provided. The effects of the proposal on public access will be less than minor.

## 5.9 Positive effects

The proposed works will have positive effects, providing employment to approximately 20 people and with flow on social and economic benefits to the wider community.

## 5.10 Conclusion

In consideration of the abovementioned matters, it is considered that there are no persons that will be adversely affected by the proposed development. Any potential for

adverse effects can be appropriately avoided, remedied, or mitigated, and will be less than minor in the context of the receiving environment.



## 6 Statutory assessment

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### 6.1 Section 95, RMA

#### 6.1.1 Section 95A assessment

Section 95A of the RMA considers the need for public notification and sets out four steps in a specific order to be considered in determining whether to publicly notify.

In terms of Step (1), public notification is not requested, Section 95C pertaining to notification in the event that further information is not provided under Section 92 is not applicable, and the application is not being made jointly with an application to exchange recreation reserve land under Section 15AA of the Reserves Act 1977.

In terms of Step (2), there are no rules or national environmental standards that preclude public notification, and the activity is not a boundary activity.

Moving to Step (3), notification is not required by a rule in a Plan or a NES, and as demonstrated in section 5 of this AEE, the adverse effects on the environment are considered to be less than minor.

Lastly, in terms of Step (4) as no special circumstances are considered to apply public notification is not required under any of the pathways in Section 95A.

#### 6.1.2 Section 95B assessment

While public notification is not necessary, any effects of the proposal on the local environment and upon particular parties must still be considered. This is addressed through Section 95B of the RMA, which has four steps similar to Section 95A.

In terms of Step (1), there are no affected protected customary rights or customary marine title groups in terms of Subclause (2). The proposed activity is located on land adjacent to the Clutha River / Mata-Au Statutory Acknowledgement Area made in accordance with the Ngāi Tahu Claims Settlement Act 1998. Therefore, in accordance with Subclause (3)(b) it must be determined whether the person to whom the statutory acknowledgement is made is an affected person under section 95E. In consideration that the effects of the proposal do not extend beyond the site boundaries, do not affect the waters of the Clutha River / Mata-Au, nor the riparian margins, we conclude that the person to whom the statutory acknowledgement is made is not an affected person under section 95E.

In terms of Step (2), there are no rules or national environmental standards that preclude limited notification. We therefore move to Step (3).

Step (3) requires the consent authority to determine, in accordance with Section 95E, whether there are any affected parties as a result of this proposal. Section 95E states that a person is an affected person if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than



minor). The persons listed in section 5.2 have provided their written approval, and are not affected persons in accordance with section 95E(3). For completeness, the Applicant is seeking written approval from the Council as a landowner, though the Council is non-resident on the subject land and access to the land will be subject of an access agreement.

There are not considered to be any affected persons in this instance for the reasons given in the above assessment of effects.

In terms of Step (4), no special circumstances exist therefore the application may be processed on a non-notified basis.

With respect to the above, in consideration of the conclusions of the AEE, it is concluded that the proposal will result in less than minor adverse effects on the environment, and there are no other circumstances requiring or warranting public or limited notification.

## 6.2 Section 104(1), RMA

Section 104 (1) of the RMA requires that the consent authority must, subject to Part 2, have regard to a range of matters when considering an application.

Section 5 of this AEE addresses the matters contained in Section 104 (1) (a) and (ab).

Section 104(1)(b) of the RMA requires that the provisions of any national policy statement, the Operative Plan, or any other matter the consent authority considers relevant and reasonably necessary, to be considered when assessing an application. Therefore, the Otago Regional Policy Statement, Proposed Otago Regional Policy Statement and District Plan require consideration. No National Environmental Standards are considered relevant to this application. The key objectives and policies outlined in the abovementioned document are set out below.

### 6.2.1 Otago Regional Policy Statement (2019)

The Otago Regional Policy Statement is a higher order planning document intended to provide guidance and focus to lower order planning documents, identifying issues across the Region, with the objectives and policies providing greater clarity and direction as to how issues are to be addressed. Those policies of most relevance to the proposal are identified as follows.

**Objective 3.1** seeks to recognise, maintain, and enhance where degraded, the intrinsic values of ecosystems and natural resources. **Policy 3.1.7** safeguards the life-supporting capacity of soil and requires that production soil fertility is maintained or enhanced. The application site is currently production land and will be returned to pastoral production on completion of mining, with the topsoil being stockpiled for future re-use. **Policy 3.1.8** seeks to minimise soil erosion, which will be achieved by vegetating soil stockpiles and undertaking progressive rehabilitation.



**Objective 5.1** states that public access to areas of value to the community is to be maintained or enhanced. **Policy 5.1.1** requires that public access to the natural environment, including rivers, is maintained unless restricting access is necessary for nominated reasons in the policy, including the protection of public health and safety. Public access to the Clutha River / Mata-Au will be maintained by providing alternative access to the general public, when mining reaches a stage such that temporary closure of the existing public access is necessary. The existing public access will be reinstated as part of the rehabilitation programme. For these reasons, the proposal is considered to achieve this objective.

**Objective 5.3** seeks to ensure that sufficient land is managed and protected for economic production. **Policy 5.3.1** seeks to manage activities in rural areas, to support the region's economy and communities, by providing for mineral exploration, extraction and processing (clause (b)). **Policy 5.3.4** further recognises "*the functional needs of mineral exploration, extraction and processing activities to locate where the resource exists*". Policy 5.3.4 is thereby critical to the proposal as the subject site has been specifically selected based on the potential mineral value present, thereby voiding the possibility of alternative site selection. The proposal seeks, where possible to avoid and mitigate potential adverse effects of the proposed works in a manner that still enables mineral extraction and processing to occur.

**Objective 5.4** seeks to minimise addresses adverse effects of using and enjoying Otago's natural and physical resources. **Policy 5.4.8** sets out a management regime specific to mineral extraction and processing, giving preference to avoiding location such activity in specified, high-value areas. This activity is not located in any of the high-value areas identified in clause (a) of the policy. Clause (c) of the policy further requires that mineral extraction activities avoid effects on the health and safety of the community. This proposal achieves this by isolating the work site from the public, mitigating effects of dust, and meeting appropriate transport requirements. The proposal includes progressive rehabilitation of the site in accordance with clause (f) of the policy.

Overall, the proposal is deemed to be consistent with the objectives and policies of the RPS.

## 6.2.2 Proposed Regional Policy Statement (pRPS)

The pRPS 2021 was notified on 26 June 2021. Significant resource management issue 10 (SRMR-I10) identifies:

*"Agriculture, fishing and minerals extraction support employment and economic well-being but also change landscapes and habitats."*

The site is located within the Clutha River / Mata-Au FMU, and Roxburgh rohe. **Objective LF-VM-O2** identifies a vision that the Clutha River / Mata-Au FMA is recognised as a single connected system.

**Objective LF-LS-O11** requires that soil resources are safeguarded and the capacity of highly productive land is maintained. In the case of this proposal, topsoil will be





separately stockpiled, and the land returned to pastoral use on rehabilitation of the mine.

**Objective LF-LS-P22** provides for public access along lakes and rivers, and only restricting access where necessary for health and safety (and other) reasons. As outlined above, public access will be maintained by providing an alternative public access during mining.

Submissions on the pRPS 2021 closed on 3 September 2021. A minute from the Chief Freshwater Commissioner, Judge Laurie Newhook, on 27 July 2022, confirmed that based on the recent High Court declaration, the pRPS hearings process is at an end and a new panel will need to be convened<sup>4</sup>. No decisions have been made on submissions and therefore the pRPS can be afforded limited weight at this time. The policy direction in respect of this application is generally consistent with the pRPS.

### 6.2.3 District Plan

The objectives and policies in the District Plan that are of direct relevance to this Application are identified below.

Chapter 4 of the District Plan is specific to the Rural Resource Area. **Objective 4.3.1** outlines the need to enable communities to provide for their social, economic and cultural wellbeing whilst also ensuring environmental quality is maintained. It is considered that the proposal will add to the economic and social wellbeing of local people and businesses, while maintaining environmental quality.

**Objective 4.3.3** discusses the need to protect the rural amenity values of the district created by open space, landscape, natural character and built environment values. Supporting **Policy 4.4.2** seeks to manage effects through a number of measures. Relevant to this proposal is that the proposed temporary buildings and works will be appropriately located considering the locally flat natural topography provides for limited visibility of the site from public spaces, and views of the site from nearby public spaces will be mitigated by bunds. No permanent structures are proposed, and the land will be recontoured to its former state thereby maintaining the quality of the environment and protecting the openness of the landscape. The proposed development is compatible with the surrounding environment, as the assessment above demonstrates that effects on the amenity values of adjoining properties, including noise, dust, traffic and activity, will be appropriately avoided, remedied or mitigated.

**Policy 4.4.8** relates to the potential for effects to be observed from neighbouring properties. Effects of noise, dust, traffic generation have been assessed in section 5 above, and appropriately mitigated. The privacy of neighbours will not be affected due to the separation distances between the rural properties. The safe and efficient operation of the roading network will be maintained considering the small number of additional vehicles that will arise as a result of the proposal.

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<sup>4</sup> <https://www.orc.govt.nz/media/12670/chief-freshwater-commissioner-minute-27-july-2022-pdf.pdf>

**Objective 4.3.4** seeks to maintain and enhance public access to recreation resources. **Policy 4.4.13** promotes the provision of public access opportunities to significant natural features, including for recreational purposes. The Application provides alternative access while the existing public river access is unavailable due to mining.

**Objective 4.3.6** requires the preservation of the natural character of water body margins, and this proposal will achieve that with separation distance between the mining operation and waterbodies.

**Objective 4.3.7** relates to the maintenance of soil resources. **Policy 4.4.6** is specific to protecting soil resources seeking to ensure that erosion, instability and loss of soil resources will not occur. All areas of exposed soil will be battered, and topsoil will be stockpiled separately for rehabilitation.

Chapter 12 of the District Plan addresses District Wide matters. **Objective 12.3.1** promotes the safe and efficient operation of the District's roading network. Supporting **Policy 12.4.1** requires safe and efficient access points to the roading network, and off-street parking, loading and manoeuvring space. It is considered that the proposal achieves these matters given the small increase in traffic anticipated which will utilise existing vehicle access points, and the provision of on-site parking and manoeuvring space.

Overall, the proposal is considered to be consistent with the objectives and policies of the District Plan.

## 6.3 Section 104(1)(c) of RMA

### 6.3.1 Kāi Tahu Ki Otago Natural Resource Management Plan 2005

The Kāi Tahu Ki Otago Natural Resource Management Plan 2005 ("NRMP") is the relevant iwi management plan to the application site area.

Chapter 5 sets out issues, objectives and policies. Impacts on water will be addressed through the groundwater study currently in process (that will form part of the application to ORC). There are no known wāhi tapu sites in the application site area, though the Applicant accepts an accidental discovery protocol condition.

Section 5.4.6 notes that mining is to be discouraged within landscapes of cultural significance or highly visible landscapes. The application site area is not considered to be highly visible, and setbacks from known culturally important features, namely the Clutha River / Mata-Au have been proposed.

Section 5.4.6 (17) further states that all applications for mining should include the following:

- i. site rehabilitation plans that include the planting of indigenous species and address long term concerns; and*
- ii. requirement for screening off of the work site; and*

- iii. *prevention or reduction of vibration, dust, noise, soil and water contamination; and*
- iv. *restriction of the hours during which explosives may be used;*
- v. *provision for the containment of all waste discharges from mining operation.*

The Applicant proposes to rehabilitate the site to its current state (as farmland), which does not include any planting of indigenous species. The remediation proposed is considered appropriate considering the ongoing use of the land. The work site will be screened, and effects of noise and dust appropriately managed, as described through this application. No explosives are proposed to be used, and any waste from the operation will be natural material that will be replaced in the pit.

Section 5.4.6 (19) requires that earthworks mitigate effects on landform, soil instability and other adverse effects. These matters have been addressed in the application, and appropriate mitigation for the effects have been proposed. There will be no impacts on significant natural landforms or areas of indigenous vegetation.

Overall, it is considered that this application appropriately addresses the key matters identified by the NRMP.

## 6.4 Purpose and Principles of the RMA

The purpose of the RMA, as set out under Section 5 (2) is to promote the sustainable management of natural and physical resources. The relevant matters in Sections 6, 7 and 8 of the RMA also require consideration. Section 6 identifies matters of national importance under that need to be recognised and provided for in this application:

- (d) *the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:*

This proposal provides for alternative public access to the Clutha River / Mata-Au while the existing public access is disrupted due to mining activity.

The RMA specifies that particular regard shall be had to the relevant other matters listed in Section 7 including:

- (b) *the efficient use and development of natural and physical resources:*
- (c) *the maintenance and enhancement of amenity values:*
- (f) *maintenance and enhancement of the quality of the environment:*
- (g) *any finite characteristics of natural and physical resources:*

Overall, this proposal will result in the efficient use of land resources in a manner that will protect and maintain amenity values and the quality of the natural environment, whilst also recognising the finite nature of natural and physical resources. All land will be rehabilitated upon completion of works. This proposed activity will create further social and economic benefits to the region.

In giving effect to the principles of the Treaty of Waitangi, this application has assessed effects of the Clutha River / Mata-Au Statutory Acknowledgement Area, and proposed



mitigation in the form of setbacks in order to protect values associated with the river. Assessment of the proposal against the NRMP has been undertaken and the Applicant has provided a copy of this application to Aukaha for their feedback. It is considered that the provisions of Section 8 have been taken into account appropriately considering the nature of the proposal.

As has been demonstrated throughout this AEE, the proposed development is not expected to result in any significant adverse effects on the receiving environment. Any potential adverse effects have been largely avoided, remedied or mitigated. The proposal aligns with the relevant Objectives and Policies of the Regional and District Plans.

For the reasons outlined in this report, the proposal is consistent with the purpose and principles under Section 5, and the associated matters under Part 2 of the RMA. The proposal represents an efficient use of natural and physical resources, and will be undertaken in a manner which avoids, remedies and mitigates potential adverse effects on the environment. It is considered that the proposal is consistent with the purpose and principles of the RMA and accords with the definition of sustainable management.



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# Appendix B

File Ref:

Prepared For:

## Hawkeswood Civil

No.	Amendments	Drawn	Date

### Proposed Cycle Trail Route

#### Millers Flat

Project No.:	Surveys:
Scale:	JR
Date:	Designed:
10/10/2022	JR
Sheet: 1a	Checked:
	JR



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## Millers Flat Gold Mine Transport Assessment Report

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<b>Prepared for</b>	Hawkeswood Mining Ltd
<b>Job Number</b>	HWML-J001
<b>Revision</b>	A
<b>Issue Date</b>	21 November 2022
<b>Prepared by</b>	Logan Copland, Senior Transportation Planner
<b>Reviewed by</b>	Dave Smith, Technical Director, Transportation Planning

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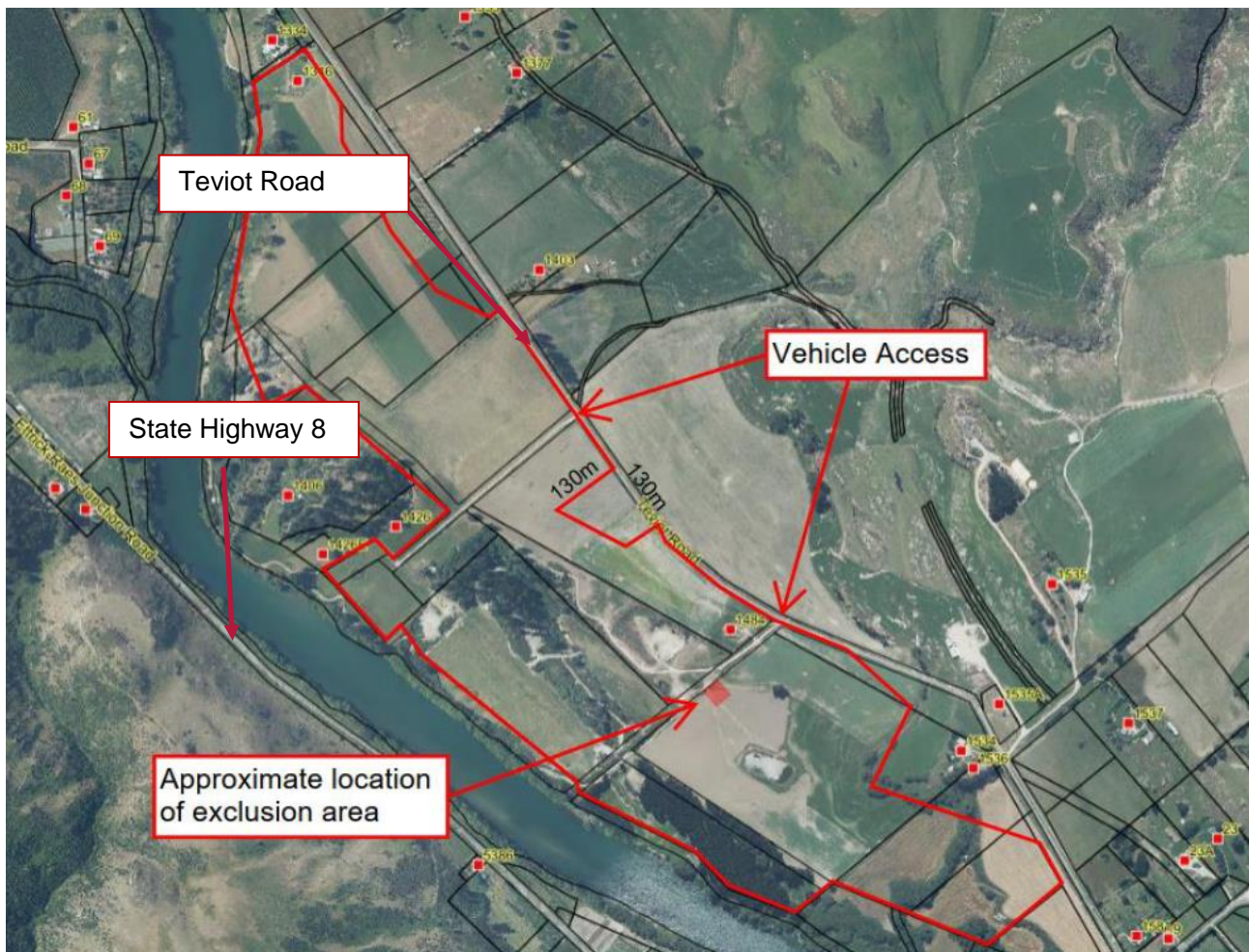
### 1. Introduction

Abley Ltd (Abley) was engaged by Hawkeswood Mining Ltd (the applicant) to provide a transport assessment to support a land use consent application which seeks to establish and operate an alluvial gold mining operation at 1344-1536 Teviot Road, Millers Flat for a duration of 20 years. It is understood that the proposal is assessed as a discretionary activity, given the number of staff expected onsite is greater than three (which is the permitted baseline).

It is understood that Central Otago District Council (CODC) has undertaken an initial review of the application and has requested (as part of a formal RFI) a traffic assessment that addresses any traffic safety effects associated with the proposal in relation to Teviot Road and the standard of the existing vehicle access. This technical note fulfils that request.

### 2. Site description

The site is located across 1344-1536 Teviot Road, Millers Flat. The site has frontage to Teviot Road along its north-eastern boundary. The Clutha River runs past the site to the west and south-west. An excerpt from the resource consent application (prepared by Town Planning Group) is included as Figure 2.1, which shows the extent of the site. Millers Flat township is approximately a 1-3 minute drive in a south-eastern direction.



**Figure 2.1 Site Location (Source: resource consent application, Town Planning Group)**

It is understood that the majority of the site is currently used for pastoral farming activities. It is also understood that part of the site is used for green-waste tipping, and that Council owns that part of the site. The tipping is understood to be authorised but not managed by the Council. The tipping area is currently accessed via the south-eastern most vehicle access. It is understood from the site manager that the tipping activity will cease and will not run concurrently with the proposed mine.

**Vehicle access to the site is currently via two vehicle accesses as identified in Figure 2.1. These accesses are currently unsealed. The southern access is an unnamed paper road and as such the land is administered by CODC. The formation within that land provides access to the tipping area discussed**

above. This is also the location where the Clutha Gold Cycle Trail links from the Clutha River across Teviot Road. This is



shown in

Figure 2.2. There are no dedicated crossing facilities for cyclists to cross Teviot Road in this location.





Figure 2.2 Photograph showing Clutha Gold Cycle Trail Crossing

### 3. Surrounding Transport Network

The site has frontage to Teviot Road. Teviot Road connects to State Highway 6 in two locations, via Jedburg Street at the north and Millers Flat Bridge Road to the south (both of which cross the Clutha River). It is approximately 17km in length running along the eastern side of the Clutha River, whereas State Highway 6 runs parallel to the river on the western side and provides a secondary roading connection between Millers Flat and Roxburgh township. See Figure 3.1.



Figure 3.1 Teviot Road. (Source: Google Maps)

### 3.1 Cross Section

Teviot Road is a two-way / two-lane road with a chip-seal surface and a dashed centreline. The carriageway is typically between 6.0m-7.0m wide with narrow unsealed shoulders. There are shallow swale drains either side of the road.



Figure 3.2 Typical Cross-Section of Teviot Road adjacent to site

There are no dedicated pedestrian or cycle facilities.

### 3.2 Traffic Flows

The most recent estimate from MobileRoads (2016) shows an annual average daily traffic (AADT) ranging from 200vpd at the southern end and 430vpd at the northern end<sup>1</sup>.

These volumes are dated such that may not reflect the current volumes, although to our knowledge there are no recent developments in the area that would significantly affect the AADT values. Assuming an annual growth factor of 5% these values are more likely be in the order of 576vpd and 268vpd, respectively. Peak traffic flows are expected to be less than 60 vehicles per hour (a rule of thumb is that peak hour flows are 10% of daily flows) or approximately one vehicle per minute. MobileRoads states

<sup>1</sup> <https://www.mobileroad.org/desktop.html>

that 10% of the ADT values is estimated to be heavy vehicles, or approximately 58 heavy vehicles per day.

### 3.3 Speed Environment

Teviot Road has a posted speed limit of 100km/h. According to Waka Kotahi NZ Transport Agency’s (Waka Kotahi) MegaMaps tool, the mean operating speed along the road adjacent to the subject site is 83km/h. The safe and appropriate speed is shown in MegaMaps to be 80km/h.

### 3.4 Reported Crash History

Waka Kotahi’s Crash Analysis System has been used to search the reported crash history in the vicinity of the site. The full length of Teviot Road was searched between 2017-2022 inclusive up to the time of preparing this report. A total of six crashes were reported with four being non-injury crashes and two being minor injury crashes. The two minor injury crashes occurred where the driver was either distracted by an animal in the vehicle or had a medical event and are considered random in nature. The collision diagram is shown in Figure 3.3. There were no serious injury or fatal crashes reported, and none involving pedestrians or cyclists.

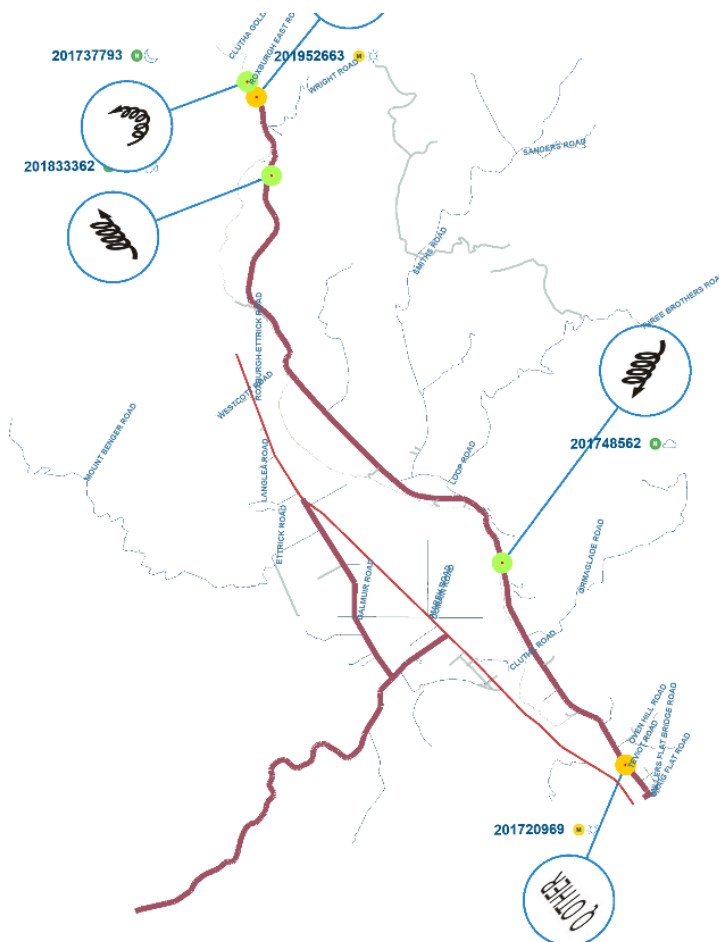


Figure 3.3 Collision Diagram

There are no crash trends arising from the reported crash history and the data does not suggest that there are any existing safety issues on the road network adjacent to the site that would be exacerbated

by this proposal. It should also be noted that none of the reported crashes occurred close to the site or near the existing vehicle accesses.

### 3.5 Use of Teviot Road as a Bypass

The report writer recently travelled from Cromwell to Dunedin and noted that SH8 was closed partway through Roxburgh township, and Teviot Road was being used as a bypass during this time. However, the road operated under a temporary reduced posted speed limit of 80km/h.

### 3.6 Risk Ratings

According to MegaMaps, the Teviot Road has a 'low' personal and collective risk. Definitions are as follows:

- **Collective safety risk:** risk density measured as the number of fatal and serious casualties over a distance, e.g. deaths and serious injuries (DSI) per kilometre; and
- **Personal safety risk:** risk to the individual of fatal or serious casualties per million vehicle kilometres travelled.

### 3.7 Road Classification

Teviot Road is classed as a 'Rural State Highway or Arterial' within Schedule 19 of the CODP. It is classified as a Rural Connector in the Waka Kotahi One Network Framework.

## 4. Proposed Activity

It is proposed to establish an alluvial gold mine on the site including on-site processing and stockpiling of overburden. The mine will accommodate up to 20 staff including machinery operators, mechanics, and engineers. The proposed hours of operation are as follows:

**Table 4.1 Hours of Operation**

Day	Hours
Monday-Friday	0700-1900hrs
Saturday	0700-1300hrs
Sunday	No activity

Processing will occur onsite, including removal of overburden, stockpiling, gold washing and separation and rehabilitation. The lifespan of the mine is anticipated to be 14 years and a 20-year consent duration is requested.

At the outset, it is noted that pursuant to Rule 4.7.4(i), resource consent is required due to there being more than three persons onsite at any one time and is assessed as a discretionary activity.

### 4.1 Site Access

Access to the site will be obtained directly from Teviot Road via two existing accesses (as identified in Figure 2.1). It is understood that only one access will be used at a time depending on where on the site mining is taking place at that time. The southern-most access is currently used for tipping and is accessed by the public. The sight lines from this vehicle access are shown in Figure 4.1 & Figure 4.2.



**Figure 4.1 Looking north from southern vehicle access**

Sight distance to the north is in the order of 250m.



**Figure 4.2 Looking south-east from southern access**

The sight distance to the south is in part affected by a sag curve in the road formation, although a vehicle travelling through the sag would still be visible to a driver waiting to leave the access. The sight distance is in excess of 300m.

Figure 4.3 & Figure 4.4 show the view from the existing northern vehicle access.



Figure 4.3 View from northern access looking north





**Figure 4.4 Teviot Road looking south, access in view**

Due to the level and largely straight geometry (except for a gradual horizontal curve about 310m south-east of the access) of Teviot Road, sight distances in both directions are unobstructed with at least 280m available in each direction.

The vehicle access is currently unsealed above a culvert pipe.

## 5. Traffic Generation

### 5.1 Likely Traffic Generation

Trip generation for the proposed mine has been forecast on a ‘first principles’ basis specifically for this activity. Traffic generated will primarily arise from staff trips, although it is anticipated that there will also be non-staff personnel visiting the site such as contractors and diesel fuel deliveries. It is expected that there will be an increase in heavy vehicle movements during the set-up stage of the project when mining machinery is transported onto the site. However, given the mining operation does not include aggregate importation and that overburden material will be retained onsite the increase in the number of heavy vehicle movements onto the road network will be minimal and on an ongoing basis will be restricted to fuel deliveries and other types of deliveries such as machinery parts. The consent application documents indicate that an average of two heavy vehicle movements per day are anticipated.

It is understood that up to 20 staff will operate from the site at any one time and that the mine will operate on a standard day shift. It is also assumed that each worker will drive to the site in a single occupant vehicle which is considered to be a conservative assumption as carpooling may occur in practice.

As such, it is estimated there will be up to 20 light vehicle trips arriving at the site in morning with the reverse occurring in the evening. Given the shift timings as set out in Table 4.1, the new trips will not coincide with peak hours of travel on the road network. In addition, there will be occasional visits throughout the day from contractors. The traffic generation is summarised in Table 5.1.

**Table 5.1 Anticipated traffic generation**

Vehicle type	Trips per day
Light vehicles	50 (40 from staff, and 10 from others)
Heavy vehicles	2

### 5.2 Network Effects

Assuming all staff arrive at the site within one hour, and then leave the site in a separate hour this translates to an average of about one extra vehicle every three minutes. This level of additional traffic is well within the capacity of the adjacent road network and will not lead to any network capacity constraints.

Similarly, the number of additional heavy vehicle movements is small and given that the traffic flow data indicates 10% of the daily traffic movements are already by heavy vehicles, this will not lead to any noticeable effects or changes to the safe operation of the road.

It is anticipated that during the initial site set up that larger vehicles such as transporters may need access the site in order to transport the large mining machinery onto the site. This will not be the norm and if required the vehicles could be piloted if they are over-width. This will be determined by the site operator prior to transportation of the machinery and any required approvals from CODC will be obtained as appropriate (which may need to include temporary traffic management).

Overall, the traffic generation arising from the mining activity will not lead to any capacity problems and will not contribute to a reduction in road safety performance on Teviot Road.

## 6. Access requirements

The accesses have been assessed against the requirements of the CODP for an access onto a 'Rural State Highway or Arterial'. The analysis has included indicative vehicle tracking to assess compliance with the CODP.

### 6.1 Compliance Review

Table 6.1 Access Compliance Assessment Table 6.1 sets out the results of compliance assessment for access onto Teviot Road.

**Table 6.1 Access Compliance Assessment**

Rule Number	Rule Description	Compliance (Y/N)	Comments
12.7.1(ii)	Minimum sight distance from a vehicle access onto a rural state highway with a posted speed of 100km/h is 280m	N	Refer to assessment under 6.2 of this report.
12.7.1(iii) In addition to the requirements of (i) and (ii) above design and construction of access to rural State highways and arterial roads shall comply with the following standards:			
(a)	The access shall be sealed to the same standard as the adjacent road carriageway.	N	Refer to assessment under Section 6.3 of this report.
(b)	Where the speed limit is 100 kph, spacing between accesses shall be not less than 200 metres (regardless of the side of road on which they are located), and no vehicle access shall be constructed within 100 metres of road intersections AND spacing between intersections (ie road intersections) shall be not less than 800 metres.	N	Refer to assessment under Section 6.4 of this report.
(c)	Except as provided for in (d) below, width of vehicular access ways at the property boundary are to be no greater than 6 metres.	N/A	Refer to (d).
(d) Heavy vehicular accesses shall be designed and constructed to:			
(i)	A minimum width of nine metres.	Y	The width of the entrances will be at least nine metres wide at the road edge.
(ii)	Carry the volume and weight of traffic likely to use the access.	Y	This is a standard requirement and the appropriate design specifications will be issued by Council.
(iii)	Ensure heavy vehicles do not have to cross the road centre line when making a left turn.	N	Refer to assessment in 6.5 of this report.
(iv)	Ensure the surface is constructed to the same standard as the adjacent road carriageway.	N	Refer to assessment in Section 6.3 of this report.
(v)	Have sufficient width to accommodate the swept path of the largest vehicle anticipated to use it.	Y	Refer to assessment in 6.5 of this report.

Rule Number	Rule Description	Compliance (Y/N)	Comments
(e)	Driveways shall not be parallel to and level with roads within 20 metres of the road reserve.	Y	The driveways will be perpendicular to Teviot Road.
(f)	Figures 12.2 and 12.3 on pages 12:32 and 12:33 establish the minimum design standards for access determined by activity type.	Y	Refer assessment under 6.3 of this report.
(g)	Access to State highways shall be to Transit New Zealand design specifications.	N/A	N/A

## 6.2 Sight Distances

Sight distances at the northern access comply with the minimum requirement of 280m based on an access onto a rural state highway with a 100km/h speed limit and is therefore acceptable.

The southern access is slightly short on the required sight distance when looking to the north with only about 250m available. It is noted that the access is currently used for green waste tipping and that, despite the shortfall in sight distance to the north (due to the horizontal curve) the reported crash history confirms that this has not created a safety problem in practice.

The effects of the shortfall have been assessed using the stopping sight distance (SSD) calculation from Austroads Guide to Road Design Part 3: Geometric Design. SSD is the distance required to enable a normally alert driver, travelling at the design speed on wet pavement, to perceive, react and brake to a stop before reaching a hazard on the road ahead.

$$SSD = \frac{R_T V}{3.6} + \frac{V^2}{254(d + 0.01a)}$$

Figure 6.1 Stopping Sight Distance Formula. (Source: Austroads Guide to Road Design Part 3: Geometric Design)

Where:

- SSD = Safe Stopping Distance (m)
- Rt = Reaction time: 2.5s
- V = Operating speed: 110km/h
- D = Coefficient of Deceleration = 0.36
- A = Longitudinal Gradient expressed as % = 0.00%

A reaction time of 2.5s has been applied given the rural, high speed road environment.

In this instance, the SSD is 86m which is significantly exceeded in both directions.

It is further noted that as per Section 3.3 of this report, the mean operating speed on this stretch of Teviot Road is 83km/h. Using the safe intersection sight distance formula within Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, based on an operating speed of 83km/h, the minimum required sight distance is also less than 200m.

It is also noted that the traffic volumes on Teviot Road are very low compared with what might otherwise be expected on an arterial road and that there will be plenty of gaps in the traffic stream when drivers are entering and exiting at the access way.

Overall, it is considered this non-compliance is acceptable and that the access will continue to function without any safety issues.

### **6.3 Access Standard**

#### **Southern Access**

This vehicle access is currently sealed from the edge of Teviot Road for approximately 3.0m toward the property. It is considered typical for driveways connecting to sealed roads to be sealed themselves for a distance of not less than 5.0m. It is therefore recommended that the seal be extended by a minimum of a further 2.0m. This small improvement will ensure that any effects relating to loose material or damage to the edge of Teviot Road are suitably managed and will ensure a consistent approach to access design.

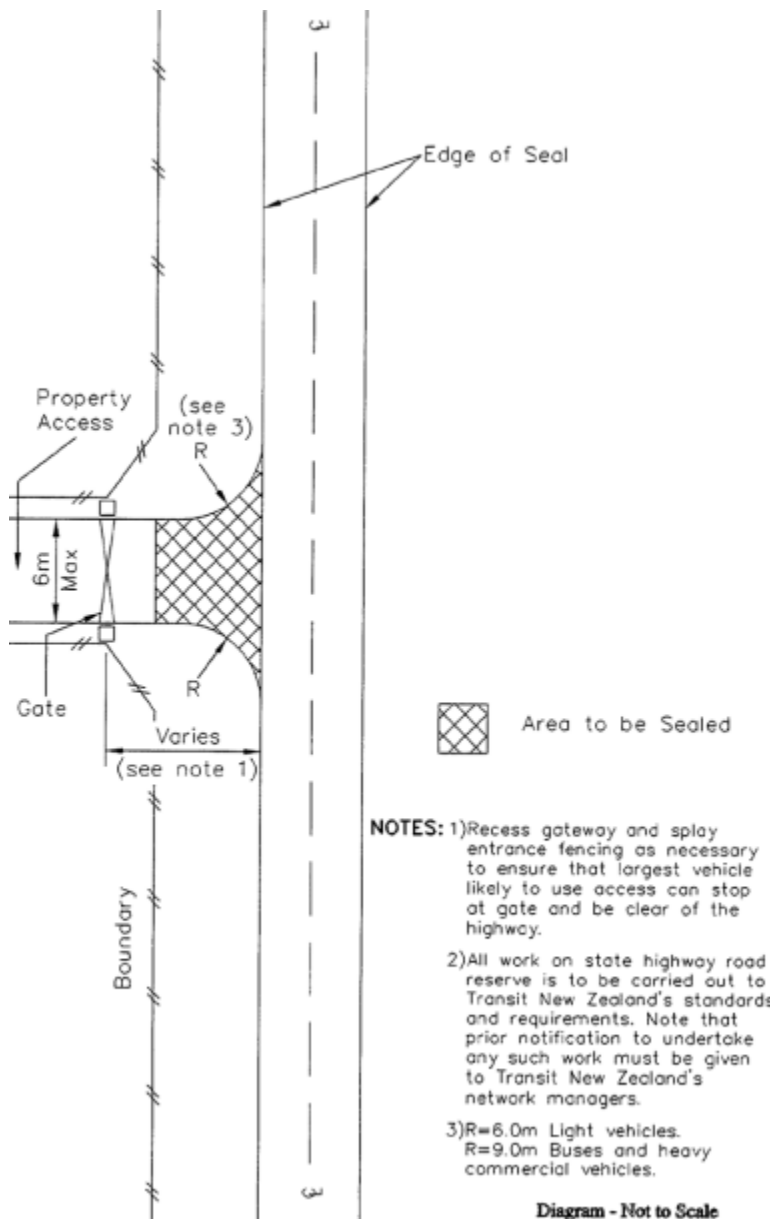


Figure 6.2 Excerpt of Figure 12.2 of the CODP – Access Standard for Low Traffic Generation. (Source: CODP, Section 12)

### Northern Access

During the site visit, a small amount of loose material was observed to have been tracked onto the Teviot Road carriageway from the northern access. This can be seen in Figure 4.4. It is noted that the surface material is metalled and has not been compacted, which increases the potential for migration of material. It is understood that not both entrances will be used concurrently, and that the southern entrance will be used in the initial stages.

It is considered that if the northern entrance is to be used that it should be upgraded in general accordance with Figure 12.2 of the CODP, with the exact standard to be set by CODC. Given that Teviot Road has a chip-sealed surface, chip-seal would be an appropriate surface material for the vehicle access. As with the southern entrance, it is considered that only a small amount of sealing is required to mitigate the potential for loose material to migrate onto Teviot Road with a distance of only 5.0m recommended.

## 6.4 Access Spacing

There is an access on the opposite side of the road of the northern access. The separation is about 50m. This access is a farm access and will not experience notable amounts of vehicle movements. This will therefore not create a safety problem and the chances of any conflict are remote.

## 6.5 Vehicle Tracking

Vehicle tracking has been completed to determine the geometric design requirements for the proposed vehicle accesses, as required by Rule 12.7.1(d). A 19.7m long fuel tanker has been used as the design vehicle as this will be the largest vehicle accessing the site once the mine is operational. Note that a transporter will need to access the site in the initial site set-up / establishment phase, but since there will not be an ongoing need for transporter access, it is not considered practical to base the access design on this vehicle. The results of the tracking for both accesses are shown in Figures 6.1-6.4.

### Southern Access



Figure 6.3 Left turn entry movement, southern access



**Figure 6.4 Left turn exit movement, southern access**

The tracking shows that for a tanker to stay within the correct lane (as is required by the District Plan), some minor access widening would be required on the north-western side of the access only. However, given the stopping distance exceeds the SSD requirements in Austroads and the frequency of the manoeuvre will be very low, it is considered appropriate for the truck to be able to cross the centre line when entering or exiting the site.



Northern Access



Figure 6.5 Left turn entry movement, northern access



**Figure 6.6 Left turn exit movement, northern access**

The tracking for the northern access indicates conflict will occur between the fuel tanker and the existing fence line if the truck stays within the correct lane when entering and exiting. This will not occur if the truck is able to cross the centreline whilst turning. Whilst this does not comply with Rule 12.7.1(iii)(d)(iii), the available sight distance to the northwest along Teviot Road is excellent. Given this and noting the low volumes on Teviot Road and the infrequency of this manoeuvre, it is considered acceptable for the truck to cross the centreline when entering and exiting the site at the northern access.

## 7. Summary and Recommendations

This technical note has considered the Section 92 request by CODC, which requested a traffic assessment that addresses any traffic safety effects associated with the proposal in relation to Teviot Road and the standard of the existing vehicle access.

This assessment has concluded that the traffic generated by the proposed activity can be accommodated by the existing transport network. Given the excellent safety record, low risk ratings, and acceptable sight distances from the access points, it is not considered that the proposal would lead to road safety effects. The following is recommended to ensure effects on the transport network are sufficiently managed.

### **Southern Access**

- It is recommended that the southern access be hard surfaced from the edge of the seal on Teviot Road for a distance of not less than 5.0m toward the property boundary, and be adequately drained (in general accordance with Figure 12.2 of the CODP).

### **Northern Access**

- If the northern access is to be used to service the mining activity, it is recommended that it be hard surfaced from the edge of the seal on Teviot Road for a distance of not less than 5.0m

toward the property boundary, and adequately drained (in general accordance with Figure 12.2 of the CODP).

### **General**

- It is recommended that if transportation of machinery into / out of the site is anticipated to affect the normal operating conditions of the transport network, that the applicant prepares and submits a traffic management plan to Council for approval.
- The vehicle accesses should be designed to carry the volume and weight of traffic likely to use them.

Subject to the above, it is considered that there are no traffic engineering reasons why resource consent could not be granted.

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# Appendix D

**DATED** 25<sup>TH</sup> NOVEMBER 20 22

---

**Millers Flat Water Company Limited**

**and**

**Name**

JACKS RIDGE LTD

**Address**

Po Box 76 Whitford 2149

---

**WATER SUPPLY AGREEMENT**

---

**Lucas & Lucas**  
Solicitors,  
Dunedin  
(Garth Lucas)

## **WATER SUPPLY AGREEMENT**

**THIS AGREEMENT** is made on the date in the schedule between **MILLERS FLAT WATER COMPANY LIMITED** (the Company) and the person or body named as "the User" in the schedule hereto with intention to have effect as a deed.

### **BACKGROUND**

- A The Company is proposing to establish a water supply scheme for the Millers Flat township intending to supply domestic quantities of water to properties able to be serviced by its scheme.
- B The Company and the User have agreed on the terms of supply to the User's property.
- C This agreement is intended to record the terms of the agreements reached with the owners of the properties receiving water from the scheme.
- D The obligations and responsibilities of each party to the other are in consideration of each parties obligation and entitlements as recorded in this agreement.

### **THE PARTIES AGREE AS FOLLOWS**

#### **1 WATER SUPPLY**

The Company will supply water from the scheme to the User in accordance with this agreement if and when water is available. There is no guarantee of supply. The Company may make rules governing use of water at any time having regard to cost, water reticulation issues, water quantity and or water quality, or other matters which prudently require rules or restrictions. Without any Company warranty of the quality or fitness of water supplied for any particular purpose, the Company and the User agree that water is not in any event supplied for the purpose of being used for and will not be used for any industrial or commercial purpose.

#### **2 UNIT ENTITLEMENT AND SUPPLY INTENTION**

The quantity of water supplied shall be as from time to time determined by the Company. The Company intends to provide water based on the recommended quantity and flow and which will meet Drinking Water Standards for New Zealand, 2005, for each property for which a supply agreement has been signed, and for which the applicable fully paid up share is held by or for the User in the capital of the Company. The entitlement to a unit shall, subject to availability of water, mean such quantity of water as from time to time may be determined by the Company with the expectation that it will be 1,000 litres per day plus 200 litres per day per person up to 5 persons.

#### **3 NO ENTITLEMENT EXCEPT TO SHAREHOLDERS**

No User shall be entitled to water supply unless the User is a shareholder in the Company and then only on the basis of an entitlement of one unit for a single share held in respect to an applicable property.

- (a) If the User should own more properties within the scheme (or capable of being supplied by the scheme and the Company has agreed to include the same) and shares are held for each other such property, then the User shall be entitled to such number of units as the User has applicable properties and otherwise qualifies under clause 2 above.
- (b) If the User has more shares in the capital of the Company than the User has properties served by the scheme then the User shall receive supply only to those of the User's properties which are applicable, i.e. served by the scheme. All other shares in the name of the User, where fully paid up, and where associated with another applicable property for which the owner has signed the Company's Water Supply agreement, shall be deemed to be held in trust for the owner of that property. Shares not associated with an applicable property and all shares not fully paid up, shall be "dry shares" as defined in the Companies Constitution.

#### **4 COMPANY RESPONSIBILITY**

The Company will arrange for the User to be connected to the scheme from a point of supply outside of the Users property boundary or at some other point as agreed between the User and the Company and will maintain the connection to the point of supply.

The Company shall be responsible for all repairs and maintenance to the scheme and its assets to the point of supply. All works past the point of supply and all works inside the property boundary (except where agreed otherwise, or to the extent that they form part of the scheme in the larger sense and are required to transport water to enable supply elsewhere) shall be the User's responsibility.

#### 5 WATER CHARGES

The User shall pay to the Company a charge for the water so supplied of such amount as the Company from time to time determine and at such times and at such places as the Company from time to time determine.

#### 6 CONSEQUENCE OF NON PAYMENT

If the water charges are not paid by due date then the same together with all increases payable under clause 5, and all charges payable under clause 8 may be recovered from the user as a liquidated debt due to the Company as the same are incurred, and the provisions of clause 8 shall apply.

#### 7 NO COMPANY LIABILITY FOR FAILURE OF SUPPLY

If, owing to any cause the water supply from the scheme shall fail or become diminished so that it is impracticable to supply all or any part of the water, the User shall not by reason of any such failure or diminished supply have any claim to compensation or any right of action or other remedy against the Company but the water charges will still be payable by the User.

#### 8 COMPANY RIGHTS IN EVENT OF NON PAYMENT

In the event of the User committing any breach of this agreement the Company may, without liability for any compensation or damages to the User or any other person, (where a property is not occupied) cut off the supply of water; or (where a property is occupied) reduce the supply of water to such amount as shall be deemed by the Company as sufficient for the necessities of life and health, but without any provision for irrigation or other use.

In either event the User shall be and remain liable to pay as the same are levied:

- (a) the full cost of the change in or termination of supply; and
- (b) the full cost of reinstatement of supply; and
- (c) all charges for further devices the Company may deem necessary to limit or measure or monitor and/or record water flow; and
- (d) all charges for administrative deliberation and recording and monitoring each week during the reduced or terminated supply period; and
- (e) all normal water charges; and
- (f) any applicable penalty charge; and
- (g) interest where payable on any unpaid amount.

The Company shall be entitled to require that all of the above charges be paid or secured as a pre-condition to reinstatement of supply.

#### 9 INDEMNITY TO COMPANY AND GRANTOR

The Company will install and undertake such pre-filtering and UV filtering or other treatment of the water that may be required for health or safety of persons by any competent authority, or as required under the Health (Drinking Water) Amendment Act 2007. The user will make no claim on the Company or on any Grantor arising from any quality, quantity, continuity, pressure, or flow issue related to water supplied by the Company.

The User acknowledges to the Company and the Grantors that water may be turbid and not potable and that injurious chemicals may be in the water. The User shall be solely liable for and shall keep the Company and the Grantors safe harmless and indemnified and defended from and against any actions, claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect of the use of the water by the User or by any other person or persons using or coming into contact with the water or any living thing, product

or other thing affected by the water, whether by the neglect or omission of the User or with the consent or approval of the User whether the same shall be explicit or inferred.

#### 10. SALE OR TRANSFER OF PROPERTY

The supply is personal to the User and cannot be transferred from the property to which this agreement relates at the time of execution and the User agrees that on any transfer or other change of ownership of the property the User will ensure that no representation or warranty contrary to the terms of this agreement is given to any person, either expressly or by implication, and that the benefit and burden of this agreement is also transferred with the property subject only to the consent of the Company to the transfer, the provisions of this agreement which may relate to such transfers, and the payment of all amounts and the performance of all obligations that are due and owing to the Company.

The User agrees to give notice to prospective purchasers of the User's property that water is supplied to the property under this agreement, to supply to all such persons a copy of this agreement, and to advise that the cost of water supply is payable to the Company in addition to and not as part of local authority rates.

Subject to the User complying with the terms of this clause, the Company agrees to offer to enter into a replacement agreement on the then current agreement terms with succeeding owners of the User's property, and subject to the completion of such an agreement to supply water to the succeeding owners. Any one-off start-up capital cost or joining levy paid by the User shall not be required to be paid again by a succeeding owner, but the Company may charge for its costs in relation to the transfer.

#### 11. COMPANY DECISION FINAL

The decision of the Company on all matters relating to this agreement, the operation of the scheme in general and the supply of water thereunder whether to the User or to any other person or persons shall be final and binding on all parties and the Company shall be entitled to act as it sees fit in all respects.

#### 12. SUPPLY SUBJECT TO COMPANY ENTITLEMENT

The rights and obligations of the parties hereto shall cease and this agreement be deemed to be immediately terminated in the event that the Company should lose by whatever means any licence, right, privilege, confirmation, consent, permit or easement that the Company needs to be practically and economically able to operate the Scheme and thereby provide water to the User or if the Scheme or any part of it is so damaged or destroyed by whatever means that the Company is unable to practically or economically supply water to the User PROVIDED THAT any money owing by the User to the Company at the time of termination under this Clause shall be due to and recoverable by the Company in terms of this Agreement.

The User agrees that in the interests of the Company and the community which it serves, the User will not to oppose any application for or for the renewal of any such licence, right, privilege confirmation, consent, or permit that the Company may at any time seek, nor seek to impose any conditions on the same.

#### 13. REPAIR AND MAINTENANCE

The repair and maintenance of the pipeline so as to keep the whole and every part of it in good order repair and condition and to prevent it becoming a danger or a nuisance shall be the responsibility of the Company EXCEPT that any damage caused to the pipeline by any deliberate act or omission of the User shall be the responsibility of the User and in such case the Company shall be entitled to carry out any necessary repair maintenance replacement or renewal so as to keep the pipeline in good operating condition and to charge the cost of so doing to the User which cost may be recovered as liquidated damages.

#### 14. GOODS SERVICES TAX

Goods Service Tax at the appropriate rate shall be payable by the User to the Company in addition to any water charge or charges as established and payable hereunder.

#### 15. TERM

This Agreement shall continue until:

- (a) The User gives to the Company twelve months (or such lesser period as the Company in its sole discretion may be prepared to accept) notice in writing of the Users intention to revoke this agreement and upon the expiry of such period of notice does actually revoke the same: OR

- (b) The Company for any reason should on reasonable grounds decide to terminate this Agreement or refuse water supply to the User whereupon the Company shall be entitled to determine this Agreement upon giving 7 days notice in writing to the User; OR
- (c) This Agreement is otherwise cancelled or terminated as provided herein or the Company should resolve to refuse supply in accordance with any appropriate provision which may be contained within the constitution of the Company; OR
- (d) The Company should at any time adopt a differing form of standard form of Agreement when the Company shall be entitled to cancel this Agreement at such time as the Company shall decide provided that it shall offer to the User a replacement Agreement in the new standard form and the Company shall not be liable to the User for any costs, claims, damages or compensation for action taken pursuant to this provision whether or not the User shall have accepted the new Agreement.

#### 16 FAILURE OF SUPPLY

If the supply of water to the Company for distribution to Users holding Agreements with the Company fails ceases or is diminished in any way then the Company shall make water available to the User only in so far as it is practicable for the Company to do so. In the event of the Company having to reduce supply then the Company shall be entitled to do so in such manner and in such shares and proportions as the Company in its sole discretion may determine. The User shall have no right of action against the Company nor any entitlement for damages or compensation of any nature whatsoever for a failure by the Company to supply water in terms of this agreement or for any reduction by the Company in the quantity or quality of water supplied to the User or in respect of the method of reduction of supply as determined by the Company or the fairness thereof.

#### 17 ALTERATION IN SUPPLY

If the supply of water to the Company or the terms of supply to the Company should in any way be altered or cease the Company shall be entitled without notice to the User to immediately make alterations to the supply to the User or the terms of supply or to cease supply as should be necessary to comply with the alteration or loss of supply to the Company.

#### 18 DELIVERY POINT

- (a) The water shall be delivered to the User to a point of supply on the service main outside the property boundary of the Users land or from such point or points as the Company may from time to time determine and through a measuring device to be provided and maintained by the Company. The point of supply shall not be on the User's land unless that User consents. Save as authorised by the Company or otherwise specifically permitted by the Company or this agreement the User shall not alter or interfere with any such measuring device to allow any person to do so nor shall the User take or attempt to take any water from the Company's pipelines otherwise than as delivered by the Company to the User.
- (b) If the User should require measuring devices in excess of the number which the Company is prepared to supply then the User shall first obtain the written approval of the Company to the installation of such extra devices (which the Company may arbitrarily refuse) and any such extra devices as may be approved shall be of a type approved by the Company and shall be at the Users sole cost as to purchase, installation and maintenance and the User shall maintain same to a standard acceptable to the Company. Should the User fail to maintain such devices to a standard acceptable to the Company then the Company (after giving reasonable notice to the User to remedy such default) may remove the devices and charge the User the costs of so doing.

#### 19 RIGHT OF ENTRY

Where a User has consented to a point of supply on that User's property, the Company and its employees agents employees contractors and workmen shall have the right at any time and from time to time without being deemed to commit a trespass and without payment of compensation for damages to enter upon the land of the User or the land connected or associated to the User for all or any of the following purposes:

- (a) To maintain repair clean or reconstruct pipelines and all other works which the Company deems necessary for the supply of water to the User or for the supply of water to any other User holding an Agreement from the Company.
- (b) To gauge or otherwise determine the quantity of water used by the User.



- (c) To view the condition of the Company's pipeline works and measuring devices.

## 20 AVAILABILITY OF ACCESS

Where any pipeline or other structure or devices owned by the Company is situated in or upon any land owned by or connected or associated to the User THEN the User shall ensure that access to any such pipeline or other structure or device owned by the Company and used in the control and management of the water conveyed in the Company's systems is kept available to the Company and to its contractors, employees, agents, workmen and other persons acting for or on behalf of the Company AND in respect of any future development alongside such pipelines structures or devices will ensure that such development does not impede restrict limit or otherwise in any way inhibit or impair that access AND will ensure that no trees are permitted to grow or fences erected adjacent to or in the vicinity of such pipeline, structure or other device so as to cause any blocking or interference with the same or any damage thereto or impede or prevent access thereto or cleaning thereof AND will at the Users cost in all things remove any tree or trees fence or fences determined by the Company as causing or contributing to such impediment or prevention of access or cleaning or blocking interference or damage and will remedy or repair any such immediately and to the Company's satisfaction.

## 21 BREACH OF AGREEMENT

In the event of the User committing any breach of the terms of this agreement the Company may without payment of any damages or compensation to the User or any other person:

- (a) Reduce (by such quantity as the Company may determine) the supply of water to the User either permanently or until such time as such breaches have been made good but without obligation to reduce Company charges for which the User shall remain continue liable to pay in accordance with this agreement; OR
- (b) Subject to law, regulation, public policy or third party agreement to the contrary, stop completely the supply of water to the User either permanently or until such time as all breaches have been made good but without obligation to reduce Company charges for which the User shall remain continue liable to pay in accordance with this agreement; OR
- (c) Impose upon the User such monetary or other form of penalty as the Company or the directors of the Company shall from time to time decide.

## 22 TERMINATION

The Company shall be entitled at any time to immediately terminate this agreement if the User ceases to be a shareholder in the Company or ceases, in the opinion of the directors of the Company, to be associated or connected with shares in the capital of the Company sufficient to warrant supply in terms of the Company's constitution, BUT the User shall remain liable for all monies owing to the Company and for any antecedent breach of this Agreement up to the date of termination of this Agreement.

## 23 THIRD PARTY USERS

The User agrees that the Company shall be entitled to levy all charges to the User, notwithstanding that the User may lend or let the User's property to a guest or tenant from time to time. Although the Company shall be entitled to receive payment and communicate with the person or persons normally resident in the property no such usage or custom or course of dealing shall release the User as owner of the property from liability for the User's obligations under this agreement.

Where a property is leased for a period of at least 5 years, the Company may, at its discretion, agree, on request of the User, with evidence of the lease, and subject to the completion of an agreement with the tenant, to address notices to Tenant instead of the User, but such agreement shall not exonerate the User from any liability either for payment or performance of any other User obligation under this agreement.

## 24 ASSIGNMENT OF WATER "RIGHT"

The User shall not assign, transfer or otherwise part with possession, mortgage or charge the User's interest in this Agreement without the prior written approval of the Company.

## 25 GENERAL EXEMPTION

Notwithstanding anything in this agreement, the Company shall use its best endeavours to ensure the supply of water, but shall not be under any obligation to make water available to the User. In the event of the Company being unable to make such supply available to the User, or refusing to make such supply available to the User, then the User shall have no rights of action against the Company for any claims, costs, damages, expenses, or compensation of any nature or kind whatsoever.

## 26 MISUSE

If an User should knowingly take water from the Company's Scheme at any time when the User is not entitled to take water OR should knowingly continue to take water after a particular period of supply should have ceased THEN the User shall be deemed to be in breach of this Agreement and in addition to each and every other remedy or penalty which the Company may have or chose to impose the Company at its option may in respect of each occasion:

- (a) Charge the User a penalty of an amount to be decided by the Company but to not more than such maximum sum as may from time to time be fixed by the Company and unless and until so fixed the maximum sum shall be \$1000.00: OR
- (b) Where the Company is able to determine the quantity of water so taken then either:
  - (i) Charge the same to the User at the appropriate charge for excess water: OR
  - (ii) Reduce the Users future water entitlement by a similar quantity so that the total supplied to the User does not exceed his proper entitlement.

## 27 NEGLECT OR MISUSE OF ASSETS

To the extent that this Agreement imposes on the User any duty responsibility or onus to repair, maintain, keep clear or otherwise in any manner whatsoever attend to or prevent interference, blockage or damage to any pipeline, structure or other device owned by the Company THEN if the User should neglect, refuse, fail or omit to carry out such duty responsibility or onus or if the User should misuse or abuse or damage in any way any property of the Company (whether pipeline, structure, devise or other property) the Company shall be entitled to hold the User as being in breach of this Agreement. If the User should be held to be in breach of this Agreement then in addition to all or any other rights or remedies of the Company provided in this Agreement the Company shall be empowered to make good the effect of the Users neglect, failure, refusal, omission, misuse, abuse or damage (as the case may be) and recover the cost of so doing from the User as liquidated damages or by any other method or methods permitted by this Agreement for recovery of money (whether water supply charges or otherwise) from the User.

## 28 IRRESPONSIBLE USE OF WATER

Should the User at any time be using water from the Company's scheme irresponsibly (the determination of which shall be in the sole discretion of the Company) the User shall be solely responsible for all costs claims expenses damages charges or other expenses whatsoever resulting from such irresponsible use of water and shall indemnify the Company against all such. Irresponsible use of water shall constitute a fundamental and serious breach of this agreement.

The User acknowledges that water use may be considered by the Company as irresponsible in certain times or seasons or circumstances, while the same use in other times or seasons or circumstances may be permitted.

## 29 RECOVERY OF MONEY

In addition all methods of recovery of money (whether water supply charges, damages or other whatsoever) by the Company from the User provided in this Agreement the Company shall have and be entitled to exercise all other rights and remedies for recovery of money provided at law. Such rights and remedies, whether provided herein or provided at law, may be exercised by the Company in any order or any number thereof concurrently or consecutively as the Company may decided from time to time and the Company shall not be deemed by electing one or more rights or remedies to have thereby waived any other right or remedy.

## 30 WAIVER

The Company shall not be deemed to have in any way or to any degree waived all or any of its rights powers or authorities under this Agreement by at any time or from time to time, refusing, failing or neglecting to hold

the User in breach of this Agreement or impose any penalty or other imposition authorised by this Agreement or to take any action authorised by this Agreement.

### 31 AMENDMENT OF AGREEMENT

The Company may from time to time at any General Meeting of the Company resolve to amend, add to, delete from or replace this Agreement and if the Company shall so resolve then the User will immediately do, sign and execute all such acts, deeds, documents and things as may be necessary or required by the Company to give effect to such resolution. This shall include (but not by way of limitation) the execution of any document amending or replacing this Agreement. Any such amendment, addition, deletion or replacement shall be deemed to come into effect (the effective date) on and from the date of that General Meeting unless the resolution shall specify some other date to be the effective date. The User shall be bound by this Agreement as amended or the replacement Agreement (as the case may be) from the effective date. The Company shall pay the costs of all such alterations or replacements except those costs or expenses in relation thereto which the User may himself incur and this Clause shall not be deemed to authorise or allow the User to incur any costs or expenses of any nature whatsoever and charge the same to the Company.

If for any reason any amendment or replacement agreement is held to be unenforceable, the provisions of the last valid agreement shall not be cancelled by reason of adoption of the later unenforceable provisions.

No resolution adopting an amendment or replacement agreement shall have the effect of surrendering any easement or access rights previously granted to the Company or reducing any part of such rights, which shall be altered or surrendered only by the signing by the Company of a Instrument registrable under the Land Transfer Act.

### 32 NOTICES

Notices by the Company to a user shall be deemed sufficiently served if posted by ordinary mail, or delivered to the User's property, or if published in a newspaper or newsletter circulating in the Millers Flat township, or if displayed on public notice boards in at least two agreed and customary places in the township.

### 33 DEFINITIONS

"**applicable property**" means a property within the scheme

"**Grantor**" means a person or company from whose property the water for the scheme is sourced, or over whose property the water is carried pursuant to any agreement with the Company. (see clause 9)

"**scheme**" means the water supply scheme constructed by the Company and all parts assets and constructions thereof and all connections thereto owned operated used or utilised by the Company.

"**Unit**" means a single property as identified by the Directors the owner of which if a water supply from the Company is required to that property would be required to hold one share in the capital of the Company in respect to that property. The Directors may from time to time in their discretion determine what constitutes a unit for the purpose of supply and the definition of same may vary between residential, commercial and industrial uses and within those categories.

"**User**" means a shareholder of the Company who is receiving water supply to a property or properties owned by the shareholder.

**WITH INTENTION TO BE LEGALLY BINDNG** this document is signed on the date in the Schedule.



**SCHEDULE** date of agreement 25/11/2022 **20**

**User** (full names of all owners) JACKS ROCK LTD

Mailing address Po Box 76 WHITFORD, MANUKAU 2149

Millers Flat 9544 (delete if not applicable)

Phone number 021 784 675

email ANDREW@HAWKESWOOD.CO.NZ

**Property** Address (if different from mailing address) 142LA TEVIOT RD

Millers Flat 9544

Legal Description SEC 91 BLK VIII BENHURSD

Valuation number. 28473/19900

All users to complete this section

Complete if applicable

All users complete from rates notice

**EXECUTION**

SIGNED for and on behalf of **MILLERS FLAT WATER COMPANY LIMITED**

[Signature]  
Director

[Signature]  
Director

USERS PLEASE SIGN HERE

SIGNED by the USER confirming acceptance of terms of previous 10 pages in the presence of

[Signature]

All owners must sign this section.

Name John Ross

Address 13 Pohutokawa Rd

Occupation Vanilla Farmer

[Signature]

WITNESS TO SIGN AND COMPLETE HERE

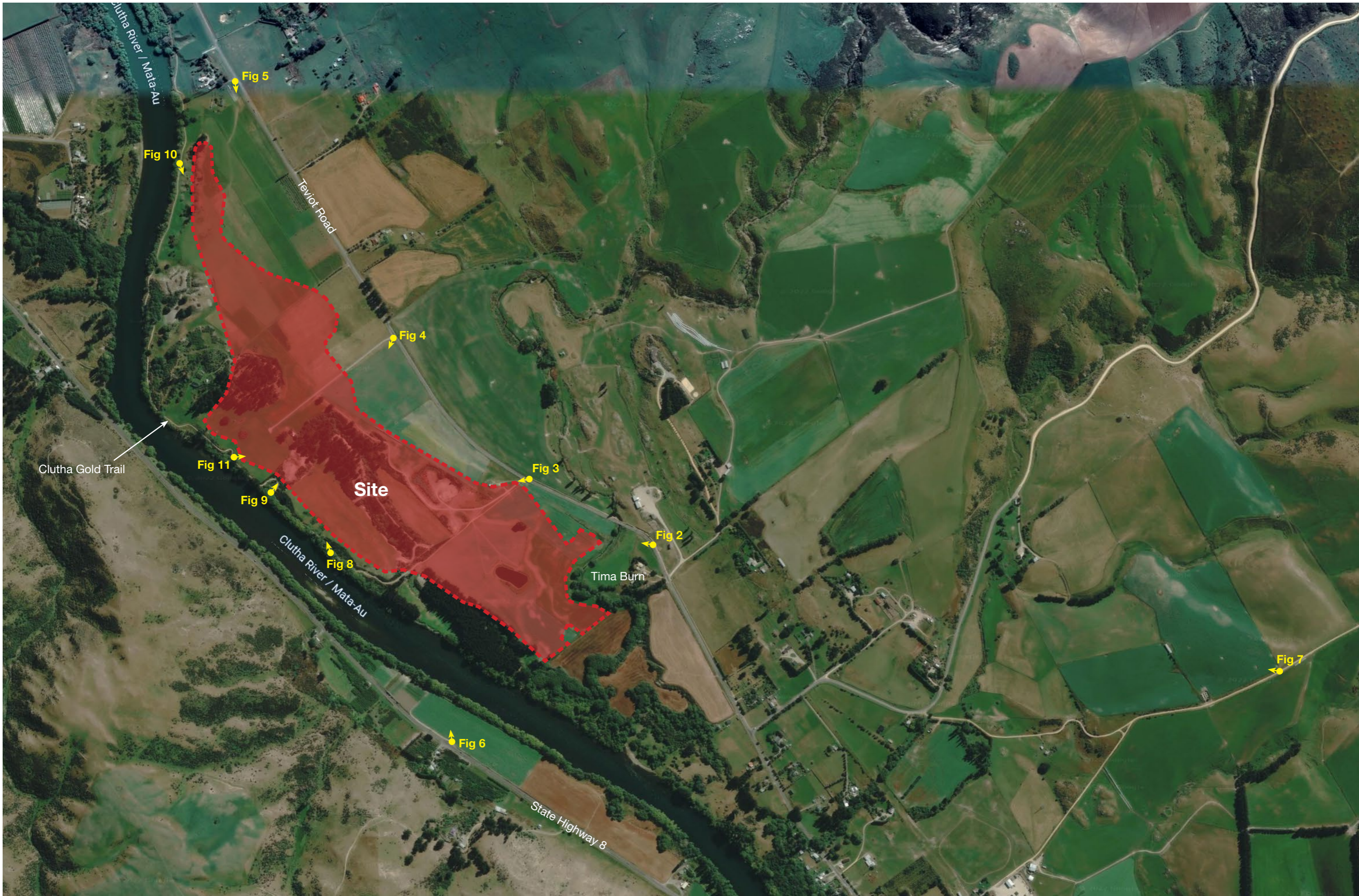


Figure 1: Location and photo-points plan



Figure 2: View across the site from near its southern end on Teviot Road.



Figure 3: View across the site from near the Clutha Gold Trail access point on Teviot Road.



Figure 4: View across the site from near its northern entrance on Teviot Road



Figure 5: View across the site from near its northern end on Teviot Road



Figure 6: View toward the site from State Highway 8



Figure 7: View toward the site from Oven Hill Road



Figure 8: View toward the site from the Clutha Gold Trail



Figure 9: View toward the site from the Clutha Gold Trail





Figure 10: View toward the site from the Clutha Gold Trail



Figure 11: View toward the site from the Clutha Gold Trail



**Key**

- Proposed noise / visual screening bunding (location indicative only)
- Existing bunding (indicative location shown)
- Depot area
- Mining extent



Figure 12: Proposed Mining Site Plan



Figure 13: The processing plant already present on the site for the exploratory works.

## Appendix E

# Proposed Alluvial Gold Mine 1346 – 1536 Teviot Road, Millers Flat

## Landscape Effects Assessment Report

3 February 2023



**Prepared by**

**MIKE MOORE**

*BSc, Dip LA, MRRP, ANZILA*

LANDSCAPE ARCHITECT

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*Tel (03)479 0833 . fax (03) 479 0834 . cell 0274 360 163*

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## **Introduction**

Hawkeswood Mining Ltd have commissioned a landscape effects assessment of the proposed alluvial gold mining operation at 1346 – 1536 Teviot Road, Millers Flat. The land is currently used for pastoral activities, and land mined will be rehabilitated back to pastoral farmland on completion of the project.

The land is within the Rural Resource Area and partly zoned Rural Residential in the Central Otago District Plan (CODP) and is not within any landscape overlays. The application for mining is a discretionary activity in terms of Rule 4.7.4.

This report addresses the landscape effects of the proposed mining, and will be structured as follows:

- Methodology.
- Site and area description.
- Landscape values.
- The proposed development
- Mitigation and rehabilitation
- Landscape effects assessment.
- Assessment against the relevant Central Otago District Plan provisions; and
- Conclusion.

## **Methodology**

This assessment follows the concepts and principles outlined in the New Zealand Institute of Landscape Architects (NZILA) Best practice guidelines<sup>1</sup>, and has been informed by a review of the relevant statutory provisions and a site visit on 5 December 2022.

---

<sup>1</sup> Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022.

## Site and area description

As shown in **Figure 1**, the site is located within the Teviot Valley on the true left side of the Clutha River / Mata Au, approximately 1.2 km upstream of Millers Flat township, and between the river and Teviot Road. It is located on river flats and covers an area of variable width, approximately 1.7km long (approximately 43ha in area). Access to the site is from two existing driveways along Teviot Road.

The wider landscape context is the Teviot Valley, defined by schist, largely pastoral hill country to either side. The landscape has a 'working rural' character with settlement and development focused on the Teviot Valley corridor. The township of Millers Flat is approximately 1.2km to the south-east, while the settlement of Ettrick is located approximately 1 km distant across the river to the north-west. The site is bounded by Teviot Road to its north-east, and the Clutha Gold cycle trail along its river side. State Highway 8 lies just across the river.

The site geology is alluvial gravels, and the landform is largely comprised of river flats with some variability arising from natural watercourse channels, as well as human modification. The site is mainly on a low terrace-form some 2 – 6m above the riverside Clutha Gold cycle trail. At the southern end of the site, the willow lined Tima Burn meanders toward the Clutha / Mata Au, and there is a farm irrigation pond located in paddocks. More centrally, there are gravel pits associated with a Council owned dump site. Near the river there are modified landforms relating to historic gold mining sluicing, dredging and tailings. Apart from where the current exploratory quarrying in the central part of the site has resulted in significant landform modification already, the site is mainly under pasture cover and grazed. Areas of previous mining modification are typically covered in exotic tree and scrub species, most notably pine, willow, and hawthorn.

The mining operations are already largely set up for the exploratory mining, and there is currently an approximately 16m deep pit open, along with associated gravel stockpiles of similar height. Grassed bunds are already in place in some areas, or currently being formed. The screening plant is present on site along with settlement ponds, and a

temporary depot area incorporating containers, stored equipment, and parked vehicles has also been created.

**Figures 2 - 11** illustrate the character of the site and area.

## Landscape values

Landscape is defined as follows:

*‘Landscape embodies the relationship between people and place: it is the character of an area, how the area is experienced and perceived, and the meanings associated with it’<sup>2</sup>.*

The landscape impacted by the proposed mining is river flat which has been significantly modified by previous mining and by agricultural use. It is not recognized as an area of outstanding natural landscape (ONL) or Significant Amenity Landscape (SAL) in the CODP but falls into the category of ‘other rural landscapes’ as discussed in Section 2.3.1. Whilst not the focus of landscape protection provisions, the CODP nevertheless, seeks *‘to maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District’s rural environment’*.<sup>3</sup> The explanation to Policy 4.4.2 refers to *‘the open space and natural character of the rural environment’* as a significant resource for the District.

In my assessment, the characteristics and features that contribute to the landscape quality and amenity values in the area surrounding the site include:

- Rural character based on openness and generally modest impact of built form / natural landform modification, along with rural land uses, predominantly stock grazing.
- The Clutha River / Mata Au is a significant natural feature with natural character values and which has cultural significance to tangata whenua (including as a mahinga kai trail and important transportation route).

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<sup>2</sup> Te Tangi A Te Manu, Aotearoa New Zealand Landscape Assessment Guidelines, Tuia Pito Ora New Zealand Institute of Landscape Architects, July 2022,

<sup>3</sup> CODP Objective 4.3.3.

- Legibility of landforms relating historic gold mining practices in the area such as sluicing / tailings in places.
- More broadly, the hills to either side of the valley provide a less built, more natural rural setting to the valley landscape.

Given the impact of the exploratory mining already underway, with stripped vegetation and gravel stockpiles etc., the site itself has now taken on a somewhat industrial character in the area where this work is proceeding.

### **The proposed development**

As shown in **Figure 12** it is proposed to establish an alluvial gold mine including on-site processing and stockpiling of overburden. Landscape impacts of this operation will arise from the following:

- An area of vegetation and land disturbance that includes pre-stripping of vegetation and topsoil, the excavated pit, gravel stockpiles, and areas behind the pit that are being rehabilitated. This 'disturbance area' will migrate around the site as mining proceeds and will be a maximum of 2 Ha in area. The pit depth will vary but is likely to be an average of 16m. Stockpile heights associated with the exploratory mining are currently over 10m in height but will be reduced to a maximum of 4m to reduce visual effects. The disturbed area will be progressively rehabilitated as mining proceeds by infilling back to approximately previous levels, application of topsoil and re-grassing in pasture.
- A gold recovery plant with associated ponds as illustrated in **Figure 13**. The location of this will vary as the operation proceeds.
- A depot area will be established in the area indicated in Figure 12, including parking for vehicles, a portacom building (approximately 15 x 4m in footprint and 3m high), and 6 containers (approximately 12.2 x 2.4m in area and 2.6m high). A 6m high container shelter will be installed over two of the containers to form a workshop.



- Screening / noise bunds have been or will be established, in the locations shown in Figure 12. These will be approximately 3 - 4m high and grassed and will remain in place as required for the duration of the works.
- Other visual effects will arise from lighting of the processing, depot and active work area in winter months. Lighting levels will comply with the CODP standards for rural areas. As well as lighting, moving vehicles will have visual effects where visible from beyond the site.

The proposed operation will be temporary, and a 5-year consent duration is sought.

### **Mitigation and rehabilitation**

The key mitigation factor is that the proposed operation will be temporary, and that the effects will be for a limited, 5-year timeframe. Once completed, the area (including the existing dump area) will be returned to pastureland with virtually no sign that it was mined.

Whilst the site area is large, it will not all be impacted at once. Figure 12 illustrates the scale of the 2-ha working area, and also shows the depot area. The proposed progressive rehabilitation to pasture immediately following mining is another key mitigation measure.

The site is on river flats that have previously been modified by gold mining works and are currently farmed. These have relatively low biophysical landscape sensitivity. The site extent has been defined to avoid impacting the Tima Burn – a natural tributary stream to the Clutha River / Mata Au that runs adjacent to the site at its south-east end. Likewise, the site extents have been identified to avoid impacting the margins of the Clutha River / Mata Au and the Clutha Gold cycle trail. Bunds have already been constructed alongside part of the Clutha Gold trail to provide screening and separation.

The depot area will be sited approximately 220m from Teviot Road and this distance will assist to reduce its visual impact from the road. To minimise the adverse effects of 'visual clutter' associated with the depot area elements, it is recommended that:

- Grass covered bunding is established along its north-eastern side to provide screening from Teviot Road.
- The containers, portacom and workshop shelter are as far as possible finished in one dark colour with a low light reflectivity value (LRV) to provide unity and minimise their visual prominence where visible from surrounding viewpoints. I note that container shelters can be provided in a green colour and this is recommended.

Temporary bunding (for the life of the operation) is proposed for noise mitigation. Some of this is already in place (alongside the Clutha Gold trail). Approximately 4m high bunding will also be placed between Teviot Road and the area to be mined and this will assist to screen views of the mining works from the road. To avoid impacting rural openness unduly, bunds will be constructed as close to the works and as far from the road as practicable.

The following conditions of consent are recommended to appropriately minimise adverse landscape and visual effects:

- (a) All mining and rehabilitation works is to be complete within 5 years.*
- (b) Grassed earth bunds to 4m high, shall be established to assist with screening of the working area of the mining works from Teviot Road. These shall be located as far from the road as practicable to minimise adverse effects on rural openness.*
- (c) The working area, including pre-stripping, open pit, gravel stockpiles, and area being actively rehabilitated shall be no greater than 2 ha in area at any time, and the depot and processing areas shall have a combined footprint of no more than 1200m<sup>2</sup>.*
- (d) Gravel stockpiles shall be no higher than 4m.*
- (e) Areas where mining is complete shall be immediately reinstated to blend naturally with surrounding contours and shall be established in pasture.*
- (f) When the mining operation is complete, all buildings, roadways, stockpiles, plant and mitigation bunds shall be removed, and the area rehabilitated to pasture to blend with surrounding areas. This final rehabilitation is to be completed within the 5-year timeframe.*

- (g) All works shall be set back a minimum of 10m from the banks of the Tima Burn and the Clutha Gold trail.
- (h) All containers and buildings on the site are to be finished in the same colour which shall be Resene Karaka Green (LRV – 7%). The container shelter fabric shall be a dark green colour to blend as far as possible with the containers. Grassed bunding to 3m height shall be established along the Teviot Road side of the depot area and retained for the duration of the works.

**Landscape effects assessment**

Landscape effects are defined as follows:

*‘An adverse or positive outcome for a landscape value as a consequence of changes to a landscape’s physical attributes.’<sup>4</sup>*

Landscape effects are assessed against the landscape values and the relevant statutory provisions. They may be positive or adverse in nature and I rate the degree of effect in terms of the 7-point rating scale shown in the following table. The table also illustrates the relationship of this scale to RMA terminology as outlined in the Landscape Assessment Guidelines.

*Degree of effect assessment scale*

<i>Very low</i>	<i>Low</i>	<i>Low-mod</i>	<i>Moderate</i>	<i>Mod-high</i>	<i>High</i>	<i>Very high</i>
<i>Less than minor</i>		<i>Minor</i>	<i>More than minor</i>		<i>Significant</i>	

Viewpoints assessment

The proposed mining will be visible to varying extents from public areas and private properties in the area surrounding. This assessment is limited to consideration of public viewpoints, and the key public viewpoints impacted are Teviot Road, State Highway 8,

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<sup>4</sup> Te Tangi A Te Manu, Aotearoa New Zealand Landscape Assessment Guidelines. April 2021

Oven Hill Road and the Clutha Gold trail. Effects from private property viewpoints in the wider area may be generally similar to those described from the nearby public roads but could also differ considerably, depending on the level of vegetative screening in place. Figure 1 shows the viewpoint locations discussed.

*Teviot Road (see Figures 2 - 5.)*

<p>Relevance of viewpoint</p>	<p>Teviot Road is a major local road. Impacted viewers will be road users with effects being experienced as transient whilst they pass by. The effects of the works from this viewpoint however, will be indicative to some extent, of those from viewpoints on properties to the east and north-east side of the site.</p>
<p>Existing views description</p>	<p>Currently, the site forms the largely open farmland foreground of views from the road to the south-west. The Clutha River / Mata Au is not visible, but its presence is marked by the willow trees in the middle distance. Rural amenity values associated with pasture and coherent natural landform are already compromised by weedy areas of existing landform disturbance associated with the dump site and previous mining, and in particular, by the gravel piles and machinery and containers etc, associated with the exploratory works.</p>
<p>Description of visual effects</p>	<p>The site is adjacent to and visible from, an approximately 1.9km stretch of Teviot Road. Depending on where the working area is located at the time, grass covered bunding 4m high, will largely screen the mining operation from view. The bunds themselves will have an adverse impact on rural openness for road users but this will be mitigated by setting them back from the road as far as possible. The bunds are unlikely to screen views of the operation from all places on Teviot Road and where visible, the most prominent elements will be gravel stockpiles and possibly working machinery and trucks depending on the viewing angle from the road. Visual effects associated with the depot area will be effectively mitigated by the viewing distance (approx 220m), the proposed bunding, and colour of the structures.</p> <p>Visual effects will be adverse in nature due to a change from a pastoral rural character to a semi-industrial character including reduced</p>

	<p>openness and naturalness. The degree of adverse effect is likely to vary over the life of the project depending on the proximity of the working area to the road at the time. Overall however, I rate the effects as adverse / moderate-low, given the restricted scale of the working area.</p> <p>Following rehabilitation, the site will return to a pastoral rural character with similar landform to that existing presently. This will be minus some of the existing tree cover but, in my assessment, given that these are common exotic species (largely pine) their loss may enhance landform legibility and landscape quality.</p>
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*State Highway 8 (see Figure 6)*

<p>Relevance of viewpoint</p>	<p>State Highway 8 is the major highway / public thoroughfare in the area. Impacted viewers will be road users with effects being experienced as transient whilst they pass by. The effects of the works from this viewpoint however, will be indicative to some extent, of those from viewpoints on properties adjacent to the highway.</p>
<p>Existing views description</p>	<p>The site is across the river from the highway and significantly screened from view by the riverside trees. This screening will be less complete in winter months as the trees are mainly deciduous. In a few places there are glimpses through the trees to the site and the present stockpiles etc, associated with the exploratory works.</p>
<p>Description of visual effects</p>	<p>Given the screening provided by the riverside trees, only fleeting glimpses of the activity are possible, although I note that this screening will be reduced to an extent in winter months when the trees lose their leaves. The visual effects of the proposed activity will be effectively mitigated from the highway by the trees and given the restricted scale of the disturbance area, are likely to be less significant than those existing already associated with the exploratory mining. Overall, I rate the effects as adverse / low.</p>

*Oven Hill Road (see Figure 7)*

<p>Relevance of viewpoint</p>	<p>Oven Hill Road is a relatively minor rural road. Effects from here however, give some indication as to the effects characteristic from higher viewpoints (road users and private properties).</p>
<p>Existing views description</p>	<p>The site is visible in oblique aerial views over the Teviot Valley and the landscape pattern of more developed / settled valley floor contained by more natural hill slopes is evident. The farmland of the site contributes to the general rural character of the valley. The existing disturbance associated with the exploratory works reads as a semi-industrial site and detracts from rural amenity.</p>
<p>Description of visual effects</p>	<p>From this higher oblique viewpoint, the full extent of the ‘disturbance area’ along with that of the depot and processing plant area will be evident. I estimate that these will be smaller in scale to the scale of the area which is currently impacted by the exploratory mining works (and visible in Figure 7). This adversely affects rural character, but its impact is reduced by the substantial viewing distance (approximately 2.3km). Overall, I rate effects of the operational phase of the project as adverse / low. Following rehabilitation, rural character values will be fully restored.</p>

*Clutha Gold Trail (see Figures 8 - 11.)*

<p>Relevance of viewpoint</p>	<p>The Clutha Gold Trail is an important recreational route in this part of the District. Viewers will be trail users with effects experienced as transient.</p>
<p>Existing views description</p>	<p>Where the trail follows the riverbank the landscape has an enclosed character, confined by the riverside trees and the low terrace face. The river can be seen and in places there are old tailings features. There are a few places where the current exploratory works are visible in the form of recently created bunds and / or glimpses of gravel stockpiles or machinery.</p> <p>From the section of the trail that crosses from the river to Teviot Road</p>

	<p>through the site, open farmland and the old weed infested dredged channel associated with historic mining is visible. The disturbance associated with the exploratory works is also very evident.</p>
<p>Description of visual effects</p>	<p>The mining will be at least partially screened from view from the trail by the combination of the low terrace face and the existing or proposed bunding. It is likely that there will some minor visibility of gravel stockpiles and machinery as there is currently (of the exploratory works) and that trail users will be aware of the mining activity to an extent due to noise effects.</p> <p>The mining will necessitate the temporary relocation of the trail from the riverside to Teviot Road, and effects from this part of the track will possibly allow for close – medium range views of the mining activity. Given that track users are transient, they may find views of the activity of some interest. Mitigation bunding can be placed to provide separation and screening from the track in this area however.</p> <p>The mining will adversely affect the rural character values from the track whilst operational, most significantly from the part of the track leacing from the riverside to Teviot Road. The degree of adverse effect is likely to vary over the life of the project depending on the proximity of the working area to the trail at the time. Overall however, I rate the effects as adverse / moderate-low. Following rehabilitation, rural character will be reinstated, and the legacy effects will be nil or positive.</p>

Landscape effects discussion and conclusion

The site is not in an area of significant landscape quality and its sensitivity to mining is lowered to the extent that it has already been subject to quarrying and mining activities. On the other hand, the location of the site close to a main road (Teviot Road) and the Clutha Gold trail increases its sensitivity to visual amenity impacts compared with a more remote site.

The proposed mining works will have a semi industrial character and will impact the rural character of the site in terms its openness and naturalness. The mitigation measures proposed however will ensure that the scale of this impact is relatively modest, and the timeframe of the operation involved is relatively short. Additionally, for people aware of the history in this area, the proposed mining will represent the latest of a series of gold mining operations that may be considered interesting and as part of the local character. I consider that this may excuse to an extent, the temporary disruption to the pastoral rural landscape character for some viewers. The long term / legacy effects will be a return to pastoral farmland with the existing dump site also tidied up.

Overall, I rate the landscape effects of the activity from areas in closer proximity (i.e. Teviot Road and the Clutha Gold Trail) as adverse / moderate-low for the operational period. From more distant viewpoints such as Oven Hill Road, or where there is effective screening (State Highway 8) effects will be adverse / low. The long-term effects following mitigation will be nil or positive in my assessment.

**Assessment against the relevant Central Otago District Plan provisions**

The CODP provisions considered relevant to the landscape effects of the proposed activity are outlined below, along with brief comment.

<p><b>CODP objectives and policies considered relevant to these matters</b></p>	<p><b>Comment</b></p>
<p>4.3.3 <u>Objective – Landscape and Amenity Values</u>  <i>To maintain and where practicable enhance rural amenity values created by the open space, landscape, natural character and built environment values of the District’s rural environment, and to</i></p>	<p>The proposed mining impacts an area of working rural landscape on the Teviot Valley floor and will not affect the open natural character of the hills and ranges. The proposed mitigation measures limit the scale of the mining works, and whilst it is operational, I have assessed its effects on the valley</p>



<p><i>maintain the open natural character of the hills and ranges.</i></p>	<p>landscape – in particular on openness, naturalness and rural amenity as moderate-low (minor) from closer viewpoints and less significant from more distant or well screened viewpoints. Following rehabilitation, rural amenity values will be entirely restored and possibly enhanced.</p>
<p><b>4.4.2 Policy – Landscape and Amenity Values</b></p> <p><i>To manage the effects of land use activities and subdivision to ensure that adverse effects on the open space, landscape, natural character and amenity values of the rural environment are avoided, remedied or mitigated through:</i></p> <p><i>(a) The design and location of structures and works, particularly in respect of the open natural character of hills and ranges, skylines, prominent places and natural features,</i></p> <p><i>(b) Development which is compatible with the surrounding environment including the amenity values of adjoining properties, ...</i></p> <p><i>(e) The location of tree planting, particularly in respect of landscape values, natural features and ecological values, ...</i></p> <p><i>(g) Encouraging the location and design of buildings to maintain the open natural character of hills and ranges without compromising the landscape and amenity values of prominent hillsides and terraces. ....</i></p>	<p>The proposed mining is located in response to the resource location and necessarily involves short - medium term disruption to rural amenity values including qualities of openness and naturalness. The works however are located within an already significantly modified valley floor setting and do not impact the more sensitive terraces, hills and ranges. Mitigation measures are proposed to minimise adverse effects to the extent practicable, in particular the scale of the disturbed area at any one time, and the duration of the operation is modest. Following rehabilitation there will be no residual adverse landscape effects and the result in terms of visual amenity could be positive.</p>
<p><b>4.4.8 Policy - Adverse Effects on the Amenity</b></p>	<p>My assessment has been restricted to</p>

<p><u>Values of Neighbouring Properties.</u></p> <p><i>To ensure that the effects associated with some activities including (but not limited to): (a) Noise (including noise associated with traffic generation, night time operations), and vibration, (b) The generation of a high level of traffic, in particular heavy vehicles, (c) Glare, particularly from building finish, (d) A reduction in visual amenity due to excessive signage and the storage of goods or waste products on the site, (e) The generation of odour, dusts, wastes and hazardous substances, and (f) The use and/or storage of hazardous goods or substances do not significantly adversely affect the amenity values and privacy of neighbouring properties or the safe and efficient operation of the roading network.</i></p>	<p>addressing the effects of the activity from public viewpoints and has not addressed effects from specific private properties within the visual catchment surrounding. Where visible, the effect of the bunds, stockpiles and machinery associated with the mining, on the visual amenity of residents in the area is likely to be adverse with the degree of effect dependent on the level of screening and viewing distance. Effects of the operation will be for a limited duration, with rural amenity values completely restored following rehabilitation.</p>
<p><u>4.3.6 Objective - Margins of Water bodies</u></p> <p><i>To preserve the natural character of the District's water bodies and their margins.</i></p>	<p>The mining operation will avoid the margins of the Clutha River / Mata Au and Tima Burn with setbacks from the Clutha Gold Trail and Tima Burn observed. More widely, natural character along the margins of these waterways and in the landscape generally is significantly modified by various combinations of previous mining activity, rural land use and the presence of exotic vegetation, and natural character sensitivity is modest.</p>

## Conclusion

The site is not within an area with landscape values of particularly recognized significance, but the maintenance / enhancement of rural amenity values is an objective of the CODP. The site is already fairly modified by historic mining and by rural land use activities but is near Teviot Road and the Clutha Gold trail, giving it moderate sensitivity to mining in terms of landscape / visual effects in my assessment.

The mining activity will migrate around the site and rehabilitation back to pastoral farmland will be progressively undertaken as mining proceeds. Mitigation measures include limiting the 'disturbance area', establishment of screening bunds, setbacks from the Tima Burn and the Clutha Gold Trail, and colour controls over permanent (for the life of the project) built elements.

The project will entail a partial change of character on the site from rural / pastoral to semi-industrial but the proposed mitigation measures will limit the scale and impact of this. Overall, I assess the effects on rural amenity values whilst mining is operational, as adverse / moderate-low (minor). A key mitigating factor is the fact that the operation and associated effects will be temporary and short term - limited to 5 years duration. The long term / legacy effects on rural character and amenity will be nil or positive. I consider that there is a minor degree of inconsistency with the CODP provisions relating to maintenance of rural amenity in the short term but that this will be for limited time, and will be entirely remedied.



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11 November 2022

Barry MacDonell  
MacDonell Consulting Ltd  
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Dear Barry

## **PROPOSED ALLUVIAL MINING, MILLERS FLAT**

Thank you for a copy of the request for further information from the Central Otago District Council with respect to the effects of vibration. Council has requested:

*No assessment is provided with the application that specifically addresses the potential effects of vibration on adjoining properties. Please provide further information addressing potential adverse effects associated with vibration.*

There are no rules in the Central Otago District Plan with respect to vibration. However, Section 17 of the Resource Management Act states:

*Duty to avoid, remedy, or mitigate adverse effects*

*(1) Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried out by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent*

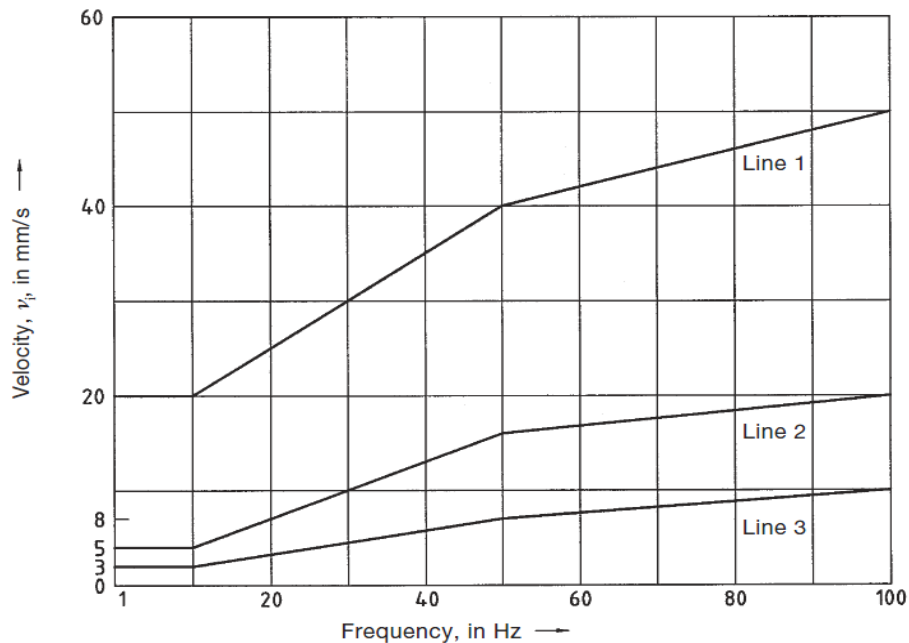
...

The German Industrial Standard DIN 4150-3 (1999) provides vibration levels that are considered reasonable for the evaluation of short-term structural vibration, such as the construction of the proposed bund:

**Table 1. Guideline values for vibration velocity to be used when evaluating the effects of short-term vibration on structures**

Type of structure	Guideline values for velocity, $v_i$ , in mm/s			
	Vibration at the foundation at a frequency of			Vibration at horizontal plane of highest floor at all frequencies
	1Hz to 10Hz	10Hz to 50Hz	50Hz to 100Hz*	
1 Buildings used for commercial purposes, industrial buildings, and buildings of similar design	20	20 to 40	40 to 50	40
2 Dwellings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15
3 NA				
*) At frequencies above 100 Hz, the values given in this column may be used as minimum values.				

Guideline values for vibration velocity to be used when evaluating the effects of short-term vibration on structures



Curves for guideline values specified in Table 1 for velocities measured at the foundation

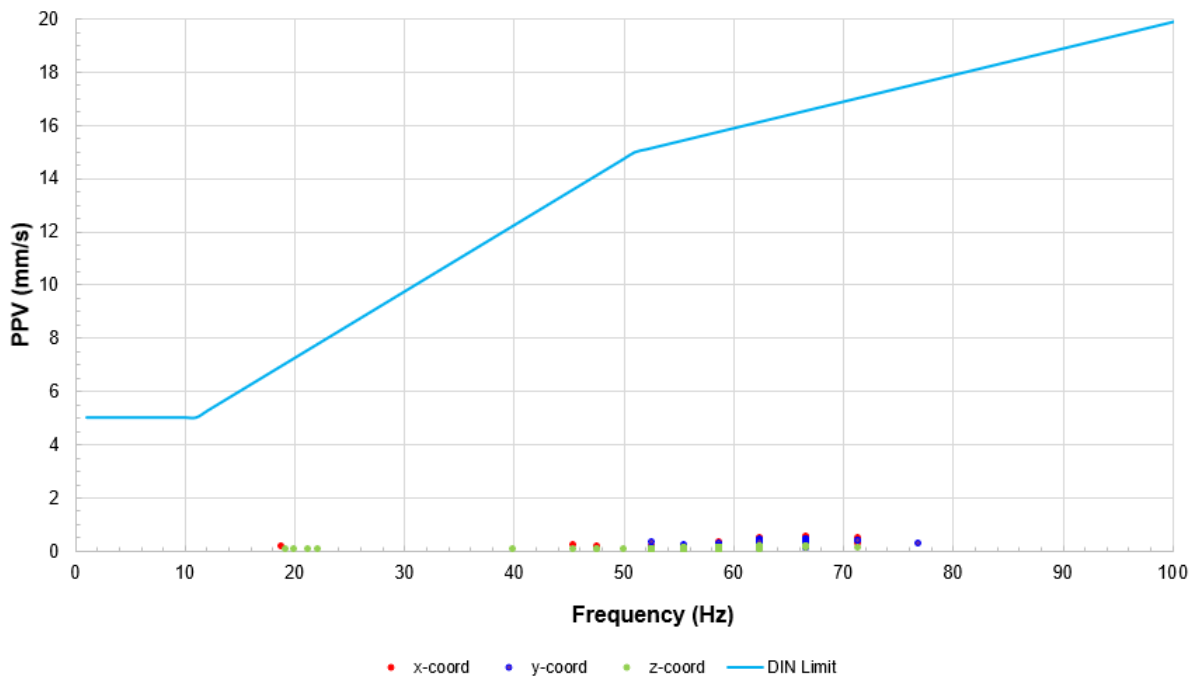
The Standard requires measurements to be conducted in the x, y and z directions on the ground floor of the building to be investigated, either at the foundation of the outer wall, on the outer wall itself, or in a recess in that wall. In buildings without a basement, the point of measurement shall be no more than 0.5m above the ground. Measurement points shall preferably be on the side of the structure that faces the source of excitation. The time history of the vertical vibration (z-axis) and horizontal vibration (x- and y-axes, at right angles to each other) shall be recorded, with one of the directions of measurement running parallel to a side wall of the building.

To evaluate the effects of long-term vibration DIN 4150-3 recommends the following limits:

**Table 3. Guideline values for vibration velocity to be used when evaluating the effects of long-term vibration on structures**

Type of structure	Guideline values for velocity, $v_i$ , in mm/s, of vibration in horizontal plane of highest floor, at all frequencies
1 Buildings used for commercial purposes, industrial buildings, and buildings of similar design	10
2 Dwellings and buildings of similar design and/or occupancy	5
3 NA	

During the bund construction the only source of vibration will be trucks, an excavator and a bulldozer spreading and track compacting the proposed bund. The maximum vibration would be generated by the bulldozer, which could come within 35m of the closest dwelling (1334 Teviot Road), which is to the north of the mining area. The vibration effects at 35m have been calculated as shown in Figure 1 below and will be minimal for anyone at this dwelling. As all other locations of potential effect are further away there will be even less vibration effects at those sites.



**Figure 1. Predicted vibration levels from bulldozer, mm/s**

The mining recovery plant will initially land based transitioning to a floating dredge in the pond as the mining progresses. When the recovery plant is land based the potential vibration sources include the bulldozer, excavator, trucks and recovery plant.

There will be minimal vibration generated by the recovery dredge and, as for the construction of the bund and assuming the haul roads are reasonably well maintained, the greatest vibration effects will be from the bulldozer. The closest any land-based mining will come to the dwellings is just over 50m from the 1334 Teviot Road to the north of the mine as set out above. The vibration to this dwelling is predicted to be up to 0.39mm/s, well within the recommended 5mm/s limit set out in DIN 4150-3.

With the dredge operating on the pond the vibration effects will still be controlled by the bulldozer operating on the ground surface of the mine area. As the bulldozer will never be closer to any other dwelling than the 50m adopted in the above predictions the vibration level will be below 0.39mm/s at all times.

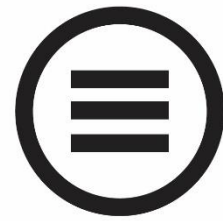
Based on the above, the vibration levels from the proposed mining work will be well within a reasonable level at all times.

Should you have any questions regarding the above please do not hesitate to contact me.

Yours faithfully  
Hegley Acoustic Consultants



Nevil Hegley



Hawkeswood Mining Limited:  
Dust Management Plan

Millers Flat Gold Mine  
1346-1536 Teviot Road

9 February 2023





Document prepared by:

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# 1 Introduction

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## 1.1 Scope

This management plan has been prepared to manage dust as part of the Hawkeswood Mining Limited gold mine at 1346-1536 Teviot Road, Millers Flat.

The objectives of this management plan are:

- To operate in full compliance with the resource consent requirements and demonstrate this through reporting procedures;
- To liaise closely with neighbours in the local community regarding dust management during operation;
- To minimise and limit nuisance impacts to local residents and adjacent land users from dust generated by mining operations;
- To provide the methods to be employed to avoid, remedy or mitigate any adverse effects on the environment due to dust as a result of mining activities.

The plan will provide methods to be used to achieve these objectives.

## 1.2 Resource Consents

Resource consent from Central Otago District Council RC220350 is currently in process. This plan will be revised and updated if required once conditions of that resource consent are decided.

# 2 Description of Operation

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The site will be used by Hawkeswood Mining Limited to establish and operate an alluvial gold mining operation. The operation generally involves the following activities.

Site establishment

- Test pitting
- Development of a starter pit
- Construction of access roads

Mining operations

- Stripping of overburden

- Stockpiling of overburden
- Transport of overburden
- General site activities

#### Site rehabilitation

- Backfill of mine void and topsoil
- All bunds will be removed
- The land will be restored to the pre-existing land contour as closely as possible (with the exception of a terminal void)
- Grass will be established over the disturbed land
- Rehabilitation will be undertaken progressively as overburden from the next stage is used to fill in the mine pit from the previous stage

## 2.1 Site location and layout

The site is located at 1346-1536 Teviot Road, Millers Flat, Central Otago (**Figure 1**). The layout of the site is shown in **Error! Reference source not found.** below.



**Figure 1** Site Location indicated by red arrow (Source: CODC GIS)

## 2.2 Surrounding land uses

The surrounding area is rural with land predominantly used for pastoral farming activities.

The township of Millers Flat is located approximately 700m to the southeast at the closest point. The township of Ettrick is located approximately 800m northwest of the site at the closest point.

The Clutha River / Mata-Au is located to the west and southwest of the site. The river is a Statutory Acknowledgement Area and has a range of intrinsic, cultural, recreational and aesthetic values, and is used by the general public for fishing, boating and other recreational uses.

The Clutha Gold Cycle Trail (the “cycle trail”) is a compacted gravel track, running between Roxburgh and Lawrence, and linking to other cycle trails in Central Otago. The cycle trail runs along the Clutha River / Mata-Au to the west and south-west of the site, before cutting through the site via the paper road, to then travel along Teviot Road toward Millers Flat.



**Figure 2** Approximate path of Clutha Gold Cycle Trail indicated in yellow. Extent of application site area indicated in red outline (Source: CODC GIS)

## 3 Dust Sources and Generation

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### 3.1 Potential dust sources

The activities that will take place at the mine that may generate discharges to air are:

- Earthworks, including stripping of overburden and topsoil
- Vehicle movements on unpaved surfaces
- Wind generated dust from dry exposed areas such as stockpiles, haul roads and backfill areas
- Rehabilitation
- Loading and unloading materials

A wide range of mining activities have the potential to generate dust. The source(s) are usually visible and readily identifiable. Dust from Hawkeswood Mining Limited mining activities is anticipated to be almost entirely generated by material disturbance within the mining pits, vehicle movements on unsealed roads, and exposure to wind in open areas.

### 3.2 Factors influencing dust generation

- Wind speed across the surface; the critical wind speed for pick-up of dust from surfaces is 5m/s, above 10m/s pickup increases rapidly
- The percentage of fine particles on the material on the surface
- Moisture content of the material on the surface
- The area of exposed surface
- Disturbances such as traffic, excavation, loading and unloading of materials
- The height of the source above the surrounding ground level

The smaller the particle size of the material on the surface of a road or exposed surface the more easily the particles are able to be picked up and entrained in the wind. Moisture binds particles together preventing them from being disturbed by wind or vehicle movements.

## 4 Dust Mitigation Procedures

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### 4.1 Site wide activities

The following dust mitigation measures will be undertaken as required to minimise the overall dust emissions from the mine;

- Particularly dusty activities will cease when wind conditions are dry and winds are strong (over 12.5 m/s sustained) and blowing towards sensitive areas
- Exposed services will be kept to a minimum
- Water or other dust suppressants shall be applied to unsealed internal roads and other potentially dusty surfaces as necessary to minimise dust emissions
- Vehicle speeds on site will be restricted to a maximum of 30 km/hr
- Regularly maintain unsealed access roads using best industry practices which could include grading and laying of fresh metal
- Trucks carrying potentially dust loads shall be covered or dampened when within or leaving the site
- Existing shelter belts of trees along the boundary of the site will be maintained

The application of dust suppression techniques will depend primarily on weather conditions, as during the months of October to March when weather conditions are normally dry and windy the potential for dust emissions will be greater and therefore dust suppression techniques will be used routinely. However, during the months of April to September weather conditions are generally wetter, subsequently dust suppression measures will be implemented on an as needs basis.

### 4.2 Material stockpiles

Hawkeswood Mining Limited will undertake the following to minimise dust from stockpiles:

- Limit the height of stockpiles to 6m
- Keep active stockpiles damp when necessary
- Vegetate or cover long-term stockpiles
- All soil stockpiled for longer than six months shall be protected from exposure to wind by covering them with a synthetic material or growing a suitable vegetative cover

Hawkeswood Mining Limited will have at least one water cart on site at all times which will be used to dampen access ways and stockpiles. The water cart will be fitted with forward facing sprays and a water cannon which can also be used water stockpiles when necessary. The water cart will be supplemented with sprinkler systems where required.

The long-term stockpiles and bunds will be grassed in the areas that are not subjected to traffic. Any areas requiring vehicle access will be treated by the water cart.

### 4.3 Elimination of fugitive dust

The action task list for the elimination of fugitive dust at the site is as follows:

1. Reduce the pace of, or cease dust producing activities until the problem is corrected
2. Notify the site manager of dust conditions and implement dust suppression procedures
3. Increase frequency volume and/or coverage of water misting sprays to prevent soil and it from drying
4. Modify operating procedures and methods to eliminate problematic conditions
5. Increase the level of worker awareness and instruct them on the implementation of any new or modified operating procedures
6. Perform routine audits of dust suppression methods and work areas for dust sources

## 5 Monitoring

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### 5.1 Dust monitoring program

To ensure dust mitigation measures are implemented and are affective at minimising dust a dust monitoring plan as outlined in **Table 1** below has been implemented.





**Table 1** Dust Monitoring Plan

Monitoring activities	Frequency
Check weather forecast for strong winds and rain fall	Daily
Observe weather conditions from observations and data from weather station	Daily and as conditions change
Inspect stockpiles to ensure a reasonable dampness is maintained	Daily and as conditions change
Inspect dust generating activities to ensure dust emissions are effectively controlled	Daily and as conditions change
Inspect watering systems to ensure equipment is maintained and functioning	Weekly
Monitor dust generating activities and water application rate	In winds over 5m/s

## 5.2 Instrumental monitoring

### 5.2.1 Dust monitors

Dust monitors have been placed in the locations indicated in Figure 3 below, positioned to boundary the initial site development and test pit works. Dust monitors can be relocated as the mine cell progresses so that dust monitoring is occurring around the active work area.

Dust monitors will be checked every 30 days or more often if there are any complaints of dust.

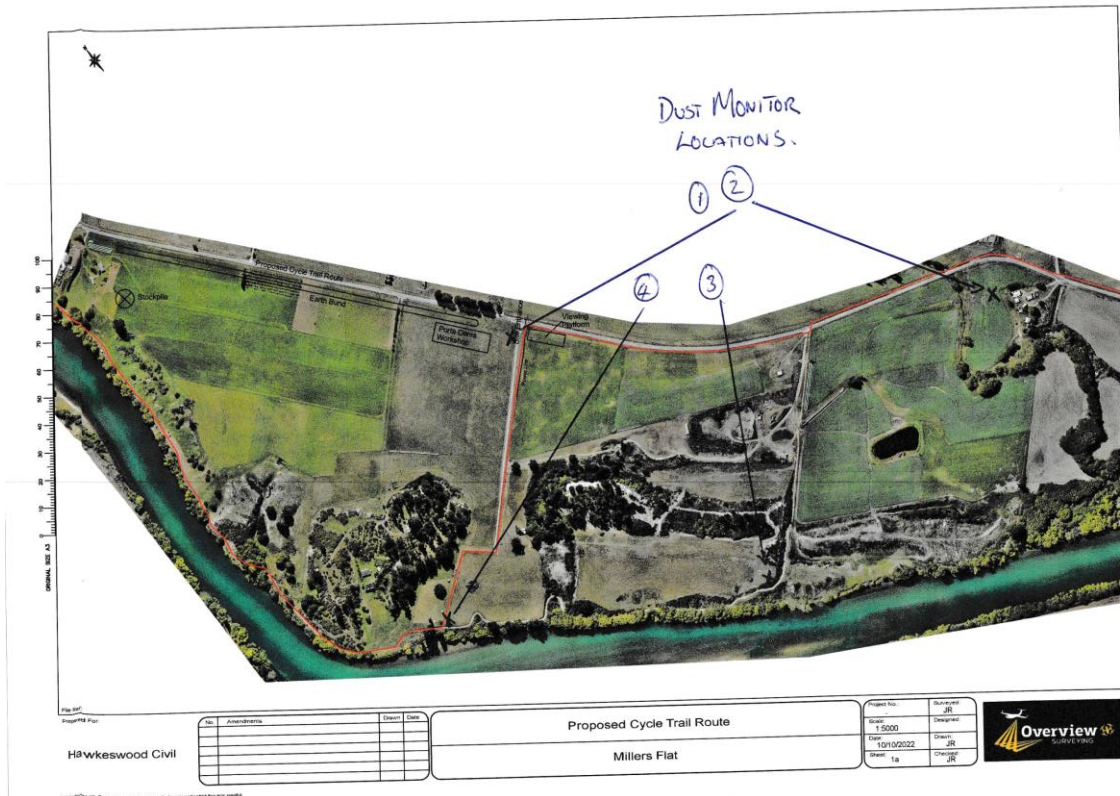


Figure 3 Location of Dust Monitors

## 6 Complaints

Any complaints received by Hawkeswood Mining Limited will be recorded on a complaint form noting the following:

- Time, identity of contact details of complainant
- Nature of the complaint
- Weather conditions at time of complaint
- Actions taken and any remedial actions as necessary. If complaint was related to an event in the recent past note any dust producing activities
- If it is apparent that there is a source of dust other than from the mine area causing a dust nuisance, evidence of this source must be recorded.

The complaint forms shall be kept in a register and submitted to Central Otago Regional Council on request. An after-hours telephone number is available and has been distributed to neighbouring properties following the commencement of the operation.

## 7 Responsibility

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A minimum of two individuals will be trained to implement the dust management plan. These individuals will be responsible for ensuring the dust management plan is fully implemented and maintained. The mine employees must take ownership of the dust management plan to ensure its success. Employees at the plant must receive training to understand the role of implementing and maintaining the dust plan including conducting inspections and taking corrective actions.

The site manager will have ultimate responsibility in ensuring that the objectives of the dust management plan are met.

## 8 Contingency

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In the event that dust monitoring results reveal significant exceedances above background levels, or repeated complaints are received, the site operations, dust monitor data and recorded metrological information will be analysed to establish the problem source. The site manager will then be responsible for implementing the procedures described in Section “Elimination of fugitive dust” to immediately reduce dust generation from the problem area. If the problem persists, operations in the problem area shall cease while a solution is investigated and implemented.

## 9 Review

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The dust management plan shall be reviewed at least on an annual basis and may be amended during the period of this consent as appropriate to improve management and contingency procedures.

## 10 Appendices

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### A: Resource Consents



1/355 Manukau Road  
Epsom, Auckland 1023  
PO Box 26283  
Epsom, Auckland 1344

T: 09 638 8414  
E: [hegley@acoustics.co.nz](mailto:hegley@acoustics.co.nz)

11 November 2022

Barry MacDonell  
MacDonell Consulting Ltd  
[barry@macdonellconsulting.co.nz](mailto:barry@macdonellconsulting.co.nz)

Dear Barry

**PROPOSED ALLUVIAL MINING, MILLERS FLAT**

Thank you for a copy of the request for further information from the Central Otago District Council with respect to the effects of vibration. Council has requested:

*No assessment is provided with the application that specifically addresses the potential effects of vibration on adjoining properties. Please provide further information addressing potential adverse effects associated with vibration.*

There are no rules in the Central Otago District Plan with respect to vibration. However, Section 17 of the Resource Management Act states:

*Duty to avoid, remedy, or mitigate adverse effects*

*(1) Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried out by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent*

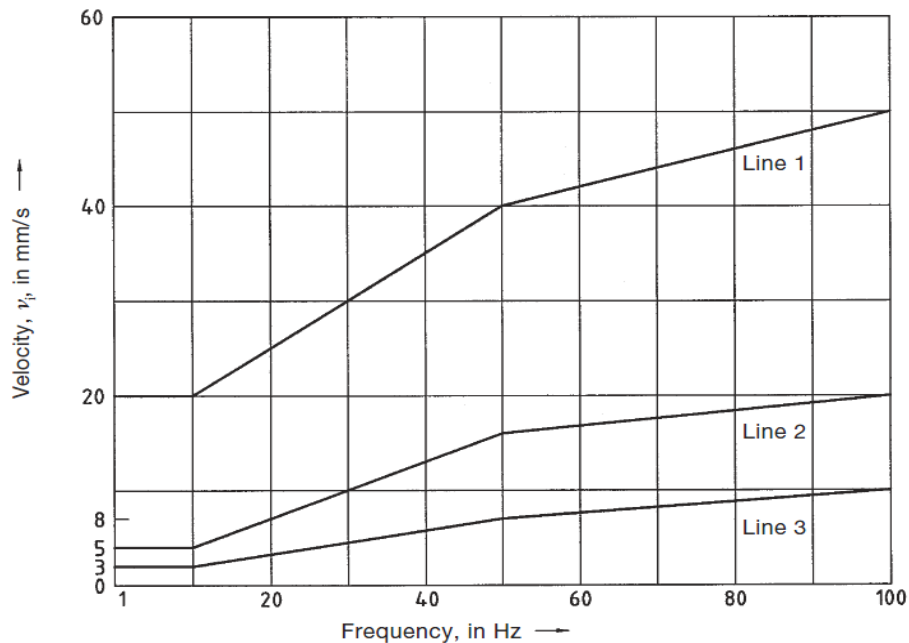
...

The German Industrial Standard DIN 4150-3 (1999) provides vibration levels that are considered reasonable for the evaluation of short-term structural vibration, such as the construction of the proposed bund:

**Table 1. Guideline values for vibration velocity to be used when evaluating the effects of short-term vibration on structures**

Type of structure	Guideline values for velocity, $v_r$ , in mm/s			
	Vibration at the foundation at a frequency of			Vibration at horizontal plane of highest floor at all frequencies
	1Hz to 10Hz	10Hz to 50Hz	50Hz to 100Hz*	
1 Buildings used for commercial purposes, industrial buildings, and buildings of similar design	20	20 to 40	40 to 50	40
2 Dwellings and buildings of similar design and/or occupancy	5	5 to 15	15 to 20	15
3 NA				
*) At frequencies above 100 Hz, the values given in this column may be used as minimum values.				

Guideline values for vibration velocity to be used when evaluating the effects of short-term vibration on structures



Curves for guideline values specified in Table 1 for velocities measured at the foundation

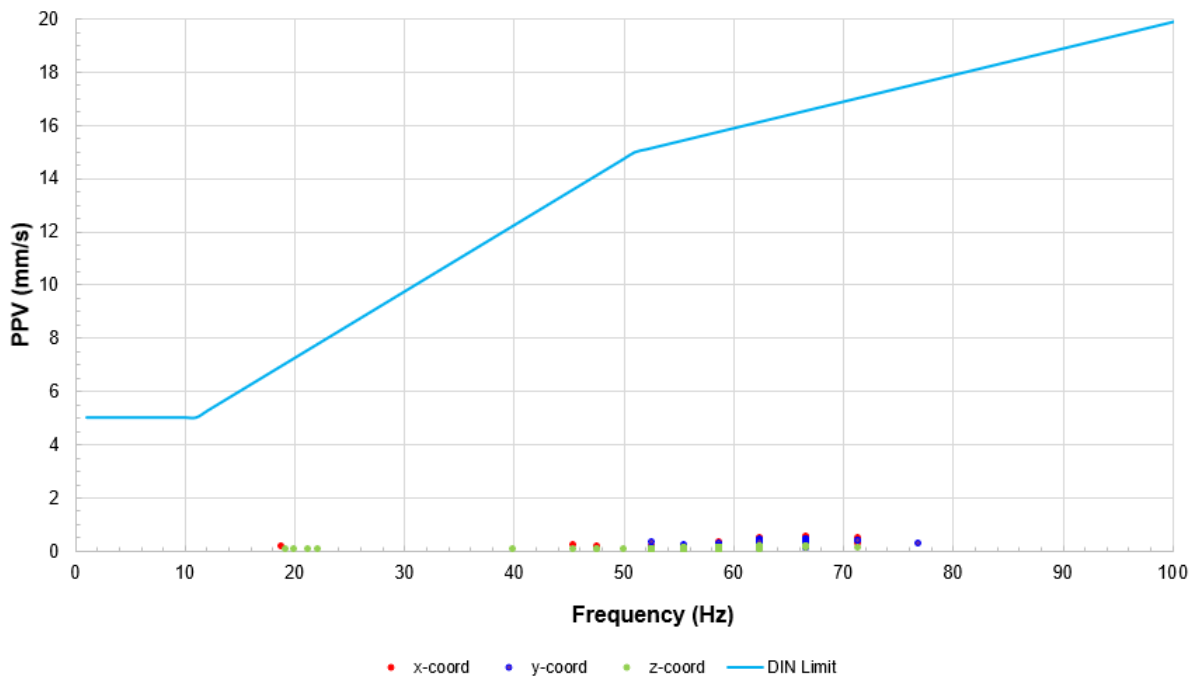
The Standard requires measurements to be conducted in the x, y and z directions on the ground floor of the building to be investigated, either at the foundation of the outer wall, on the outer wall itself, or in a recess in that wall. In buildings without a basement, the point of measurement shall be no more than 0.5m above the ground. Measurement points shall preferably be on the side of the structure that faces the source of excitation. The time history of the vertical vibration (z-axis) and horizontal vibration (x- and y-axes, at right angles to each other) shall be recorded, with one of the directions of measurement running parallel to a side wall of the building.

To evaluate the effects of long-term vibration DIN 4150-3 recommends the following limits:

**Table 3. Guideline values for vibration velocity to be used when evaluating the effects of long-term vibration on structures**

Type of structure	Guideline values for velocity, $v_i$ , in mm/s, of vibration in horizontal plane of highest floor, at all frequencies
1 Buildings used for commercial purposes, industrial buildings, and buildings of similar design	10
2 Dwellings and buildings of similar design and/or occupancy	5
3 NA	

During the bund construction the only source of vibration will be trucks, an excavator and a bulldozer spreading and track compacting the proposed bund. The maximum vibration would be generated by the bulldozer, which could come within 35m of the closest dwelling (1334 Teviot Road), which is to the north of the mining area. The vibration effects at 35m have been calculated as shown in Figure 1 below and will be minimal for anyone at this dwelling. As all other locations of potential effect are further away there will be even less vibration effects at those sites.



**Figure 1. Predicted vibration levels from bulldozer, mm/s**

The mining recovery plant will initially land based transitioning to a floating dredge in the pond as the mining progresses. When the recovery plant is land based the potential vibration sources include the bulldozer, excavator, trucks and recovery plant.

There will be minimal vibration generated by the recovery dredge and, as for the construction of the bund and assuming the haul roads are reasonably well maintained, the greatest vibration effects will be from the bulldozer. The closest any land-based mining will come to the dwellings is just over 50m from the 1334 Teviot Road to the north of the mine as set out above. The vibration to this dwelling is predicted to be up to 0.39mm/s, well within the recommended 5mm/s limit set out in DIN 4150-3.

With the dredge operating on the pond the vibration effects will still be controlled by the bulldozer operating on the ground surface of the mine area. As the bulldozer will never be closer to any other dwelling than the 50m adopted in the above predictions the vibration level will be below 0.39mm/s at all times.

Based on the above, the vibration levels from the proposed mining work will be well within a reasonable level at all times.

Should you have any questions regarding the above please do not hesitate to contact me.

Yours faithfully  
Hegley Acoustic Consultants



Nevil Hegley

# Appendix H

## NEARBY RESIDENCES



ADDRESS	DISTANCE FROM SITE
1 1334 Teviot Road	154m
2 1346 Teviot Road	112m
3 1333 Teviot Road	402m
4 1353 Teviot Road	415m
5 1377 Teviot Road	447m
6 1403 Teviot Road	210m
7 1535 Teviot Road	368m
8 1534 Teviot Road	80m
9 1581 Teviot Road	445m
10 1580 Teviot Road	443m
11 5434 Ettrick-Raes Junction Road	384m
12 5386 Ettrick-Raes Junction Road	237m
13 5330 Ettrick-Raes Junction Road	470m
14 5280 Ettrick-Raes Junction Road	503m
15 69 Clutha Road	297m
16 67 Clutha Road	313m

## NEARBY RESIDENCES

MILLERS FLAT MINING

16/12/2022

SCALE: 1:12,000 @A3



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QUEENSTOWN

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